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Industry Research Report on SS, Alloy and Special Steel and Aluminium Products Industry

August 2026

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1 Economic Outlook

1.1 Global Economy

Global economic growth expected to sustain at ~3% in near term

According to IMF, global economic growth is projected to moderate to around 3.0% in 2026, reflecting the impact of geopolitical tensions on energy and trade flows. The ongoing Middle East conflict poses downside risks, with prolonged disruptions potentially reducing growth further to 2.5%, or lower. However, supportive factors such as continued investment momentum and policy support are helping offset some of these pressures.

Among major economies, India is projected to sustain the fastest pace of expansion, with real GDP growth of 6.4% in CY26P, significantly outpacing the global average of 3%. China's growth is projected to moderate to 4.6% in CY26P, reflecting structural headwinds in the property sector and dampened domestic demand. The United States is projected to register growth of 2.3% in CY26P, while the Euro Area is expected to remain subdued at 0.9%. Indonesia and Saudi Arabia are projected at 5.0% and 1.7% respectively in CY26P.

The following table presents the GDP growth trend for India versus select major economies over CY21–CY31P.

Table 1: GDP growth trend comparison - India v/s Other Economies (Real GDP, Y-o-Y change in %)

	Real GDP (Y-o-Y change in %)										
	CY21	CY22	CY23	CY24	CY25	CY26P	CY27P	CY28P	CY29P	CY30P	CY31P
India	9.7	7.6	7.2	7.1	7.7	6.4	6.7	6.5	6.5	6.5	6.5
China	8.6	3.1	5.4	5.0	5.0	4.6	4.1	4.0	3.7	3.3	3.3
Indonesia	3.7	5.3	5.0	5.0	5.1	5.0	5.1	5.2	5.2	5.2	5.2
Saudi Arabia	6.5	12.0	0.5	2.6	4.6	1.7	5.5	3.6	3.5	3.5	3.6
Middle East and Central Asia	4.7	6.4	2.6	3.1	3.7	0.7	6.5	4.0	4.0	3.8	3.8
Latin America	7.5	4.3	2.3	2.4	2.4	2.4	2.7	2.9	2.9	2.7	2.6
Brazil	4.8	3.0	3.2	3.4	2.3	2.4	2.2	2.4	2.5	2.5	2.5
Euro Area	6.4	3.6	0.4	1.0	1.4	0.9	1.2	1.4	1.2	1.1	1.1
United States	6.2	2.5	2.9	2.8	2.1	2.3	2.2	2.1	1.9	1.8	1.8

Source: IMF- World Economic Outlook Database (April 2026, July 2026)

Note: E-Estimate, P- Projections E-Estimated; India's fiscal year (FY) aligns with the IMF's calendar year (CY). For instance, FY24 corresponds to CY23.

1.2 Indian Economic Outlook

1.2.1 GDP Growth and Outlook

India’s economy continues to show rapid growth. As per Provisional Estimates by MOSPI, GDP in FY26 is expected to have grown by 7.7%, supported by rising rural demand, better job opportunities and favourable business conditions. For FY25, First Revised Estimates show a growth of 7.1% (Rs 299.89 trillion), led by robust performance in manufacturing, construction and financial services. Consumer spending rose by 7.7%, and government spending increased by 5.5%, both contributing to the overall growth. In FY23, the real GDP stood at Rs 261.18 trillion and registered YoY growth of 7.2% in FY24 (Rs 280.01 trillion).

Looking ahead, the Reserve Bank of India ("RBI") projects real GDP growth of 6.6% for FY27, supported by resilient services, favourable agricultural conditions, and robust private consumption, although elevated commodity prices and

geopolitical disruptions may pose near-term risks to growth. Quarterly, growth is projected at 6.6% in Q1FY27P, 6.3% in Q2FY27P, 6.5% in Q3FY27P, and 6.8% in Q4FY27P with the second half of the year expected to be stronger on the back of infrastructure project execution and favourable base effects.

Table 2: GDP Growth Outlook (Y-o-Y %)

FY27P (Complete Year)	Q1FY27P	Q2FY27P	Q3FY27P	Q4FY27P
6.6%	6.6%	6.3%	6.5%	6.8%

Source: Reserve Bank of India; Note: P-Projected

1.2.2 Fiscal Deficit (as a % of GDP)

In FY21, India's fiscal deficit was 9.20% due to the impact of COVID-19 pandemic, since then it has seen a steady improvement is expected to reduce to 4.8% of GDP FY25 (RE), driven by strong economic growth and higher tax and non-tax revenues. The government aims for further fiscal consolidation, setting a target of 4.40% of GDP for FY26 to maintain fiscal prudence.

1.2.3 Consumer Price Index

Between January and June 2026, the inflation averaged around 3.50% across the Consumer Price Index. By June 2026, inflation increased to 4.38% on a year-on-year basis, compared with 3.93% in June 2025. Within this, the rural inflation rate stood at 4.74%, while the urban inflation rate was comparatively lower at 3.92%. This indicates an overall modest inflationary trend, with rural areas experiencing relatively higher price pressures than urban regions.

The CPI is primarily factored in by the RBI while preparing their bi-monthly monetary policy. At the bi-monthly meeting held in June 2026, RBI projected inflation at 5.1% for FY27 with inflation during Q1FY27 at 4.2%, Q2FY27 at 5.1%, Q3FY27 at 5.9% and Q4FY27 at 5.4%. Considering the current inflation situation, RBI has maintained the repo rate at 5.25% in the June 2026 meeting of the Monetary Policy Committee (MPC).

Key upside risks to inflation include elevated crude oil and energy prices, weather-related disruptions to food prices, and geopolitical tensions affecting global trade and supply chains. The India Meteorological Department (IMD) has projected a below-normal monsoon in certain regions, which could exert pressure on food inflation. In addition, although domestic petrol and diesel prices have risen only marginally as oil marketing companies have absorbed part of the increase in global crude oil prices, further price increases remain a key inflationary risk.

1.2.4 Gross Value Added (GVA)

GVA is the measure of the value of goods and services produced in an economy. GVA gives a picture of the supply side whereas GDP represents consumption. GVA in FY25 was powered by a broad-based rebound across sectors.

In FY26 (PE), real GVA growth of 7.9% is primarily led by manufacturing, Trade, Hotels, Transport, Communication & Services related to Broadcasting. Industry is estimated at 8.5%, supported by a pickup in manufacturing and construction (10.7% and 7.4% respectively). The gap between GDP and GVA growth stood at 0.2 percentage point in FY26, with GDP growing at 7.7% and GVA at 7.9%.

Table 3: Industrial sector growth (Y-o-Y growth) -at Constant Prices

At constant Prices	FY24	FY25 (FRE)	FY26 (PE)
Agriculture, Forestry & Fishing	**2.6**	**4.2**	**3.0**
Industry	**10.9**	**8.3**	**8.5**
Mining & Quarrying	2.4	11.7	5.2
Manufacturing	12.7	9.3	10.7
Electricity, Gas, Water Supply & Other Utility Services	10.7	2.9	1.7
Construction	9.9	7.3	7.4

At constant Prices	FY24	FY25 (FRE)	FY26 (PE)
Services	**7.0**	**7.9**	**9.3**
Trade, Hotels, Transport, Communication & Broadcasting	10.1	6.6	11.0
Financial, Real Estate & Professional Services	5.5	10.0	10.4
Public Administration, Defence and Other Services	6.8	5.0	5.0
GVA at Basic Price	**7.2**	**7.3**	**7.9**

Source: MOSPI; Note: FRE- First Revised Estimates, PE – Provisional Estimates;
The trend for FY24-FY26 is based on new series base year 2022-23.

1.2.5 Investment Trend in Infrastructure

Gross Fixed Capital Formation (GFCF) is a measure of net increase in physical assets. GFCF as a share of GDP eased during FY23–FY25 and was estimated to be broadly stable in FY26.This pattern is aligned with a period in which nominal GDP expanded, while investment growth remained positive, it did not outpace the overall nominal expansion. GFCF rose by 8.9% in FY25 and 9.9% in FY26 in real terms, alongside continued growth in consumption, indicating that the movement in the ratio reflects relative GDP shares rather than a decline in investment activity.

1.2.6 Per capita Private Final Consumption Expenditure (PFCE) and Gross National Disposable Income (GNDI)

Per capita Gross National Disposable Income (GNDI) at current prices registered a CAGR of 9.1% during FY23 to FY26, reflecting rising household income levels and improving economic conditions. In step with this, per capita Private Final Consumption Expenditure (PFCE), a measure of consumer spending, registered a CAGR of 8.6% over the same period, reflecting a gradual shift in consumer spending behaviour toward discretionary and upgrade categories driven by rising disposable income.

1.2.7 Industrial Growth

The Index of Industrial Production (IIP) in India grew by 4.1% year-on-year from April-May 2026, showing steady but moderate industrial momentum, supported by 5.5% growth in Manufacturing sector and strong growth of 9.9% in Electricity & Gas Supply sector. Among use-based indices, the top three positive contributors to IIP growth in May 2026 were Intermediate Goods, Capital Goods, and Primary Goods.

1.2.8 Budgetary expenditure on Infrastructure

Sustained government capital expenditure on infrastructure remains a primary growth lever for the Indian economy. The Union Budget for FY27 allocates approximately Rs 12.20 lakh crore toward capital expenditure - a significant commitment toward infrastructure-led growth. Key initiatives include the introduction of an Infrastructure Risk Guarantee Fund to strengthen private developer confidence, dedicated Real Estate Investment Trusts (REITs) for Central Public Sector Enterprise (CPSE) assets to accelerate capital recycling, and the new City Economic Regions (CER) framework for Tier II and Tier III urban development. Additionally, PMAY-Urban 2.0 continues as the principal affordable housing programme, and the Urban Rejuvenation Mission (including AMRUT and Smart Cities) sustains investments in water supply and urban infrastructure.

Key sector-specific allocations included Rs 3.09 lakh crore for the Ministry of Road Transport and Highways, and Rs 2.78 lakh crore for Indian Railways, both major consumers of steel and industrial inputs. These allocations reinforce the government's sustained commitment to infrastructure investment as a catalyst for industrial activity, employment generation, and GDP growth over the medium term.

1.2.9 Correlation of Steel Demand with GDP Growth

India's domestic finished steel consumption has historically exhibited a strong positive correlation with real GDP growth, underpinned by the intensive use of steel across the country's priority end-user industries, including infrastructure and construction, manufacturing, automobiles, energy and power, oil and gas, defence and aerospace, shipbuilding, water infrastructure, chemicals and pharmaceuticals, food processing, medical and healthcare equipment, fasteners and industrial hardware, and architecture and interior applications. Growth in government capital expenditure, urbanisation, and the expansion of railways, airports, and metro rail networks has consistently translated into incremental steel demand. The automobile sector increasingly driven by electric vehicle (EV) adoption and rising two-wheeler and three-wheeler penetration provides further demand support.

Government initiatives including the PM Gati Shakti National Master Plan, Make in India, and production-linked incentives across manufacturing sectors are expected to maintain a healthy steel demand growth-to-GDP growth multiplier over the medium term. As India's investment cycle continues to gain traction on the back of strong public capital expenditure, improving private sector investment intent, and healthy rural demand domestic steel consumption growth is expected to remain structurally well-supported.

1.3 West Asia Crisis and its Impact on Stainless Steel Industry

The ongoing West Asia conflict has exerted upward pressure on energy costs and introduced logistical complexity across India's industrial supply chains. However, targeted government interventions spanning fuel supply prioritisation, excise duty reductions, and port-level transshipment facilitation have thus far buffered the impact on domestic manufacturing sectors, including stainless steel.

Trade and Logistics

Indian ports have reported no significant congestion attributable to the conflict-driven rerouting of container traffic. Official data indicates that of approximately 3,383 West Asia-bound container TEUs, 3,228 have been returned with 155 pending. An India-flagged LPG tanker (approximately 20,400 MT) completed a safe passage through the Strait of Hormuz on 11 April 2026, confirming continued transit access. The government has implemented flexible port transshipment rules to facilitate the continuity of export flows. Subsequent government updates confirmed that the LPG vessels SYMI and NV Sunshine also completed safe transits, with their deliveries to Kandla and New Mangalore remaining on schedule. On 29 May 2026, the Government reported that Nissos Keros, carrying approximately 270,000 metric tonnes of crude oil for India, had safely crossed the Strait and was expected to reach Visakhapatnam on 3 June.

Energy and Input Costs

Crude oil prices have risen, but the Ministry of Petroleum and Natural Gas has confirmed adequate domestic crude stocks (approximately two months of supply cover). The Central Government reduced excise duties by Rs 10 per litre on petrol and diesel to shield consumers, while concurrently imposing diesel and aviation turbine fuel export levies to ensure domestic availability. Domestic LPG output was ramped up approximately 25% from early March 2026. Government communications confirm 100% supply continuity for domestic LPG, PNG, and CNG, with priority allocation to critical industrial sectors including steel.

Supply-Chain Assessment

Official sources have not reported shortages of stainless steel raw materials including nickel, chromium, ferrochrome, or scrap attributable to the conflict. Policy focus has remained on logistical and fuel-related interventions rather than metal input availability. Industrial gas supply conditions for steelmaking have not been officially quantified at this stage.

Near-to-Medium-Term Outlook. In the short term, steel producers are facing higher fuel and freight input costs, partially offset by government fuel prioritisation and duty relief. No official guidance on stainless steel production margins or trade balances in the context of the conflict has been published. Should the conflict escalate, prolonged disruption to the Strait of Hormuz a critical transit route for India's crude oil and LPG imports could translate into sustained input cost pressure and inflationary spillover across industrial sectors. Conversely, post-conflict reconstruction activity in the region is anticipated by some industry observers to generate incremental demand for steel across infrastructure applications, though no government projections have been published in this regard.

1.4 Concluding Remarks

From a macroeconomic standpoint, India remains one of the most resilient large economies despite an uncertain global environment. The IMF projects India's GDP growth at 6.4% in CY26, significantly higher than the global average, supported by strong domestic demand, policy stability, and sustained capital expenditure. However, global growth continues to face headwinds from geopolitical conflicts, trade uncertainties, and commodity price volatility.

Ongoing India–U.S. trade negotiations and the proposed Bilateral Trade Agreement (BTA) are expected to strengthen trade relations, although sectors such as engineering goods, electronics, pharmaceuticals, textiles, gems and jewellery, and automobiles remain exposed to changes in U.S. tariff policies. At the same time, India continues to diversify its trade partnerships through free trade agreements and deeper integration into global supply chains, enhancing export competitiveness.

Geopolitical tensions in the Middle East, particularly the ongoing Iran conflict, have increased risks relating to crude oil prices, freight costs, and supply chain disruptions, potentially raising input costs and inflationary pressures across industries. Domestically, weather-related risks, including below-normal monsoon conditions in certain regions, may contribute to food inflation and moderate discretionary consumption.

Nevertheless, continued policy support through tax reforms, GST rationalisation, higher public capital expenditure, and infrastructure development, together with resilient domestic consumption, improving rural demand, and rising private investment, are expected to support India's long-term economic growth and manufacturing competitiveness.

Strategic Insights

India's structural economic growth story characterised by a projected real GDP CAGR of approximately 6.5% through CY31P, government infrastructure capital expenditure of Rs 12.20 lakh crore in FY27 alone, and a steel demand-to-GDP multiplier that has historically tracked above the overall growth rate creates a particularly supportive macroeconomic environment for domestic specialty steel manufacturers.

The manufacturing sector's FY26 growth of 10.7% on-year, rising per capita disposable income (GNDI CAGR of 9.1% over FY23–FY26), and sustained public investment in railways (Rs 2.78 lakh crore allocation) and roads (Rs 3.09 lakh crore) directly underpin demand for specialty and high-performance steel grades across precision engineering, defence, transportation, and critical infrastructure applications. The PLI scheme's explicit inclusion of stainless steel long and flat products, alloy forgings, and super alloys in Round 1.2 (November 2025) further signals the government's strategic intent to develop domestic specialty steel manufacturing capabilities and reduce import dependence in high-value grade categories.

The domestic specialty stainless steel sector includes manufacturers with integrated capabilities across melting, refining, casting, rolling, finishing and testing, as well as the ability to manufacture high-performance and application-specific grades. Such capabilities may enable manufacturers to address requirements across defence, oil and gas, energy, automotive and precision-engineering applications. Public infrastructure expenditure, growth in domestic manufacturing and increasing localisation of specialty-steel production may support demand for such products, subject to prevailing demand-supply conditions, customer approvals, competitive intensity and regulatory requirements.

2 Global Steel Industry

Steel is a foundational industrial material, serving construction, automobile, infrastructure, energy, packaging, and consumer goods sectors globally. As per World Steel Association, manufacturers produce over 3,500 grades of steel, each engineered with specific physical, chemical, and environmental properties.

2.1 Global Crude Steel Output Faces Structural Headwinds

Global crude steel production registered a CAGR of −0.4% over CY20 to CY25, declining from 1,883 MT (million tonnes) to 1,849 MT. In CY25 alone, output declined approximately 2% on-year, driven by China's real estate contraction and subdued European manufacturing. In H1CY26, production fell a further 0.7% on-year, primarily due to lower output in Asia and Oceania, the world's largest producing region, along with significant contractions in Russia/CIS/Ukraine and the Middle East. Growth in North America, Africa and other European countries only partially offset these decline.

Looking ahead, global crude steel production is projected to register modest growth over the near to medium term, contingent on macroeconomic and geopolitical conditions. China's output is anticipated to remain muted given structural real estate weakness. India is expected to emerge as the primary growth driver on the back of infrastructure investment, while decarbonisation frameworks are expected to reshape supply capacity in advanced economies over the longer term.

Table 4: Global Crude Steel Production

Metric	CY20	CY25	H1CY26 (Y-O-Y)
Global Crude Steel Production	1,883 MT	1,849 MT	−0.7%

Source: World Steel Association

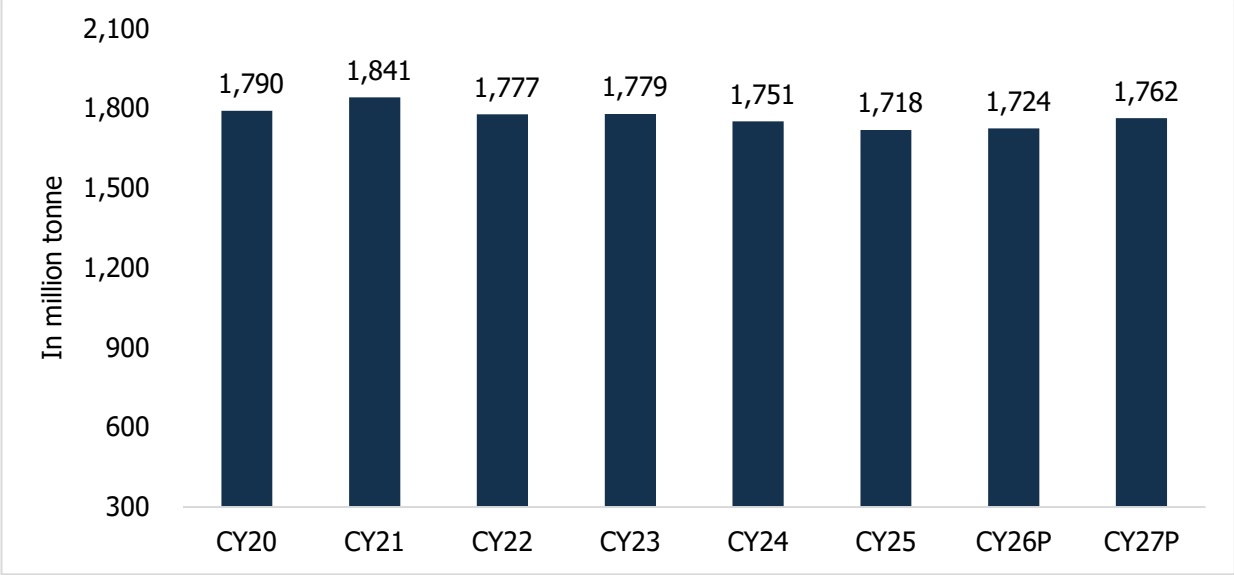
Note: H1CY26 refers to the period from January 2026 - June 2026

2.2 Global Finished Steel Consumption Reflects Uneven Demand Recovery

Global finished steel consumption is estimated to have declined to 1,718 MT in CY25, as weakness in China's real estate sector curtailed construction-led demand the largest end-use category. Sluggish manufacturing in Europe and other developed economies, elevated cost pressures, and geopolitical uncertainty further weighed on consumption. While demand in India and select developing markets held firm, these gains were insufficient to offset the structural contraction in the major consuming regions.

End-use sectors including energy, construction, automobile, transportation, infrastructure, packaging, and machinery collectively sustained their foundational reliance on steel. The near-term consumption outlook remains cautious, with recovery contingent on stabilisation of China's property market and a resumption of manufacturing momentum in developed economies.

Chart 1: Global Steel Demand (in million tonnes)

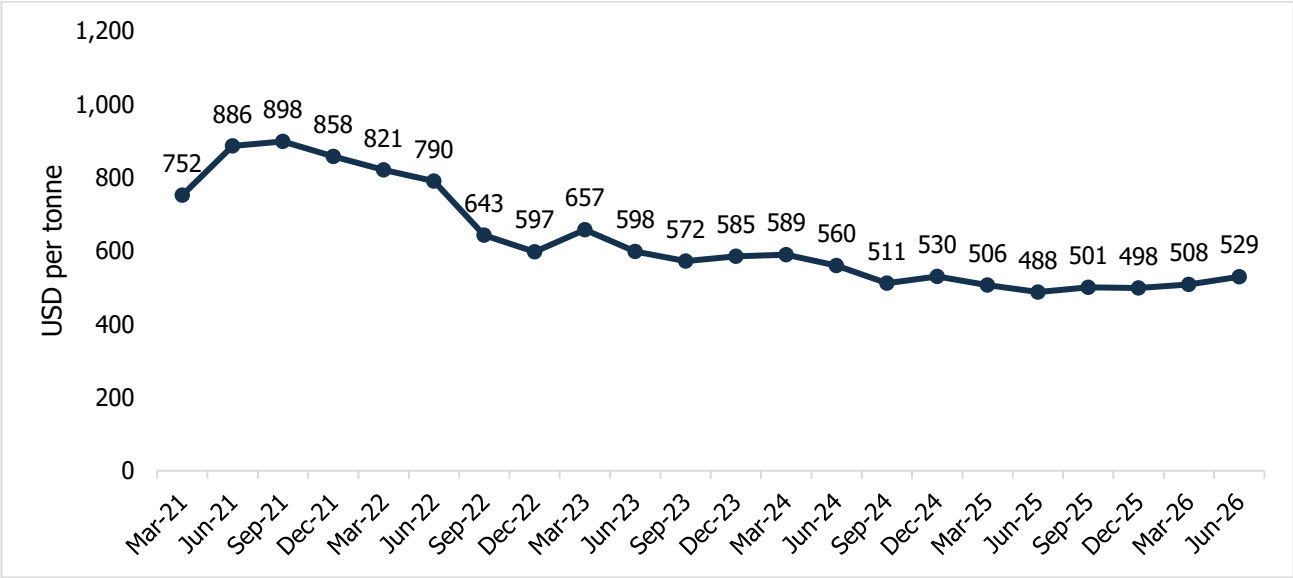


Source: World Steel Association

2.3 International Steel Prices Stable with Limited Recovery

International steel prices remained largely rangebound through CY24 and CY25, stabilising at approximately USD 500 per tonne amid global overcapacity, weak construction demand in China and Europe, and subdued worldwide consumption. International steel prices witnessed a modest recovery during the quarter ended June 2026 after remaining subdued for several quarters. The improvement was supported by firmer raw material and energy prices, resilient infrastructure demand in key markets, and supply-side adjustments, although weak Chinese property demand and subdued global steel consumption continued to cap significant price gains.

Chart 2: Trend in International Steel Prices



Source: CMIE

Strategic Insights

The global steel industry's structural dynamics output rationalisation in China, India's emergence as a high-growth demand centre, and tightening quality and environmental standards reshaping procurement preferences are expected to create meaningful opportunities for domestic Indian producers operating at the specialty and value-added end of the steel value chain.

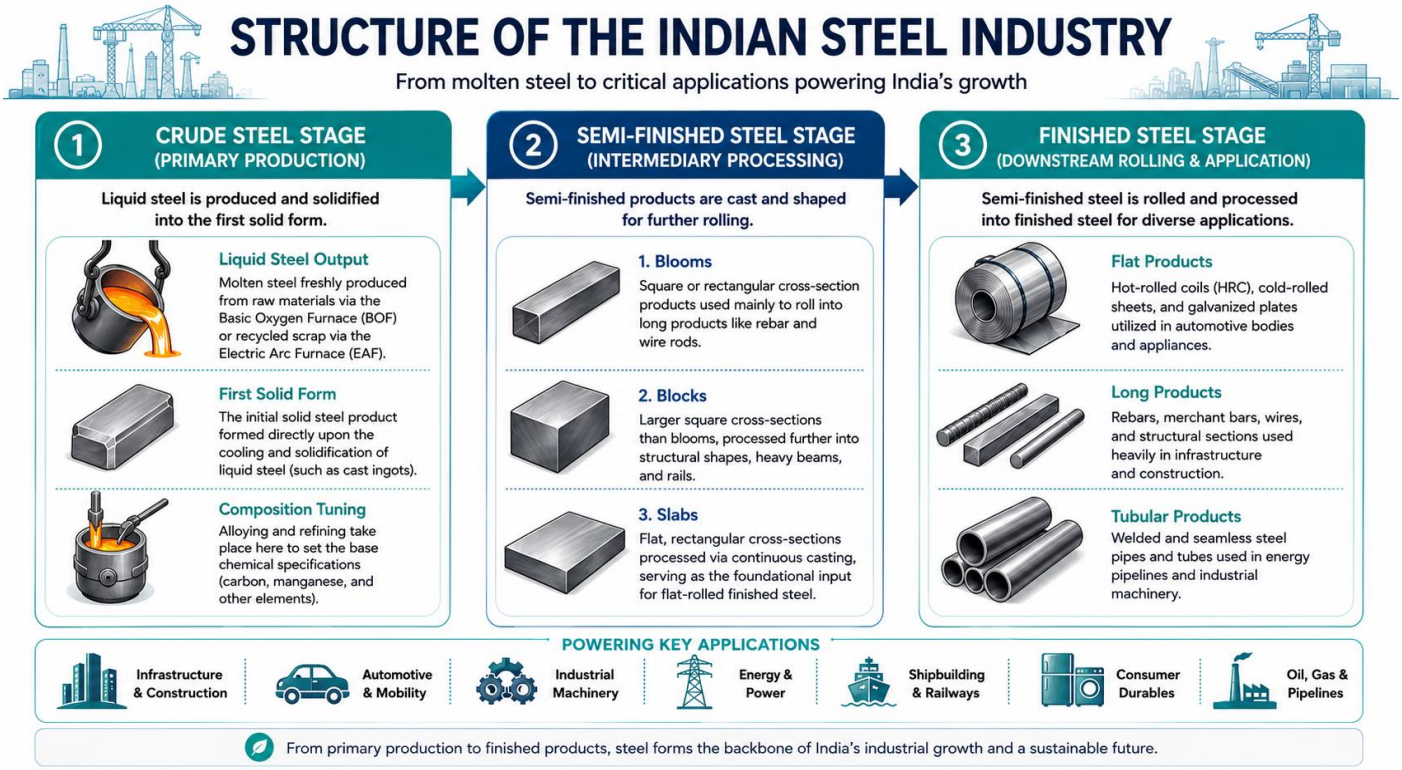
As international steel trade realigns and procurement increasingly prioritises supply-chain resilience, compliance with multi-jurisdictional quality standards, and lower-carbon production routes, domestic manufacturers with integrated operations, established export relationships, and differentiated specialty grade capabilities are expected to be structurally better-positioned to capture incremental demand.

3 Indian Steel Industry

3.1 Overview of the Indian Steel Industry

Steel plays a vital and versatile role in modern life, significantly enhancing convenience and serving as a foundational material across manufacturing sectors. As a core input for infrastructure and industrial development, steel underpins national economic growth and often acts as a barometer of economic progress.

India has established itself as a globally significant steel producer, underpinned by domestic raw material availability, cost-effective labour, and structurally strong demand from infrastructure, construction, automobile, capital goods, railways, and consumer durables. As of FY27 (April–June 2026, provisional), India's installed steel production capacity stood at 222 MTPA (Million Tonnes Per Annum), making it the second-largest steel producer and the second-largest consumer of finished steel globally, with domestic consumption reaching 164 MT in FY26. According to Press Information Bureau, the sector exerts an output multiplier of 1.4x on GDP and an employment multiplier of 6.8x, reflecting deep linkages with upstream and downstream industries.



Source: Industry Sources

3.2 Journey of Indian Steel Industry

The evolution of India's steel industry mirrors the country's broader economic transformation from a colonial, resource-based economy to a globally competitive industrial powerhouse. Steel has historically been considered a core indicator of economic development, given its central role in infrastructure, manufacturing, and capital goods sectors.



3.3 Crude Steel and Finished Steel Production and Consumption

India's crude steel production registered a CAGR of 7.6% over FY20 to FY26, with output expanding from 109 MT to 169 MT. FY26 production grew 11.2% on-year, reflecting broad demand-led expansion across infrastructure, construction, and manufacturing, complemented by ongoing capacity additions through brownfield expansions and technology upgrades.

Finished steel production grew at a CAGR of 7.9% (103 MT → 162 MT) and consumption at 8.6% (100 MT → 164 MT) over the same period. Consumption grew 7.9% on-year in FY26, on the back of government infrastructure capital expenditure, urbanisation, automobile demand, and expanding industrial activity. Production momentum continued into Q1FY27 (April - June 2026), with finished steel output registering a further 5.9% on-year increase.

Table 5: Crude Steel and Finished Steel Production and Consumption

Metric	FY20	FY26	CAGR (FY20–FY26)	Q1FY26	Q1FY27	Y-o-Y growth (in %)
Crude Steel Production (MT)	109	169	7.6%	41	42	3.2%
Finished Steel Production (MT)	103	162	7.9%	39	41	5.9%
Finished Steel Consumption (MT)	100	164	8.6%	38	42	8.5%

Source: CMIE

3.4 End-Use Diversification to Drive India's Steel Demand Growth

India's steel demand is expected to remain structurally strong through FY30P, supported by a diversified end-use mix and continued investment-led economic growth. Infrastructure and construction are expected to remain the primary demand drivers, anchored by sustained government capital expenditure across transport, urban development, and water infrastructure. Within this, railways and airports are projected to grow at a relatively faster pace, reflecting increasing policy focus on connectivity and logistics capacity expansion. Demand from power is also expected to strengthen, led by renewable energy additions and grid infrastructure, while automobile is likely to support steady incremental consumption through continued production growth and rising vehicle penetration. The broad-based nature of steel demand across infrastructure, industrial and manufacturing sectors is expected to provide long-term demand visibility and support stable domestic steel consumption growth over the medium term.

End-use industry	**Key steel applications**	**CAGR (FY26–FY30P)**
Oil & Gas	Pipelines, drilling rigs, storage tanks, refinery equipment, offshore platforms	6.9%
Infrastructure & Construction	Structural beams, TMT bars, columns, roofing, industrial sheds, bridges	6.4%
└ Real Estate	Residential and commercial buildings, reinforcement bars, roofing, elevators	4.8%
└ Roads	Flyovers, bridges, crash barriers, culverts, reinforcement in concrete roads	4.7%
└ Water Infrastructure	Water pipelines, sewage systems, treatment plants, reservoirs	7.7%
└ Railways	Tracks, wagons, coaches, stations, freight corridors, metro infrastructure	10.7%
└ Airports	Airport terminals, hangars, runways, structural steel frameworks, cargo facilities	8.9%
└ Others	Urban infrastructure, logistics parks, industrial corridors, public utilities	7.5%
Power	Boilers, turbines, transmission towers, substations, plant structures	6.5%
└ Solar	Module mounting structures, support frames, transmission infrastructure	18.9%
Automobile	Vehicle body panels, chassis, engine components, wheels, EV structures	7.0%
Others	Consumer durables, machinery, shipbuilding, engineering goods	2.2%

Source: MAIA, CareEdge Research

3.5 India's Steel Trade Dynamics Shift as Exports Recover and Imports Decline

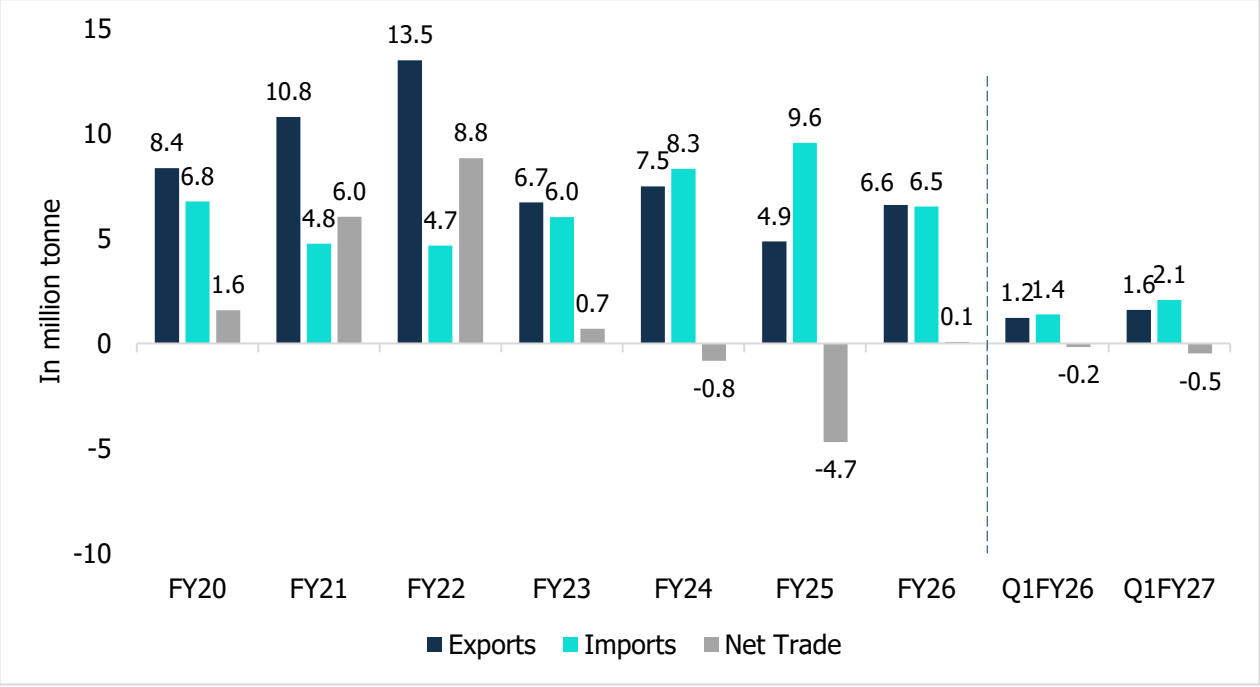
Exports:
India's steel trade dynamics have shifted significantly in recent years. During FY26, Indian steel exporters increased shipments by 35.9% y-o-y. This rise was driven by improved global competitiveness of Indian steel and diversification into key markets such as the Middle East, Europe, and Southeast Asia. Additionally, a sharp decline in imports and better price realisations supported higher export volumes. Furthermore, sustained capacity expansion and strong production growth enabled surplus availability for exports.

In FY25, exports fell sharply by 35.1% year-on-year. Weak foreign demand, intensified competition from low-priced Chinese steel particularly in the Middle East and Vietnam and declining shipments to key markets like Italy drove this decline.

Imports:
During FY26, import volumes fell by 31.7% y-o-y, driven primarily by policy interventions and improving domestic competitiveness. The government imposed safeguard duties of around 12% on certain steel products and strengthened quality control measures, which discouraged cheaper imports. Additionally, a narrowing price gap between imported and domestic steel made local products more attractive. Strong domestic production growth also reduced reliance on imports.

In FY25, Indian importers increased steel imports by 14.8% y-o-y, supported by a surge in low-cost flat steel products and specialty grades.

Chart 3: Trend in India's Steel Trade



Source: CMIE
Note: Q1FY26 refers to April – June 2025
Q1FY27 refers to April – June 2026

3.6 Trade Agreements and Protective Measures: Steel and SS

South Korea – CEPA with Protective Measures India and South Korea operate under a Comprehensive Economic Partnership Agreement (CEPA) that covers steel and SS products. Despite this agreement, India has imposed anti-dumping duties and initiated safeguard investigations on SS imports from South Korea to shield domestic manufacturers from unfair competition.

Vietnam – ASEAN FTA with Call for Protective Duties As an ASEAN member, Vietnam benefits from trade agreements with India that provide tariff exemptions on numerous goods. However, stakeholders have urged the Indian government to impose appropriate duties on SS imports to safeguard local production capacity, balancing FTA benefits against domestic industry protection.

Germany – Complementary Trade in High-Tech Components Germany's specialization in high-tech automobile components aligns well with Indian industrial requirements, creating a complementary trade relationship.

Australia – ECTA Enabling Tariff-Free Access Under the Economic Cooperation and Trade Agreement (ECTA), Indian steel exports can enter Australia tariff-free, providing significant market access opportunities.

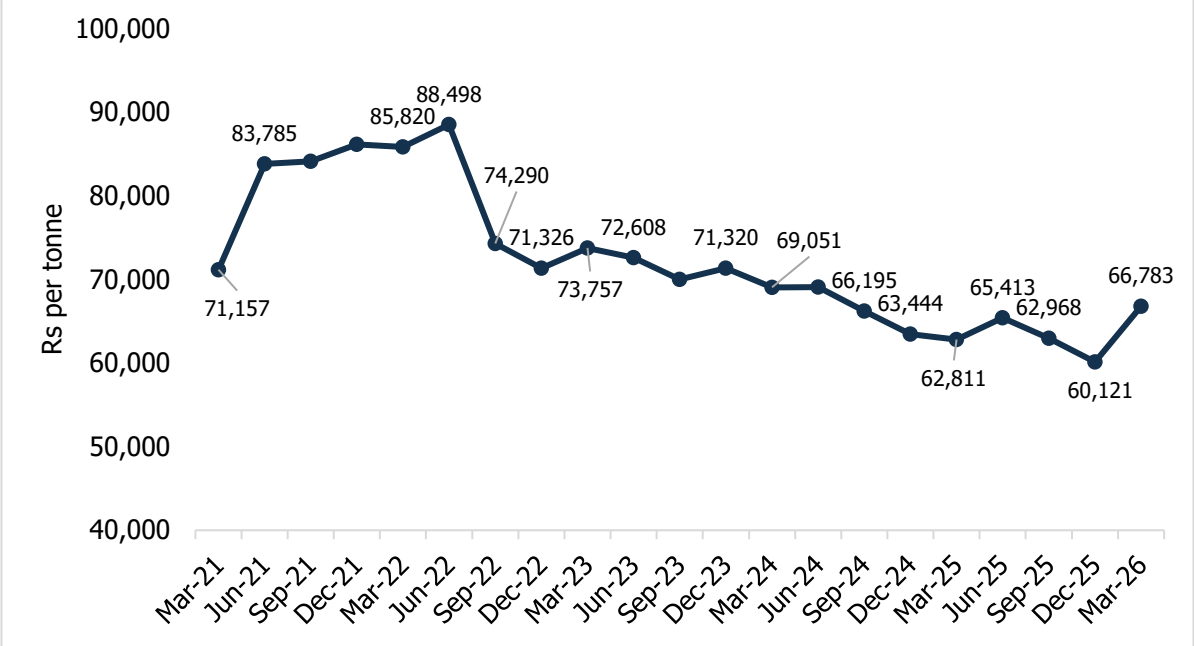
China – Although India has no FTA with China, imports remain subject to various anti-dumping measures. In addition, the Government imposed a 12% provisional safeguard duty on specified non-alloy and alloy steel flat products in 2025 to address import surges, largely attributed to low-priced imports from China and other Asian countries.

United Kingdom - India and the United Kingdom signed the Comprehensive Economic and Trade Agreement (CETA) in July 2025, providing duty-free access for approximately 99% of Indian exports to the UK by value. The agreement is expected to strengthen bilateral trade, enhance market access for engineering goods and other manufactured products, promote investment, and improve the competitiveness of Indian industries, including the steel value chain.

3.7 Domestic Finished Steel Prices Recover in Q4 FY26 Following Prolonged Volatility

Domestic finished steel prices declined from a cyclical peak of approximately Rs 88,498 per tonne in June 2022 through FY24 and into FY25 to Rs 62,811 per tonne. A sequential recovery emerged in Q4 FY26, with prices firming to approximately Rs 66,783 per tonne in March 2026 supported by fiscal year-end infrastructure project execution, 12% safeguard duties on imports, and improving domestic demand-supply balance.

Chart 4: Domestic Average Finished Steel Prices



Source: CMIE

3.8 Raw Material Price Trends

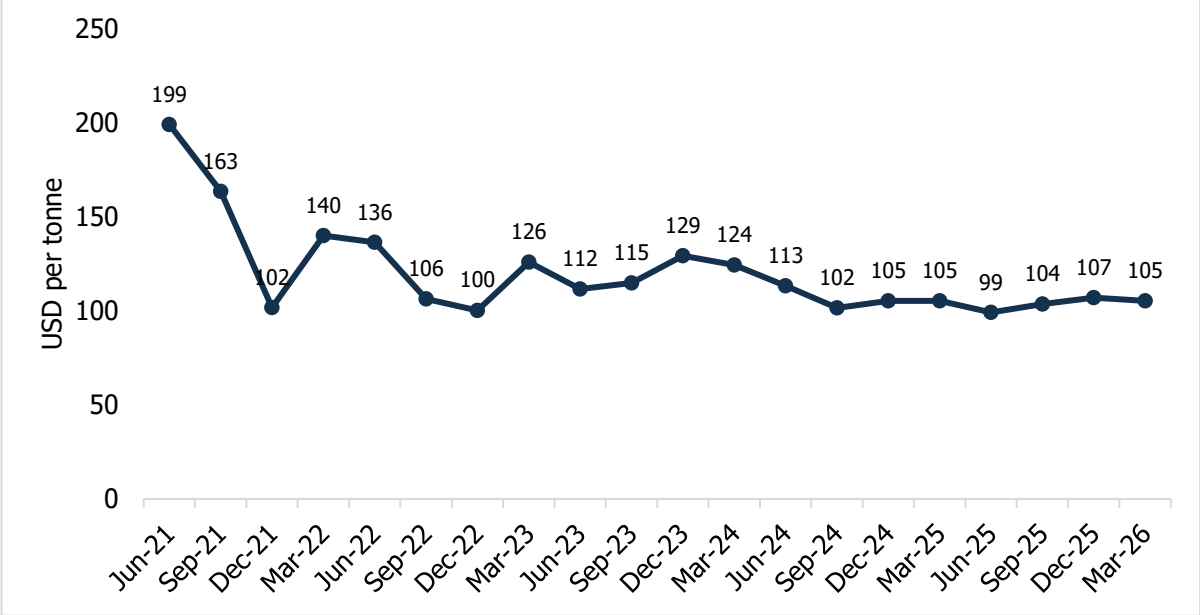
The production of carbon steel primarily depends on iron ore and coal, which together form the backbone of the blast furnace route of steelmaking. Iron ore is the fundamental raw material, as it provides the iron content required to produce steel. Typically found in forms such as hematite and magnetite, iron ore is processed and reduced in a blast furnace to produce molten iron (pig iron), which is subsequently refined into steel. The quality of iron ore, particularly its iron content, plays a crucial role in determining production efficiency and cost.

Coal, specifically coking (metallurgical) coal, is the second key raw material in carbon steel production. It is converted into coke through a carbonization process and serves both as a fuel and a reducing agent in the blast furnace. Coke facilitates the chemical reduction of iron ore by removing oxygen, enabling the production of molten iron. It is considered an essential and irreplaceable input in traditional steelmaking processes, and its availability significantly impacts steel production. Overall, while iron ore supplies the core metal content, coking coal enables the transformation process, making both indispensable to carbon steel manufacturing.

3.8.1 International Iron Ore Prices Witness Stability Following Mid-2025 Correction

International iron ore prices remained rangebound at approximately USD 100–110 per tonne during Q2 FY26 to March 2026, supported by resilient Chinese steel production and restocking, but capped by structural real estate weakness and rising supply from Australia and Brazil. Prices had corrected to USD 99 per tonne in June 2025 (down 12.5% on-year).

Chart 5: Trend in International Iron ore Prices

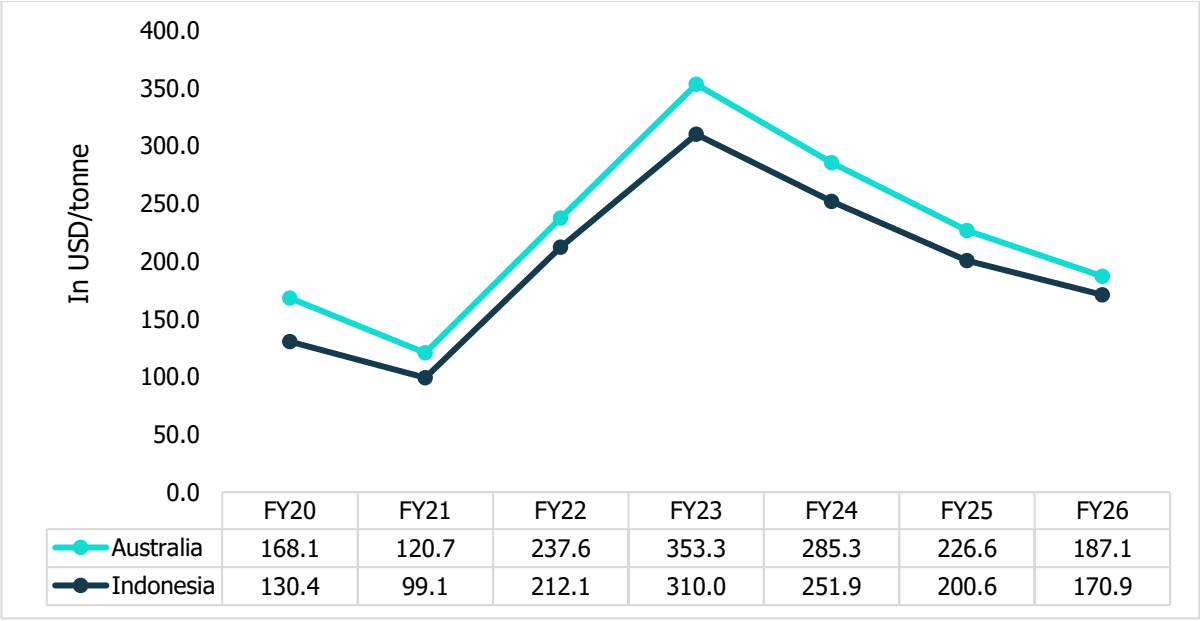


Source: CMIE

3.8.2 Global Coal Prices Continued to Moderate in FY26

International coal prices softened further in FY26, with Australian coking coal declining 17.4% to USD 187.1 per tonne and Indonesian coal falling 14.8% to USD 170.9 per tonne compared with FY25, providing a favourable input-cost backdrop for steelmakers.

Chart 6: Trend in International Coal Prices



	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Australia	168.1	120.7	237.6	353.3	285.3	226.6	187.1
Indonesia	130.4	99.1	212.1	310.0	251.9	200.6	170.9

Source: CMIE
HSN Code used is 27011910

3.9 Key Government Policies Supporting the Domestic Steel Ecosystem

National Steel Policy, 2017

NSP was introduced in 2017 with the objective to increase domestic steel production and consumption, produce high-quality steel, and increase India's competitiveness globally. It also focuses on cost efficiency, raw material availability, and research & development to achieve the overall objectives laid out under the policy.

The mission defined under NSP, 2017 is as below:

- Self-sufficiency in steel production by providing policy support & guidance to private manufacturers, MSME steel producers, and CPSEs and encouraging adequate capacity additions
- Development of globally competitive steel manufacturing capabilities
- Cost-efficient production and domestic availability of iron ore, coking coal, and natural gas
- Facilitate investment in overseas asset acquisitions of raw materials
- Enhance domestic steel demand

Table 6: Target Set Under the NSP, 2017

Parameter	Projections (FY31)
Total crude steel capacity (in MTPA)	300 (222 MTPA in FY27*)
Total crude steel demand/production (in MTPA)	255
Total finished steel demand/production (in MTPA)	230
Sponge iron demand/production (in MTPA)	80
Pig iron demand/ production (in MTPA)	17
Per Capita Finished Steel Consumption (in kg)	158

Source: Ministry of Steel, PIB
Note: *refers to April-June 2026 (Provisional)

AtmaNirbhar Bharat Policy

- Government initiatives such as Make in India and AtmaNirbhar Bharat which consist of 5 pillars (Economy, Infrastructure, System, Vibrant Demography, and Demand) have been playing a significant role in economic development.

Production Linked Incentive (PLI) Scheme

- India's Production Linked Incentive Scheme for Specialty Steel, launched in July 2021 with an outlay of Rs 63.22 billion, is designed to deepen domestic manufacturing capabilities, accelerate technology adoption and reduce import dependence in high-value steel grades critical to automobiles, defence, railways, aerospace, power, renewable energy and corrosion- or heat-resistant tubes and pipes. Covering coated and plated steel, high-strength and wear-resistant steel, specialty rails, alloy steel products and wires, and electrical steel, the scheme initially targeted an increase in specialty steel production from 17.6 million tonnes in FY20 to 42.2 million tonnes by FY27, alongside investment mobilisation of about Rs 396.25 billion by FY30.
- Its subsequent iterations have progressively widened participation: PLI 1.1, launched on January 6, 2025 for FY26 to FY30, relaxed investment and capacity thresholds, introduced production carry-forward flexibility and lowered entry requirements for strategically important CRGO steel; while Round 1.2, launched on November 4, 2025, expanded

coverage to 22 subcategories, including superalloys, stainless steel, alloy forgings, titanium alloys and coated steels, offering incentives of 4% to 15% on incremental sales and adopting FY25 as the revised base year.

- With earlier rounds attracting committed investments of Rs 438.74 billion, the evolving framework reflects a targeted industrial strategy to create advanced capacity, encourage process innovation, substitute imports, strengthen export competitiveness and position India as a global hub for high-value specialty steel manufacturing.

Domestically Manufactured Iron & Steel Products (DMI&SP):

- The Domestically Manufactured Iron and Steel Products (DMI&SP) Policy, approved on May 8, 2017, provides preference in government procurement to iron and steel products manufactured by India-registered entities, including units in Special Economic Zones, subject to prescribed domestic value addition. The qualifying threshold, initially set at 15% to 50%, was revised to 20% to 50% under the policy dated December 31, 2020.
- Intended to stimulate domestic steel production and consumption, improve capacity utilisation and promote import substitution, the policy has been periodically extended, including for six months from May 29, 2024. Under the revised policy dated December 17, 2025, its validity has been extended to March 31, 2027, while its coverage has been broadened across Central Ministries, central public-sector enterprises and government-controlled entities, including steel-intensive infrastructure procurement.
- The revised framework also mandates manufacturer registration on a designated government portal, supported by self-certification, periodic audits and stronger enforcement provisions, including penalties and deregistration for misdeclaration or non-compliance, thereby transforming domestic procurement preference into a more transparent and accountable mechanism for strengthening India's steel-manufacturing ecosystem.

Quality Control Order on Steel:

- The Ministry of Steel has introduced a Steel Quality Control Order (QCO), thereby banning sub-standard/defective steel products from the domestic market alongside imports to ensure the availability of quality steel to the industry, users, and the public at large.
- This measure is being taken to enhance the availability of quality steel to the users. According to the Order, it is ensured that only quality steel conforming to the relevant BIS standards is made available to the end users. BIS (Bureau of Indian Standards) Certification is a quality assurance process that ensures products meet Indian standards, verifying their quality, safety, and reliability. While BIS certification is voluntary for many products, it is mandatory for specific items, including certain steel products like TMT bars, to ensure public safety and compliance with Indian Standards. Certified products bear the ISI mark, indicating adherence to prescribed quality standards. The certification is typically valid for one to two years and can be renewed if the product and standards remain unchanged.
- As of August 2024, the QCO covers 151 categories of steel and steel products including carbon steel, alloy steel, and stainless steel. In addition, goods & articles made up of steel such as stainless-steel pipe & tubes, laminations/ cores of transformers, products of tin plate & tin-free steel, etc., have been notified to prevent circumvention of the Steel Quality Control Order.
- Through the Steel and Steel Products (Quality Control) Amendment Order, 2025, notified on 20 November 2025, the Ministry of Steel has temporarily deferred mandatory BIS enforcement for selected steel and steel product categories (for 1 year or 3 years, depending on the product) to allow industry time to comply, while retaining the core QCO framework covering 151 BIS-notified standards, including the requirement that both finished steel and critical intermediate inputs must conform to BIS standards once enforcement becomes operative.

India's Carbon Emission Reduction Targets:

At COP30, India reaffirmed a climate-action strategy grounded in equity, national circumstances and the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC), calling for a shift from commitments to credible implementation. India emphasised that developing economies require predictable, adequate and concessional climate finance, alongside affordable technology access, to reconcile low-carbon transition with development imperatives

such as rapid energy-demand growth and continued coal dependence. Highlighting its progress in expanding renewable energy and forest cover and reducing the emissions intensity of GDP, India reiterated its targets of achieving 500 GW of non-fossil-fuel power capacity and reducing GDP emissions intensity by 45% from 2005 levels by 2030, followed by net-zero emissions by 2070, supported by initiatives in green hydrogen, biofuels, renewable power and nuclear energy. By positioning COP30 as a "COP of Implementation and Delivery on Promises," India placed adaptation, resilience and a people-centric just transition at the centre of the global agenda, arguing that stronger international cooperation and fulfilment of developed-country financing commitments are essential for climate-resilient growth across the developing world.

Strategic Insights

India's structural position as the world's second-largest and fastest-growing steel consumer combined with a CAGR of 8.6% in finished steel consumption over FY20 to FY26, policy tailwinds from the PLI scheme explicitly supporting stainless steel long products, and protective measures shielding domestic producers from low-cost import competition establishes a highly supportive demand and regulatory environment for domestic specialty steel manufacturers.

The high-growth end-use segments identified above railways (10.7% CAGR), solar infrastructure (9.1%), oil and gas (6.9%), defence and aerospace (19.3% in SS-specific end-use) are precisely the applications served by specialty, corrosion-resistant, and high-performance SS long products including bars, wire rods, profiles, and precision wires. Domestic integrated manufacturers with established capabilities across these high-growth grades and application segments, together with expanding export presence, a recycling-led raw material sourcing model and ongoing capacity expansion, are positioned to participate in the growth of India's specialty stainless steel industry.

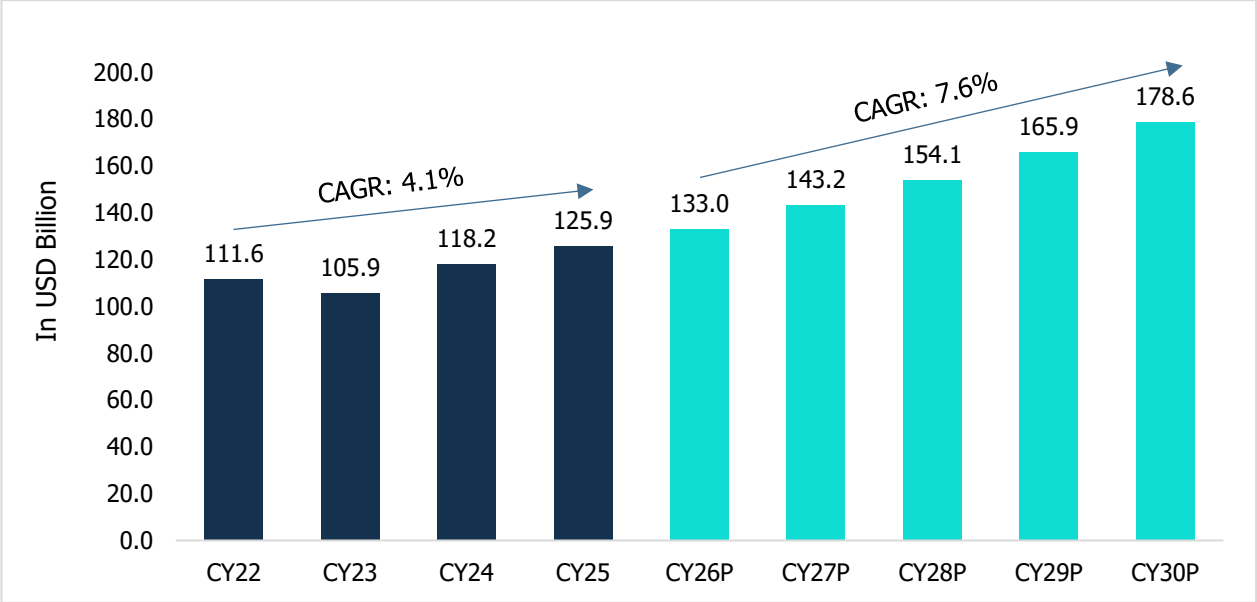
4 Global Stainless Steel (SS) Industry

The global stainless steel (SS) industry is undergoing a structural transition shaped by rising demand for high-performance applications and the imperative to adopt sustainable, lower-carbon production methods. Producers are increasingly deploying electric furnaces, hydrogen-based steelmaking, and scrap-based recycling to reduce emission intensity and align with tightening regulatory and ESG requirements. Simultaneously, advances in materials science including duplex and super-duplex alloys, high-corrosion-resistance grades, and lightweight high-strength compositions are broadening addressable applications across infrastructure, energy, defence, food processing, and precision engineering.

4.1 Market Size and Growth Trajectory

The global SS market expanded from approximately USD 111.6 billion in CY22 to nearly USD 125.9 billion in CY25, registering a CAGR of approximately 4.1%. Growth was driven by infrastructure and construction demand in emerging economies, EV-led demand in the automobile sector, and the hygienic and durability properties that make SS indispensable in healthcare and consumer goods. The industry is projected to reach approximately USD 178.6 billion by CY30, reflecting a CAGR of 7.6% over CY26 to CY30.

Chart 7: Market Size of Global SS Industry



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

4.1.1 Market Size By Product Type

Table 7: Market Size by Product Type

Product Type	CY25 Market Share	Projected CAGR (CY26–CY30)
Flat Products (coils, sheets, plates)	~78%	7.1%
Long Products (bars, rods, wires, sections)	~22%	9.6%
Global SS Market (Total)	USD ~126 billion	7.6% (→ USD ~179 billion by CY30)

Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Notably, the Long Products segment is projected to outpace Flat Products growth, with a CAGR of 9.6% over CY26–CY30, on the back of accelerating infrastructure investment in emerging markets, capital goods sector expansion, and growing adoption of corrosion-resistant structural forms in green infrastructure such as rail transit, wind energy, and LNG installations.

4.1.2 Market Size by Geography

Region	Historical Growth Drivers (CY19–CY25)	Future Growth Drivers (CY26–CY30)	CAGR (CY26–CY30)
Asia-Pacific	Growth was primarily driven by rapid industrialization, urbanization, infrastructure development, and expansion in construction, automotive, consumer goods, and manufacturing, particularly in China, India, and Southeast Asia.	Demand is expected to be supported by continued infrastructure investments, manufacturing expansion, energy transition projects, rising stainless steel usage in EVs and renewable energy, and increasing urbanization across emerging economies.	7.3%
Europe	Demand was supported by the automotive, engineering, food processing, chemical processing, and construction sectors, although growth remained moderated by economic slowdown, energy costs, and weaker industrial production in recent years.	Growth is expected to be driven by investments in renewable energy, sustainable construction, industrial modernization, circular economy initiatives, and demand for high-performance stainless steel across advanced manufacturing sectors.	8.1%
North America	Consumption was supported by steady investments in construction, transportation, oil & gas, food processing, healthcare, and industrial manufacturing, alongside gradual recovery in manufacturing activity.	Future demand is expected to benefit from infrastructure spending, reshoring of manufacturing, energy investments, aerospace, electric vehicle production, and industrial automation.	8.4%

Region	Historical Growth Drivers (CY19–CY25)	Future Growth Drivers (CY26–CY30)	CAGR (CY26–CY30)
Latin America	Historical growth was driven by mining, infrastructure development, construction, food processing, and gradual industrial expansion across major economies such as Brazil and Mexico.	Growth is expected to be supported by infrastructure development, mining investments, renewable energy projects, manufacturing expansion, and increasing urbanization.	8.9%
Middle East & Africa	Demand was primarily supported by investments in oil & gas, infrastructure, desalination, construction, and industrial projects, although volatility in commodity prices and project execution affected growth.	Consumption is expected to be driven by diversification away from hydrocarbons, investments in infrastructure, renewable energy, water treatment, industrial development, and large-scale urban development projects.	8.4%

Strategic Takeaways

The SS industry shows different growth patterns across regions. Asia-Pacific is the biggest market, driven by manufacturing and infrastructure demand. Europe and North America offer better margins due to stricter quality and environmental standards, while Latin America and the Middle-East show growth linked to commodity and construction cycles. This spread across geographies helps the industry manage risks and balance between high-volume and high-margin opportunities. Leading companies are investing more in regions with steady demand, customizing products to local needs, and building strong supply chains to handle disruptions. Environmental compliance is also becoming a key factor in staying competitive and attracting long-term investors.

4.1.3 Market Size by End-User Industry

Industry	Key SS Applications	Historical Growth Drivers	Future Growth Drivers	CAGR (CY26–CY30)
Consumer Goods	Kitchenware, cutlery, sinks, appliances, white goods	Rising disposable income, urbanization, lifestyle upgrades	Premiumization, replacement demand, expanding middle class	3.9%
Mechanical Engineering & Heavy Industries	Machinery, industrial equipment, tools, storage tanks, fabrication	Industrialization, capex cycles, manufacturing growth	Automation, advanced manufacturing, industrial capex recovery	8.9%
Automobile & Transportation	Exhaust systems, structural parts, EV components, rail coaches	Growth in vehicle production, emission norms, durability needs	EV adoption, lightweighting, rail & metro expansion	7.6%
Building & Construction	Structural applications, cladding, roofing, reinforcement, bridges	Urbanization, infrastructure	Smart cities, green buildings, corrosion-resistant infrastructure	11%

Industry	Key SS Applications	Historical Growth Drivers	Future Growth Drivers	CAGR (CY26–CY30)
		development, real estate growth		
Aerospace & Defence	Aircraft components, defence equipment, structural parts	Defence spending, aerospace manufacturing growth	Indigenous defence production, aerospace expansion	21.3%
Power	Thermal, nuclear, and renewable power equipment, transmission components	Power demand growth, thermal capacity addition	Renewable energy expansion, grid modernization, transmission infra	10.2%
Oil & Gas	Pipelines, refineries, storage tanks, offshore structures	Oil & gas exploration, refinery expansion	Energy transition, LNG, hydrogen infrastructure	9.7%
Wire	Stainless steel wires for springs, fasteners, cables, welding	Industrial demand, construction, automobile usage	Specialty applications, high-performance alloys, infrastructure demand	13.8%
Chemical	Processing equipment, reactors, storage tanks, corrosion-resistant systems	Chemical industry expansion, specialty chemicals growth	Specialty chemicals, export demand, process safety requirements	9.3%
Food Processing	Food-grade equipment, storage tanks, processing units, hygiene applications	Growth in packaged food, hygiene standards	Food processing expansion, export demand, stricter safety norms	4.5%

Strategic Insights

The SS industry is growing steadily across all major sectors consumer goods, construction, automobile, heavy industries, and emerging applications showing its increasing importance in both everyday and industrial use. As SS becomes more preferred for its durability, recyclability, and compliance with environmental norms, companies with a wide product range and global presence are best placed to benefit from both scale and high-value opportunities over the next decade.

4.2 Key Demand Drivers

Four structural tailwinds underpin medium-term SS demand growth.

- **First**, LNG infrastructure expansion and cryogenic storage build-out are driving project-led demand for SS across tanks, pipelines, valves, and transfer systems, where material ductility, toughness at ultra-low temperatures, and corrosion resistance are critical.
- **Second,** food-processing equipment replacement under regulatory frameworks such as the U.S. FSMA requiring hygienic, non-porous, chemically-resistant SS surfaces is generating sustained retrofit and new-installation demand across processing lines.
- **Third,** the accelerating deployment of green hydrogen electrolysers relies on SS for frames, piping, manifolds, and wetted parts, where chemical stability and gas purity requirements demand stainless solutions.
- **Fourth,** construction growth in emerging markets is boosting demand for SS in coastal and urban infrastructure, high-specification commercial buildings, and facades, where corrosion resistance and lifecycle economics drive material selection over lower-cost alternatives.

4.3 Key Challenges

The global SS industry faces four principal challenges:

- Raw material price volatility in nickel, chromium, and scrap feedstock compresses margins and elevates working capital requirements;
- Trade defence measures including EU anti-dumping duties on Chinese imports and U.S. Section 232 tariffs (25% on steel including SS) distort global trade flows and accelerate supply-chain regionalisation;
- Increasing availability of substitute materials including coated carbon steel, aluminium, and composites narrows SS's addressable market in non-critical applications;
- U.S. import tariffs redirect global SS supply flows, creating oversupply in displaced markets and complicating long-term investment planning.

4.4 Key Government Regulations/Policies

4.4.1 Carbon Border Adjustment Mechanism (CBAM)

The European Union's Carbon Border Adjustment Mechanism (CBAM) has become a significant regulatory development for the global steel and stainless steel industry by linking imports to their embedded carbon emissions. Following the completion of the transitional reporting phase (October 2023–December 2025), the definitive CBAM regime came into effect on 1 January 2026. Under the definitive regime, authorised EU importers of iron and steel products, including stainless steel, are required to declare embedded emissions annually and surrender CBAM certificates corresponding to the carbon emissions associated with imported products, with adjustments permitted where an equivalent carbon price has already been paid in the country of origin. The mechanism continues to cover iron and steel products, including various stainless steel categories, and the European Commission is also considering measures to strengthen the framework by expanding its scope to additional downstream products and reinforcing anti-circumvention provisions. Consequently, carbon intensity has become an increasingly important determinant of export competitiveness alongside

cost and quality, encouraging steel producers to improve emissions reporting, adopt lower-carbon production technologies and enhance compliance capabilities for access to the European market.

4.4.2 Trade Defence Measures: Anti-Dumping, Countervailing Duties and Import Tariffs

Trade defence measures, including anti-dumping duties, countervailing duties, safeguard measures and import tariff regimes, continue to be among the principal policy instruments used by governments to regulate steel and stainless steel trade and protect domestic industries. Anti-dumping and countervailing actions remain widely adopted across major markets, while the United States continues to apply Section 232 tariffs on steel imports. The European Union has introduced a new steel import protection framework to succeed its safeguard regime, incorporating revised tariff-rate quotas and measures to address global overcapacity. In India, the Government has imposed a 12% safeguard duty on specified flat steel products and continues to actively pursue anti-dumping investigations, including those relating to cold-rolled stainless steel products originating in or exported from China PR, Indonesia and Vietnam. Collectively, these measures influence global trade flows, encourage localisation of production, support domestic producers against unfair trade practices, and increase compliance requirements and supply chain realignment for steel manufacturers.

4.4.3 Raw Material Export Restrictions and Domestic Processing Policies

Regulations governing key raw materials such as nickel, chromium and ferro-alloys continue to shape the global stainless steel value chain. Indonesia's nickel ore export ban remains a significant policy measure, encouraging downstream refining and smelting investments within the country and reshaping global nickel supply chains. More recently, Indonesia has strengthened governance over exports of strategic natural resource commodities, including ferro-alloys, to promote domestic value addition and improve export oversight. The Philippines continues to encourage greater domestic value addition in its nickel industry through industry development initiatives and strategic cooperation with Indonesia on critical mineral supply chains. India, while remaining partially dependent on imported nickel, is strengthening its critical minerals strategy through initiatives aimed at improving long-term resource security and domestic value addition. These policy measures continue to influence raw material availability, supply security and input cost dynamics for stainless steel producers, encouraging long-term sourcing strategies and greater supply chain resilience.

4.4.4 Emission Standards and Industrial Decarbonisation Policies

Environmental regulations are becoming a defining structural driver for the stainless steel industry as governments tighten emissions standards and push long-term decarbonisation pathways. The European Union’s Green Deal and Fit for 55 framework are accelerating the transition toward low-carbon steelmaking, including hydrogen-based technologies, while Japan’s Green Growth Strategy actively promotes hydrogen-based direct reduced iron (DRI) production. India’s National Steel Policy (2017) encourages energy efficiency improvements and increased adoption of electric furnace routes, while global steelmakers such as ArcelorMittal and Tata Steel are investing heavily in scrap-based and hydrogen-ready production systems. For the stainless steel industry, these policies are increasing capital intensity and compliance requirements, but they are also reshaping competitive positioning producers with access to cleaner energy, higher scrap usage, and modern EAF infrastructure are gaining a structural advantage in an increasingly carbon-constrained global market.

4.4.5 Recycling and Circular Economy Regulations

Recycling and circular economy frameworks are becoming increasingly important for the stainless steel industry owing to the material's high recyclability and significant scrap-based production potential. The European Union's Circular Economy Action Plan, together with subsequent circular economy initiatives, continues to promote higher recycling rates

and efficient resource utilisation across industrial value chains. In the United States, investments under the Infrastructure Investment and Jobs Act and related industrial decarbonisation initiatives are supporting recycling infrastructure and the increased use of recycled materials. In India, the Steel Scrap Recycling Policy, supported by the Vehicle Scrapping Policy and the development of Registered Vehicle Scrapping Facilities, is strengthening the organised ferrous scrap ecosystem, improving collection efficiency and enhancing domestic scrap availability. These initiatives are expected to support greater material circularity, reduce dependence on virgin raw materials, improve resource efficiency and encourage wider adoption of scrap-based steel production, while regions with well-developed recycling ecosystems are likely to retain a competitive advantage.

Strategic Insights

The global SS industry's projected expansion to approximately USD 179 billion by CY30 led by the Long Products segment's 9.6% CAGR and standout demand growth in Aerospace and Defence (21.3%), Wire (13.8%), Building and Construction (11%), and Oil and Gas (9.7%) establishes a structurally supportive demand environment for domestic Indian producers of specialty SS long products.

The manufacture of duplex and super-duplex grades, high-alloy corrosion-resistant grades, and precision wire products requires specialised technical and production capabilities. Manufacturers possessing these capabilities may have opportunities to supply products for specialised applications, including in the defence and renewable energy sectors and in export markets. The extent of such opportunities will depend on several factors, including compliance with applicable quality and sustainability standards, customer approvals, export regulations, CBAM-related requirements, production costs, market demand, and competition.

5 India SS Industry

5.1 India's Stainless Steel Industry Poised for Sustained Growth Through FY30

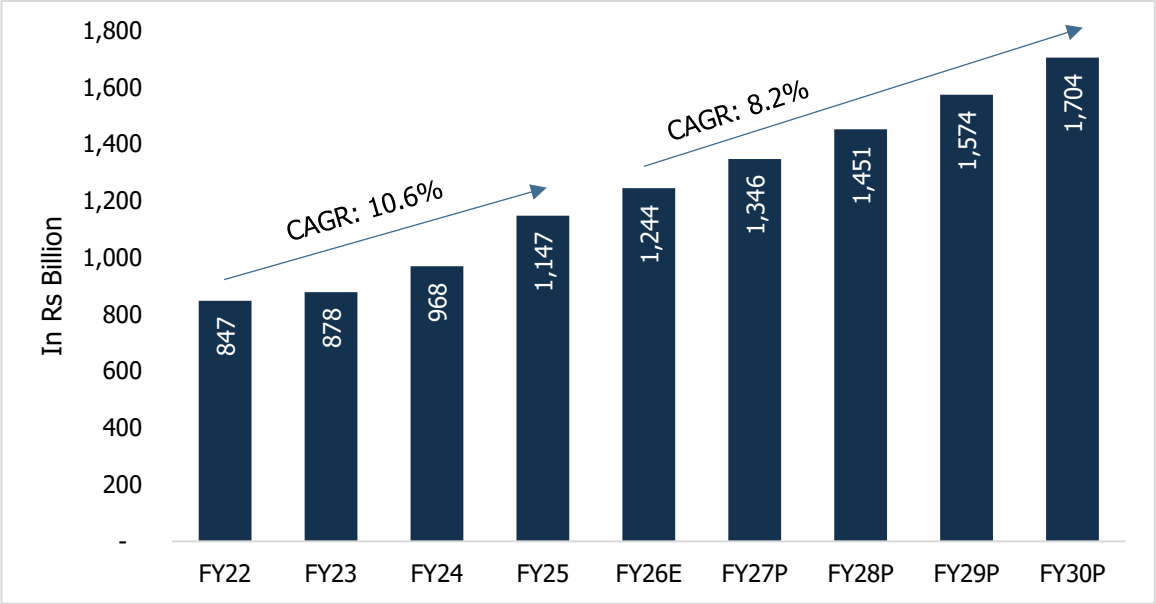
India's SS industry has recorded robust expansion from FY22 to FY25, registering a CAGR of 10.6% driven by strong demand from infrastructure development, transportation, urban development, metro networks, railways, and airports. The market size of India's SS industry stood at approximately Rs 1,147 billion in FY25, reflecting the scale and depth of domestic SS consumption across industrial and end-user segments.

Domestic per capita SS consumption has risen steadily through this period, supported by expanding metro infrastructure, rising construction activity, and increasing industrial usage. However, per capita consumption remains below global benchmarks, indicating significant headroom for structural demand growth as India's urbanisation and industrialisation deepen.

Looking ahead, the India SS market is projected to grow at a CAGR of 8.2% over FY26 to FY30, reaching a market size of approximately Rs 1,704 billion by FY30. Growth is expected to be driven by continued infrastructure investment, expanding application areas including green hydrogen, smart urban infrastructure, renewable energy installations, and tunnel construction, and a gradual convergence of India's per capita SS consumption toward global averages. The industry's trajectory reflects not only infrastructure-led momentum but also India's broader economic transformation toward sustainable development, technological modernisation, and metallurgical sophistication.

The global stainless-steel market weakened in CY23 as customers reduced excess inventories accumulated during earlier supply-chain disruptions. Softer industrial activity, high interest rates and geopolitical uncertainty also constrained demand, particularly in developed markets. India, meanwhile, benefited from expanding infrastructure, construction, railways and manufacturing activity, along with government initiatives promoting domestic steel procurement, specialty-steel production and wider steel usage. Consequently, India's stainless-steel market recovered more strongly after CY22 and is expected to grow faster than the global market, supported by rising domestic applications and significant headroom for greater stainless-steel adoption.

Chart 8: Market Size of India SS Industry



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Raw Material, Alloying Elements, and Manufacturing Process

SS is primarily produced using iron sourced either from iron ore or recycled steel scrap as the base metal. Its defining characteristic is a minimum chromium content of 10.5%, which imparts corrosion resistance by forming a passive oxide layer on the steel surface. The key alloying elements used in SS production and their functional roles are set out below.

Alloying Element	Functional Role	Primary Grades / Application
Chromium (Cr)	Minimum 10.5% required; forms a passive oxide layer conferring corrosion resistance	All SS grades; higher content in ferritic and duplex grades
Nickel (Ni)	Enhances ductility, toughness, and corrosion resistance; renders the steel non-magnetic in annealed condition	300 series austenitic grades (304, 316)
Molybdenum (Mo)	Improves resistance to chloride and chemical (pitting and crevice) corrosion	316 grade; duplex and super-duplex grades
Manganese (Mn)	Cost-effective partial substitute for nickel; improves strength and impurity removal	200 series austenitic grades
Silicon (Si)	Enhances oxidation resistance and strength at elevated temperatures	Multiple grades; used in heat-resistant applications
Carbon (C)	Controlled additions improve hardness and strength; excess reduces corrosion resistance	Martensitic grades (410, 420); managed in austenitic grades

These elements are introduced in the form of ferroalloys iron-based master alloys containing a high concentration of the target element enabling precise chemical composition control in the steelmaking process. The primary manufacturing route for SS in India is the Electric Furnace (EF) followed by secondary refining. The process involves melting steel scrap and, in some cases, direct reduced iron (DRI) in the EAF; adding ferroalloys (ferrochrome, ferronickel) to achieve the target chemistry; and refining through Argon Oxygen Decarburization (AOD) or Vacuum Oxygen Decarburization (VOD) to reduce carbon and impurities while preserving chromium content and fine-tuning grade specifications.

The refined molten steel is continuously cast into slabs, blooms, or blooms, and subsequently processed through hot rolling into coils, plates, bars, or wire rods. Depending on application requirements, downstream steps including cold rolling, annealing, pickling, and precision finishing are undertaken to achieve the required surface quality, dimensional accuracy, and mechanical properties. SS production is a highly controlled metallurgical process, where raw material selection, precise alloying, and advanced refining are collectively critical to achieving consistent quality across high-performance applications.

5.2 Raw Material

5.2.1 Price Trends

Ferro Alloy Prices Reflect Divergent Trends Amid Supply and Demand Dynamics

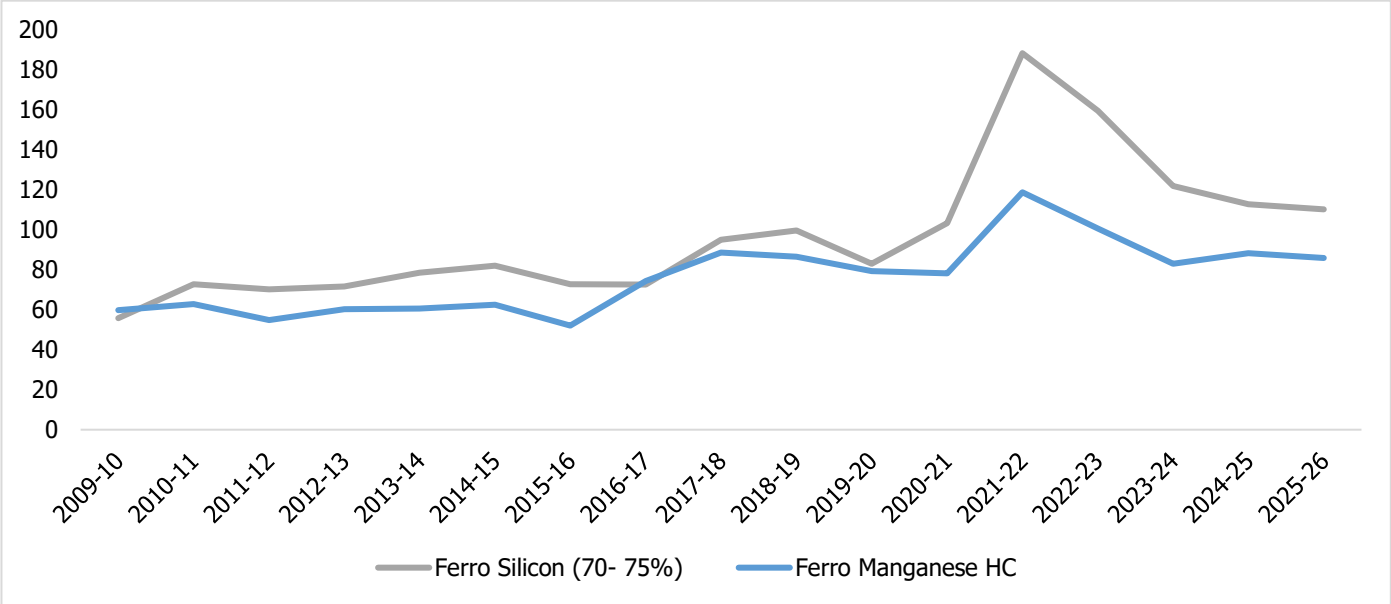
Ferro alloy prices have shown varied trends in recent periods, driven by differences in raw material availability, production economics, and steel sector demand. Among the key alloys, ferro molybdenum has witnessed the strongest price increase, with prices reaching peak levels in FY26. This sharp upcycle has been driven by tight supply of molybdenum concentrate from key producing regions, rising input costs, and sustained demand from stainless and alloy steel sectors globally. Although intermittent moderation has been visible due to weaker downstream demand, prices continue to remain elevated on account of raw material shortages and firm global market conditions.

Ferro manganese (high carbon), in comparison, has remained relatively stable through FY25–FY26, with moderate fluctuations. The price trend continues to be linked to carbon steel production, as ferro manganese remains a key alloying input for improving strength and removing impurities in steelmaking. Steady demand from infrastructure, construction, and automobile sectors has supported pricing, while balanced supply-demand dynamics and periodic oversupply have limited sharp upward movement despite fluctuations in manganese ore and energy costs.

Ferro silicon prices have also remained elevated relative to historical levels, following the strong increase witnessed after FY21. Recent pricing continues to be supported by steady steel sector demand and elevated production costs, particularly for silica, coke, and electricity, given the energy-intensive nature of manufacturing. While prices have stabilized in FY25–FY26 compared with earlier peaks, they remain sensitive to supply tightness and raw material cost movements.

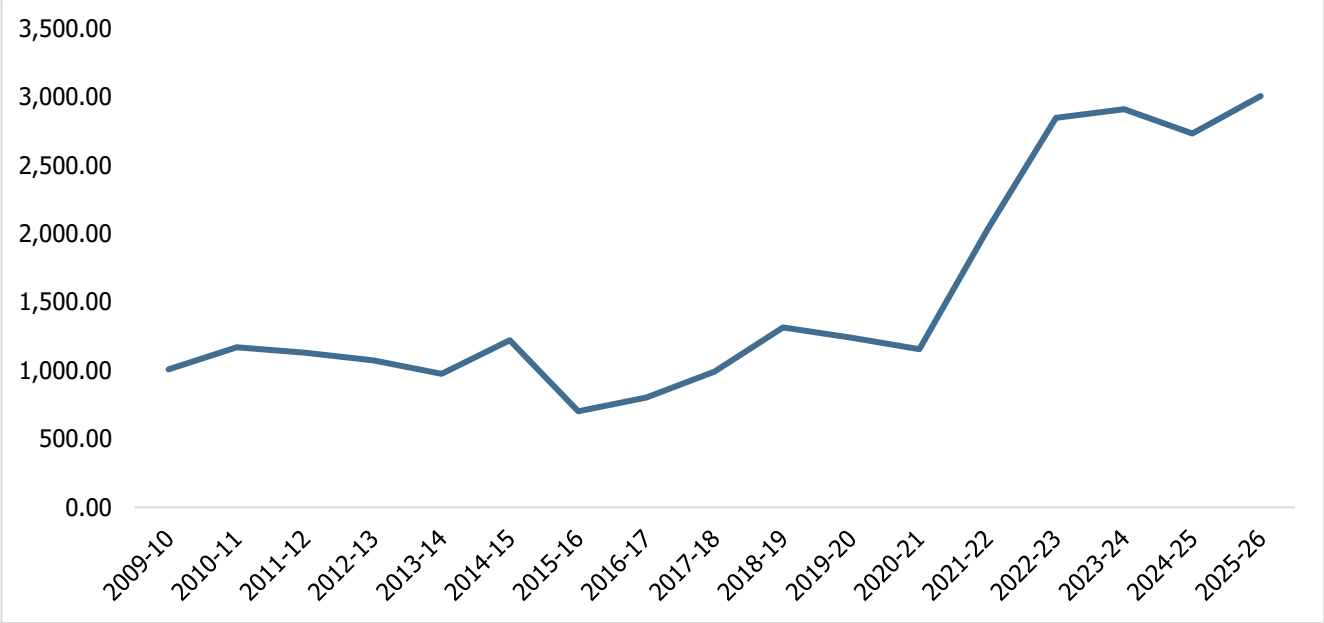
Overall, ferro alloy prices continue to be cyclical in nature and closely linked to steel demand, ore availability, and global supply dynamics. While ferro molybdenum has seen the sharpest upward movement due to concentrated supply constraints, ferro manganese and ferro silicon have remained comparatively range-bound, supported by steady demand and relatively balanced market conditions.

Chart 9: Trend in Ferro Alloy Prices (Rs/Kg)



Source: CMIE

Chart 10: Trend in Ferro Molybdenum (60%) Prices (Rs/Kg)



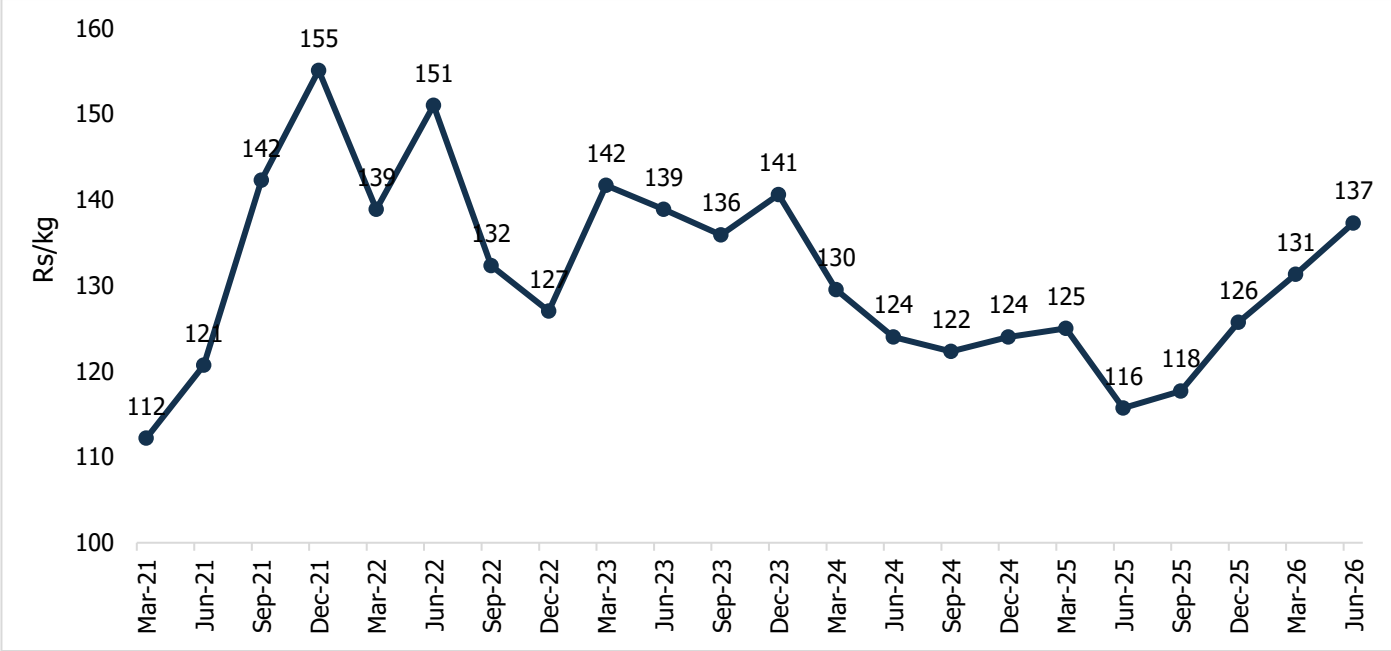
Source: CMIE

Ferro Chromium High Carbon (60-65%) (Chromium Content: 60–65%)

High-carbon ferro chromium prices exhibited a steady recovery over the four quarters ended June 2026. Prices increased from around Rs 118 per kg in the quarter ended September 2025 to approximately Rs 126 per kg in the quarter ended December 2025, before rising further to around Rs 131 per kg in the quarter ended March 2026 and Rs 137 per kg in the quarter ended June 2026. The sustained improvement was primarily driven by strengthening demand from the stainless steel industry, firm chrome ore prices and relatively tighter supply conditions in key producing regions. During early 2026, domestic ferro chromium prices remained supported by disciplined inventory management, stable procurement by stainless steel manufacturers and firm producer realizations. Overall, the pricing trend reflected a gradual strengthening of market fundamentals, with improving downstream demand and supportive raw material prices contributing to the continued recovery.

Historically, ferro chromium prices have remained volatile, largely influenced by trends in stainless steel production, chrome ore availability, electricity costs, and global industrial demand. Prices reached peak levels during FY22, touching around Rs 155 per kg in December 2021 due to supply disruptions, elevated energy costs, and strong post-pandemic stainless steel demand. Subsequently, prices moderated amid weaker Chinese steel demand, softer export markets, and oversupply conditions before stabilizing during FY25 and FY26.

Chart 11: Trend in Ferro Chromium High Carbon (60-65%) Prices



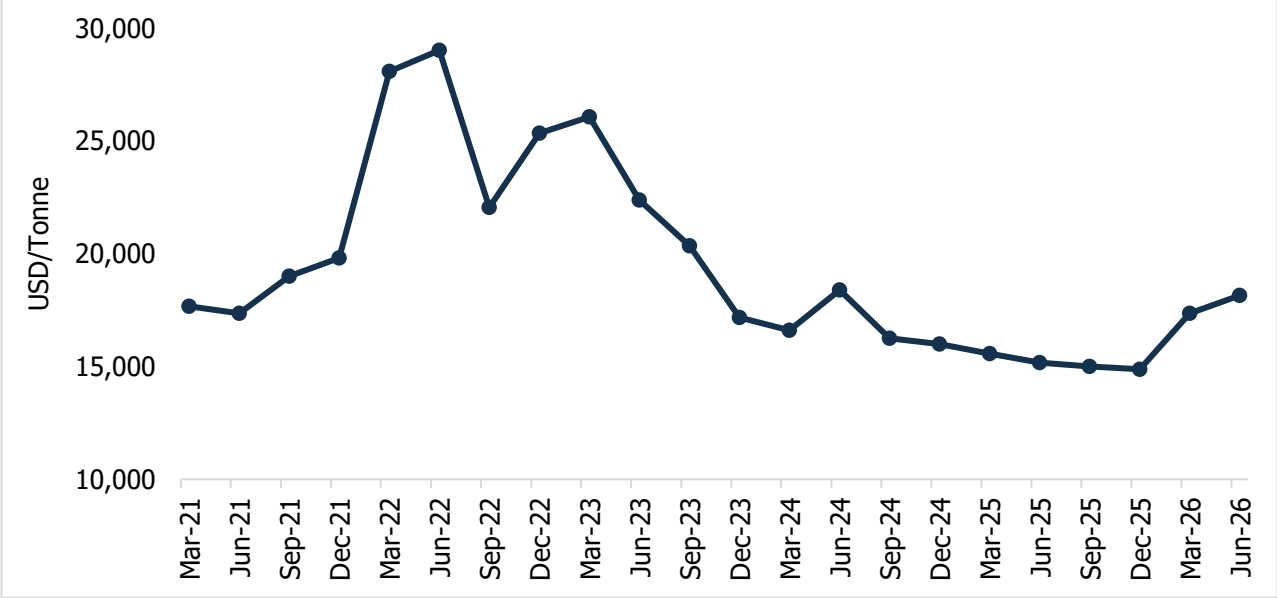
Source: CMIE

Nickel

LME nickel prices continued to recover during the quarter ended June 2026, increasing to around USD 18,158 per tonne. This represented a quarter-on-quarter increase of approximately 4.6% and marked the second consecutive quarterly rise. Average LME nickel prices witnessed a recovery during the quarter ended March 2026, increasing to around USD 17,357 per tonne from nearly USD 14,883 per tonne in the quarter ended December 2025. The recovery was supported by expectations of tighter nickel ore supply from Indonesia, concerns regarding mining quotas, and improving sentiment in stainless steel demand. However, prices remained under pressure through most of FY25 due to elevated global inventories and persistent oversupply conditions.

Historically, nickel prices have remained highly volatile, closely tracking developments in stainless steel production, electric vehicle battery demand, and Indonesian supply expansion. Prices surged sharply during FY22, reaching nearly USD 29,000 per tonne in June 2022 amid supply disruptions, geopolitical uncertainty, and strong post-pandemic demand. Thereafter, prices gradually moderated due to significant production growth from Indonesia, weaker Chinese construction activity, and softer stainless steel demand. During FY24 and FY25, prices largely stabilized as oversupply offset long-term demand optimism from the EV and energy transition sectors.

Chart 12: Trend in Nickel Prices



Source: CMIE

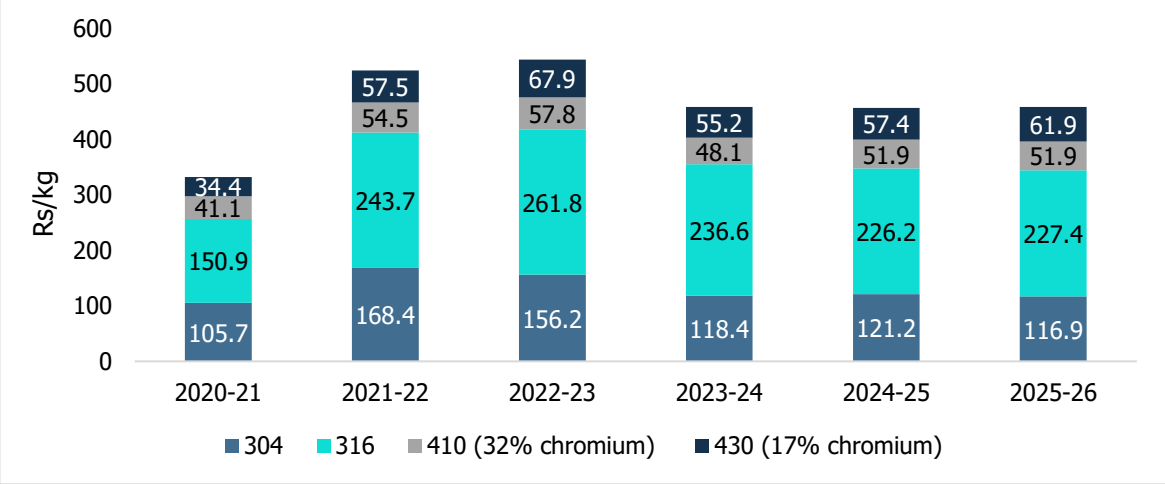
Stainless Steel Scrap

Stainless steel scrap prices have shown moderate volatility over the period FY21–FY26, with a sharp increase in FY22 followed by gradual stabilization and slight fluctuations across grades such as 304, 316, 410, and 430. The spike in FY22–FY23 can be attributed to strong post-pandemic recovery in stainless steel demand and a surge in global prices of key alloying elements like nickel and chromium, which directly influence scrap valuation. Higher-nickel-content grades, such as 316, consistently commanded a premium over 304 and 400 series due to their superior composition and demand.

In recent years (FY24–FY26), prices have remained relatively range-bound, reflecting balanced supply-demand dynamics and stable industrial activity. Factors such as global steel demand, recycling rates, and availability of clean scrap have played a crucial role in limiting sharp price movements. Additionally, fluctuations in alloy metal prices and overall economic conditions continue to impact scrap pricing trends.

Overall, stainless steel scrap prices are cyclical and closely linked to alloy prices, steel demand, and scrap availability, with premium grades consistently outperforming lower-grade materials.

Chart 13: Trend in Stainless Steel Scrap



Source: CMIE

5.2.2 Trade Data of Raw Materials

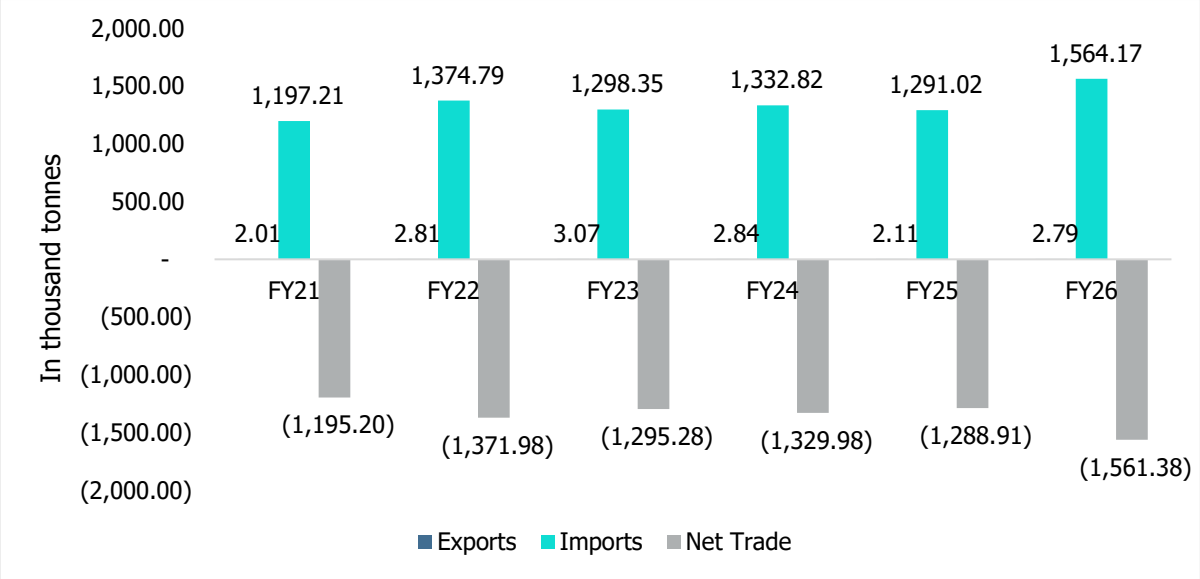
SS Scrap

India remained a net importer of stainless steel scrap throughout FY21–FY26, with imports substantially exceeding exports during the period. Imports remained broadly stable at around 1.2–1.4 million tonnes through FY21–FY25 before increasing to approximately 1.56 million tonnes in FY26, the highest level during the period. In contrast, exports remained limited at around 2–3 thousand tonnes annually. Consequently, the trade deficit widened to approximately 1.56 million tonnes in FY26.

The increase in imports during FY26 indicates continued reliance on imported scrap to supplement domestic availability and support stainless steel production. This is consistent with the increasing use of scrap as a raw material across India's stainless steel manufacturing industry. Industry data indicates that India's stainless steel scrap imports increased significantly during 2025, alongside higher domestic stainless steel production.

The continued reliance on imported scrap reflects the importance of availability, quality and grade composition of scrap to domestic producers. Import volumes remain influenced by domestic stainless steel production, international scrap prices, freight costs and the availability of suitable domestic scrap.

Chart 14: Trade Data for SS Scrap



Source: Ministry of Commerce and Industry
Note: HSN code used is 72042190

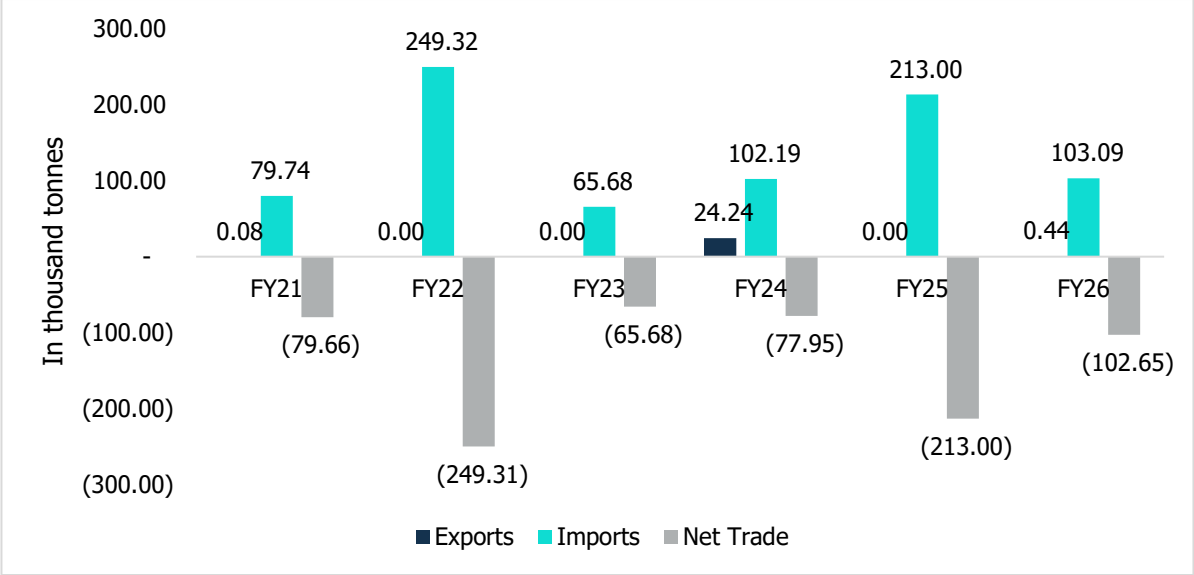
Ferro Nickel

India remained a net importer of ferro nickel throughout FY21–FY26, with imports substantially exceeding exports in each year. Import volumes were volatile over the period, rising sharply to around 249 thousand tonnes in FY22, before declining to around 66 thousand tonnes in FY23. Imports subsequently recovered to approximately 213 thousand tonnes in FY25, before moderating to around 103 thousand tonnes in FY26. Exports remained limited during most of the period, resulting in a persistent trade deficit.

The continued dependence on imports reflects the role of ferro nickel as an important source of nickel units for stainless steel production. Nickel is predominantly used in stainless and alloy steels, while ferro nickel is one of the principal forms in which nickel is supplied for first use. India's import dependence is also influenced by the concentration of global nickel supply.

The moderation in imports in FY26, following the elevated levels seen in FY25, may reflect changes in procurement requirements, nickel prices and the availability of alternative nickel-bearing raw materials. Nevertheless, industry data indicates that ferro nickel and nickel pig iron imports into India remained strong during 2025, highlighting the continued importance of imported nickel units for domestic stainless steel production.

Chart 15: Trade Data for Ferro Nickel



Source: Ministry of Commerce and Industry
Note: HSN code used is 72026000

Ferro Molybdenum

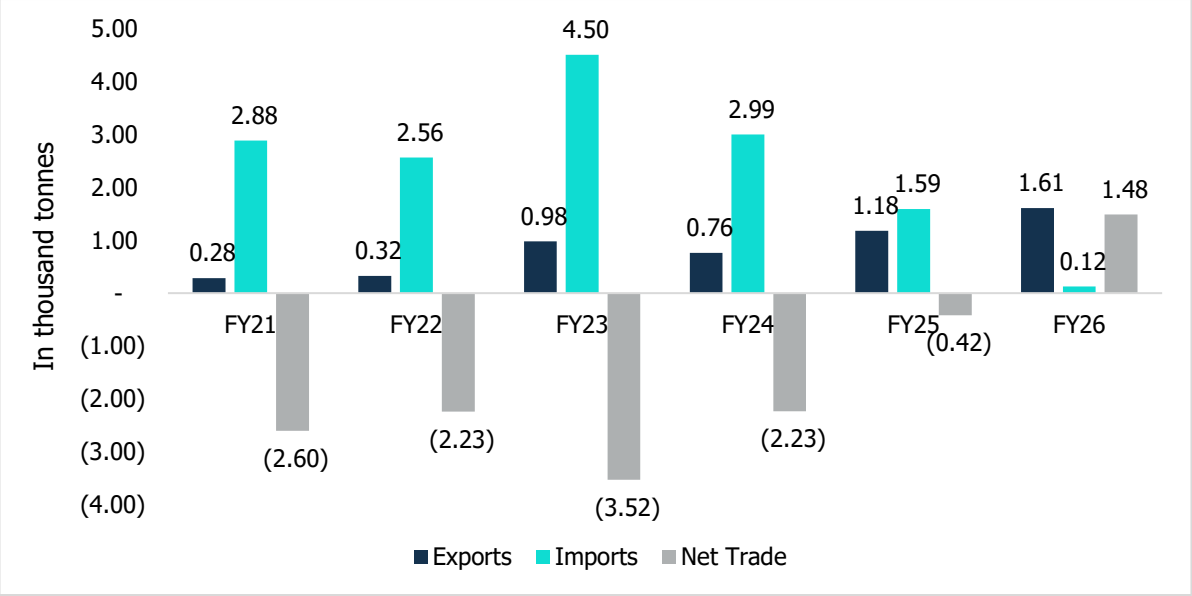
India remained a net importer of ferro molybdenum during FY21–FY25, with imports exceeding exports in each year. Imports increased sharply to 4.5 thousand tonnes in FY23, before moderating to around 3.0 thousand tonnes in FY24 and 1.6 thousand tonnes in FY25. Exports increased during the latter part of the period, narrowing the trade deficit to 0.4 thousand tonnes in FY25.

A notable shift occurred in FY26, when imports declined to 0.1 thousand tonnes, while exports increased to around 1.6 thousand tonnes, resulting in a marginal trade surplus. This indicates a change in India's trade balance, although the surplus may partly reflect annual procurement and inventory cycles rather than a structural reduction in import dependence.

India's ferro molybdenum trade remains linked to international supply conditions, with global molybdenum production concentrated among a limited number of producing regions. China is among the major global producers of molybdenum, contributing significantly to global supply, while Thailand, China, South Korea and Japan were among India's principal ferro molybdenum import sources in 2024.

The continued expansion of India's alloy and specialty steel production base is expected to support demand for molybdenum-bearing inputs, particularly for grades requiring enhanced strength and corrosion resistance. However, trade flows remain dependent on domestic steel production, international prices, availability and procurement requirements.

Chart 16: Trade Data for Ferro Molybdenum



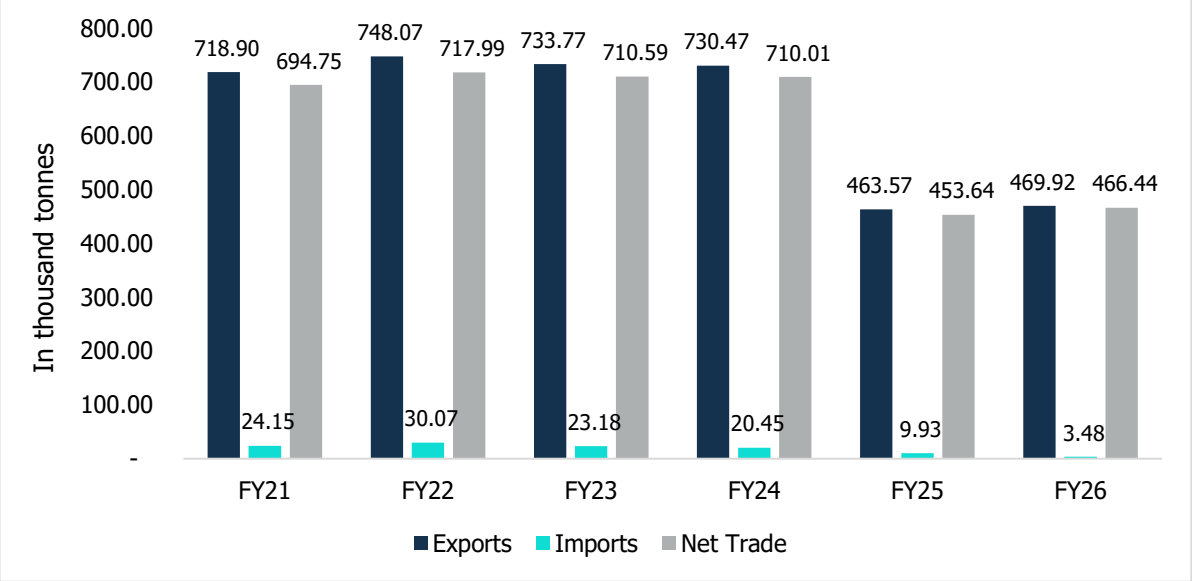
Source: Ministry of Commerce and Industry
Note: HSN code used is 72027000

Ferro Chrome Containing More Than 4% Carbon

India remained a net exporter of high-carbon ferro chrome throughout FY21 to FY26. Exports were relatively stable between FY21 and FY24, ranging from 718.9 thousand tonnes to 748.1 thousand tonnes. Exports reached their highest level in FY22 and subsequently moderated to 730.5 thousand tonnes in FY24. In FY25, exports declined by approximately 36.5% to 463.6 thousand tonnes. Exports increased marginally to 469.9 thousand tonnes in FY26, but remained below the levels recorded during FY21 to FY24. Accordingly, the data indicate stabilisation at a lower level in FY26 rather than a return to the earlier export range.

Imports remained substantially lower than exports throughout the period. Imports declined from 24.2 thousand tonnes in FY21 to 3.5 thousand tonnes in FY26. Consequently, India maintained a positive net-trade position in each year. Net trade remained above 694 thousand tonnes during FY21 to FY24, before declining to 453.6 thousand tonnes in FY25 and recovering moderately to 466.4 thousand tonnes in FY26. Demand for ferro chrome is primarily linked to stainless-steel production, while trade volumes may be affected by global stainless-steel demand, international prices, domestic consumption, energy and freight costs, production availability and competition from overseas producers. Historical trade trends may not be indicative of future performance, which will depend on domestic and international market conditions.

Chart 17: Trade Data for Ferro Chrome (>4% of Carbon)



Source: Ministry of Commerce and Industry
Note: HSN code used is 72024100

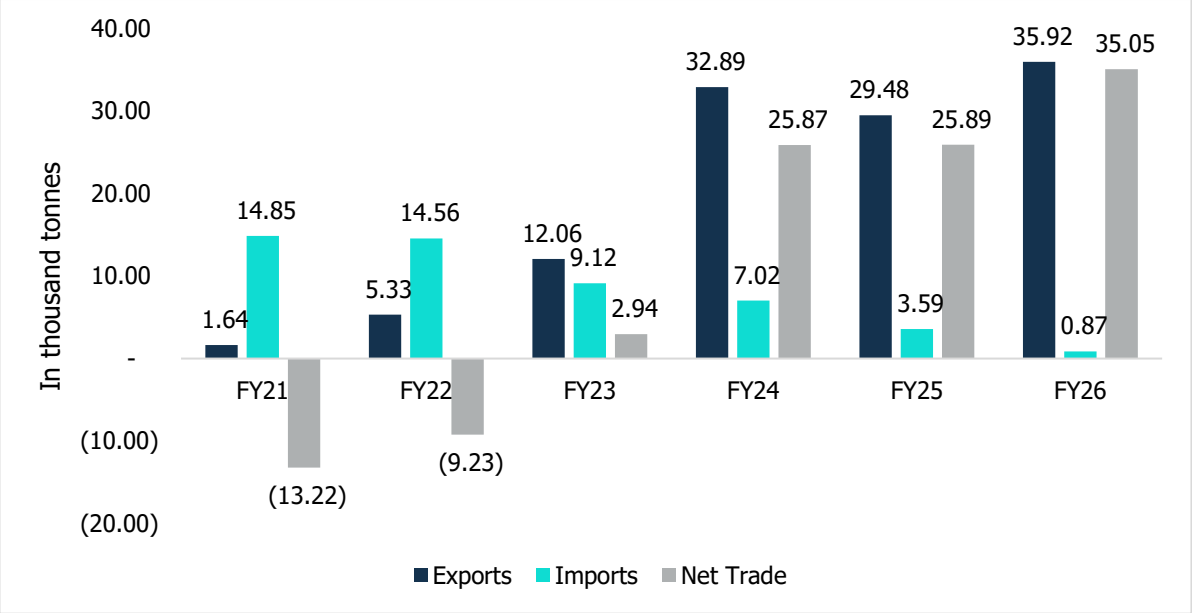
Other Ferro Chromium

India's trade in other ferro chromium changed materially between FY21 and FY26, moving from a net-import position to a net-export position. Exports increased from 1.64 thousand tonnes in FY21 to 12.06 thousand tonnes in FY23, while imports declined from 14.85 thousand tonnes to 9.12 thousand tonnes. Consequently, India became a net exporter in FY23, recording net trade of 2.94 thousand tonnes, compared with trade deficits in FY21 and FY22.

The export trend strengthened further in FY24, with volumes increasing to 32.89 thousand tonnes, while imports declined to 7.02 thousand tonnes. Exports moderated to 29.48 thousand tonnes in FY25 before increasing to a period-high of 35.92 thousand tonnes in FY26. Imports continued to decline and reached 0.87 thousand tonnes in FY26, resulting in net trade of 35.05 thousand tonnes. Overall, the data reflect increased exports and reduced import dependence during the period.

Ferro chromium is primarily used as an alloying input in stainless-steel production, where chromium contributes corrosion resistance, wear resistance and strength. Accordingly, demand and trade volumes are influenced by stainless-steel production and consumption. Other relevant factors include international ferro-chrome prices, domestic production and consumption, availability and cost of chromite ore and power, freight costs, and competition from overseas producers. China and South Africa are among the major global ferrochrome producing countries, while production economics remain influenced by electricity costs, chrome ore prices and logistics.

Chart 18: Trade Data for Other Ferro Chromium



Source: Ministry of Commerce and Industry
Note: HSN code used is 72024900

Ferro Manganese Containing More Than 2% Carbon

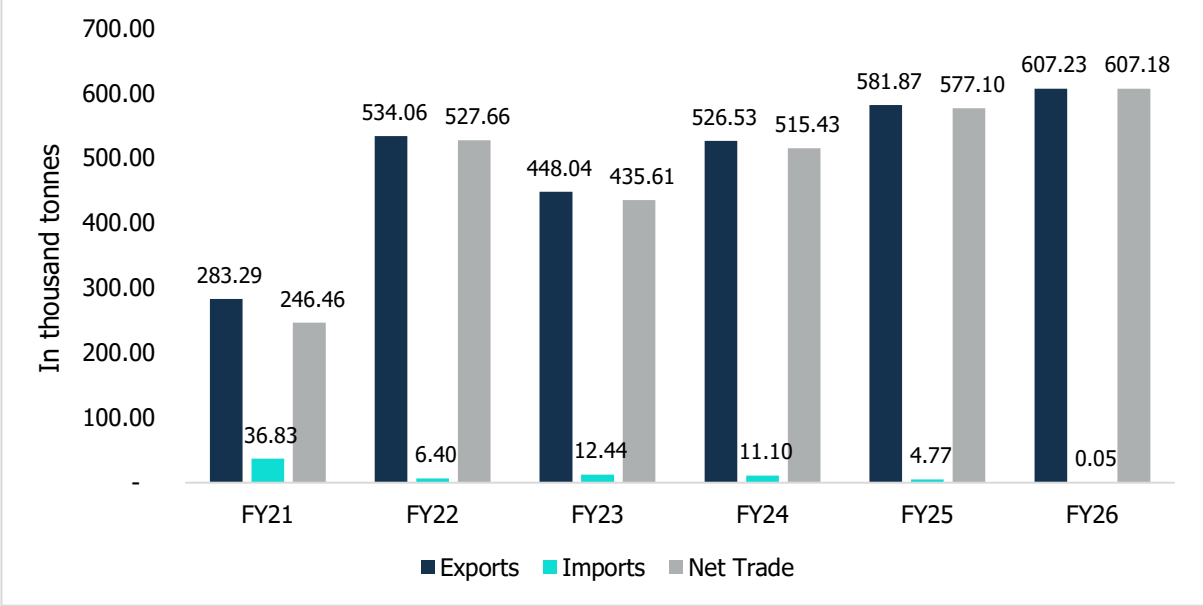
India remained a net exporter of high-carbon ferro manganese throughout FY21 to FY26. Exports increased from 283.29 thousand tonnes in FY21 to 534.06 thousand tonnes in FY22, followed by a moderation to 448.04 thousand tonnes in FY23. Exports subsequently recovered, reaching 526.53 thousand tonnes in FY24, 581.87 thousand tonnes in FY25 and a period-high of 607.23 thousand tonnes in FY26.

Imports remained substantially lower than exports and declined from 36.83 thousand tonnes in FY21 to 6.40 thousand tonnes in FY22. Following a temporary increase to 12.44 thousand tonnes in FY23, imports declined continuously and were 0.05 thousand tonnes in FY26. Consequently, net trade increased from 246.46 thousand tonnes in FY21 to 607.18 thousand tonnes in FY26, reflecting growth in export volumes and reduced import dependence.

Ferro manganese is primarily used in iron and steel production due to manganese's deoxidising, sulphur-fixing and alloying properties. Steelmaking accounts for the majority of manganese demand; therefore, trade volumes are influenced by domestic and global steel production, construction and infrastructure activity, and demand from machinery and transportation sectors.

The trade trend may also be affected by manganese ore availability, power and coke costs, freight rates, international prices and overseas competition. The manganese-based ferroalloy industry is exposed to energy costs, imported manganese ore and demand conditions in the steel industry. The Ministry of Mines reported an increase in domestic manganese ore production during FY25, which may support the availability of domestic raw material for ferroalloy producers. However, the industry remains exposed to fluctuations in manganese ore prices and availability, as well as steel-sector demand.

Chart 19: Trade Data for Ferro Manganese (>2% of Carbon)



Source: Ministry of Commerce and Industry
Note: HSN code used is 72021100

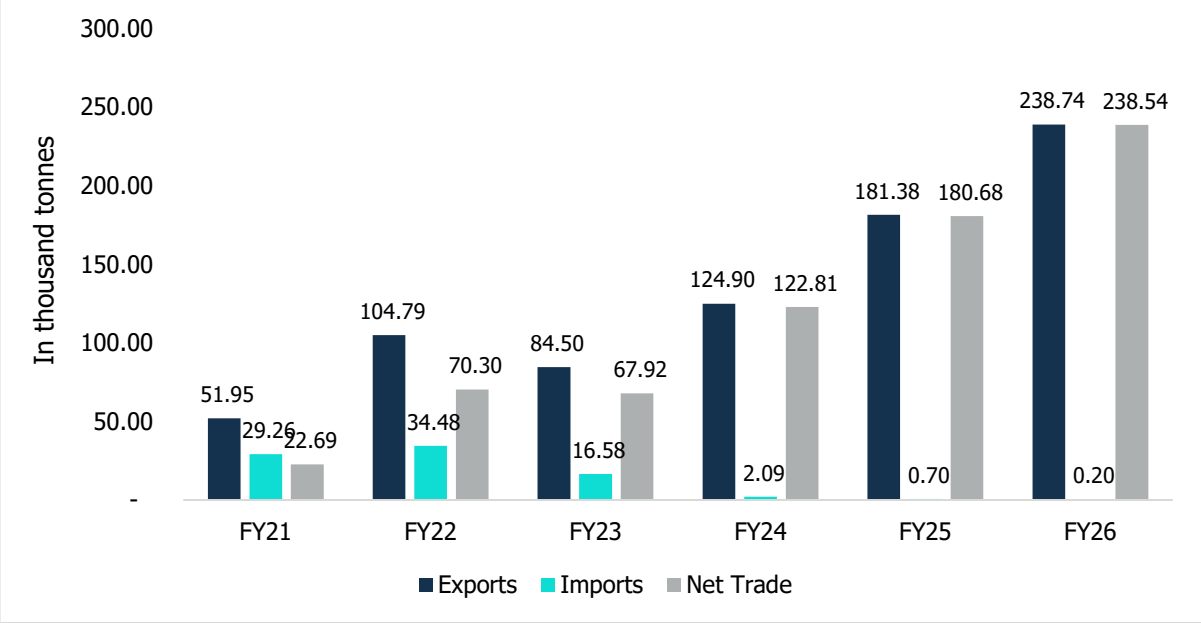
Other Ferro Manganese

India's trade in other ferro manganese showed sustained improvement between FY21 and FY26, with exports increasing and imports declining significantly. Exports rose from 51.95 thousand tonnes in FY21 to 104.79 thousand tonnes in FY22, before moderating to 84.50 thousand tonnes in FY23. The export trend strengthened from FY24 onwards. Exports increased to 124.90 thousand tonnes in FY24, followed by 181.38 thousand tonnes in FY25 and a period-high of 238.74 thousand tonnes in FY26. This represents more than a fourfold increase over FY21. The consistent growth during the latest three-year period indicates an expansion in India's export volumes.

Imports increased in FY22 but declined thereafter, falling from 34.48 thousand tonnes in FY22 to 0.20 thousand tonnes in FY26. Consequently, net trade increased from 22.69 thousand tonnes in FY21 to 238.54 thousand tonnes in FY26. The narrowing difference between exports and net trade in FY25 and FY26 reflects the reduced level of imports.

Manganese ferroalloys are primarily used in steelmaking because of manganese's deoxidising, sulphur-fixing and alloying properties. Accordingly, demand is influenced by steel production and activity in construction, transportation and machinery. Industry performance is influenced by the availability and cost of manganese ore, electricity and fuel costs, ferroalloy prices, freight rates, production capacity and domestic and international demand. Operating conditions may vary depending on changes in raw material availability, product prices, capacity utilisation and demand conditions.

Chart 20: Trade Data for Other Ferro Manganese



Source: Ministry of Commerce and Industry
Note: HSN code used is 72021900

5.3 Long and Flat Stainless Steel Products Reflect Evolving Demand and End-Use Dynamics

SS products are broadly categorised into long products and flat products, based on shape, manufacturing process, and end-use application a classification that is widely used across the industry to analyse market trends, demand patterns, and end-user segments.

Table 8: Stainless Steel, By Product type

Parameter	Flat Products	Long Products
Product Forms	Sheets, coils, plates, strips	Bars, rods, wires, angles, sections, wire rods
Manufacturing Route	Hot rolling → Cold rolling → Finishing (annealing, pickling, skinpass)	Hot rolling, forging, extrusion → Heat treatment, bright bar finishing
Key Characteristics	Uniform thickness; superior surface finish	Structural integrity; high strength; precision engineering
Key End-Uses	Consumer goods, automobile, appliances, food processing, chemical, construction (cladding)	Construction, infrastructure, automobile components, engineering, defence, oil and gas
Demand Nature	More diversified and relatively stable; consumption-driven	Somewhat cyclical; infrastructure- and capex-driven
Market Share (FY26E)	~75% of India SS market	~25% of India SS market

Parameter	Flat Products	Long Products
Projected CAGR (FY26–FY30P)	7.9%	9.0%

Source: Cervicorn Consulting, Industry Sources, CareEdge Research

The long products segment is projected to outpace flat products on a growth rate basis, registering a projected CAGR of 9.0% versus 7.9% for flat products, over FY26 to FY30. Growth in long products is expected to be driven by continued infrastructure development including renewable energy installations, LNG terminals, and coastal infrastructure increasing use in specialised engineering applications such as defence, oil and gas, and chemical processing, and the expanding domestic fabrication and industrial machinery ecosystem. Flat products are expected to benefit from premiumisation in consumer goods, electric vehicle adoption, expansion in chemical and pharmaceutical industries, and sustainability-driven demand for high-corrosion-resistance materials in construction.

5.4 Stainless Steel Grade-Wise Demand Driven by Application Requirements and Evolving Market Trends

SS is broadly classified into the 200 series, 300 series, and 400 series based on chemical composition and performance characteristics, alongside a growing range of specialised and duplex grades for high-performance applications. The following table summarises the classification, characteristics, and demand dynamics of each series.

Table 9: Stainless Steel, By Grade type

Series	Composition / Type	Key Characteristics	Major Grades	Key Applications	Growth Drivers
200 Series	Austenitic; Mn/N partially substitute Ni	Moderate corrosion resistance; cost-effective; good formability; lower durability in aggressive environments	AISI 201, 202	Kitchen utensils, railway coaches, furniture, low-cost construction	Affordability; strong domestic consumption in price-sensitive segments; particularly relevant in emerging markets including India
300 Series	Austenitic; high Cr (16–26%) and Ni (6–22%)	Excellent corrosion resistance; high ductility and formability; non-magnetic; most versatile category	AISI 304 (general); AISI 316 (Mo-enhanced)	Food processing, chemical & pharma, medical equipment, automobile, high-end construction	Quality and longevity-driven sectors; export markets; renewable energy and healthcare growth

Series	Composition / Type	Key Characteristics	Major Grades	Key Applications	Growth Drivers
400 Series	Ferritic (high Cr, low Ni) or Martensitic (higher carbon, moderate Cr)	Magnetic; good wear resistance; lower corrosion resistance than 300 series; cost advantage	AISI 410, 420 (martensitic); AISI 430, 434 (ferritic)	Automobile trim and exhaust; cutlery; industrial equipment; appliances	Automobile electrification; appliance manufacturing; engineering applications favouring cost/strength balance
Duplex and Super-Duplex	Combined austenitic-ferritic microstructure; ~50:50 phase ratio	Higher strength than austenitic or ferritic grades; superior stress corrosion cracking resistance; lower Ni dependency	2205 (standard duplex); 2507 (super duplex)	Oil and gas pipelines; offshore platforms; chemical processing; desalination; marine infrastructure	Fastest-growing segment; energy transition; LNG and hydrogen infrastructure; lower nickel dependency improves cost stability
Precipitation-Hardening (PH) and Specialty	Complex alloy systems; tight process control	Very high strength and durability; withstand extreme temperature/corrosion environments	17-4 PH; 904L; heat-resistant grades	Aerospace and defence; nuclear and thermal power; advanced industrial setups; marine and chemical sectors	Indigenisation of defence and aerospace; expanding nuclear and renewable power; demand for 904L in maritime and chemical environments

Source: CareEdge Research

In India, the 300 series continues to dominate demand, anchored by its superior corrosion resistance and versatility across industrial, chemical, and high-end applications. The 200 series has gained traction as a cost-effective alternative particularly in price-sensitive domestic markets kitchen utensils, railway coaches, and construction where nickel substitution through manganese enables more accessible pricing. Looking ahead, the 300 series is expected to be propelled by high-end sectors including renewable energy, healthcare, and electric vehicles, while the 400 series is expected to gain from automobile electrification and engineering applications. Duplex grades represent the fastest-growing category, on the back of expanding oil and gas, LNG, and coastal infrastructure investment.

5.5 Regional Stainless Steel Demand Evolving from Industrial-Led Growth to Diversified Consumption

SS demand across India's regions reflects distinct historical growth drivers and evolving forward demand catalysts, mirroring the geographic diversification of India's industrial and infrastructure activity.

Table 10: Stainless Steel, By Region

Region	Historical Growth Drivers	Forward Demand Outlook	Market Share (as of FY26E)	CAGR (FY26-FY30)
Western India	Industrialisation, port connectivity, and export-oriented industries; steady demand from engineering, chemicals, and automobile	Expected to benefit from logistics advantages, export growth, and industrial investment; strong export linkages to Gulf, EU, and Southeast Asia	33.0%	9.0%
Northern India	Dominant demand leader; strong manufacturing base, consumer goods production, expanding urban infrastructure, industrial corridors, distribution networks	Sustained leadership supported by manufacturing growth, urban expansion, consumer markets, and proximity to industrial clusters	27.0%	9.2%
Southern India	Urbanisation, construction activity, and rising consumer demand, particularly in appliances and fabrication	Rising demand from technology-led urbanisation, renewable energy, and high-end manufacturing; growing auto components and pharma sectors	24.0%	8.2%
Eastern India	Proximity to mineral resources, steel hubs, and heavy industries; supply-driven market linked to railways and basic infrastructure	Infrastructure expansion, industrial corridors, and urban development expected to transform the region into a more consumption-driven market	16.0%	4.6%

Source: Cervicorn Consulting, Industry Sources, CareEdge Research

Overall, while India's regional SS demand growth was historically infrastructure- and industry-led, the forward trajectory is expected to be more diversified and consumption-driven, linked to advanced manufacturing, sustainability trends, and rising per capita income levels. The geographical spread of demand provides structural resilience for domestic SS producers and limits over-dependence on any single end-use sector or regional market.

5.6 SS Products

SS represents a class of iron-based alloys characterized by a minimum chromium content of 10.5%, which enables the formation of a passive oxide layer that protects against corrosion. The addition of elements such as nickel, molybdenum, and carbon further enhances mechanical strength, corrosion resistance, and temperature performance.

From an industry perspective, SS is not a uniform material but a family of engineered products, each designed for specific operating environments. The classification into different types is primarily based on metallurgical structure, which directly influences properties such as strength, ductility, magnetism, and corrosion resistance.

Classification of Stainless-Steel Products

Type of Stainless Steel	Composition / Structure	Key Characteristics	Common Grades / Variants	Key Applications	Market Relevance / Demand Drivers
Austenitic SS	High chromium (16–26%) and nickel (6–22%); austenitic microstructure	• Excellent corrosion resistance across varied environments • High ductility and formability • Non-magnetic in annealed condition • Not hardenable through heat treatment	• 304 – General-purpose grade • 316 – Enhanced corrosion resistance due to molybdenum	• Food processing equipment • Chemical storage tanks and pipelines • Architectural facades and structural components	Largest consumed category globally; acts as the volume driver due to versatility across industries. Rising demand for hygienic and corrosion-resistant materials supports long-term growth.
Ferritic SS	High chromium (10.5–30%), low carbon, little to no nickel; body-centered cubic structure	• Moderate corrosion resistance • Magnetic properties • Lower cost due to minimal nickel content • Limited weldability compared to austenitic grades	• 430 – Common in appliances • 434 – Improved corrosion resistance	• Automobile trim and exhaust systems • Household appliances • Industrial equipment	Strong demand in cost-sensitive markets due to balance of affordability and performance. Growth supported by expansion in automobile and appliance manufacturing.
Martensitic SS	Higher carbon content with moderate chromium levels	• High strength and hardness • Magnetic • Lower corrosion resistance • Good wear resistance • Hardenable through heat treatment	• 410 • 420	• Surgical instruments • Industrial blades and cutting tools • Turbine components	Smaller share but critical in niche high-strength applications requiring durability, wear resistance, and precision.
Duplex SS	Combination of austenitic and ferritic structures in near-equal proportion	• Higher strength than austenitic and ferritic grades • Superior resistance to stress corrosion cracking • Strong performance in chloride-rich environments • Lower nickel dependency	• Standard Duplex (e.g., 2205) • Super Duplex	• Oil & gas pipelines • Offshore platforms • Chemical processing plants • Marine infrastructure	Fastest-growing segment, driven by energy, desalination, and infrastructure. Lower nickel dependence also improves cost stability amid commodity price volatility.

Table 11: Stainless Steel Products

Product	Market Size (Value) (In Rs Billion)*	Organised / Unorganised Share
Stainless Steel Blooms	339	75%-85% / 15%-25%
Stainless Steel Wire	153	60%-70% / 30%-40%
Stainless Steel Wire Rods	117	70%-80% / 20%-30%
Stainless Steel Flat Bars	114	NA
Stainless Steel Round Bar	83	NA
Stainless Steel Angles	38	NA
Stainless Steel Square Bar	30	NA
Stainless Steel Hexagonal Bar	23	NA

Source: Cervicorn Consulting, Industry Sources, CareEdge Research
Note: * means as of FY25

Manufacturing Process of Stainless Steel Products

The manufacturing of stainless steel long products generally follows an integrated process comprising raw material procurement, melting, refining, casting, hot rolling, cold finishing and quality inspection. The process begins with the procurement of stainless steel scrap, ferroalloys (including ferrochrome, ferronickel, ferromolybdenum, ferrosilicon and ferromanganese) and other alloying materials. Incoming raw materials are subjected to chemical composition testing using spectrometers and XRF analysers before being charged into induction furnaces or electric furnaces, where they are melted to produce molten stainless steel.

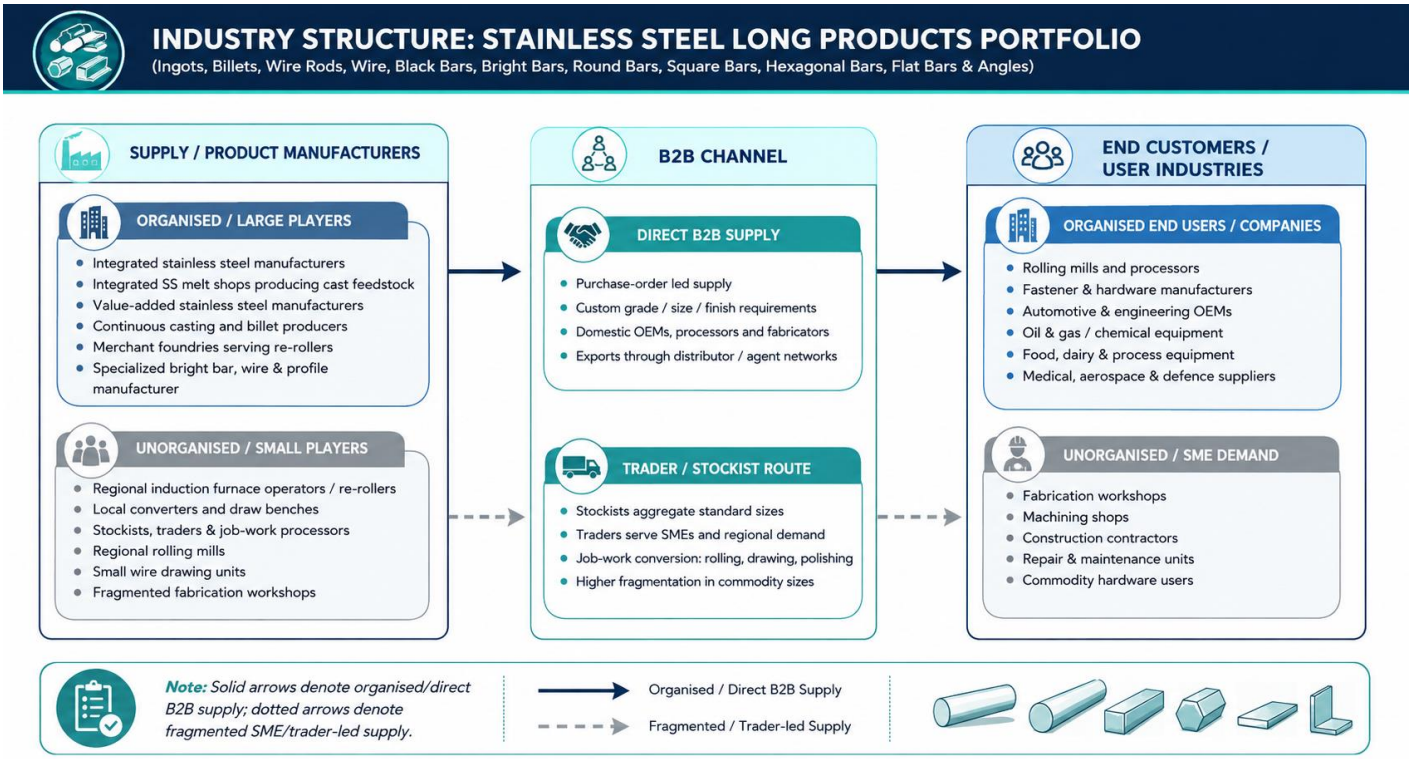
The molten steel is subsequently refined in Argon Oxygen Decarburization (AOD) or Vacuum Oxygen Decarburization (VOD) units to reduce carbon content, remove impurities and achieve the required chemical composition. The refined steel is then cast either through continuous casting into blooms or blooms, or through block casting, depending on downstream product requirements.

The semi-finished products are reheated and processed through hot rolling mills to manufacture bars, wire rods and structural sections. Depending on customer specifications, products may undergo further cold-finishing operations such

as annealing, pickling, peeling, grinding, polishing, centreless grinding, straightening or cold drawing to improve dimensional accuracy, mechanical properties and surface finish. Throughout the manufacturing process, products undergo dimensional, chemical, mechanical and non-destructive testing before packaging and dispatch.

Product	Manufacturing Process
Stainless Steel Blocks	Produced by melting and refining stainless steel followed by block casting in moulds. Blocks serve as feedstock for downstream rolling and forging operations.
Stainless Steel Blooms	Produced through continuous casting of refined molten steel. Blooms are subsequently hot rolled into bars, wire rods and structural sections.
Black Bars	Blooms are reheated and hot rolled into bars. After controlled cooling, bars retain the oxide scale formed during hot rolling and generally undergo limited surface finishing.
Round Bars	Blooms are hot rolled into round sections and may subsequently undergo annealing, pickling, peeling, grinding, polishing or cold drawing depending on dimensional and surface finish requirements.
Bright Bars	Black bars are subjected to cold drawing, peeling, grinding and polishing to achieve superior dimensional accuracy, straightness and surface finish.
Wire Rods	Blooms are reheated and rolled through multi-stand wire rod mills into coiled wire rods, followed by controlled cooling and surface conditioning.
Stainless Steel Wire	Wire rods undergo multiple cold drawing operations through precision dies, with intermediate annealing where required, to achieve the specified diameter and mechanical properties.
Square Bars	Blooms are hot rolled into square sections followed by straightening, surface conditioning and quality inspection.
Hexagonal Bars	Round bars or blooms undergo hot rolling followed by cold drawing through hexagonal dies to achieve the required profile and tolerances.
Flat Bars	Blooms are hot rolled into flat rectangular sections and may subsequently undergo annealing, pickling or grinding depending on customer requirements.
Angles	Blooms are rolled through section mills to produce L-shaped structural sections followed by straightening and finishing operations.

Industry Structure of Stainless Steel Long Products



Source: CareEdge Research

5.6.1 Stainless Steel Blocks and Blooms

Stainless steel blocks and blooms are semi-finished products manufactured following the melting and refining stages of stainless steel production and serve as key intermediate feedstock for downstream processing. The manufacturing process begins with the melting of stainless steel scrap, ferroalloys and other alloying materials, followed by refining through Argon Oxygen Decarburization (AOD) or Vacuum Oxygen Decarburization (VOD) to achieve the required chemical composition and metallurgical properties. The refined molten steel is subsequently cast into forging-quality blocks (ingots) through conventional mould casting or into blooms through a continuous casting process. Blooms are generally square or rectangular sections designed for downstream rolling into bars, wire rods, structural sections and other long products, while blocks are primarily used as feedstock for forging applications.

Manufacturers with in-house block and bloom production are able to manufacture semi-finished feedstock internally rather than procuring it from external suppliers. The production of blocks and blooms requires dedicated melting, refining and casting infrastructure and enables greater control over chemical composition, metallurgical quality, dimensional consistency and product traceability throughout the manufacturing process. Such integration also provides operational flexibility by allowing manufacturers to utilise internally produced blocks and blooms for downstream rolling or forging operations or supply them directly to customers as semi-finished products, subject to prevailing market demand and customer requirements.

SS Blocks

Overview

Stainless steel blocks[1] are semi-finished cast products produced after melting stainless steel scrap and primary raw materials such as ferroalloys containing chromium, nickel, and molybdenum. They represent an intermediate stage in

[1]The term "billets" is used interchangeably in this report with "blooms", while "ingots" is used interchangeably with "blocks".

the stainless steel value chain and are subsequently processed into slabs, and other downstream stainless steel products. Blocks play an important role in determining the quality, chemical composition, and metallurgical properties of finished stainless steel products. Their production is closely linked to demand from both flat and long stainless steel segments, serving industries such as construction, automobile, engineering, industrial equipment, and consumer goods. Compared with carbon steel, stainless steel blocks require tighter composition control due to alloy requirements and corrosion-resistance standards. They are manufactured in different grades including austenitic, ferritic, martensitic, and duplex, depending on end-use requirements. Overall, stainless steel blocks form a critical raw material base for the stainless steel industry and support the broader downstream manufacturing ecosystem.

Production

Stainless steel block production involves melting stainless steel scrap along with alloying elements in electric furnaces or induction furnaces, followed by casting into block moulds for further rolling or forging. Production levels are largely concentrated in countries with established stainless steel manufacturing ecosystems and access to raw materials. Asia dominates global output, led by China and India, owing to large domestic steel capacities and strong industrial demand. Producers increasingly rely on stainless steel scrap as a key feedstock, which helps improve cost efficiency and supports circular manufacturing practices. Production trends are influenced by raw material prices particularly nickel and chromium along with energy costs and downstream steel demand. Capacity additions in developing economies and technology upgrades in melting and casting processes have improved productivity and product quality. Going forward, stainless steel block production is expected to grow steadily, supported by infrastructure investment, industrial expansion, and increasing demand for corrosion-resistant and durable steel products.

Consumption

Consumption of stainless steel blocks is primarily driven by downstream manufacturers and re-rolling mills that convert them into finished stainless steel products such as coils, sheets, bars, rods, and structural components. Demand is closely linked to end-use industries including construction, automobile, heavy engineering, consumer appliances, and food processing equipment. Flat stainless steel producers consume blocks for manufacturing sheets and coils, while long product manufacturers use them for bars, wire rods, and industrial sections. Consumption patterns vary across regions depending on industrial activity, infrastructure spending, and manufacturing intensity. In developing economies, rising urbanization and growth in fabrication and consumer goods continue to support higher block demand. In developed markets, demand is driven more by replacement cycles, industrial upgrades, and specialized stainless steel applications. Looking ahead, stainless steel block consumption is expected to remain strong, supported by expanding infrastructure, increasing industrialization, and growing adoption of stainless steel across high-performance and sustainability-focused applications.

Trade Data

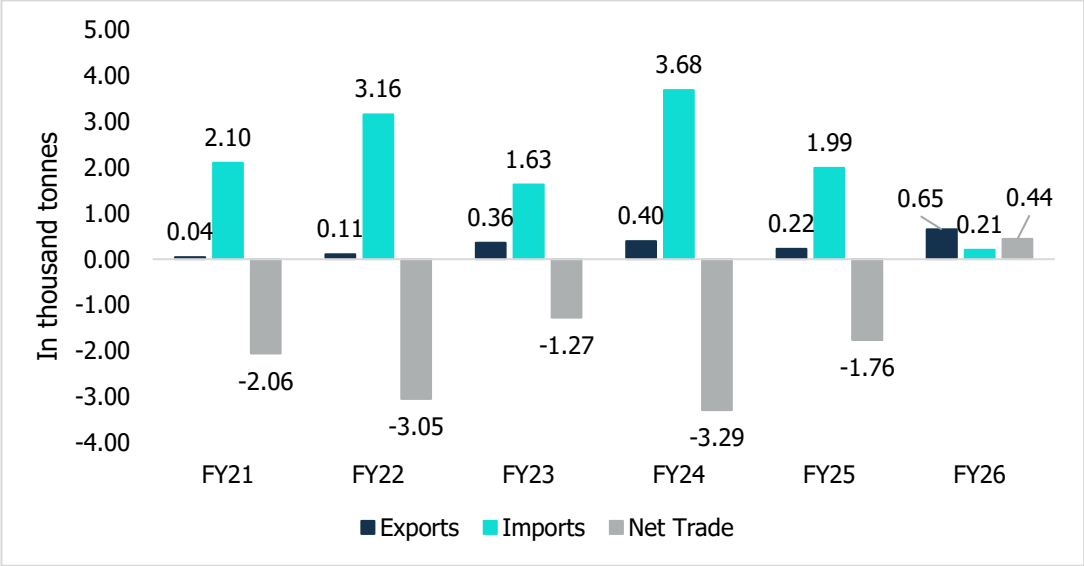
India's stainless steel block trade pattern reflects the gradual strengthening of domestic melting and casting capabilities, alongside changing raw-material procurement strategies across the stainless steel value chain.

For most of the review period (FY21–FY25), India remained a net importer of stainless steel blocks, with imports significantly exceeding exports. Imports increased from 2.10 thousand tonnes in FY21 to a peak of 3.68 thousand tonnes in FY24, resulting in the widest trade deficit of 3.29 thousand tonnes. This trend coincided with robust growth in domestic stainless steel consumption from infrastructure, process industries, pipes & tubes, railways, and engineering sectors, which outpaced the expansion of domestic semi-finished production capacity. Industry reports indicate that Indian mills increasingly relied on imported semi-finished products and intermediates to optimize costs and ensure raw material availability amid volatile nickel and ferroalloy markets.

A notable inflection point is visible in FY26, when imports declined sharply to 0.21 thousand tonnes, while exports rose to 0.65 thousand tonnes, resulting in a trade surplus of 0.44 thousand tonnes. This reversal suggests improving domestic

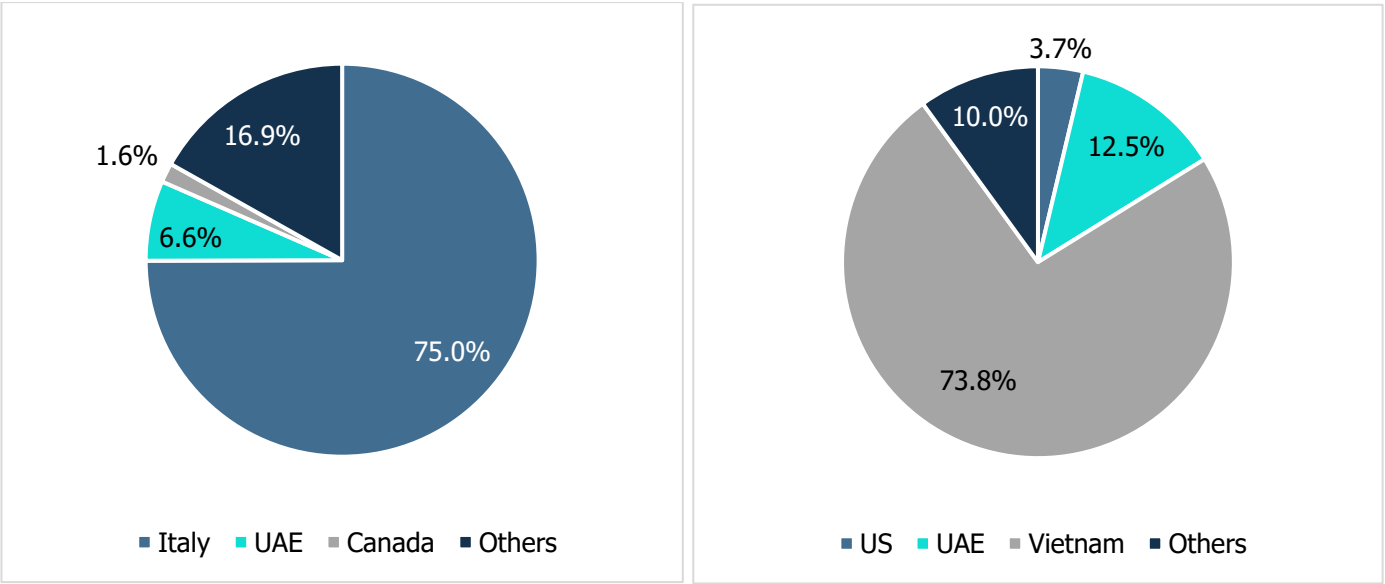
availability of stainless steel semi-finished products and greater self-sufficiency in upstream manufacturing. The shift is consistent with broader industry trends, including capacity additions in stainless steel melting operations, rising domestic production, and a growing preference for scrap-based melting over imported semi-finished products. Recent industry data shows a significant decline in imports of stainless steel blooms and other semi-finished products as domestic production capabilities strengthened.

Chart 21: Trade Data for SS Blocks



Source: Ministry of Commerce and Industry
Note: HSN code used is 72181000

Chart 22: Country wise Exports (as of FY26) vs Imports (as of FY26)



Source: Ministry of Commerce and Industry
Note: HSN code used is 72181000

SS Blooms

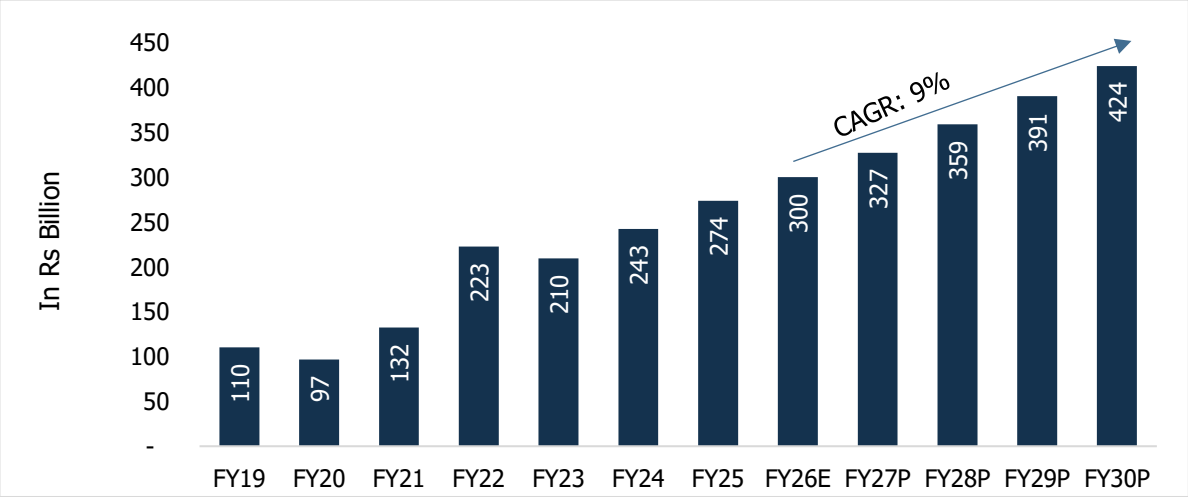
Overview

SS blooms are the primary semi-finished feedstock cast from molten SS and supplied to rolling mills. In India, blooms are produced by stainless producers and integrated mills using electric furnaces or induction melting followed by continuous casting. The blooms are trimmed, scalped, and often reheated prior to downstream hot rolling into bars, wire rods, or section stock. Blooms intended for specialty applications may undergo secondary refining and vacuum treatments to control sulphur, phosphorus, and inclusion content. Typical end uses include conversion into long products for construction, fabrications for infrastructure, and blanks for forged components used by heavy engineering, mining, and defence sectors. For Indian fabricators, domestic blooms provide a controllable, auditable source of chemistry and metallurgy versus imported blocks, enabling consistent downstream processing and supply chain traceability.

Production

Bloom production in India has been supported by expansion of electric melting capacity, increased scrap consolidation, and investments by domestic stainless producers to capture more value-add within the country. Policy emphasis on local manufacturing and incentives for capital goods and defence manufacturing encouraged mills to bolster their melt and casting capabilities. Proximity to major consumption clusters ports, industrial corridors and fabrication hubs reduced logistics friction and improved feedstock availability for rolling mills. Producers also invested in process upgrades to improve casting yield and reduce rework, responding to buyers' quality demands. Going forward, continued emphasis on indigenisation of critical supply chains, growth in downstream fabrication, and rising demand from national infrastructure programmes should sustain bloom production growth in India.

Chart 23: Production of SS Blooms

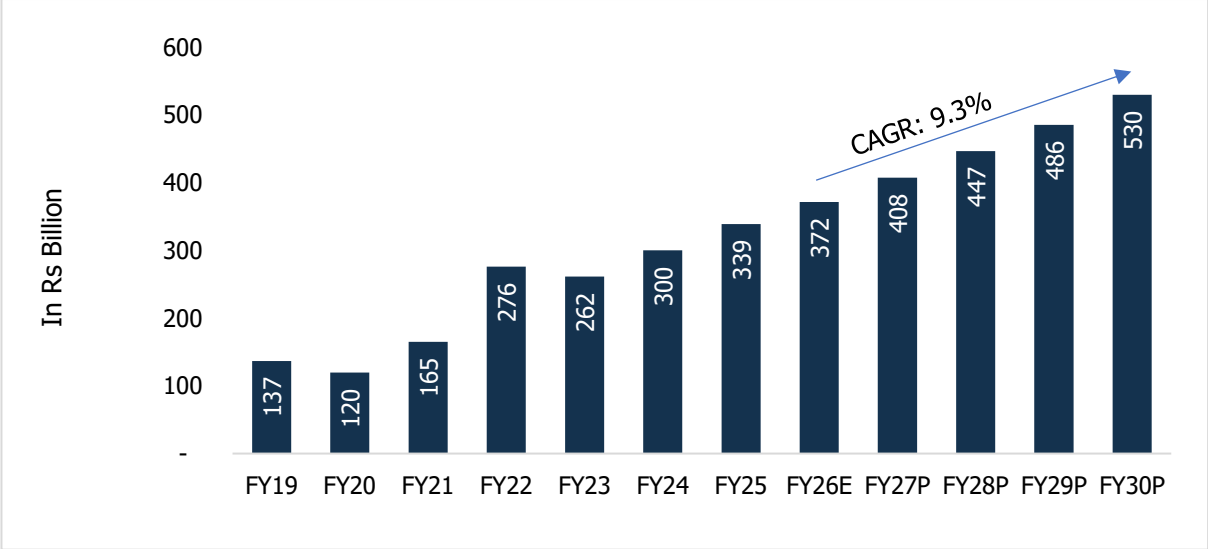


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Domestic consumption of blooms is driven by the country's demand for long products and forged goods. Indian rolling mills and forging shops consume blooms as the preferred feedstock for bars, rods, sections, and heavy forgings used across infrastructure, rail, metro, ports and defence manufacturing. The trend toward local content in government procurement and an expanding aftermarket for industrial machinery has prompted fabricators to prefer domestically sourced blooms for quality control and shorter lead times. In future, consumption is expected to grow as industrialisation policies, port modernisation, and capital goods programmes increase demand for fabricated components, while improvements in scrap collection and circularity support reliable bloom supply for Indian converters.

Chart 24: Consumption of SS Blooms



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Trade Data

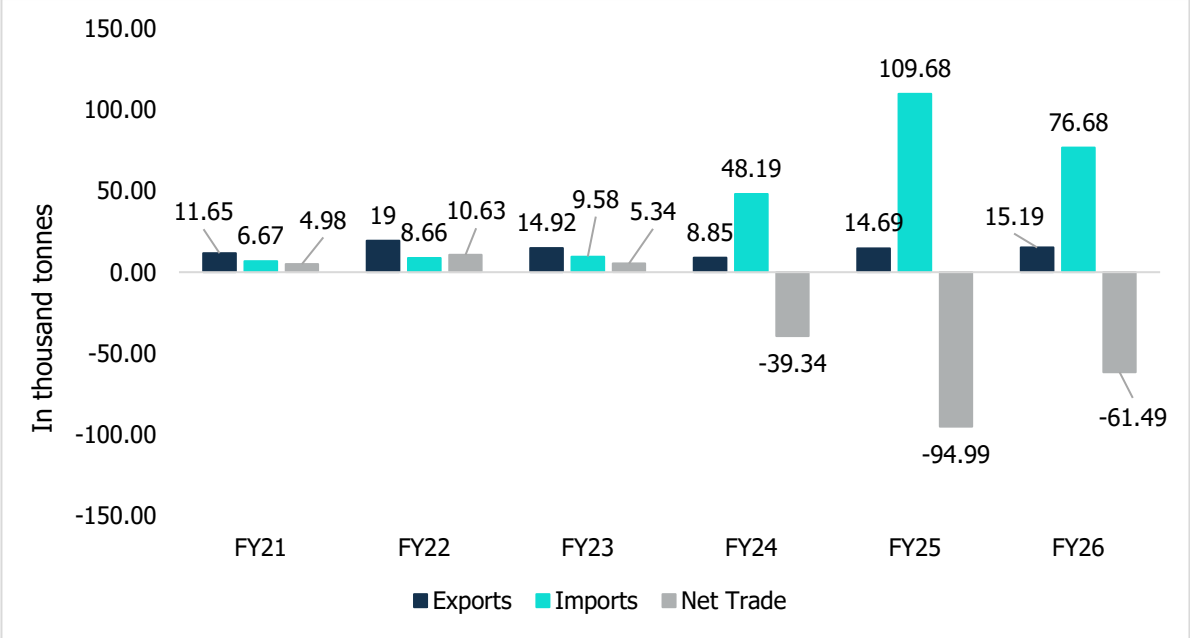
India's stainless steel bloom trade dynamics have changed significantly over the last three years, reflecting shifts in raw material sourcing and domestic supply-demand balances within the stainless steel value chain.

After maintaining a relatively balanced trade position through FY23, bloom imports surged sharply to 48.19 thousand tonnes in FY24 and further to 109.68 thousand tonnes in FY25, resulting in a trade deficit of nearly 95 thousand tonnes. This increase was driven by rising stainless steel consumption and the growing use of imported semi-finished products, particularly from Indonesia, which offered cost advantages over domestically produced blooms. It indicates that several downstream processors and rerollers increasingly relied on imported blooms to optimize production costs and ensure material availability amid strong demand growth.

FY26, however, shows early signs of market rebalancing. Imports declined to 76.68 thousand tonnes, while exports increased marginally to 15.19 thousand tonnes, reducing the trade deficit to 61.49 thousand tonnes. The moderation in imports suggests improving domestic bloom availability as stainless steel producers expanded melting and casting capacities. It also indicate a gradual shift back toward domestic sourcing as local production capabilities strengthen and import dependence moderates.

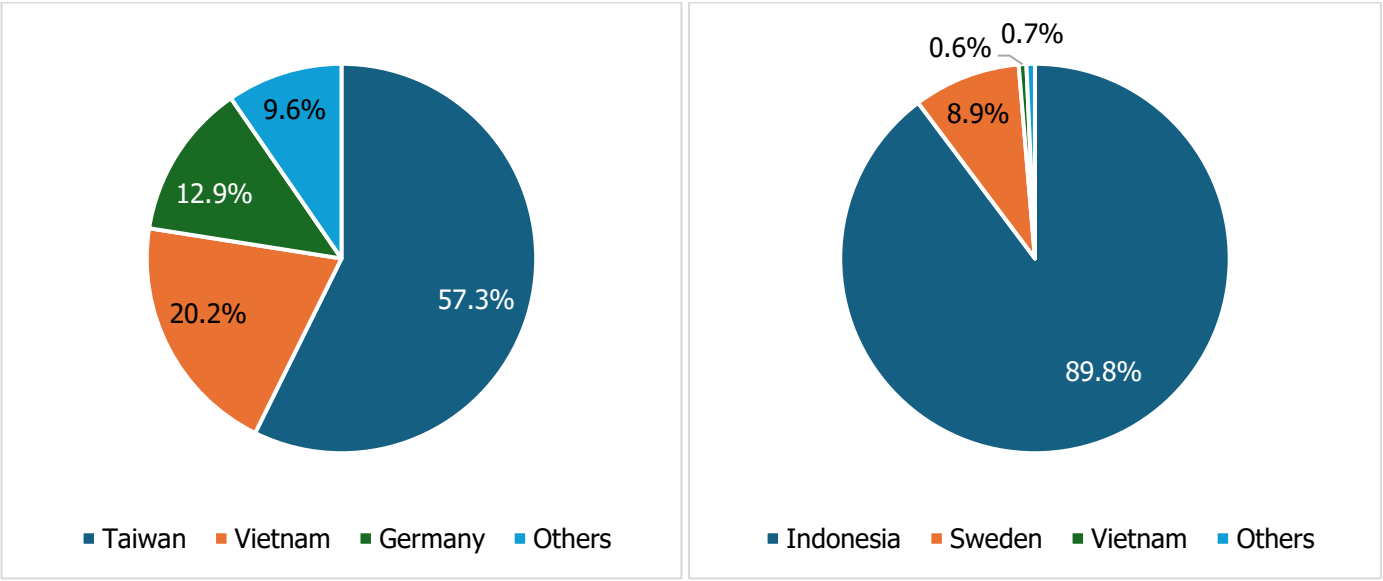
Overall, the data suggests that FY24–FY25 represented a period of import-led supply supplementation, while FY26 indicates the beginning of a transition toward greater domestic self-sufficiency in stainless steel bloom production.

Chart 25: Trade Data for SS Blooms



Source: Ministry of Commerce and Industry
Note: HSN code used is 72189910

Chart 26: Country wise Exports (as of FY26) vs Imports (as of FY26)



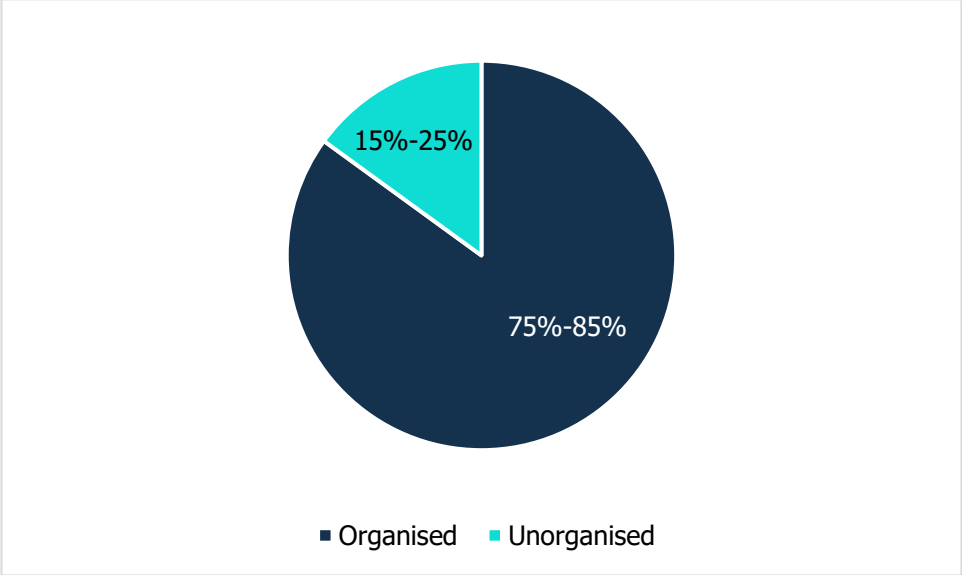
Source: Ministry of Commerce and Industry
Note: HSN code used is 72189910

Market Share

The stainless steel bloom market is heavily tilted toward the organised segment. Blooms are a core semi-finished input for downstream bars and rods, and their production requires integrated melting, refining, and continuous casting facilities. This makes the product structurally concentrated in large, organised mills rather than fragmented smaller units. The unorganised segment, by contrast, is limited because bloom production is capital-intensive, process-sensitive, and dependent on consistent quality and scale. In practical terms, unorganised players are more likely to appear in trading,

conversion, or lower-value downstream activities, while organised producers dominate actual bloom manufacture and export.

Chart 27: Market Split for SS Blooms



Source: Industry Sources, CareEdge Research

5.6.2 Stainless Steel Bars

SS Black Bars

Overview

Stainless steel black bars are semi-finished long products produced through hot rolling of stainless steel blooms or blocks. They are referred to as "black bars" due to the dark oxide scale formed on the surface during the hot rolling process, which differentiates them from bright bars that undergo additional finishing. These bars are available in various shapes such as round, square, flat, and hexagonal, and are widely used as an intermediate input for machining, forging, fabrication, and further processing. Stainless steel black bars offer high strength, corrosion resistance, and durability, making them suitable for both structural and engineering applications. They are manufactured in multiple stainless steel grades including austenitic, ferritic, martensitic, and duplex depending on end-use requirements. Their broad application across automobile, industrial machinery, construction, fabrication, and capital goods industries makes them an important segment within the stainless steel long products market and a key link in the downstream stainless steel value chain.

Production

Production of stainless steel black bars begins with melting stainless steel scrap and alloying materials, followed by casting into blooms or blocks that are reheated and hot rolled into bar form. The hot rolling process gives black bars their characteristic surface finish while achieving the required dimensions and mechanical properties. Production is concentrated in regions with established stainless steel manufacturing infrastructure, strong bloom availability, and downstream engineering demand. Asia, particularly China and India, represents a major share of global output due to large-scale steelmaking capacity and a strong industrial base. Production trends are influenced by raw material prices such as nickel and chromium, energy costs, and demand from engineering and fabrication industries. Manufacturers continue to invest in rolling mill upgrades and process automation to improve yield, dimensional accuracy, and cost efficiency. Going forward, production of stainless steel black bars is expected to rise steadily, supported by infrastructure development, industrial expansion, and growing stainless steel usage across engineering applications.

Consumption

Consumption of stainless steel black bars is driven primarily by industries requiring durable and corrosion-resistant long products for machining, fabrication, and structural use. Key end-use sectors include automobile components, industrial machinery, pumps and valves, construction hardware, fasteners, and general engineering. Black bars are also widely consumed by forging and machining units as feedstock for producing shafts, fittings, flanges, and precision-engineered parts. Demand patterns vary by region depending on manufacturing intensity, industrial development, and infrastructure activity. In emerging economies, consumption is supported by growth in fabrication, construction, and engineering industries, while developed markets see steady demand from replacement requirements and specialized industrial applications. Stainless steel black bars are particularly valued in applications where strength and corrosion resistance are essential but additional surface finishing is not immediately required. Looking ahead, consumption is expected to remain strong, driven by industrial growth, infrastructure investments, and increasing demand for high-performance stainless steel components.

Trade Data

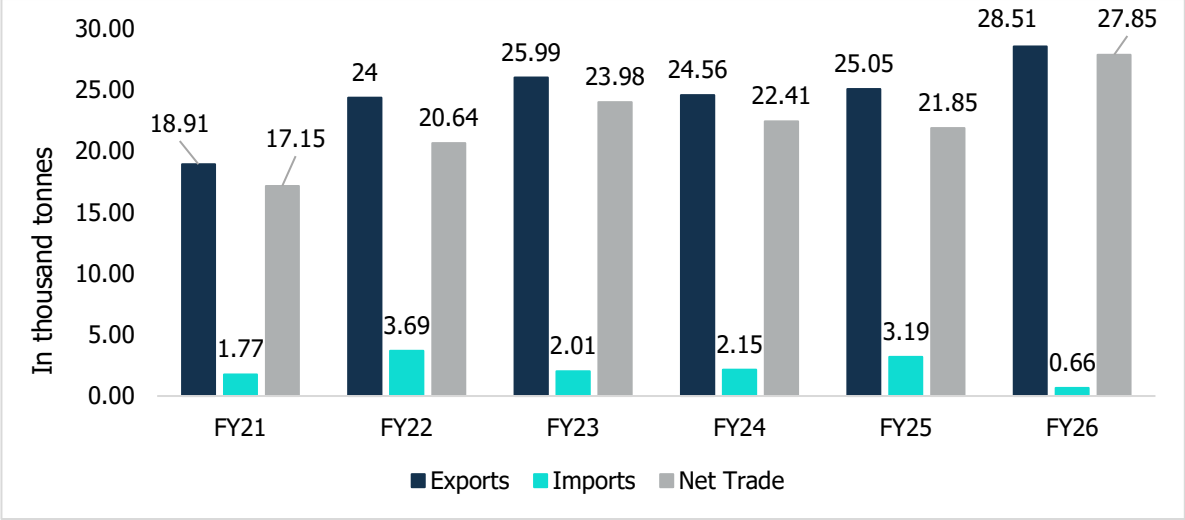
India has maintained a structural trade surplus in stainless steel black bars, reflecting the country's position as a manufacturing and export hub for stainless steel long products. Over the last three years, exports have consistently exceeded imports by a wide margin, with imports remaining negligible at less than 0.03 thousand tonnes annually.

Exports peaked at 2.36 thousand tonnes in FY23 before moderating to 1.62 thousand tonnes in FY24, 1.46 thousand tonnes in FY25, and 0.90 thousand tonnes in FY26. Despite the decline, India continued to record a substantial trade surplus, indicating that domestic production remains well above import requirements. The near absence of imports suggests that local manufacturers are able to cater to most domestic demand across engineering, automobile, fabrication, fasteners, and industrial applications.

The moderation in exports since FY23 appears to be linked more to softer downstream demand than to a loss of competitiveness. Stainless steel long products, including black bars, have experienced weaker domestic and international demand amid cautious procurement and slower industrial activity. At the same time, exports have continued to provide an outlet for domestic producers, supported by India's integrated stainless steel manufacturing base and established presence in global long-products markets.

Overall, the trade data highlights India's strong self-sufficiency in stainless steel black bars, with the segment remaining export-oriented despite cyclical demand pressures in recent years.

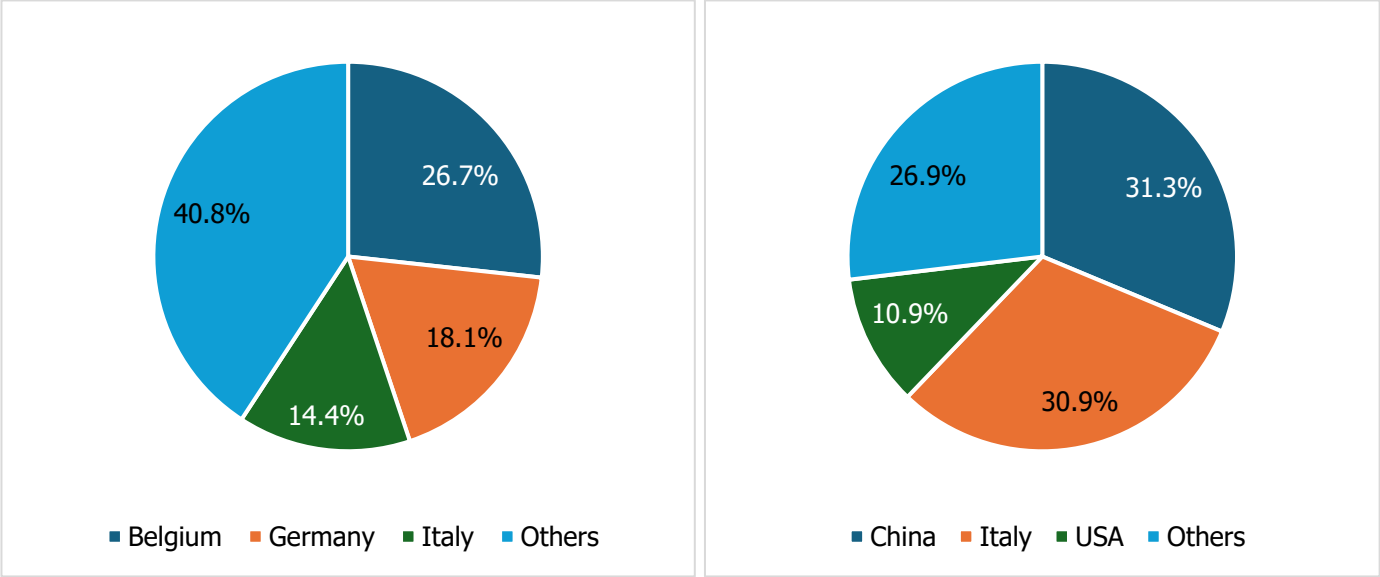
Chart 28: Trade Data for SS Black Bars



Source: Ministry of Commerce and Industry

Note: HSN code used is 72221119; covers SS Black Bars, SS Round Bars, SS Bright Bars, SS Square Bar, and SS Hexagonal Bar

Chart 29: Country wise Exports (as of FY26) vs Imports (as of FY26)



Source: Ministry of Commerce and Industry

Note: HSN code used is 72221119; covers SS Black Bars, SS Round Bars, SS Bright Bars, SS Square Bar, and SS Hexagonal Bar

SS Round Bar

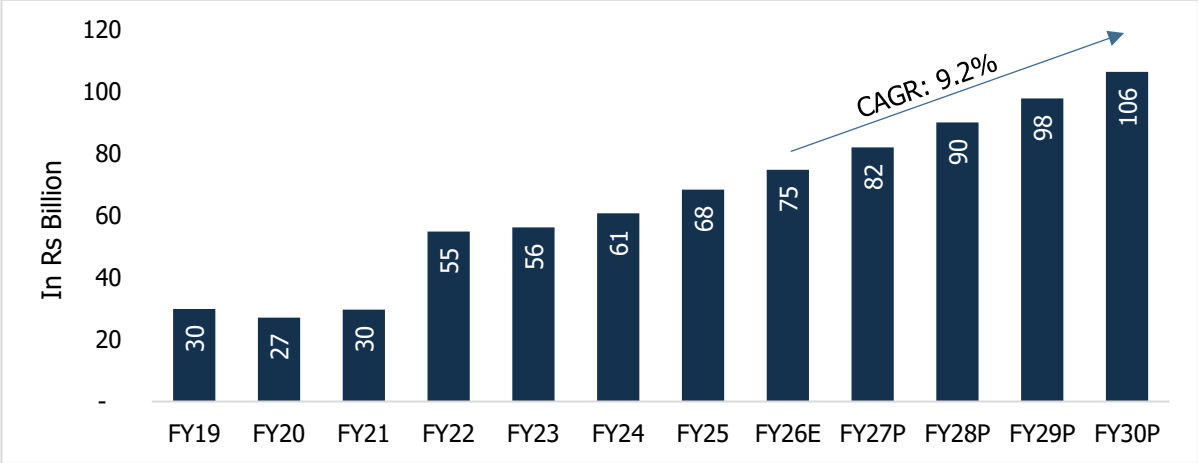
Overview

Round bars are cylindrical solid bars produced by hot rolling or forging blooms and finishing to specified diameters. In India, round bars are a foundational long product, used for shafts, studs, axles, bolts, and turned components. Manufacturers produce round bars with varying surface and mechanical specs to suit machining, forging and heat treatment processes. Typical end uses include structural shafts for rail and marine equipment, machined components for industrial machinery, and support elements in building and infrastructure applications where corrosion resistance is required.

Production

Production of round bars in India expanded alongside investments in rolling mill modernization, process control and improved finishing. Domestic mills increased capacity to supply local OEMs in heavy engineering, rail, and power equipment, reducing import dependence. Quality improvements and quicker turnaround times from local suppliers made round bars attractive to fabricators and machine shops. Government emphasis on strengthening domestic manufacturing capabilities and public infrastructure projects created steady demand, prompting mills to scale rolling operations and improve raw material sourcing through enhanced scrap networks and integrated melting units.

Chart 30: Production of SS Round Bar

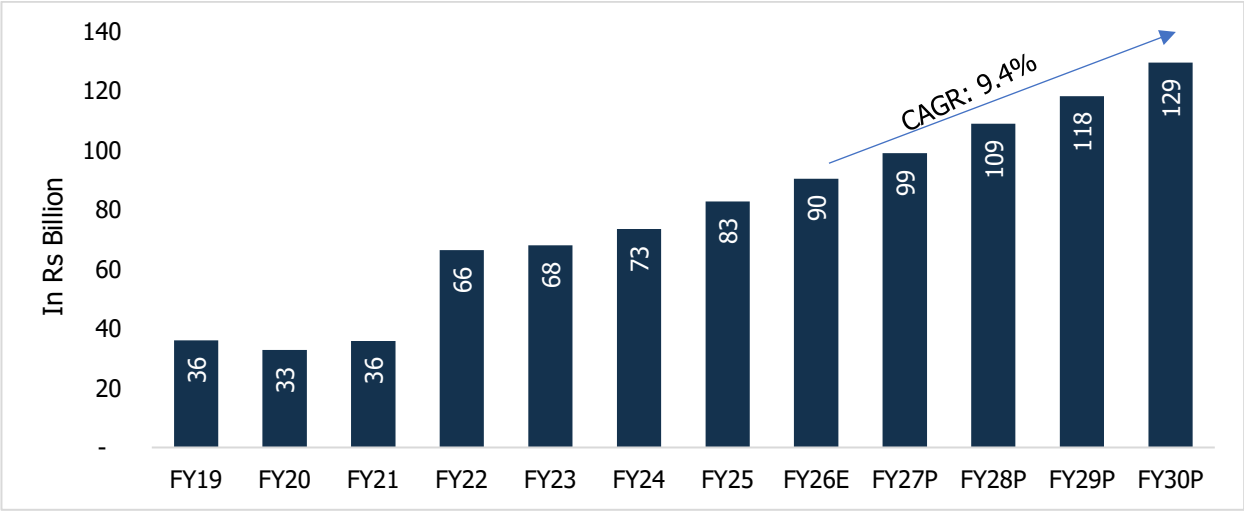


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Consumption of round bars in India reflected demand from railways, power, oil & gas, and heavy machinery sectors. Round bars formed the basis of shafts, spindles and heavy fasteners, with usage increasing as industrial projects and equipment manufacturing expanded. The growth of maintenance and aftermarket servicing for infrastructure assets also supported consumption. Looking ahead, continued investment in transportation, energy and heavy industry will likely sustain demand for round bar stock as fabricators and OEMs favor locally produced, qualification-compliant material for critical rotating and structural components.

Chart 31: Consumption of SS Round Bar



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

SS Bright Bar

Overview

Stainless steel bright bars are precision-finished long products manufactured from hot rolled black bars through additional processing such as cold drawing, centerless grinding, peeling, polishing, or turning. These secondary finishing processes improve dimensional accuracy, surface finish, and mechanical consistency, making bright bars suitable for applications requiring tighter tolerances and higher precision. They are available in round, hexagonal, square, and flat shapes and are produced in a wide range of stainless steel grades including austenitic, ferritic, martensitic, and duplex. Compared with black bars, bright bars offer smoother surfaces, improved straightness, and better machinability, making them well suited for critical engineering applications. Their corrosion resistance, durability, and aesthetic finish further enhance usability across industrial and decorative segments. Stainless steel bright bars are widely used in automobile components, fasteners, shafts, pumps, valves, construction fittings, and precision engineering, making them an important value-added segment within the stainless steel long products market.

Production

Production of stainless steel bright bars begins with stainless steel blooms or hot rolled black bars, which are subjected to cold finishing operations to achieve the desired size, tolerance, and surface quality. Depending on the end-use requirement, manufacturers use processes such as cold drawing, turning, peeling, grinding, and polishing to improve finish and dimensional consistency. Heat treatment and straightening may also be undertaken to enhance mechanical properties and meet application-specific requirements. Production is concentrated in regions with developed stainless steel processing infrastructure and strong downstream engineering industries. Asia, led by China and India, represents a significant share of output due to growing industrialization and rising demand for precision stainless steel components. Production trends are influenced by raw material prices, energy costs, and investment in cold finishing technologies. Going forward, stainless steel bright bar production is expected to expand steadily, supported by increasing demand from automobile, engineering, and industrial manufacturing sectors.

Consumption

Consumption of stainless steel bright bars is primarily driven by industries requiring precision-finished stainless steel products with high dimensional accuracy, strength, and corrosion resistance. Major end-use sectors include automobile, aerospace, industrial machinery, oil and gas equipment, fasteners, pumps and valves, and construction hardware. Bright bars are widely used in manufacturing shafts, threaded components, fittings, machine parts, and precision-engineered equipment where close tolerances and superior surface finish are critical. Demand patterns are closely linked to industrial production and capital investment trends, particularly in engineering-intensive sectors. In emerging economies, rising industrialization and expanding manufacturing activity continue to support demand, while developed markets are driven by replacement demand and specialized engineering applications. Stainless steel bright bars also benefit from increasing preference for durable and low-maintenance materials across industrial and commercial uses. Going forward, consumption is expected to remain strong, supported by precision manufacturing growth and rising demand for value-added stainless steel products.

5.6.3 Stainless Steel Wire Rods

SS Wire Rods

Overview

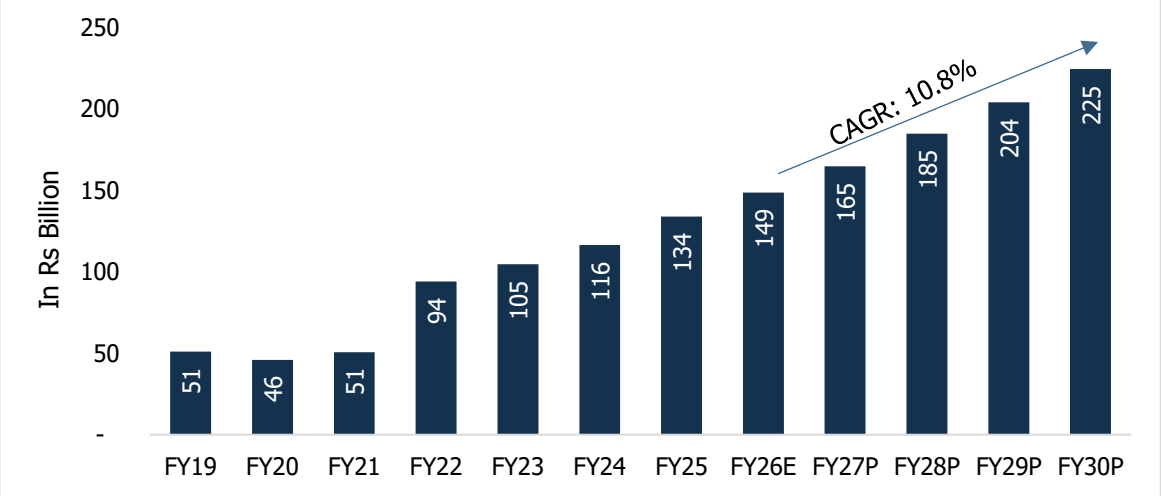
Wire rods are continuous coils of SS produced by hot rolling blooms through a rod mill and coiling the hot strand. In India, rod mills process stainless melts into rod coils that serve as feedstock for drawing into wires or for rolling into light sections. Wire rods intended for wire drawing are manufactured with controlled surface quality and mechanical properties to ensure efficient multi-pass drawing without surface breaks. End-uses include drawn wire for springs, cable, fasteners,

mesh and reinforcement; rods are also used as raw material for cold heading and cold forming processes in industrial components.

Production

Indian wire rod production grew as domestic wire drawing, spring manufacturing and fastener industries expanded. Investments were made in modern rod mills and finishing lines to supply local wire drawers with consistent, clean feedstock. Policy support for domestic component manufacturing and the emergence of industrial clusters lowered logistics costs and encouraged mills to prioritize rod output for regional converters. Additionally, improved scrap collection and in-country melting increased availability of stainless feed. Going forward, growth in sectors such as automobile components, construction reinforcement and electrical cable infrastructure should sustain demand for domestically produced wire rods.

Chart 32: Production of SS Wire Rods

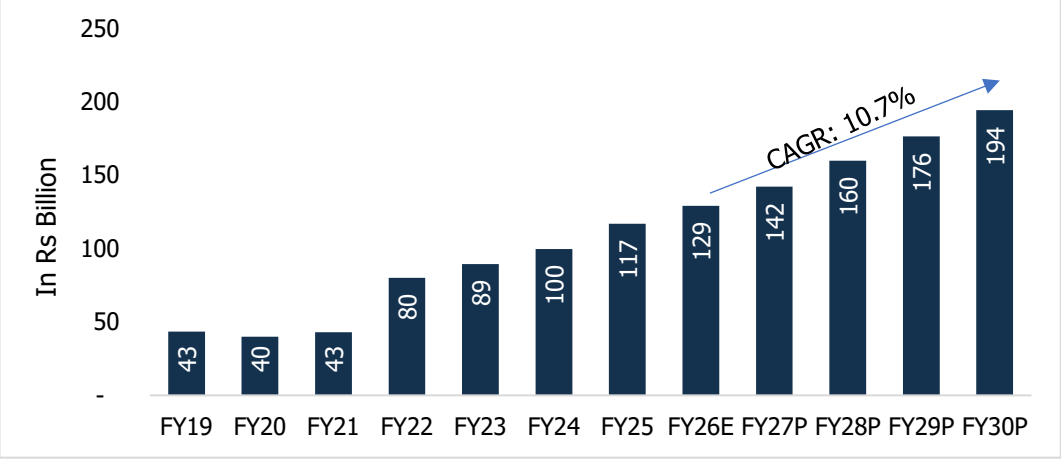


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Consumption of stainless wire rods in India was driven by wire drawers, spring manufacturers, and fastener makers. The construction sector used rods for ties and light reinforcement, while industrial producers drew rods into wire for springs, meshes, and restraint systems. Automobile and rail sectors consumed drawn wire for cable and control components. The expanding medical device and appliance industries also increased demand for fine stainless wire. In the future, electrification and infrastructure projects, along with continued growth in domestic component manufacturing, should elevate rod consumption as converters rely on local rod supply for dependable quality and continuity.

Chart 33: Consumption of SS Wire Rods



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Trade Data

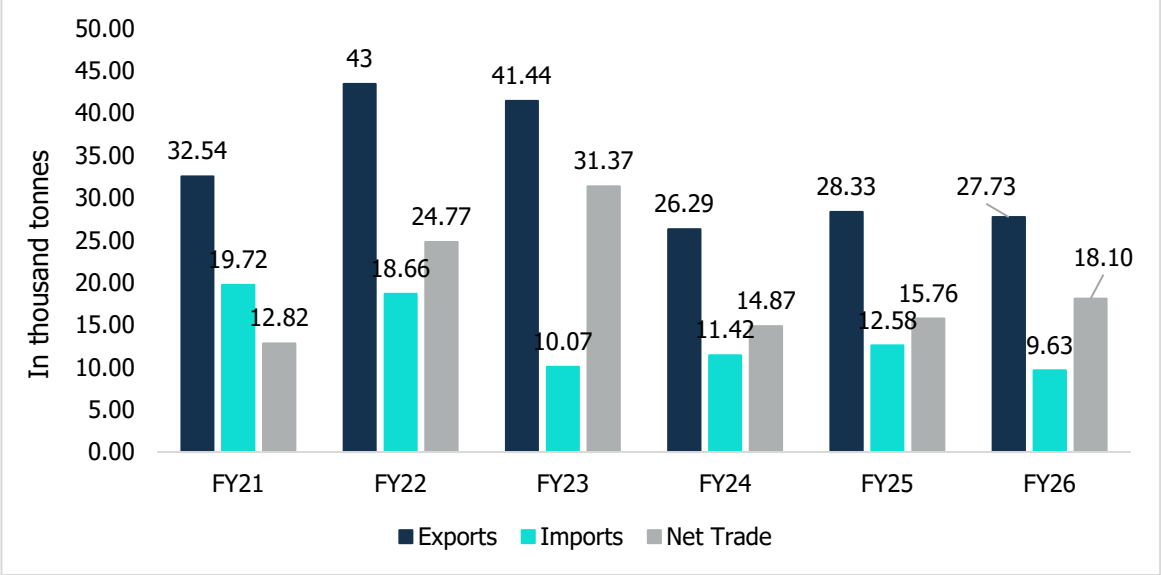
India has consistently remained a net exporter of stainless steel wire rods, underpinned by its established stainless steel long-products manufacturing base and strong downstream demand from wire drawing, fasteners, welding consumables, and engineering applications. Exports peaked at 41.44 thousand tonnes in FY23, generating a trade surplus of over 31 thousand tonnes, before moderating in subsequent years.

During FY24–FY26, exports stabilized in the range of 26–28 thousand tonnes, while imports remained relatively low at 10–13 thousand tonnes. Although the trade surplus narrowed from 31.37 thousand tonnes in FY23 to 18.10 thousand tonnes in FY26, India continued to maintain a strong positive trade balance. This trend suggests that domestic producers increasingly prioritized the growing local market while retaining their export presence. Rising stainless steel production and demand from sectors such as infrastructure, process industries, pipes & tubes, and manufacturing have supported domestic consumption of wire rods.

The moderation in exports also coincided with a challenging global steel trade environment marked by weak international demand and pricing pressure from Asian suppliers. However, India's continued surplus indicates that its wire rod manufacturing ecosystem remains competitive and largely self-sufficient.

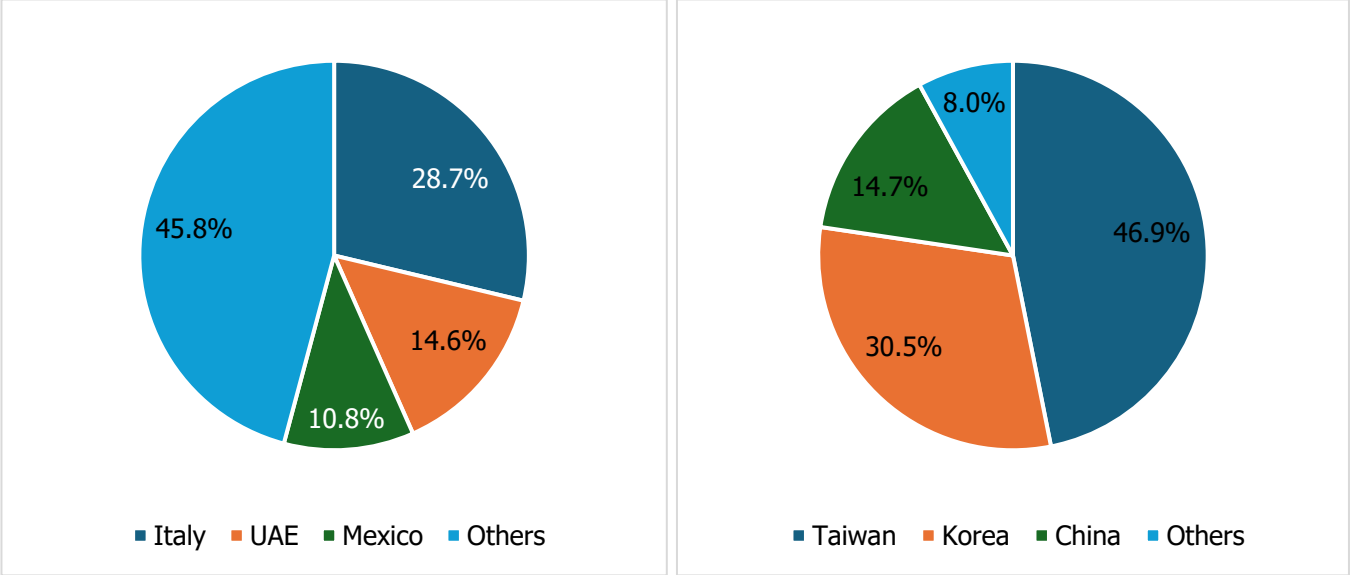
Overall, the data highlights a transition from export-led growth toward a more balanced market, where expanding domestic consumption is absorbing a larger share of stainless steel wire rod production while preserving India's net exporter status.

Chart 34: Trade Data for SS Wire Rods



Source: Ministry of Commerce and Industry
Note: HSN code used is 72210090

Chart 35: Country wise Exports (as of FY26) vs Imports (as of FY26)



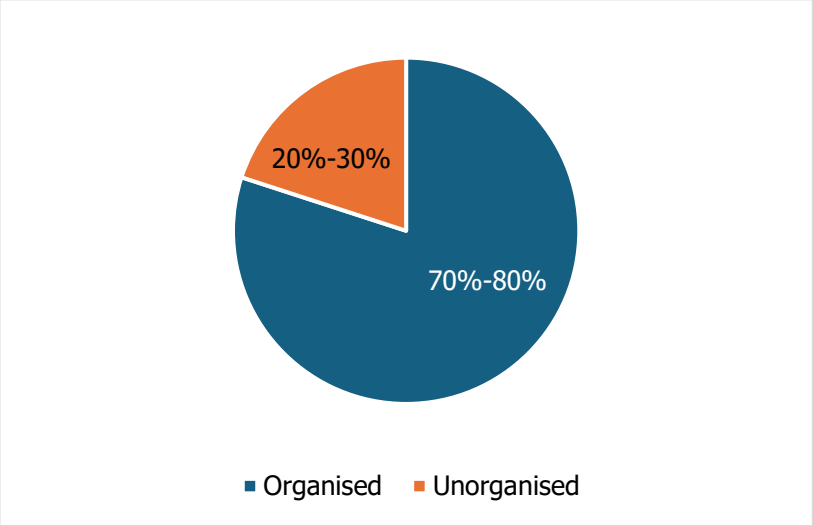
Source: Ministry of Commerce and Industry
Note: HSN code used is 72210090

Market Share

The stainless steel wire rod market is largely concentrated in the organised segment, with only a limited role for the unorganised sector. Wire rods are a transitionary feedstock for fine wire drawing and require continuous rolling, tight dimensional control, and consistent metallurgical quality. These process requirements favour integrated and capital-intensive mills, which is why the organised sector is estimated to account for about 80% of market volume. Wire rod demand is closely linked to downstream wire production capacity, especially for applications in fasteners, welding consumables, springs, and engineering wire. The unorganised segment is more visible in trading, small-scale conversion, and lower-spec downstream activities, but it has limited presence in primary wire rod manufacturing because the product

depends on high-speed mills and stable input quality. As a result, the market structure remains skewed toward larger organised producers that can support scale, quality consistency, and export-grade supply.

Chart 36: Market Split for SS Wire Rods



Source: Industry Sources, CareEdge Research

SS Wire

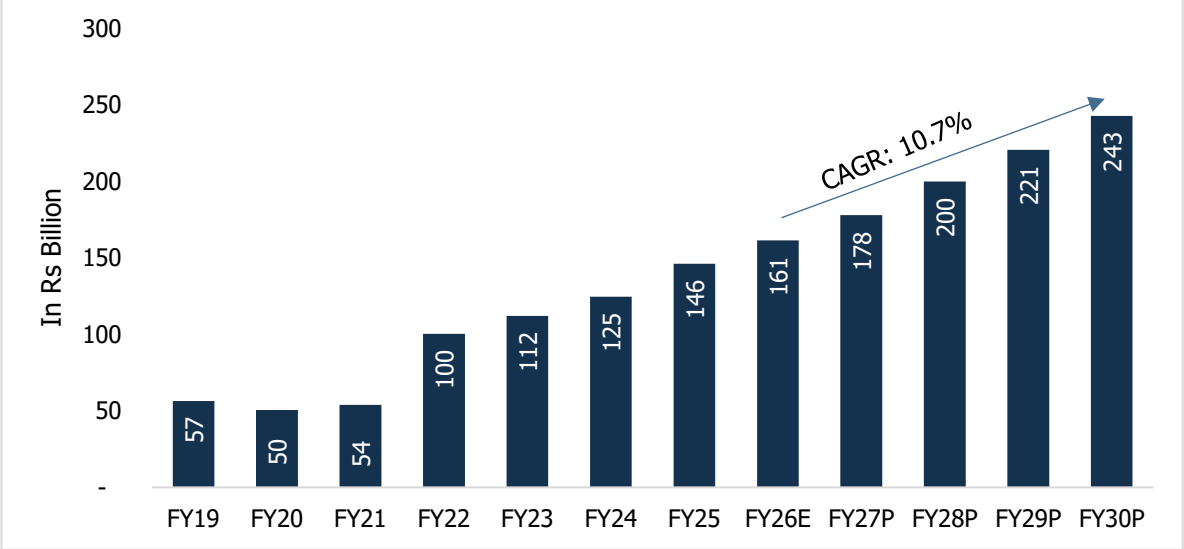
Overview

SS wire encompasses drawn and stranded products ranging from fine wire for medical and electronic applications to heavy strand and cable for structural and marine use. In India, wire is produced by multi-stage cold drawing of wire rod through progressively smaller dies, followed by annealing and surface treatment to achieve required mechanical and surface properties. Wire grades vary by composition to suit springs, fasteners, meshes, filtration elements, and specialty uses in medical devices and precision instruments. Finished products include springs, woven mesh, surgical wire and stranded cables, each requiring tight control of surface condition and tensile properties.

Production

Wire production in India grew with expansion of domestic spring makers, fastener manufacturers and with increased demand in medical device and filtration sectors. Indian wire mills invested in modern draw benches, annealing ovens and plating lines to provide high quality stainless wire domestically, reducing reliance on imports for critical small-diameter and specialty wires. Growth of the automobile aftermarket, appliance manufacturing and metro construction increased demand for locally produced wire products. Policy focus on Make-in-India and support for medical and industrial supplies further encouraged investment in wire drawing capacity.

Chart 37: Production of SS Wire

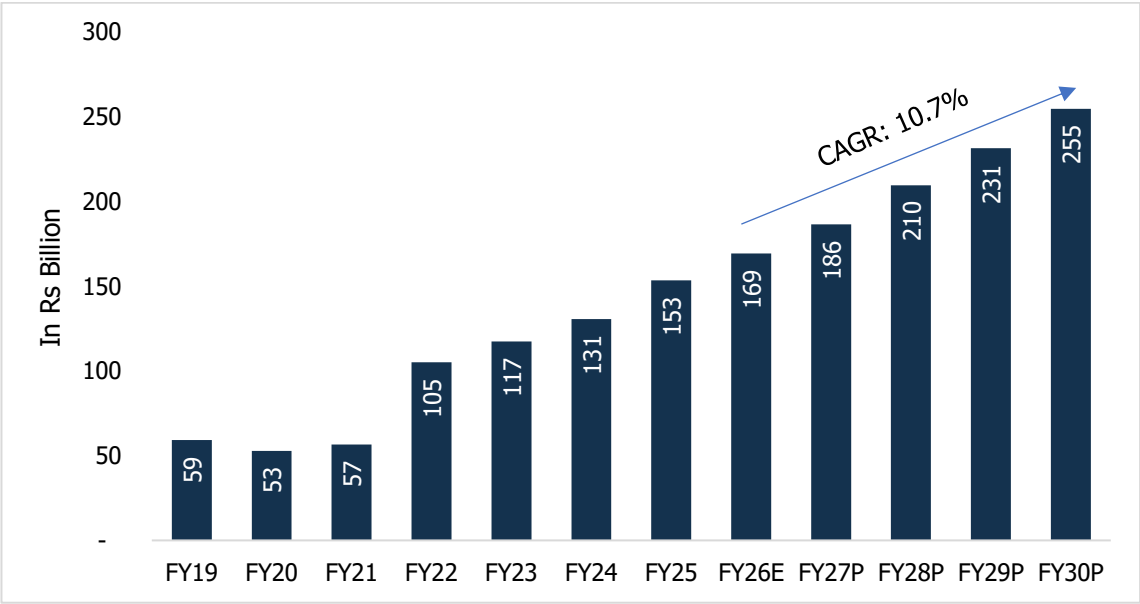


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Consumption of stainless wire in India is driven by automobile components, springs, medical devices, filtration and construction applications. Appliance and equipment makers use wire for heating elements and structural components, while construction uses wire mesh for specific reinforcement and safety applications. The medical sector's need for surgical wire and orthodontic products also boosted consumption of fine stainless wire. As domestic manufacturing of appliances, medical devices and precision equipment grows, and as infrastructure projects demand more cable and fastening solutions, consumption of stainless wire is expected to continue rising, with converters preferring local supply for quality control and lead-time advantages.

Chart 38: Consumption of SS Wire



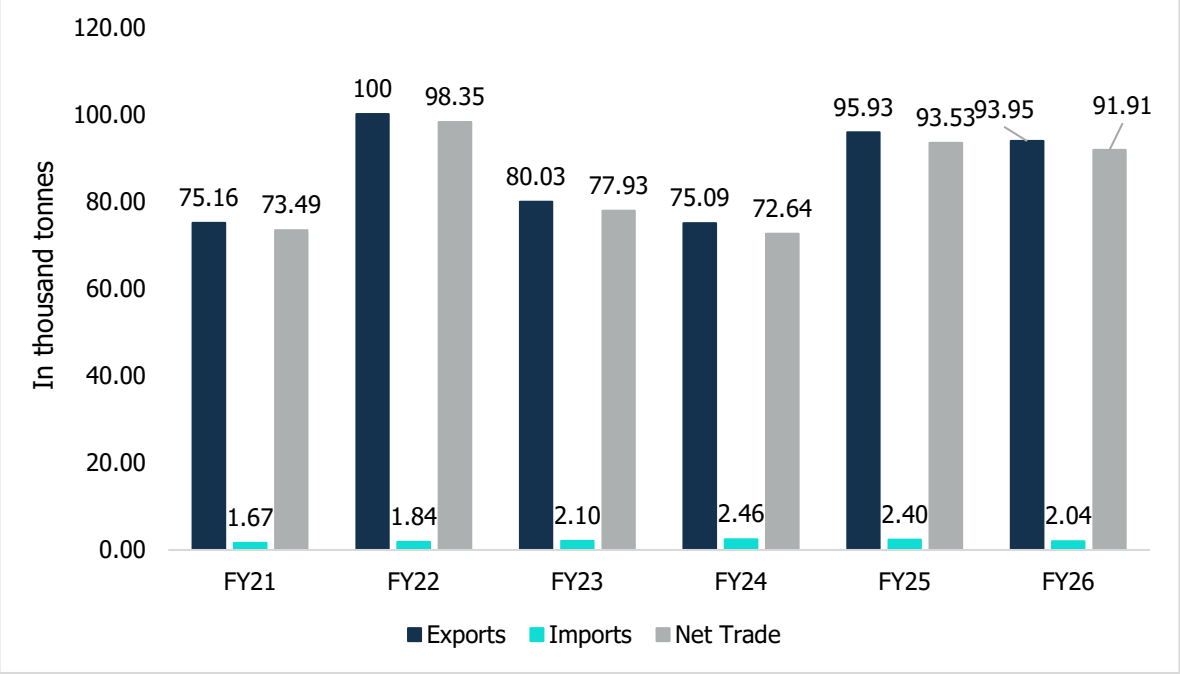
Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Trade Data

India's stainless steel wire trade remained strongly export-oriented during FY24–FY26, with net exports consistently above 90 thousand tonnes in FY25 and FY26. After a relatively softer FY24, exports rebounded sharply by 27.7% y-o-y in FY25 to 95.93 thousand tonnes and remained largely stable at 93.95 thousand tonnes in FY26, indicating sustained overseas demand despite a challenging global steel environment. Imports, meanwhile, remained modest and declined by 15.1% y-o-y in FY26 to 2.04 thousand tonnes, reinforcing India's competitiveness in this value-added stainless steel segment.

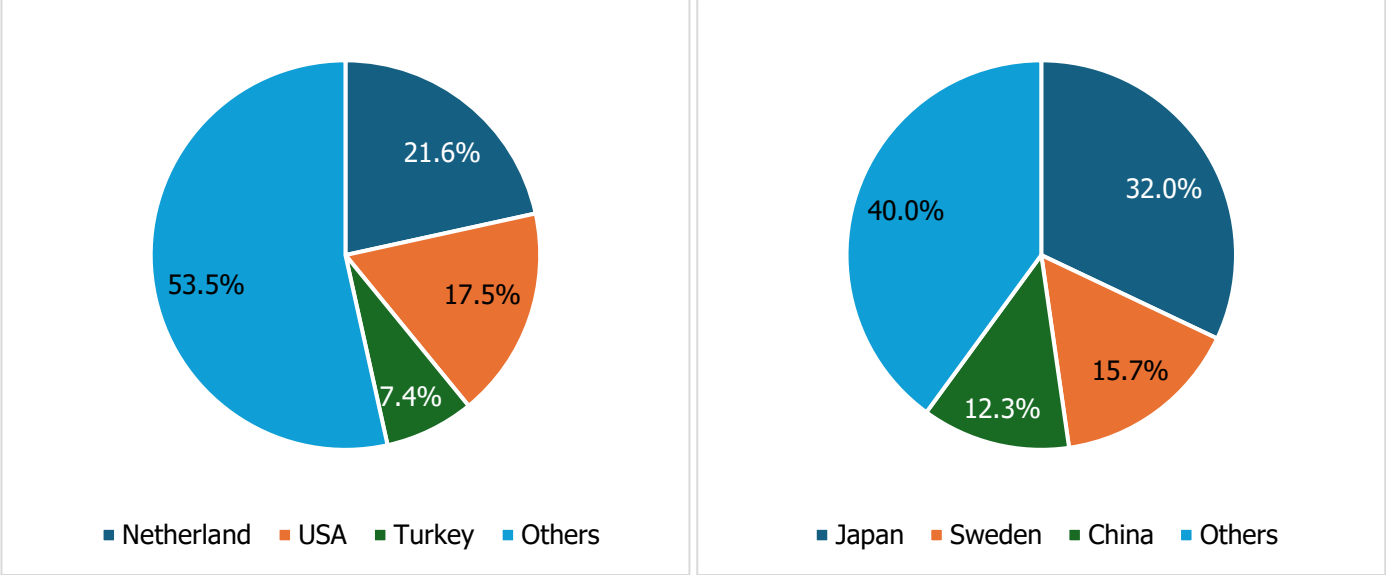
The strong export performance in FY25–FY26 can be linked to healthy demand from end-use sectors such as automobile, engineering, infrastructure, and industrial manufacturing, which continue to support stainless steel consumption globally and domestically. A notable trend in FY26 is the improvement in net trade despite global price pressures and excess steel supply from countries such as China. While several steel product categories faced import competition, stainless steel exports benefited from stronger domestic manufacturing capabilities, product quality, and growing engineering goods exports. The limited import volumes and stable export base suggest that India has strengthened its position as a reliable supplier of stainless steel wire in international markets.

Chart 39: Trade Data for SS Wire



Source: Ministry of Commerce and Industry
Note: HSN code used is 72230091

Chart 40: Country wise Exports (as of FY26) vs Imports (as of FY26)



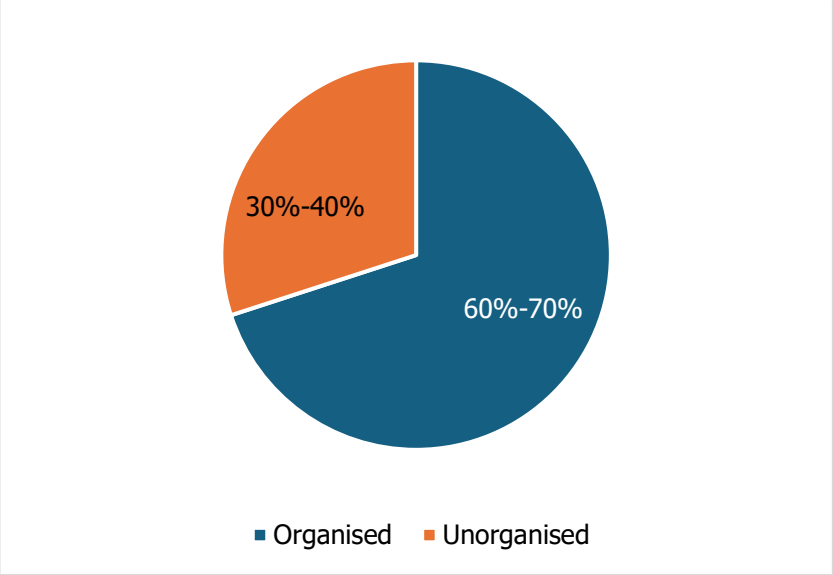
Source: Ministry of Commerce and Industry
Note: HSN code used is 72230091

Market Share

The stainless steel wire market exhibits a more balanced structure between organised and unorganised players compared to upstream stainless steel products. The organised sector accounts for approximately 70% of market volume, while the remaining 30% is served by unorganised manufacturers and converters. The organised segment benefits from scale, advanced wire drawing technology, quality certifications, and strong export linkages.

The unorganised sector remains active in commodity-grade wire production and caters primarily to local and regional demand across applications such as fencing, fabrication, household products, and general engineering. However, high-precision applications in automobile, fasteners, welding consumables, springs, and industrial components increasingly require stringent quality standards and consistent specifications, favouring organised manufacturers. Consequently, while the unorganised sector retains a meaningful presence, market growth is increasingly being driven by organised players with export capabilities, technological advantages, and access to higher-value end-use segments.

Chart 41: Market Split for SS Wire



Source: Industry Sources, CareEdge Research

5.6.4 Stainless Steel Profiles

SS Angle

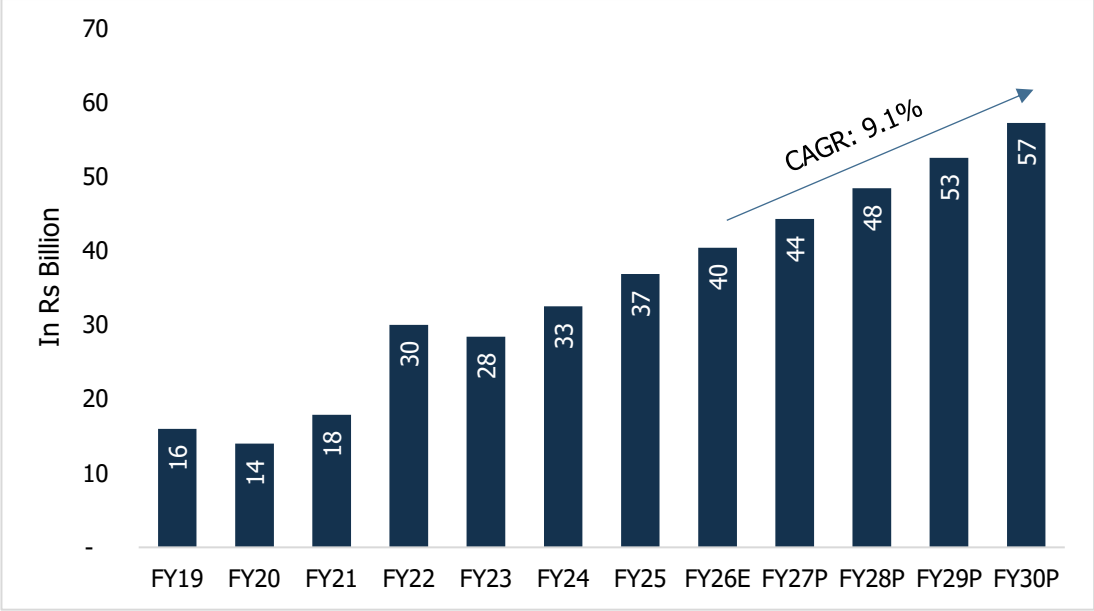
Overview

SS angles are L-shaped structural sections produced to provide strength and resistance to corrosion in exposed environments. In India, stainless angles are manufactured by hot-rolling or bending stainless strip and section mills, followed by trimming and straightening to specified leg sizes and thicknesses. The material selection focuses on grades balancing toughness and corrosion resistance suitable for architectural, marine and industrial use. Angles are widely used as structural supports, frames, bracings, railings and in applications where aesthetics combine with durability; they are commonly found in façades, coastal infrastructure, port equipment, and industrial platforms. Fabricators appreciate stainless angles for their weldability and long service life under harsh conditions.

Production

Production of stainless angles in India expanded as regional construction activity and industrial projects increased demand for durable structural sections. Local mills responded by adding dedicated rolling passes and finishing lines to produce a range of angle sizes more efficiently and with shorter lead times. Investments in finishing, pickling and passivation improved corrosion performance appropriate for coastal and chemical environments common in India. Government infrastructure initiatives, port modernisation and growth in industrial parks created a steady market for structural stainless shapes, prompting producers to scale up. The domestic supply response was also aided by improved scrap sourcing and in-country processing, reducing dependence on imports for simple and finished sections.

Chart 42: Production of SS Angle

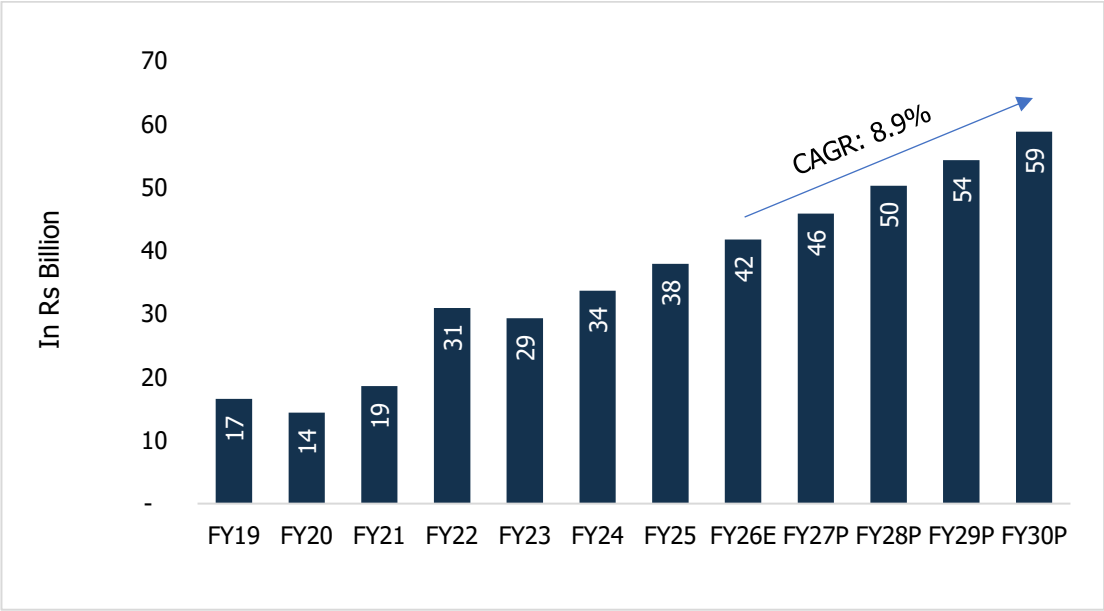


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Consumption of stainless angles in India was historically driven by construction, marine works and heavy fabrication. Public works and private real estate projects increasingly specified stainless in visible and exposed applications to reduce lifecycle maintenance. The booming port and logistics sector demanded corrosion-resistant framing and handling structures, further boosting angle usage. In the future, continued urbanisation, coastal infrastructure investment and higher standards for asset longevity will sustain demand. In addition, adoption of stainless angles in renewable energy installations, railway infrastructure, and industrial plant upgrades should support steady consumption growth as project owners prioritise low-maintenance materials.

Chart 43: Consumption of SS Angle



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Trade Data

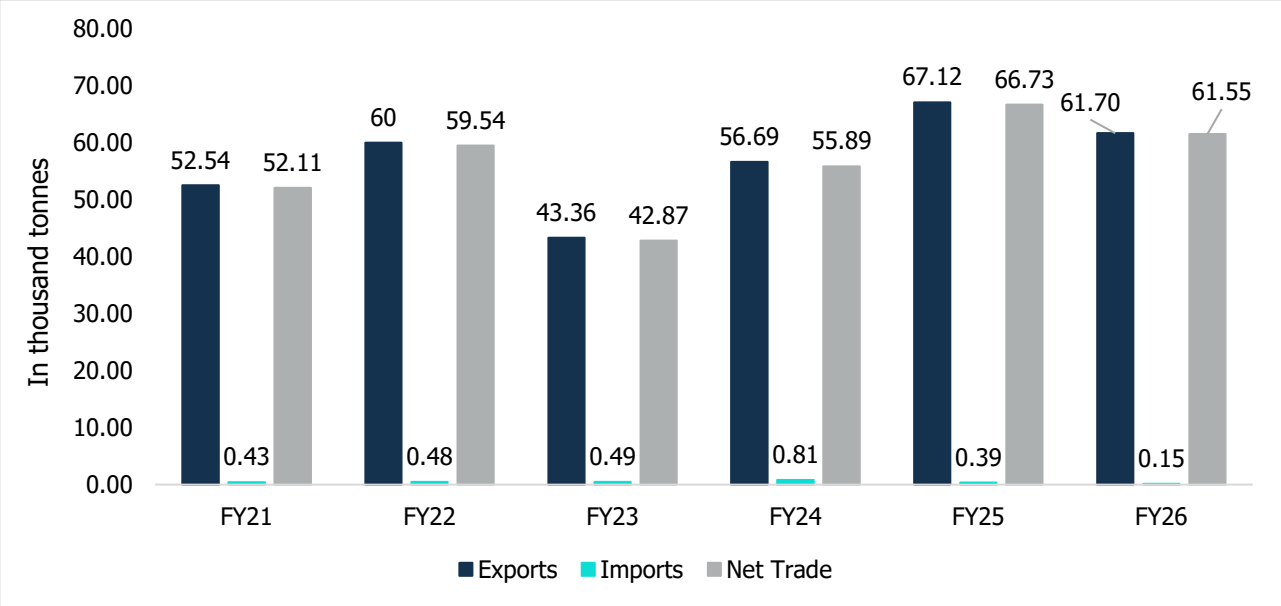
India's stainless steel angle segment continues to exhibit a strong export-oriented trade structure, with exports accounting for virtually the entire trade flow and imports remaining negligible. Over the last three years, India has consistently maintained a trade surplus exceeding 42 thousand tonnes, underscoring the country's competitiveness in stainless steel structural products.

After dipping to 43.36 thousand tonnes in FY23, exports recovered sharply to 56.69 thousand tonnes in FY24 and further increased to 67.12 thousand tonnes in FY25, driven by strong demand from infrastructure, construction, transportation, and industrial fabrication sectors. The recovery aligns with the broader expansion in domestic and global stainless steel consumption, particularly in applications such as structural frameworks, process plants, railways, metros, and urban infrastructure.

In FY26, exports moderated slightly to 61.70 thousand tonnes, but the trade surplus remained robust at 61.55 thousand tonnes due to imports falling to just 0.15 thousand tonnes. This suggests that the decline was more likely driven by softer global demand conditions rather than any deterioration in domestic manufacturing competitiveness.

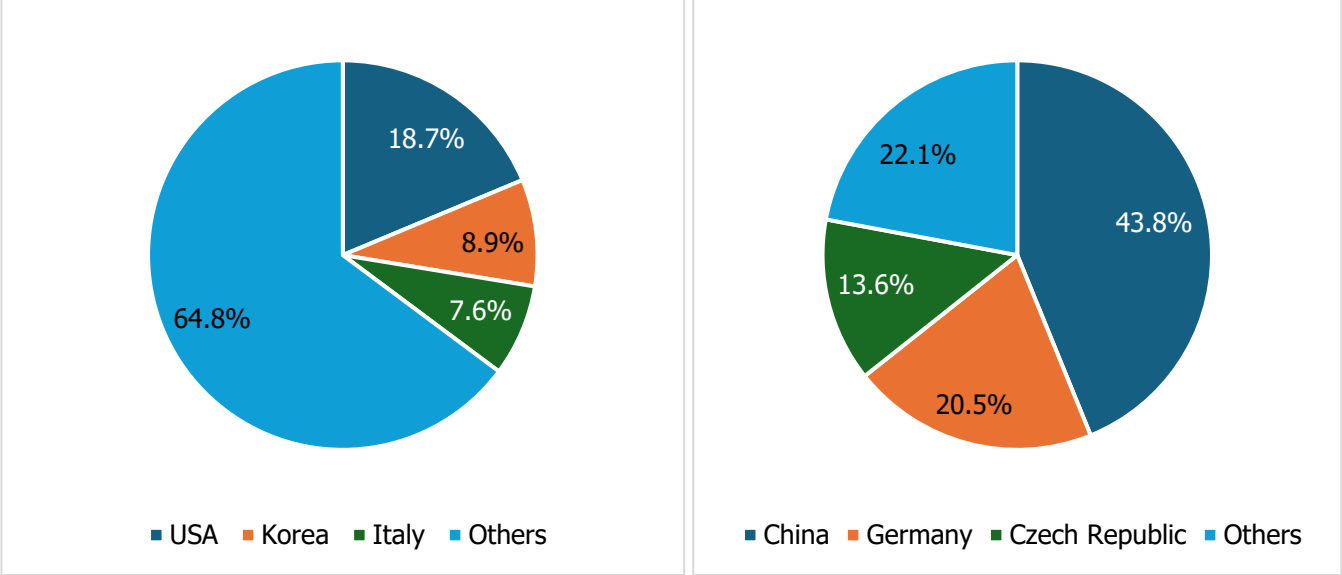
Overall, the data highlights India's position as a net exporter of stainless steel angles, supported by a developed stainless steel long-products ecosystem and sustained demand from infrastructure and industrial end-use sectors.

Chart 44: Trade Data for SS Angle



Source: Ministry of Commerce and Industry
Note: HSN code used is 72224020

Chart 45: Country wise Exports (as of FY26) vs Imports (as of FY26)



Source: Ministry of Commerce and Industry
Note: HSN code used is 72224020

SS Hexagonal Bar

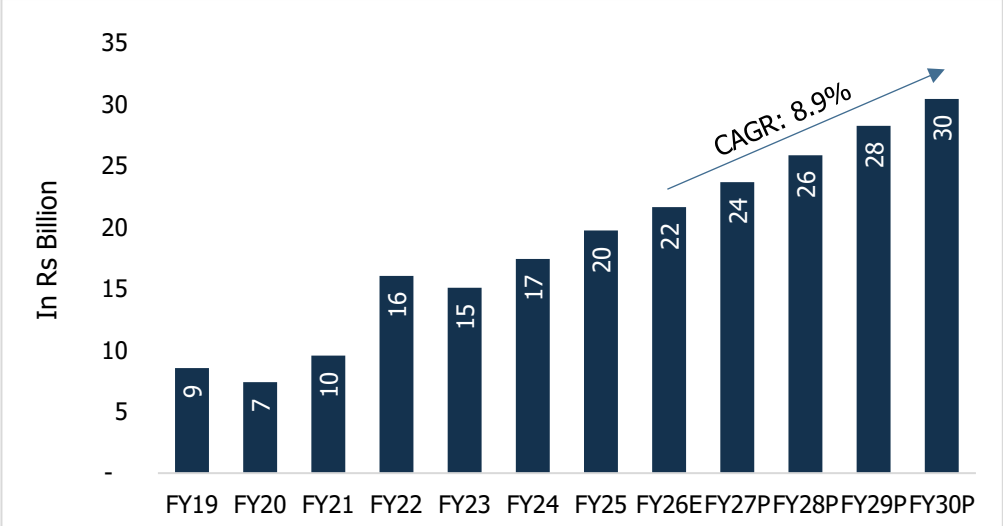
Overview

Hexagonal bars are six-sided bars used where multiple flat faces facilitate tooling, clamping and machining. In India they are manufactured by hot-rolling or extrusion from stainless blooms followed by finishing operations including grinding and straightening to meet thread and fit tolerances. Hex bars are commonly used for manufacturing fasteners, heavy bolts, nuts, and machined parts in industries that demand corrosion resistance and mechanical strength. The multiple flat faces simplify holding and turning in machining processes, making hex bars a preferred stock shape for high-precision fastening elements and components in industrial equipment.

Production

Production of hexagonal bars in India increased as domestic fastener and component manufacturing expanded. Local rolling mills and forging shops added capabilities to produce hex sections to supply automobile, construction and heavy engineering segments. Investment in hot forming and precision grinding allowed producers to meet tighter tolerances required by OEMs, reducing reliance on imported hex stock. Industrial policies promoting domestic manufacturing of critical components and the growth of component clusters encouraged localized production. Producers also leveraged scrap integration and process optimization to offer competitive pricing and shorter lead times, fueling further local output growth.

Chart 46: Production of SS Hexagonal Bar

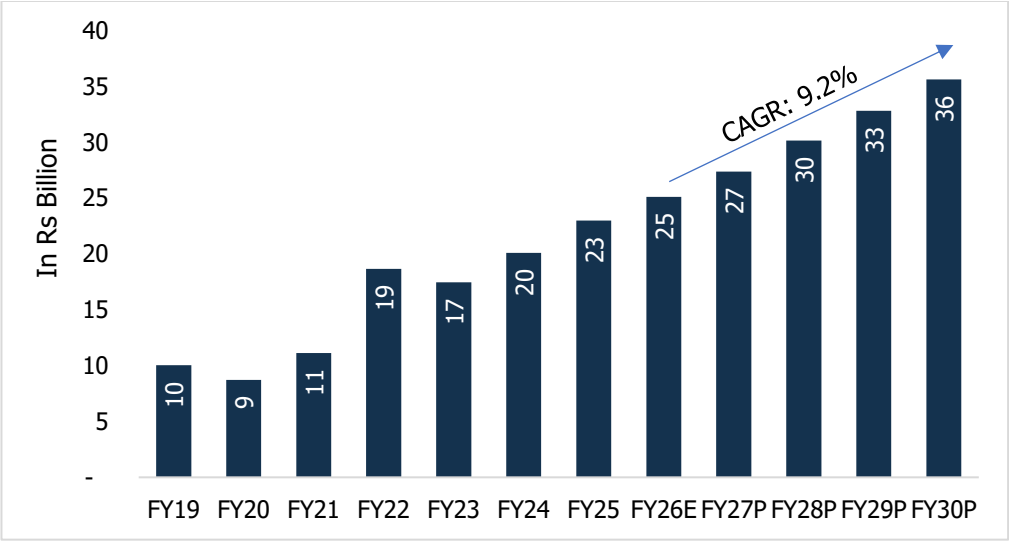


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Consumption of hexagonal bars in India is closely linked to fastener production, automobile components and heavy equipment manufacture. Fastener workshops and machine shops prefer hexagonal stock for direct conversion into bolts and nuts, which are integral to construction, bridges, rail and machinery. With infrastructure projects and vehicle production sustaining domestic industrial activity, hex bar consumption rose. Going forward, higher standards in construction and increased domestic output of machinery and vehicles are likely to sustain demand for hexagonal bars, as manufacturers continue to prefer locally sourced, machinable stainless stock for critical fastening and structural parts.

Chart 47: Consumption of SS Hexagonal Bar



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

SS Square Bar

Overview

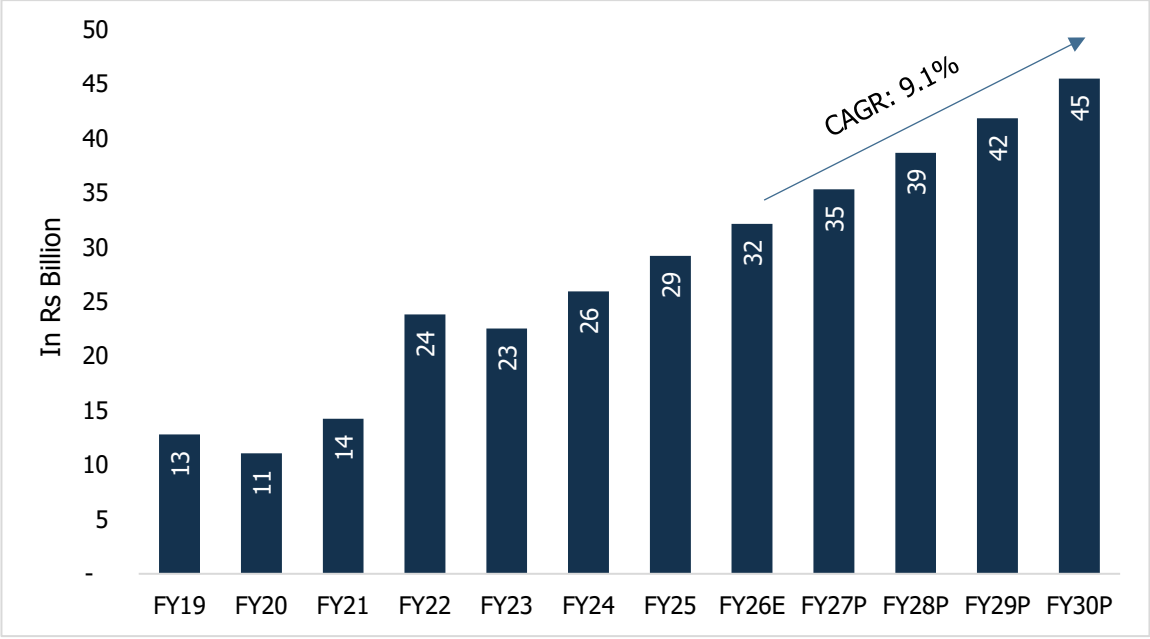
SS square bars are solid bars with square cross-sections, produced for structural and precision engineering applications where equal strength across two axes is required. In India these bars are manufactured by hot-rolling blooms followed by sizing and, where necessary, cold drawing for tight tolerances. Square bars are used in fabrication of supports, frames,

brackets, and components subject to torsional and bending loads; they are suitable for architectural trims, machine parts, railings and structural connectors. Depending on grade selection, square bars deliver corrosion resistance for coastal and industrial atmospheres and are prized where aesthetic finish and long life are important.

Production

Indian production of square bars expanded in response to greater domestic demand in construction, equipment manufacturing and fabrication. Rolling mills increased flexibility by offering multiple section sizes and integrating finishing operations such as straightening, grinding and passivation to meet client specs. Domestic producers invested in improved process control to reduce surface defects and improve mechanical uniformity, enabling square bars to substitute imports for many applications. Local capacity was further stimulated by public infrastructure programmes and by demand from manufacturing zones that required locally produced bar stock. This trend is expected to persist as integration between mill output and regional fabricators tightens.

Chart 48: Production of SS Square Bar

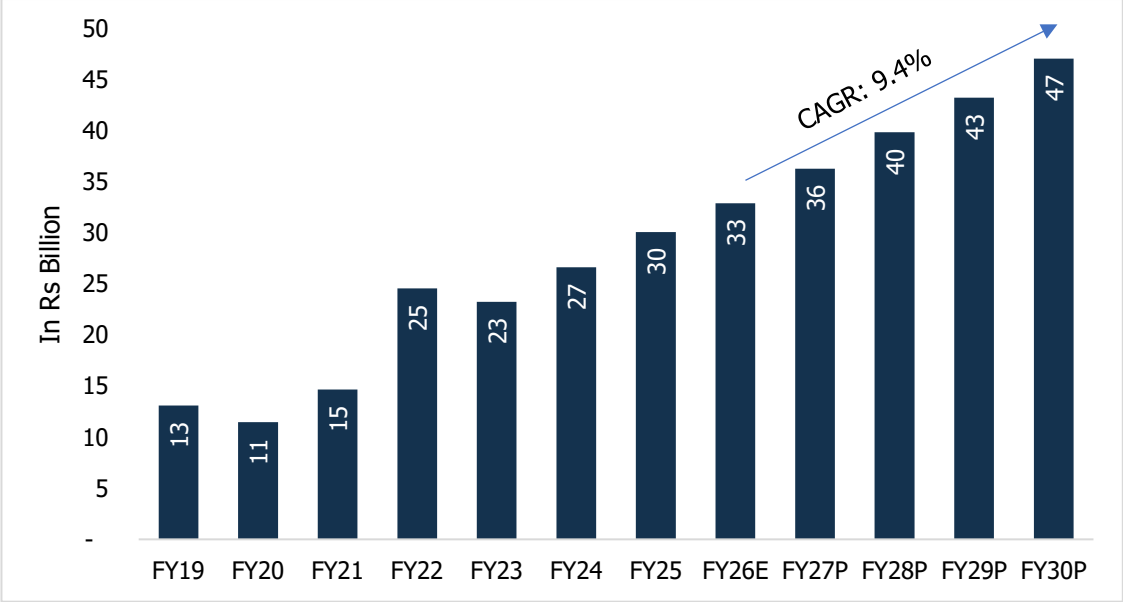


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Consumption of stainless square bars in India came from structural fabricators, OEMs and specialist machine shops. Construction projects used square bars for framing and support sections that required both strength and corrosion resistance. Equipment manufacturers in sectors such as food processing, railways and ports also consumed square bars for frames and components. The move towards higher durability specifications in public projects and the preference for domestically sourced materials increased usage of square bars. Looking forward, rising industrialisation, expansion of fabrication hubs and upgrades to transport infrastructure should drive further consumption as fabricators standardise on stainless bar stock for long-life applications.

Chart 49: Consumption of SS Square Bar



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

SS Flat Bars

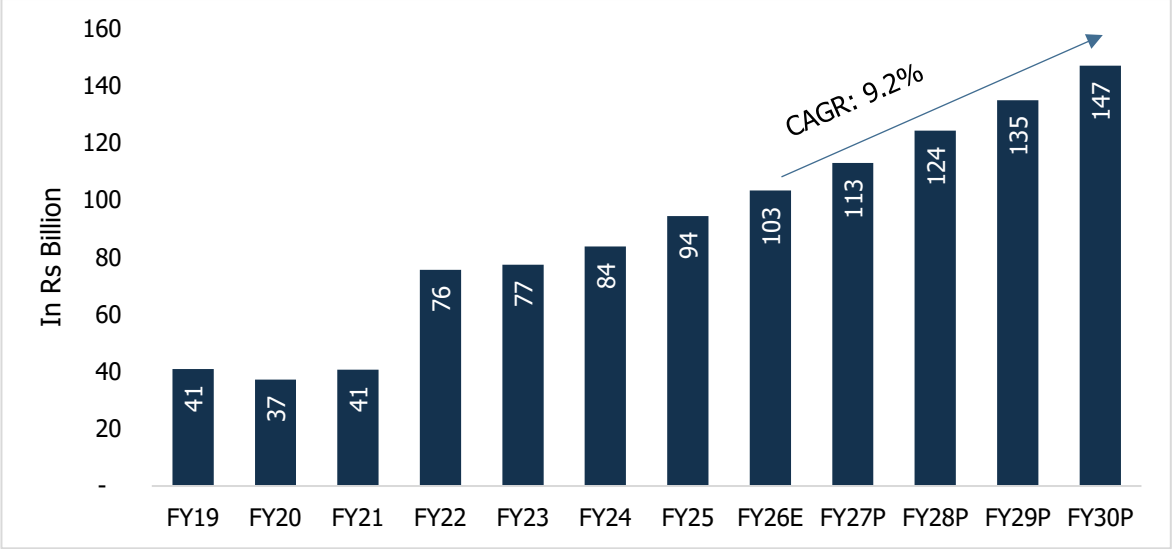
Overview

Flat bars are rectangular-section stainless products produced by hot rolling or slicing from wide coil; they offer a broad, flat surface and are widely used in fabrication and structural applications. In India, flat bars are processed with straightening, edge trimming and surface finishing to suit welding, bending and machining operations. Applications include structural supports, guard rails, machine frames, decorative architectural elements and components in food processing equipment. The large contact surface and ease of welding make flat bars a versatile choice for both load bearing and finishing uses.

Production

Production of flat bars in India grew as demand from construction, industrial equipment and architectural projects increased. Domestic mills expanded cutting and finishing capabilities to supply flat bars in precise widths and surface conditions, supporting fabricators and OEMs. The development of industrial clusters near consumption centers reduced distribution costs and encouraged mills to maintain higher readiness levels. Policy moves favoring domestic sourcing for public projects also contributed to producers prioritizing flat bar output, while improvements in coil processing allowed better utilization of stainless melt for flat bar manufacture.

Chart 50: Production of SS Flat Bars

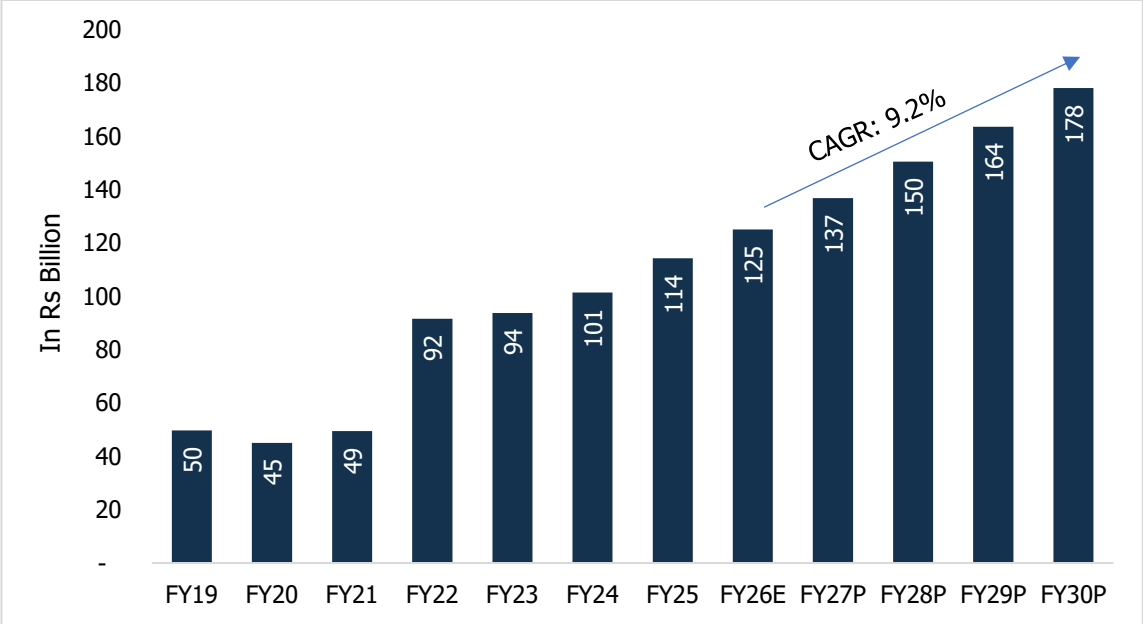


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

Consumption

Consumption of flat bars in India rose with infrastructure and manufacturing activity. They were specified for road barriers, bridge supports, structural reinforcements and equipment frames due to their form and load distribution characteristics. The expanding architectural sector adopted stainless flat bars for durable façades and trims. Industrial equipment makers used flat bars for machine bases and frameworks where weldability and flat surfaces were essential. As construction quality standards and public asset longevity requirements advance, flat bar consumption is expected to increase with refurbishment and new build programmes favouring stainless as a low-maintenance material.

Chart 51: Consumption of SS Flat Bars



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

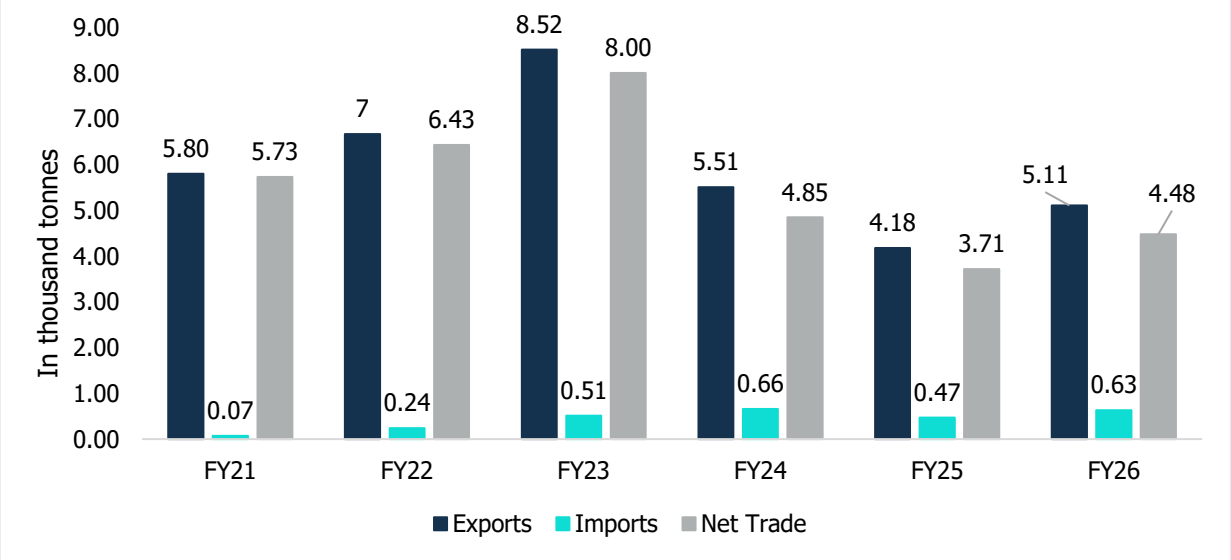
Trade Data

India's stainless steel flat bar segment has remained a net export-oriented market, although export volumes have moderated from the peak levels witnessed in FY23. Over the last three years, exports declined from 8.52 thousand tonnes in FY23 to 5.51 thousand tonnes in FY24 and 4.18 thousand tonnes in FY25, before recovering to 5.11 thousand tonnes in FY26. Despite this volatility, the trade balance remained firmly positive throughout the period.

The sharp correction in FY24–FY25 coincided with weaker global stainless steel demand, inventory rationalization across export markets, and increased competition from low-cost Asian suppliers. At the same time, imports remained limited, ranging between 0.47–0.66 thousand tonnes, indicating that domestic manufacturers continued to meet the majority of local demand. This reflects the presence of an established stainless steel long-products industry catering to fabrication, construction, engineering, transportation, and industrial applications. Global stainless steel market conditions during this period were characterized by softer pricing and cautious procurement trends, which affected trade volumes across several product categories.

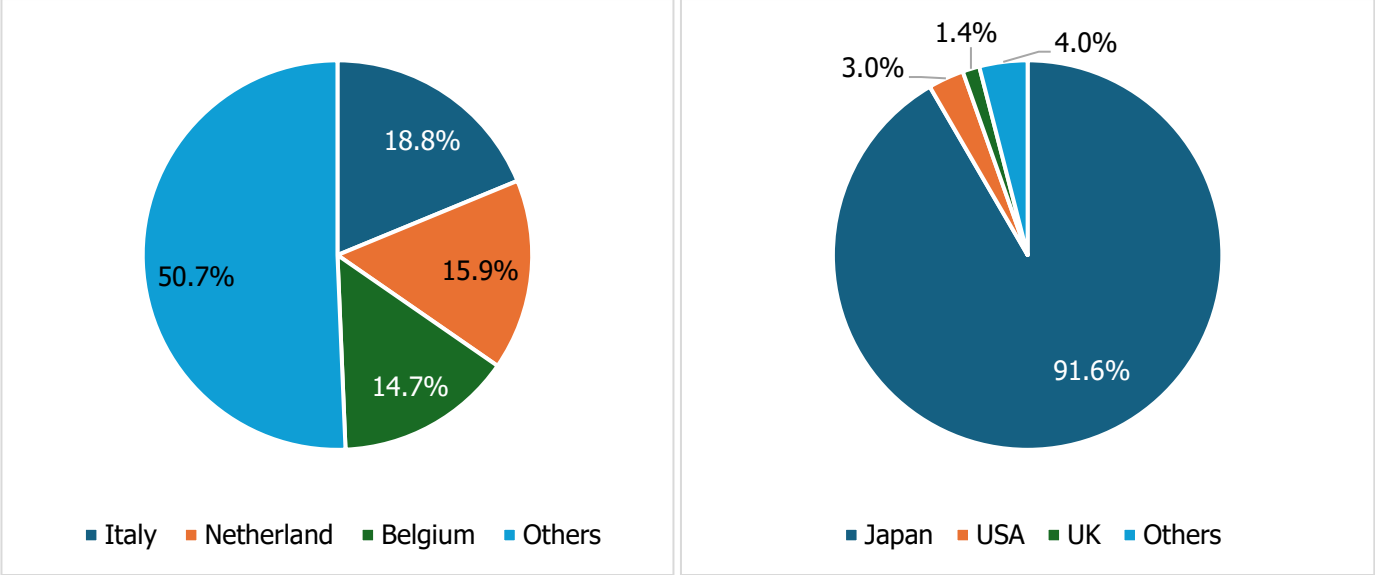
FY26 witnessed a recovery in exports and an increase in the trade surplus to 4.48 thousand tonnes, suggesting an improvement in demand conditions and export competitiveness. Overall, the data indicates that while stainless steel flat bar exports remain sensitive to global market cycles, India continues to maintain a strong net exporter position supported by domestic manufacturing capabilities and a diversified end-user base.

Chart 52: Trade Data for SS Flat Bars



Source: Ministry of Commerce and Industry
Note: HSN code used is 72201190

Chart 53: Country wise Exports (as of FY26) vs Imports (as of FY26)



Source: Ministry of Commerce and Industry
Note: HSN code used is 72201190

5.7 Market Size of India SS Industry By End-User Industry

India's SS demand is distributed across a diverse range of end-user industries, each characterised by distinct application requirements and growth dynamics. The following table summarises the key end-use segments, principal SS applications, key demand drivers, and projected CAGRs over FY26 to FY30.

Table 12: Stainless Steel, By End-User Industry

Industry	How Stainless Steel is Used	Historical Growth Drivers	Future Growth Drivers	CAGR (FY26–FY30)
Consumer Goods	Kitchenware, cutlery, sinks, appliances, consumer durables due to hygiene, durability, and corrosion resistance	Rising disposable income, urbanization, lifestyle upgrades	Premiumization, replacement demand, growing middle class consumption	4.4%
Mechanical Engineering & Heavy Industries	Industrial machinery, fabrication equipment, tools, storage tanks, heavy engineering components	Industrialization, manufacturing growth, capex cycles	Automation, advanced manufacturing, infrastructure-linked capex revival	9.4%
Automobile & Transportation	Exhaust systems, fuel tanks, structural components, rail coaches, EV components	Growth in vehicle production, emission norms, railway expansion	EV adoption, lightweighting, metro/rail expansion, stricter emission standards	8.2%

Industry	How Stainless Steel is Used	Historical Growth Drivers	Future Growth Drivers	CAGR (FY26–FY30)
Building & Construction	Structural applications, cladding, roofing, rebar, bridges, architectural uses	Urbanization, real estate growth, infrastructure projects	Smart cities, green buildings, corrosion-resistant infrastructure demand	11.5%
Aerospace & Defence	Aircraft components, fasteners, defence equipment, high-performance parts	Defence spending, aerospace manufacturing growth	Indigenous defence production, aviation expansion, high-performance alloys demand	21.9%
Power	Boilers, turbines, transmission equipment, renewable energy components	Rising electricity demand, thermal power expansion	Renewable energy growth, grid expansion, transmission infrastructure investments	10.8%
Oil & Gas	Pipelines, refineries, storage tanks, offshore structures	Oil & gas exploration, refinery capacity expansion	LNG, hydrogen infrastructure, energy transition projects	10.2%
Marine	Shipbuilding, offshore platforms, coastal infrastructure, corrosion-resistant components	Growth in shipping, ports, offshore activities	Coastal infrastructure, naval expansion, maritime trade growth	14.4%
Chemical	Reactors, heat exchangers, piping systems, storage tanks for corrosive chemicals	Growth in chemical and specialty chemical industries	Export-driven specialty chemicals, stricter safety and process standards	9.8%
Food Processing	Food-grade equipment, processing units, storage tanks, hygienic piping systems	Growth in packaged food, hygiene standards, urban consumption	Food processing expansion, exports, stricter food safety norms	5.0%

Source: Cervicorn Consulting, Industry Sources, CareEdge Research

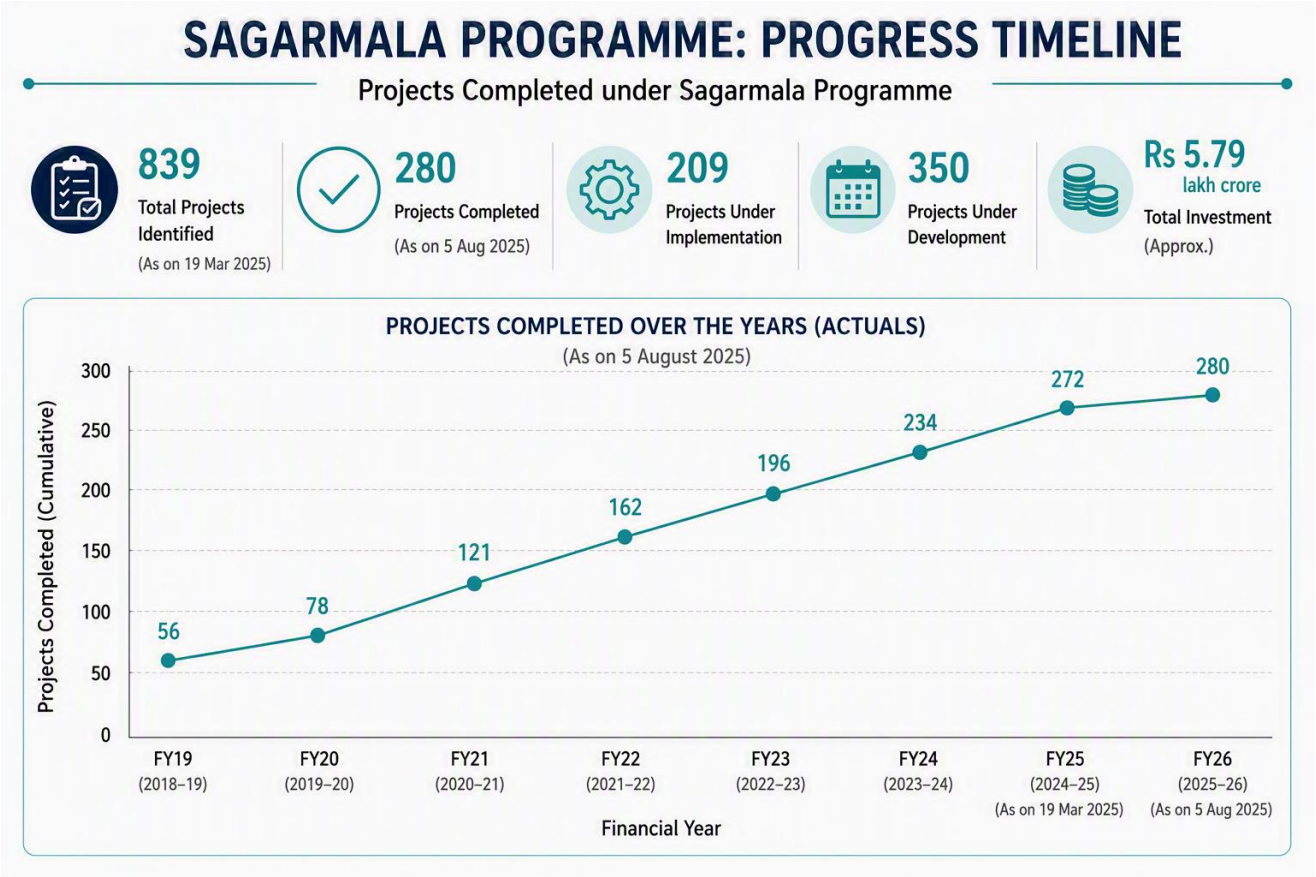
Among end-use segments, Aerospace and Defence is projected to register the highest growth at a CAGR of 21.9%, reflecting the accelerating indigenisation of India's defence and aerospace manufacturing. Marine (14.4%), Building and Construction (11.5%), Power (10.8%), and Oil and Gas (10.2%) round out the high-growth segments, all representing applications where SS's corrosion resistance, strength, and lifecycle economics are decisive material selection criteria.

5.8 Key Demand Drivers

5.8.1 Mandatory Use of Stainless-Steel Rebar in Coastal Infrastructure

The Government of India has mandated the use of stainless-steel rebar in select coastal and marine infrastructure projects to enhance durability and reduce lifecycle costs. Conventional carbon steel rebar is prone to corrosion in chloride-rich coastal environments, leading to frequent repairs and higher maintenance expenditure. Stainless-steel rebar, with

its superior corrosion resistance and strength, extends the service life of bridges, ports, flyovers, and other critical coastal assets. This policy push is particularly significant as India continues to expand its maritime economy under the Sagarmala programme and build climate-resilient infrastructure in vulnerable coastal regions. Adoption of stainless-steel rebar also aligns with sustainability goals by lowering long-term resource use and emissions tied to repair and replacement. For the SS industry, the regulatory requirement translates into steady demand for rebar and related long products, creating a reliable end-use segment supported by government investment and oversight.



Source: PIB

5.8.2 Expansion of LNG Terminals and Cryogenic Storage Projects

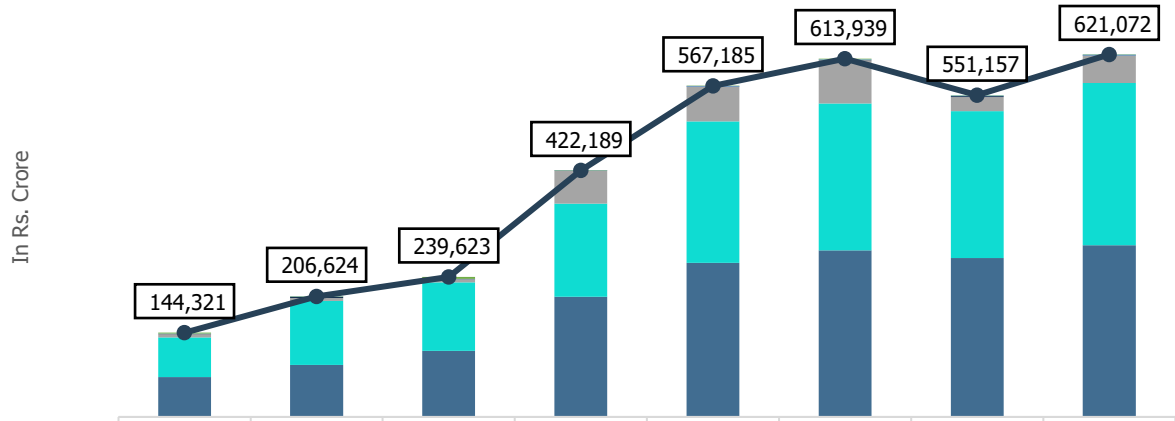
India's growing energy demand and policy focus on cleaner fuels have made liquefied natural gas (LNG) a vital part of its transition strategy. The development and expansion of LNG import terminals, regasification units, and associated cryogenic storage facilities directly boost the consumption of SS. SS grades designed for cryogenic applications maintain mechanical properties at extremely low temperatures, ensuring safety and performance in LNG tanks, pipelines, pumps, and handling systems. As the government pursues diversification of the energy basket and seeks to raise the share of natural gas in the primary energy mix, significant investments are being channeled into LNG infrastructure. Each terminal and storage project represents a sizeable demand opportunity for SS flat and long products, used in fabrication and equipment supply. This growth driver is reinforced by the need for specialized alloys that provide both corrosion resistance and reliability in demanding operating conditions, making SS indispensable in LNG infrastructure development.

5.8.3 Growing Construction & Infrastructure Pipeline

The Indian construction and infrastructure sector remains one of the largest end-use segments for SS, with government-led investment playing a central role. Initiatives such as the Bharatmala highway programme, urban metro projects, smart city developments, and affordable housing schemes are driving a strong project pipeline. SS is increasingly preferred in structural applications, roofing, cladding, railings, and interior fittings due to its durability, strength-to-weight ratio, and aesthetic appeal. Its corrosion resistance reduces long-term maintenance costs, which is critical for public

infrastructure and urban transport systems. Demand is also growing in bridges, airports, and railway stations where modern design standards emphasize both safety and lifecycle performance. Rising awareness of green buildings and sustainable construction further supports SS adoption, given its recyclability and energy efficiency in use. With infrastructure development prioritized as a key economic driver, the sector provides steady demand momentum for SS products across flat, long, and fabricated categories.

Chart 54: Budgetary outlay towards infrastructure



	FY20	FY21	FY22	FY23	FY24	FY25 (A)	FY26 (R)	FY27 (B)
Power	1,615	370	2,827	23	125	1,122	584	361
Ports	259	169	614	678	1,149	1,339	1,199	1,200
Oil & Gas	572	2,313	347	40	41	341	1,407	238
Telecom	5,660	5,254	5,254	56,205	59,380	73,846	23,916	47,275
Railways	67,842	109,324	117,271	159,256	242,579	251,947	252,000	277,830
Roads and Highways	68,374	89,195	113,312	205,986	263,912	285,344	272,051	294,167
Total	144,321	206,624	239,623	422,189	567,185	613,939	551,157	621,072

Source: Union Budget FY27 document; Note: A- Actual, R- Revised, B- Budgeted

5.8.4 Automobile and Transportation

The automobile and transportation sector has emerged as a key demand driver for SS, supported by its strength, corrosion resistance, and aesthetic appeal. In the automobile segment, SS is extensively used in exhaust systems, fuel tanks, EV battery casings, and premium trims, offering durability and safety. The railway sector, including LHB coaches, Vande Bharat trains, and freight wagons, increasingly adopts SS for lightweight and maintenance-free designs. Metro rail projects across major cities also use SS in coach fabrication and infrastructure components due to its longevity and ease of cleaning. Similarly, commercial vehicles and buses benefit from SS's lightweight yet robust properties, improving fuel efficiency and lifespan. Over the long term, aviation and shipbuilding applications are expected to contribute steadily, reinforcing SS's role as a critical material in modern transport infrastructure.

5.8.5 Rising Demand from Food & Beverage Equipment Manufacturing

The food and beverage processing industry is a fast-growing consumer of SS in India, supported by rising domestic consumption, export opportunities, and stricter regulatory compliance. SS's hygienic properties like non-reactivity, ease of cleaning, and resistance to microbial growth make it the material of choice for storage tanks, pipelines, conveyors, and processing machinery. Growth in packaged food, dairy, beverages, and ready-to-eat segments has spurred investment in new processing plants and capacity expansion, which in turn drives demand for SS equipment. Additionally, SS's ability to withstand frequent chemical cleaning and high-temperature sterilization ensures compliance with food safety standards and reduces downtime for producers. With the government promoting food processing through schemes like the Pradhan Mantri Kisan Sampada Yojana, and rising private sector participation, the industry is set to expand further. This provides consistent demand for SS sheet, tube, and fabricated equipment, reinforcing the material's central role in modernizing India's food supply chain.

5.8.6 Expansion of Defence Manufacturing and Indigenous Procurement

The defence sector represents an important demand driver for stainless steel long products owing to the material's high strength, corrosion resistance, heat resistance and durability under demanding operating conditions. Stainless steel long products, including bars, wire rods, flats, angles and forgings, are widely used in the manufacture of defence equipment, armoured vehicles, naval platforms, missile systems, aircraft components, ammunition, precision engineering parts and critical infrastructure. Increasing localisation of defence manufacturing under the Government's 'Atmanirbhar Bharat' initiative, higher defence capital expenditure, expansion of indigenous production programmes and growing procurement from domestic manufacturers are expected to support demand for specialty stainless steel products. Government initiatives such as positive indigenisation lists, higher domestic procurement targets, and the development of defence industrial corridors are also encouraging domestic sourcing of specialised materials and components. As defence equipment requires stringent quality standards, traceability and specialised metallurgical properties, manufacturers with integrated production capabilities and the ability to produce application-specific stainless steel grades may be well positioned to cater to this segment, subject to customer qualification requirements, regulatory approvals and prevailing procurement policies.

5.9 Key Challenges

5.9.1 Import Dependency for Key Alloys (Nickel, Molybdenum)

India's SS industry relies heavily on imports of critical alloying elements such as nickel and molybdenum. These inputs are essential for producing corrosion-resistant grades used in high-performance applications, but domestic reserves are limited, forcing dependence on global suppliers. As a result, producers are vulnerable to international price volatility, exchange rate fluctuations, and supply disruptions arising from geopolitical tensions or export restrictions in resource-rich countries. This dependency not only raises production costs but also impacts the ability of domestic players to offer stable pricing to end-users. While recycling of stainless scrap can partly offset raw material demand, the structural reliance on imported alloys remains a significant challenge. The lack of indigenous reserves further constrains long-term planning and deters investment in higher-value specialty grades, leaving the industry exposed to external risks that are beyond its control.

5.9.2 Price Sensitivity in Domestic Market

The Indian SS market is highly price-sensitive, particularly in mass-demand segments such as utensils, consumer goods, and mid-tier construction materials. Buyers in these categories often prioritize immediate cost savings over lifecycle value, which limits the adoption of higher grades of SS despite their durability and lower maintenance benefits. This tendency pressures manufacturers to compete aggressively on price rather than quality differentiation, compressing margins and discouraging investment in innovation. Additionally, competition from low-cost imports and alternative materials such as coated carbon steel or aluminum intensifies price wars in the domestic market. For producers, this challenge is compounded by volatility in input costs, as increases in alloy surcharges cannot always be passed on to customers without risking loss of market share. The resulting imbalance makes long-term strategic planning difficult and slows the transition of the market toward higher-specification, value-added stainless applications.

5.9.3 Limited Domestic Production of High-End Duplex Grades

Duplex and super-duplex SSs are increasingly in demand for critical applications in oil and gas, petrochemicals, desalination, and infrastructure projects that require higher strength and superior corrosion resistance. However, India has limited domestic capability in producing these advanced grades, with most demand met through imports. The technological complexity of manufacturing duplex grades, along with higher alloying requirements, has restricted their large-scale production in India. This gap places domestic end-users at a disadvantage, as they face higher procurement costs and longer lead times. Moreover, reliance on imports for these critical grades creates vulnerability to global supply shocks and foreign competition. While Indian producers have begun investing in R&D and upgrading facilities, capacity remains inadequate compared to global benchmarks. Without sufficient domestic production, India risks losing competitiveness in key export markets and slowing the adoption of high-performance SSs across its strategic sectors.

5.9.4 Global Trade Measures Impacting Export Competitiveness

India's SS exports face headwinds from global trade barriers such as anti-dumping duties, safeguard measures, and stringent quality certifications imposed by importing countries. These measures are often targeted at protecting local industries in developed markets, where Indian producers have been competitive due to their cost advantages. However, such restrictions erode market access and make it harder for Indian firms to expand globally. In addition, volatility in freight costs and currency movements further reduces the price competitiveness of Indian exports. Trade disputes, especially between major economies, can redirect supply flows and create oversupply pressures in neutral markets, intensifying competition for Indian exporters. While domestic demand provides some cushion, sustained export growth is necessary for achieving scale and improving profitability. Unless addressed through trade diplomacy and quality upgradation, these barriers could constrain India's ability to emerge as a leading global SS hub.

5.10 Market Size of Aluminium Wire Rods, Alloy Steel, and Special Steel

5.10.1 Aluminium Wire Rods

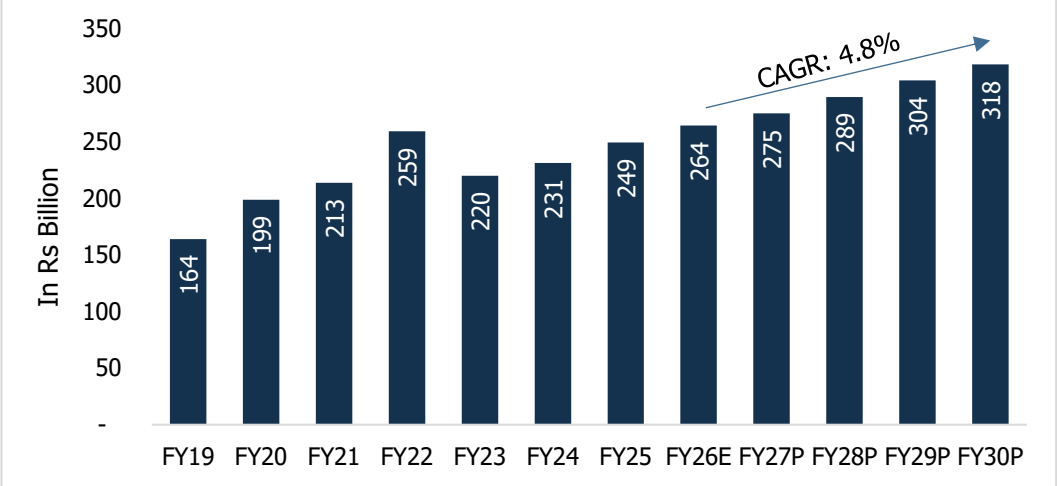
5.10.1.1 Overview

India's aluminium wire rod is produced by casting and rolling refined aluminium into long, cylindrical coils used for conductors and cables. In practice, major Indian smelters melt alumina (from bauxite) in electric furnaces and cast it into blooms or continuous-cast logs. These are hot-rolled or extruded into wire rod coils. The product's high conductivity, light weight and corrosion resistance make it indispensable for electrical and telecom infrastructure. Key uses of wire rod include overhead power conductors, distribution cables, groundings and telecom cable armoring. To summarise, aluminium wire rod serves as the raw material for high-performance cables and connectors in the power, telecom, automobile and appliances sectors.

5.10.1.2 Production

Aluminium wire rod output in India has risen steadily in the past as integrated producers expanded capacity. For instance, Vedanta's BALCO (India's largest smelter) has nearly doubled its aluminium production capacity (from 0.57 MTPA to 1.0 MTPA), partly to boost wire rod output. Domestic expansions by Hindalco and NALCO and private investments support this growth. Government support have encouraged firms to upscale. New technologies – advanced continuous casting and energy-efficient furnaces – are being adopted to improve yields. Overall, these trends point to a strong upward trajectory in aluminium rod production through FY25. Continuing through FY30, further industrial expansion (new smelter lines) and policy impetus (incentives for downstream alumina/rod plants) are expected to sustain growth in India's aluminium wire-rod output.

Chart 55: Production of Aluminium Wire Rods

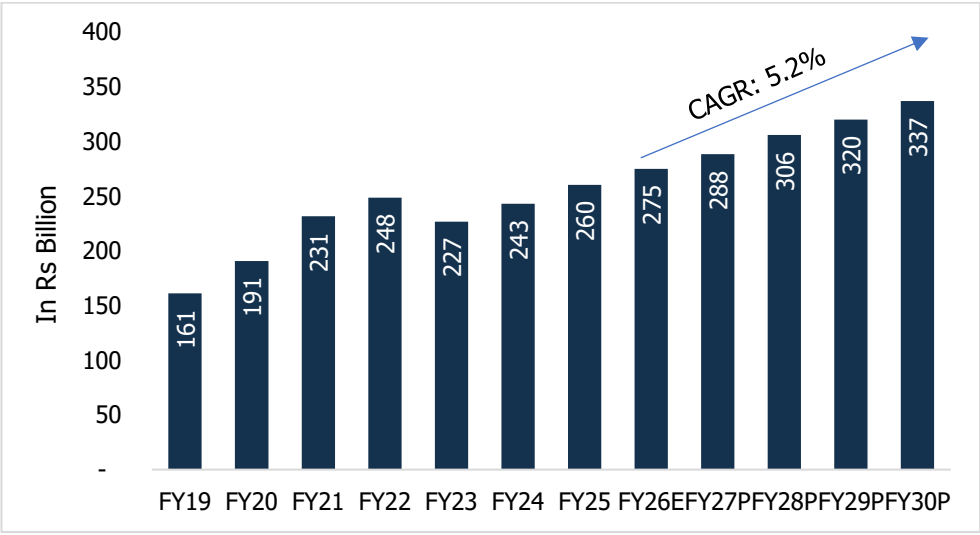


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.1.3 Consumption

Aluminium wire rod consumption in India has increased in the past, driven by power and telecom sector growth. Nationwide electrification (rural grids, rail traction) and digital infrastructure rollouts (5G networks, fiber broadband, smart cities) have sharply raised demand for quality conductors. In addition, expanding sectors like automobile (especially electric vehicles), appliance manufacturing and defense electronics use aluminum wiring, broadening demand. Government initiatives – such as aggressive rural electrification and the PM Gati-Shakti master plan focusing on power, transport and logistics – will further bolster demand for aluminium rods. Looking ahead, investment in renewables (new grid links for solar/wind), transmission and smart networks is expected to sustain robust growth in aluminium wire-rod consumption. In summary, infrastructure expansion and government programs will keep domestic wire-rod use growing strongly in the coming years.

Chart 56: Consumption of Aluminium Wire Rods



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.1.4 Market Size, By End-User Industry

Power and Electrical Industry

The power and electrical industry represents the largest consumer of aluminium wire rods, accounting for the bulk of demand in India. Aluminium wire rods are primarily used in overhead transmission lines, distribution networks, and electrical cables due to their high conductivity, lightweight properties, and cost-effectiveness compared to copper. Historically, growth has been driven by government-led electrification programs, rural power distribution schemes, and rapid urbanization that expanded the electricity demand base. Initiatives such as the Deendayal Upadhyaya Gram Jyoti Yojana and Saubhagya scheme enhanced rural connectivity, thereby boosting aluminium conductor consumption.

In the future, demand is expected to accelerate further with significant investments in renewable energy, grid modernization, and the expansion of high-voltage transmission infrastructure to integrate solar and wind power. The government's focus on 24x7 reliable electricity and reducing transmission losses is likely to strengthen aluminium's role, given its favorable strength-to-weight ratio for long-span power lines. With renewable energy capacity expected to cross 500 GW by 2030, aluminium wire rods will remain indispensable in power evacuation and distribution infrastructure. Additionally, increasing use of energy-efficient cables and the substitution of copper in many electrical applications will further drive sustained demand growth in this segment. The segment is expected to grow at a CAGR of 4.7% from FY26-FY30.

Construction and Infrastructure

In the construction and infrastructure sector, aluminium wire rods are extensively used for building wiring, power cables in residential and commercial complexes, and in large-scale infrastructure projects such as metro rail systems, airports, and smart cities. Their corrosion resistance, durability, and cost advantage make them a preferred choice in harsh construction environments and high-load wiring systems. Historically, demand has grown steadily, driven by urbanization, affordable housing projects, and rising investments in transport and public infrastructure. The boom in real estate development, particularly in Tier-II and Tier-III cities, has significantly supported growth.

Looking ahead, government initiatives like Housing for All, Smart Cities Mission, and increasing infrastructure spending under Gati Shakti and Bharatmala will act as strong catalysts. Furthermore, rising adoption of energy-efficient buildings and green construction practices favors aluminium-based solutions due to their recyclability and sustainability. The emphasis on expanding metro rail networks and modernizing airports will also boost demand for durable electrical wiring and cabling solutions. As infrastructure spending is projected to grow at double-digit rates through FY30, aluminium wire rods are poised to experience robust demand growth in this segment, firmly anchored by India's ongoing urban transformation. The segment is expected to grow at a CAGR of 11.1% from FY26-FY30.

Automobile and Transport

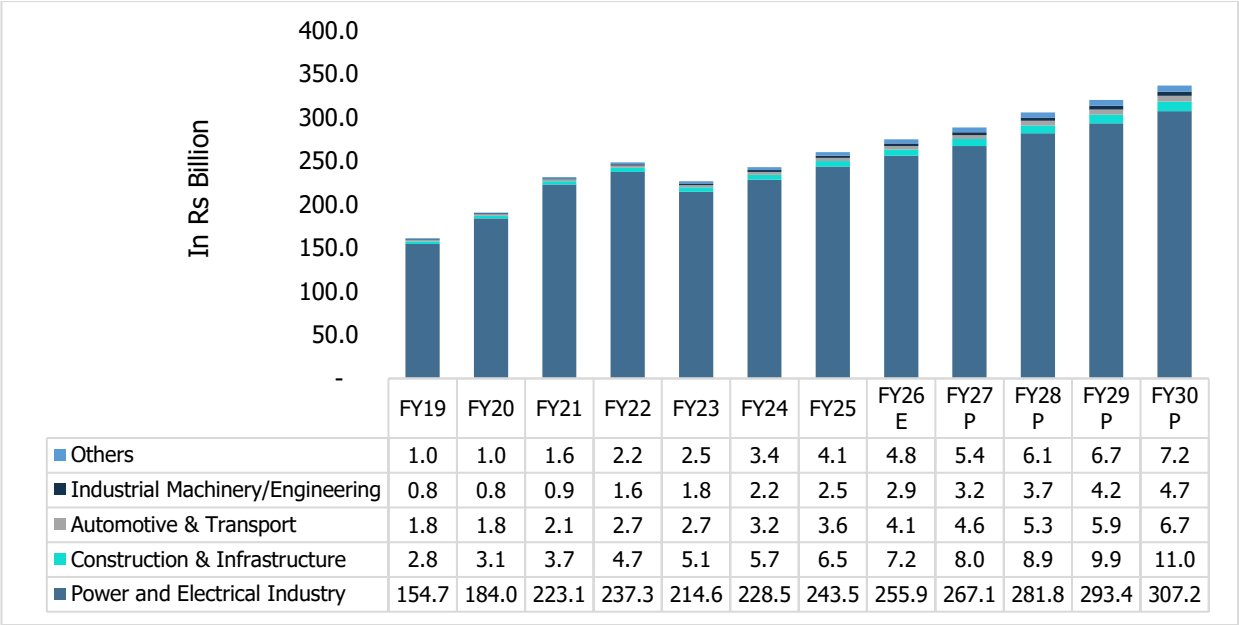
The automobile and transport industry is an emerging but increasingly significant consumer of aluminium wire rods, primarily for automobile wiring harnesses, battery cables, and electrical systems in vehicles. Aluminium's lightweight properties and cost competitiveness make it a suitable alternative to copper, helping manufacturers meet fuel efficiency and emission standards. Historically, growth has been moderate, with aluminium adoption gaining traction only in recent years as automakers sought to reduce vehicle weight and production costs. However, the rapid shift towards electric vehicles (EVs) is expected to be a major growth driver. EVs require extensive cabling for battery management systems, charging infrastructure, and lightweight conductors to offset heavy battery weights, making aluminium wire rods highly attractive. Government incentives for EV manufacturing, expansion of charging networks, and the target of achieving 30% EV penetration by 2030 in India are expected to significantly boost demand. In addition, the broader transport sector including railways and metro projects is adopting aluminium-based wiring solutions for enhanced efficiency and cost savings. With India becoming a key automobile manufacturing hub under the Make in India initiative, aluminium wire rod consumption in this sector is projected to expand strongly, driven by both domestic vehicle production and export-oriented growth. The segment is expected to grow at a CAGR of 12.8% from FY26-FY30.

Industrial Machinery/Engineering

The industrial machinery and engineering sector uses aluminium wire rods in manufacturing motors, transformers, generators, and a wide range of industrial electrical equipment. Aluminium's high conductivity, lightweight nature, and recyclability make it suitable for winding wires, busbars, and heavy-duty cables in industrial setups. Historically, growth has been tied to industrialization and rising capital expenditure in manufacturing and heavy industries, particularly in sectors such as textiles, cement, mining, and process industries. Demand also benefited from the steady expansion of small and medium enterprises (SMEs) that required electrical equipment for operations.

Looking forward, India's strong emphasis on industrial growth under the "Make in India" initiative, coupled with the rollout of Production Linked Incentive (PLI) schemes across sectors like electronics, renewables, and semiconductors, is expected to drive substantial machinery demand. Additionally, the ongoing push toward automation, robotics, and Industry 4.0 will increase requirements for motors and high-performance electrical equipment, further strengthening aluminium wire rod demand. Energy transition investments, particularly in renewable energy equipment manufacturing, will also act as a key driver. With industrial expansion projected to accelerate over the next decade, aluminium wire rods are set to witness robust consumption in the machinery and engineering space. The segment is expected to grow at a CAGR of 13% from FY26-FY30.

Chart 57: Market Size of Aluminium Wire Rods, By End-User Industry



	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26 E	FY27 P	FY28 P	FY29 P	FY30 P
Others	1.0	1.0	1.6	2.2	2.5	3.4	4.1	4.8	5.4	6.1	6.7	7.2
Industrial Machinery/Engineering	0.8	0.8	0.9	1.6	1.8	2.2	2.5	2.9	3.2	3.7	4.2	4.7
Automotive & Transport	1.8	1.8	2.1	2.7	2.7	3.2	3.6	4.1	4.6	5.3	5.9	6.7
Construction & Infrastructure	2.8	3.1	3.7	4.7	5.1	5.7	6.5	7.2	8.0	8.9	9.9	11.0
Power and Electrical Industry	154.7	184.0	223.1	237.3	214.6	228.5	243.5	255.9	267.1	281.8	293.4	307.2

Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.1.5 Key Demand Drivers

- **Electrification and Grid Expansion**
    - India's electricity transmission network is undergoing continuous expansion to meet rising demand and integrate renewable energy sources.
    - Aluminum wire rods are the primary input for overhead conductors due to their favorable conductivity-to-weight ratio and cost efficiency.
    - Government-led programs such as Saubhagya and Revamped Distribution Sector Scheme (RDSS) create sustained demand for transmission-grade aluminum products.

- **Substitution of Copper in Electrical Applications**
    - Aluminum offers a cost-effective alternative to copper in low- and medium-voltage applications.
    - The substitution is driven by price arbitrage, availability, and acceptable performance in non-critical applications.
- **Growth in Automobile and Rail Electrification**
    - Increasing electrification of vehicles and rolling stock requires extensive wiring harnesses, connectors, and busbars, many of which use aluminum wire rods.
    - Lightweighting imperatives in transport sectors further support aluminum adoption.
- **Urban Infrastructure and Smart Cities**
    - Urban expansion and smart city projects involve large-scale deployment of electrical infrastructure, including underground and overhead cabling.

5.10.1.6 Key Challenges

- **Raw Material and Energy Cost Volatility**
    - Aluminum production is energy-intensive; fluctuations in power tariffs and alumina prices directly impact cost structures.
    - Producers face margin compression during periods of input price inflation.
- **Technical Standards and Quality Assurance**
    - Transmission-grade wire rods must meet stringent specifications (e.g., tensile strength, elongation, conductivity).
    - Non-compliance can lead to rejection by utilities and EPC contractors, affecting reputation and revenue.
- **Cyclicality of Infrastructure Spending**
    - Demand is closely tied to public sector investment cycles; delays in project execution or budgetary constraints can lead to demand volatility.
- **Recycling and Scrap Management**
    - Efficient scrap recovery and reprocessing are essential for cost competitiveness and environmental compliance.
    - Lack of organized scrap collection infrastructure poses operational challenges.

5.10.2 Alloy Steel

5.10.2.1 Overview

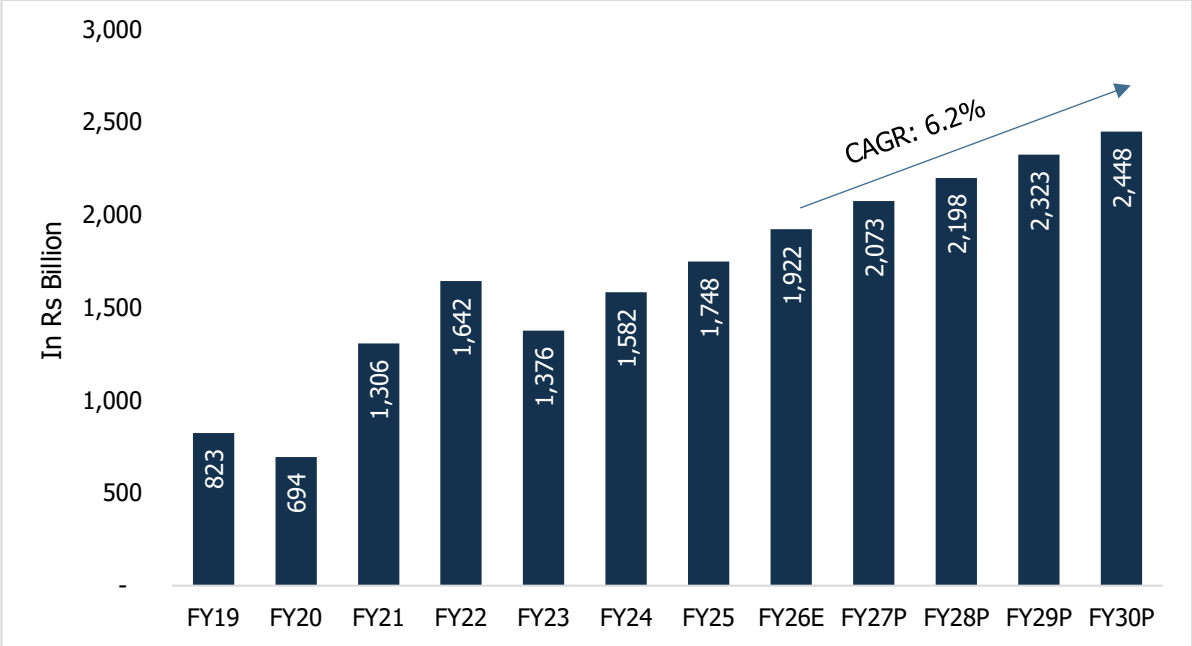
Alloy steels are carbon steels blended with significant alloying elements (e.g. chromium, nickel, vanadium) to improve strength, hardness, toughness and corrosion resistance. In India, alloy steel is produced by melting pig iron and scrap in basic oxygen furnaces or electric-arc furnaces, with precise addition of alloys in secondary metallurgical processes. Leading producers operate integrated mills or specialized units where ladle refining and vacuum degassing ensure quality. The steel is cast into blooms, blooms or wire rods, then rolled or forged into products. Alloy steel products include bars,

rods, forgings and plates for high-stress applications. Key applications are in sectors demanding high-performance steel: automobile components, defence hardware, aerospace structures, heavy engineering and railways.

5.10.2.2 Production

Alloy-steel output in India has grown modestly historically, reflecting overall steel expansion. Capacity addition has been driven by large steel mills upgrading their melt shops to produce higher-grade alloys. A major government initiative is the Production Linked Incentive (PLI) scheme for specialty steel (launched July 2021), which has already attracted committed investment of ~Rs 27,100 crore and will add roughly 23.8 million tonnes of specialty steel capacity (across all categories). Many alloy grades fall under this scheme, so local production is expected to rise. On the policy side, India's Steel Quality Control Order now covers alloy steel (mandating BIS standards for ~151 grades). Anti-dumping and safeguard measures have also supported output: for instance, a temporary 12% import duty on certain alloy wire rods was imposed in 2025 to shield domestic producers. These efforts have prompted expansions (such as new furnaces at JSW and Tata plants) that have steadily raised alloy steel production. Looking ahead, continued industrial investment and PLI incentives should further boost domestic alloy-steel output in line with national steel-policy targets.

Chart 58: Production of Alloy Steel

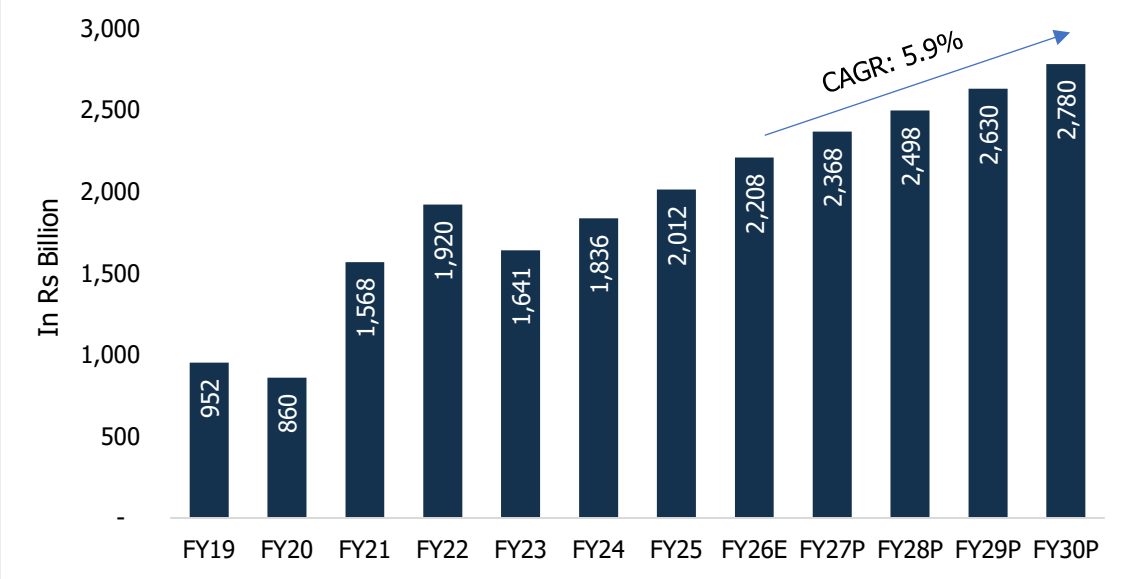


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.2.3 Consumption

Domestic consumption of alloy steel in has been driven by the auto, defence and infrastructure sectors. Alloy steel is used extensively in engines, drive trains and safety components. Defence modernization programs (ships, aircraft, missiles) have also lifted demand for high-grade alloys. On the infrastructure side, projects in railways (tracks, bridges), urban mass-transit, and highways require alloy steel for rails, structural supports and pipelines. Looking ahead, government investments will support demand growth: the PM Gati-Shakti plan explicitly targets railways, defence and highways to stimulate steel use. Make in India initiatives in defence and aerospace will shift more alloy-steel demand to domestic mills. Meanwhile, growth of renewable energy and transport will also expand consumption. Alloy steel is essential for automobile, defence and aerospace sectors, and with government emphasis on domestic procurement, the alloy-steel market is expected to grow hand-in-hand with these strategic industries.

Chart 59: Consumption of Alloy Steel



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.2.4 Market Size, By End-User Industry

End-User Industry	Major Alloy Steel Applications	Specific Components / Products
Automobile and Transport	Manufacturing of critical moving, structural, and load-bearing vehicle components	Crankshafts, camshafts, gears, axles, drive shafts, connecting rods, suspension parts, steering components, bearings, transmission systems, railway wheels, bogies, couplers, truck chassis, leaf springs
Industrial Machinery / Engineering	Manufacturing of industrial machinery, capital goods, and precision engineering equipment	Machine tools, industrial gears, compressors, pumps, turbines, hydraulic systems, bearings, shafts, rollers, forgings, heavy engineering equipment, material handling equipment
Oil, Gas, and Energy	High-pressure, high-temperature, and corrosion-resistant applications in energy infrastructure	Drill pipes, casing pipes, tubing, valves, flanges, refinery equipment, boilers, turbines, pressure vessels, heat exchangers, steam pipelines, LNG infrastructure components, offshore platforms
Construction and Infrastructure	Structural and heavy engineering applications in buildings and infrastructure projects	High-strength rebars, structural beams, bridge components, industrial structures, fasteners, transmission towers, seismic-resistant structures, water transmission pipelines, metro and railway infrastructure components

Alloy steel, produced by adding elements such as chromium, molybdenum, nickel, and vanadium to carbon steel, is widely used across industries due to its superior strength, toughness, and resistance to wear and extreme conditions. In the **automobile and transport** sector, it is used in critical components such as crankshafts, gears, axles, and suspension systems, where durability and fatigue resistance are essential, including applications in railways and electric vehicles. In **industrial machinery and engineering**, alloy steel is preferred for manufacturing machine tools, shafts,

rollers, and heavy equipment used in mining, cement, and manufacturing industries, owing to its ability to withstand high stress and abrasive environments. In the **oil, gas, and energy** sector, it plays a crucial role in pipelines, drilling equipment, pressure vessels, and turbines, where resistance to high pressure, temperature, and corrosion is vital, including applications in renewable energy like wind turbines. In **construction and infrastructure**, alloy steel is used in bridges, high-rise buildings, industrial structures, and reinforcement applications, offering high load-bearing capacity and durability, especially in critical and long-life infrastructure projects. Overall, alloy steel serves as a key material enabling performance, safety, and longevity across diverse and demanding end-use industries.

Automobile and Transport

The automobile and transport sector is the largest consumer of alloy steel, leveraging its high strength, durability, and resistance to wear and fatigue. Alloy steels are widely used in engine components, transmission systems, gears, axles, crankshafts, suspension parts, and body structures. The material's ability to withstand stress and temperature variations makes it essential for both passenger and commercial vehicles. Historically, demand growth has been fueled by rising vehicle ownership, urbanization, and India's emergence as a global automobile hub. The shift toward lightweighting to improve fuel efficiency has also supported alloy steel's use in critical safety and performance components. Looking ahead, rapid growth in electric vehicles (EVs) will create new demand for specialized alloy steels in e-motors, drivetrains, and battery casings. Government policies like FAME II, PLI schemes for auto and advanced chemistry cells, and expanding export opportunities will further boost alloy steel consumption. Railways, metro projects, and heavy trucks will continue to drive demand for high-performance steels, with India's focus on becoming a global automobile manufacturing and export base cementing long-term growth. The segment is expected to grow at a CAGR of 6.1% from FY26-FY30.

Industrial Machinery/Engineering

Alloy steel plays a pivotal role in the industrial machinery and engineering sector, where it is used in tools, dies, turbines, pressure vessels, mining equipment, and heavy-duty machinery. Its strength, hardness, and resistance to wear and high pressure make it indispensable for manufacturing equipment that must withstand tough operating conditions. Historically, demand has been linked to industrial growth, with sectors like cement, mining, textiles, and capital goods driving steady consumption. Alloy steels also support precision tools and cutting instruments, which are critical for engineering applications. In the future, India's push toward industrial modernization and automation under Make in India and Industry 4.0 will significantly increase demand for high-performance alloy steels. The government's PLI schemes in electronics, semiconductors, and renewable energy equipment are expected to generate downstream opportunities for industrial machinery, directly driving steel requirements. Additionally, rising demand for machine tools and robotics in both MSMEs and large industries will further support growth. With India positioning itself as a global engineering and manufacturing hub, alloy steel demand in this sector is projected to expand strongly, supported by sustained investment in capital goods and heavy industry infrastructure. The segment is expected to grow at a CAGR of 6% from FY26-FY30.

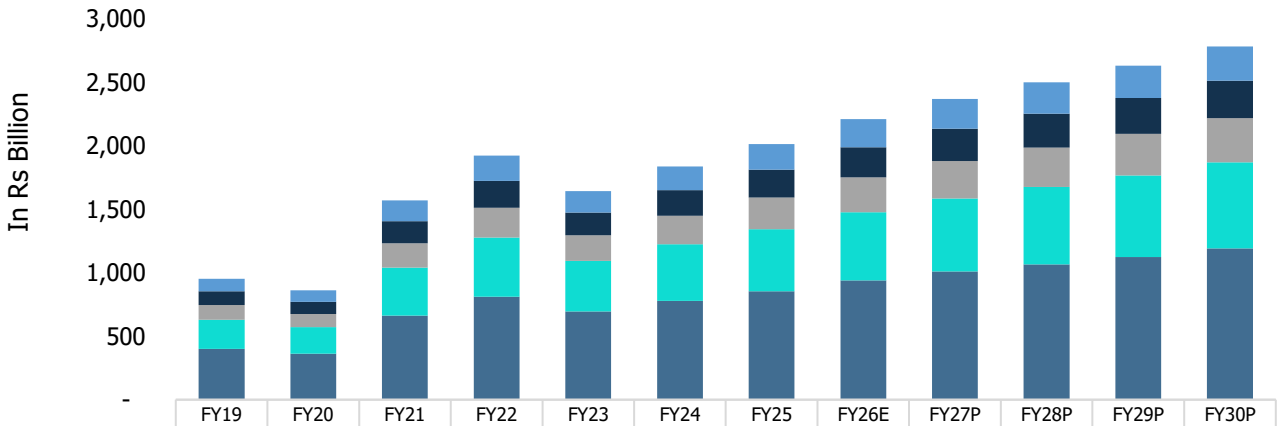
Oil, Gas, and Energy

The oil, gas, and energy sector relies heavily on alloy steel for pipelines, drilling rigs, offshore platforms, refineries, boilers, and turbines. Its corrosion resistance, ability to withstand high pressure, and durability in extreme environments make it ideal for hydrocarbon exploration, processing, and power generation. Historically, alloy steel demand has been driven by investments in refineries, pipeline expansions, and exploration projects by public sector undertakings like ONGC, IOCL, and GAIL. The growing focus on self-reliance in energy and infrastructure development has also supported alloy steel's use in critical equipment manufacturing. Looking forward, India's plans to expand natural gas pipeline networks, invest in LNG terminals, and enhance refining capacity will drive strong demand for alloy steel. The energy transition is also creating opportunities, as alloy steels are vital for renewable energy applications such as wind turbine shafts, hydro equipment, and thermal power plants. Rising private investment in solar and wind projects, combined with government initiatives to raise the share of natural gas in India's energy mix, will further support growth. As the oil, gas, and energy sector modernizes and expands capacity, alloy steel will remain a critical enabler of efficiency, reliability, and safety in operations. The segment is expected to grow at a CAGR of 6.2% from FY26-FY30.

Construction and Infrastructure

In the construction and infrastructure sector, alloy steel is used in bridges, high-rise buildings, metro rail projects, industrial plants, and specialized infrastructure requiring superior strength and resilience. Its high load-bearing capacity, wear resistance, and ability to endure stress make it a preferred material for demanding structural applications. Historically, demand has been fueled by rapid urbanization, government-led infrastructure expansion, and mega projects such as metro rail, airports, and highways. The development of industrial corridors and smart cities has further boosted alloy steel consumption. In the future, the government's focus on infrastructure spending under the National Infrastructure Pipeline (NIP), Bharatmala, and Gati Shakti is expected to accelerate demand. Alloy steels will also see rising use in earthquake-resistant construction and in long-span bridges requiring high strength-to-weight ratios. Additionally, private investment in commercial real estate and high-rise residential complexes will create sustained demand. With increasing infrastructure spending in India, alloy steel will be integral to delivering safe, durable, and modern structures. This segment is poised for consistent growth, supported by the dual push of government spending and urban development initiatives. The segment is expected to grow at a CAGR of 5.3% from FY26-FY30.

Chart 60: Market Size of Alloy Steel, By End-User Industry



	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26E	FY27P	FY28P	FY29P	FY30P
Others	99	89	162	197	167	186	202	220	235	246	257	269
Construction & Infrastructure	107	96	174	212	181	201	219	239	255	267	280	294
Oil, Gas & Energy	115	105	191	235	201	226	248	273	294	311	328	348
Industrial Machinery/Engineering	229	208	379	464	397	445	488	536	576	608	641	678
Automotive & Transport	401	363	662	812	695	778	854	939	1,009	1,066	1,124	1,190

Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.2.5 Key Demand Drivers

- **Automobile and Engineering Components**
  - Alloy steel is used in critical components such as crankshafts, gears, axles, and fasteners due to its superior mechanical properties.
  - Growth in domestic vehicle production and aftermarket demand supports steady consumption.
- **Capital Goods and Industrial Machinery**
  - India's push for manufacturing self-reliance (e.g., under the Production Linked Incentive schemes) drives demand for alloy steel in machine tools, compressors, and heavy equipment.
- **Defense and Aerospace Applications**
  - Alloy steels with specific strength-to-weight ratios and fatigue resistance are essential for defense-grade components.

- Indigenous defense manufacturing programs create long-term demand visibility.

- **Railways and Metro Projects**
  - Expansion of metro rail networks and modernization of Indian Railways require alloy steel for bogies, wheels, and couplers.

5.10.2.6 Key Challenges

- **Dependence on Imported Alloying Elements**
  - Critical inputs such as chromium, nickel, and molybdenum are largely imported, exposing producers to global supply chain risks and forex volatility.
- **Process Complexity and Capital Intensity**
  - Alloy steel production involves controlled melting, refining, and heat treatment processes.
  - High capital investment and technical expertise are required to maintain consistency and meet customer specifications.
- **Environmental and Regulatory Compliance**
  - Emission norms, effluent treatment, and solid waste disposal regulations require continuous investment in pollution control technologies.
- **Global Competition and Dumping Risks**
  - Indian producers face competition from low-cost imports, particularly from countries with excess capacity and export subsidies.
  - Anti-dumping duties and safeguard measures are periodically reviewed, creating policy uncertainty.

5.10.3 Special Steel

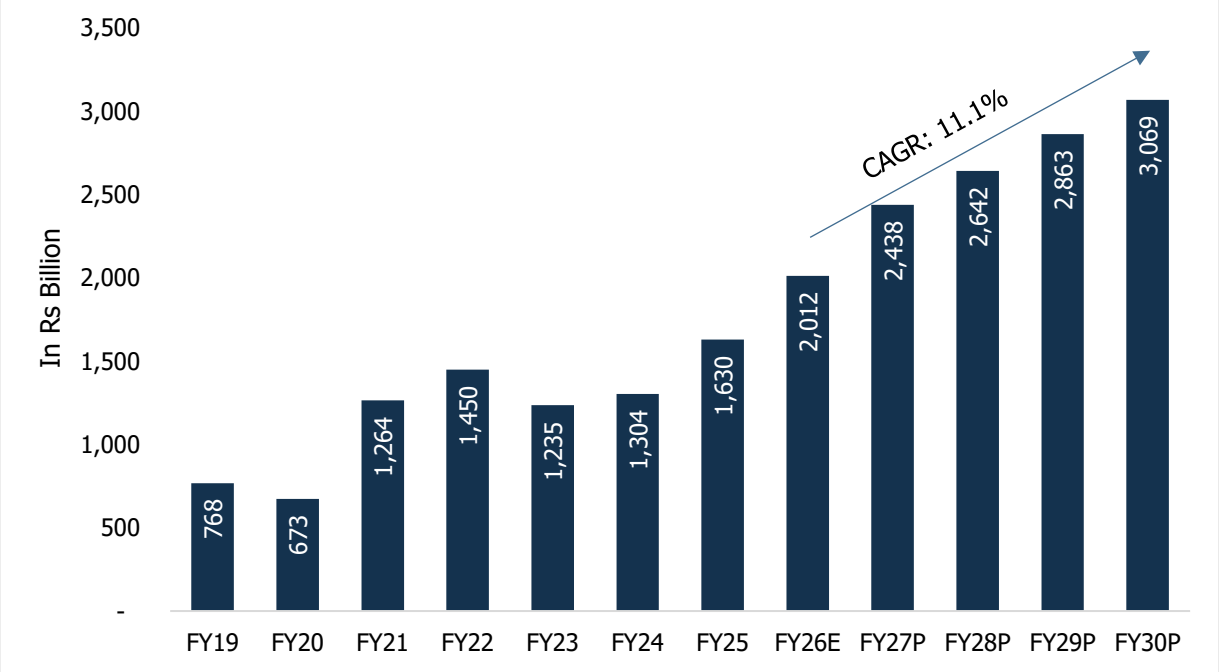
5.10.3.1 Overview

Special steels (often termed as "specialty" steel) are high-performance steels engineered for exacting applications. This category encompasses alloy steels, SSs, tool steels, high-speed steels and high-strength low-alloy (HSLA) grades. They are produced under tight process control (in vacuum induction/arc furnaces, refined ladles, and specialized heat treatments) to achieve precise chemistry and microstructure. Special steels find key uses in defence systems (naval vessels, armaments), aerospace (airframes, landing gear), oil & gas (pipeline and downhole components), nuclear/thermal power plants, rail and metro coaches, and advanced manufacturing tools. The construction and infrastructure sector is also a major user, often requiring stainless or wear-resistant grades.

5.10.3.2 Production

India's special steel production has accelerated under recent policies. The Government's Production Linked Incentive (PLI) Scheme for Specialty Steel, launched in July 2021 with an outlay of Rs 6,322 crore, aims to promote domestic production of value-added specialty steel. Following the launch of PLI Scheme 1.1 (second round) in January 2025 with revised eligibility criteria, 42 MoUs were signed with 25 companies. The approved projects are expected to attract investment commitments of approximately Rs 29,530 crore. To ensure quality, the Steel Ministry's Quality Control Order (QCO) enforces BIS standards on alloy and SSs. Combined with the National Steel Policy target of 300 MTPA by 2030, these moves signal rapid growth in India's special steel manufacturing capacity. Domestic output of high-grade steel is thus expected to climb significantly in the late 2020s.

Chart 61: Production of Special Steel

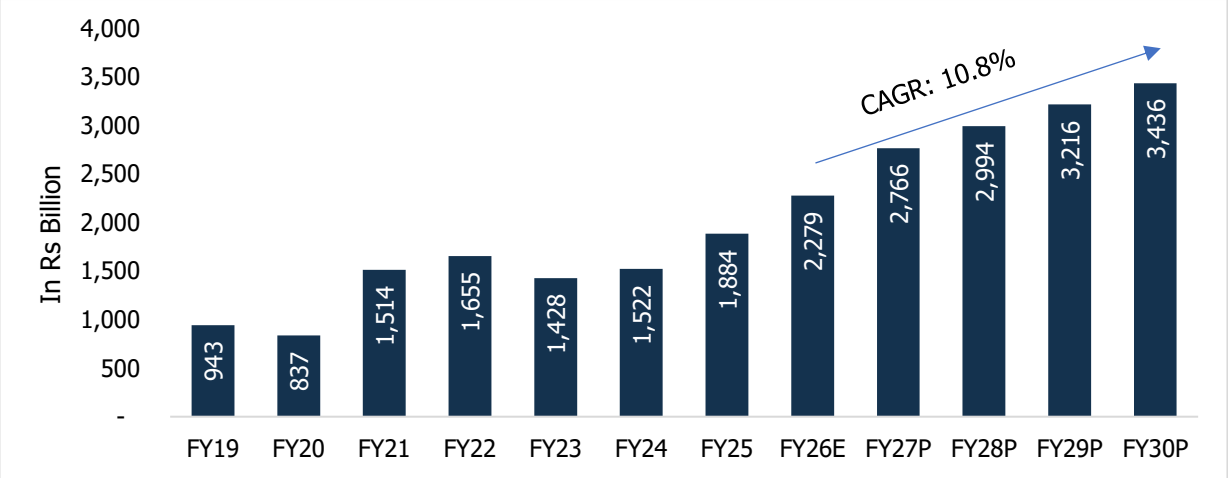


Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.3.3 Consumption

Demand for special steel in India has been rising in recent years and is forecast to keep growing through FY30, reaching Rs 3,436 billion by FY30. A key driver is infrastructure development: government spending under the National Infrastructure Pipeline (in energy, roads, urban projects and railways) fuels demand for high-quality steel. Housing and water projects (Jal Jeevan) also require stainless and corrosion-resistant alloys. The automobile and aerospace industries are additional growth engines: with auto production projected to expand, lightweight and corrosion-resistant steel grades are increasingly used in vehicles. Importantly, the defence sector is projected to be a major consumer of special alloys. India's armed forces and Defence Research and Development Organisation (DRDO) have emphasized the need to meet special-steel requirements indigenously. Government programs like Make in India for defense and the PM Gati-Shakti plan should significantly boost domestic special steel consumption.

Chart 62: Consumption of Special Steel



Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.3.4 Market Size, By End-User Industry

Automobile and Transport

The automobile and transport sector represents the largest consumer of special steel in India, with applications across engine components, transmission systems, drive shafts, gears, suspension, and safety-critical parts. Special steel grades are valued for their superior mechanical properties, fatigue resistance, and ability to endure extreme operating conditions. Historically, growth in passenger and commercial vehicles, coupled with the modernization of railways and the introduction of metro networks, has underpinned demand. Rising vehicle ownership, government incentives for manufacturing under schemes like PLI for automobiles, and India's emergence as a global hub for auto components have further strengthened market size. Looking ahead, the transition toward electric mobility is expected to be a major driver. Electric vehicles (EVs) require specialized steels for battery enclosures, electric motors, and lightweight yet durable components. Additionally, expansion in freight corridors, high-speed rail projects, and rising exports of auto parts will continue to boost demand. By FY30, automobile and transport is projected to remain the dominant end-user of special steel, supported by policy, technology adoption, and strong domestic and export markets. The segment is expected to grow at a CAGR of 11.6% from FY26-FY30.

Industrial Machinery/Engineering

Special steel plays a critical role in India's industrial machinery and engineering sector, where it is used for manufacturing tools, dies, turbines, precision equipment, mining machinery, and heavy-duty engineering components. The material's ability to withstand high wear, stress, and corrosive environments makes it indispensable in capital goods and heavy engineering. Historically, industrial growth in sectors like cement, mining, textiles, and machine tools has driven demand. India's engineering exports, especially to emerging markets, have also supported consumption. With the government's push through the National Capital Goods Policy, Make in India, and PLI schemes for key manufacturing sectors, the requirement for high-grade, durable steels has risen. Going forward, automation, robotics, and advanced manufacturing will increase reliance on precision steels. Infrastructure and renewable energy expansion will also boost demand for turbines, boilers, and power plant equipment. As India positions itself as a global hub for engineering goods, special steel consumption in this segment will grow steadily, fueled by domestic modernization and export opportunities. The segment is expected to grow at a CAGR of 11.5% from FY26-FY30.

Power and Electrical Industry

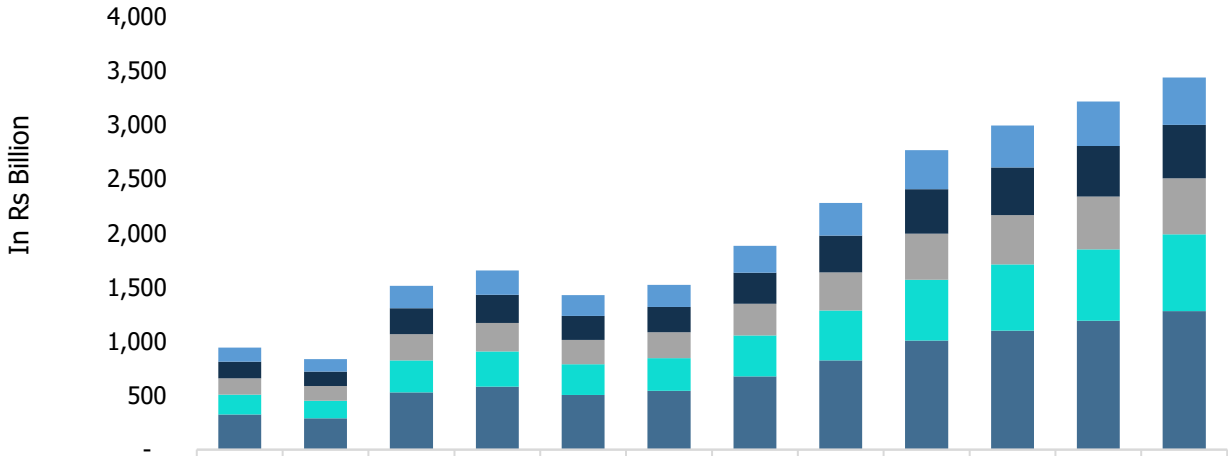
The power and electrical industry has historically consumed significant volumes of special steel due to its critical role in high-temperature and high-pressure applications. Boilers, turbines, rotors, transformers, electrical laminations, and

structural components rely on heat- and corrosion-resistant steels. Growth has been shaped by investments in conventional power plants, expansion of transmission and distribution (T&D) networks, and renewable energy additions. With India's energy demand rising consistently, the sector is a strong driver of special steel consumption. Going forward, the transition to clean energy will present new opportunities. Special steels will see growing use in wind turbine shafts, hydro equipment, and structural parts for solar power plants. The government's ambitious renewable energy target of 500 GW by 2030, coupled with grid modernization and smart metering, will amplify demand. Additionally, nuclear energy and hydrogen projects are expected to drive requirements for specialized grades. With both conventional and renewable power expanding, special steel will remain a strategic material for the sector, ensuring efficiency and durability in mission-critical applications. The segment is expected to grow at a CAGR of 10.1% from FY26-FY30.

Construction and Infrastructure

Construction and infrastructure is another major consumer of special steel in India, with applications in bridges, high-rise buildings, airports, metro rail, and industrial plants. Special steel's high strength, toughness, and resistance to wear make it suitable for long-span and safety-critical structures. Historically, large public investments in highways, metro rail, airports, and industrial corridors have supported demand. Rapid urbanization, coupled with the government's push through the National Infrastructure Pipeline (NIP) and Smart Cities Mission, has further accelerated growth. Looking ahead, the sector will remain a vital growth avenue for special steel. Upcoming mega projects like Bharatmala highways, Dedicated Freight Corridors, industrial parks, and urban mass transit systems will significantly boost consumption. Increasing adoption of earthquake-resistant and long-life materials will also favor the use of high-performance steels. Private sector participation in real estate, industrial zones, and warehousing will add further momentum. With infrastructure investment projected to remain a cornerstone of India's growth strategy, special steel demand from this segment is set to expand robustly through FY30, supported by both public and private capital expenditure. The segment is expected to grow at a CAGR of 9.6% from FY26-FY30.

Chart 63: Market Size of Special Steel, By End-User Industry



	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26E	FY27P	FY28P	FY29P	FY30P
Others	131	116	208	226	193	204	251	300	361	387	412	435
Construction & Infrastructure	153	134	240	260	222	234	286	342	411	440	468	494
Power and Electrical Industry	152	134	241	262	224	238	292	351	424	456	487	517
Industrial Machinery/Engineering	182	162	296	325	282	303	377	459	561	611	660	709
Automotive & Transport	325	291	530	583	507	544	678	825	1,009	1,100	1,190	1,280

Source: Cervicorn Consulting, CareEdge Research; Note: E-Estimate, P-Projection

5.10.3.5 Key Demand Drivers

- **Precision Tooling and Engineering Applications**
    - Special steels are used in dies, molds, cutting tools, and wear-resistant components across sectors such as automobile, electronics, and consumer durables.
    - Growth in precision manufacturing and tooling demand supports consumption.
- **Energy Sector Requirements**
    - Oil & gas, thermal power, and nuclear energy sectors require corrosion-resistant and high-strength steels for turbines, reactors, and pipelines.
    - These applications demand strict adherence to metallurgical specifications.
- **Export-Oriented Manufacturing**
    - Indian producers supplying to global OEMs must meet international standards (e.g., ASTM, DIN, JIS), creating demand for high-grade special steels.
    - Growth in exports of engineering goods and auto components supports this segment.
- **Defense Indigenization and Strategic Programs**
    - Special steels are used in missile casings, naval platforms, and armored vehicles.
    - Government programs such as "Make in India" and "Atmanirbhar Bharat" promote domestic sourcing of strategic materials.

5.10.3.6 Key Challenges

- **Stringent Quality and Certification Requirements**
    - Special steel applications often require third-party certifications, non-destructive testing, and traceability.
    - Failure to meet these standards can result in disqualification from high-value contracts.
- **Limited Domestic Availability of Specialty Inputs**
    - High-purity ferroalloys and rare additives are not widely produced in India, leading to import dependence and supply chain vulnerability.
- **Fragmented and Customized Demand**
    - Unlike commodity steel, special steel demand is often project-specific and low-volume, requiring flexible production planning and inventory management.
- **High Entry Barriers**
    - New entrants face challenges in acquiring technical know-how, customer approvals, and process certifications.
    - Long gestation periods and high working capital requirements limit scalability.

6 Threats and Challenges for the Issuer Company and its Products

- **Exposure to Raw Material Price Volatility:** Fluctuations in prices of key raw materials such as stainless steel scrap, nickel, chromium, ferro alloys, and aluminium may adversely impact operating margins and profitability.
- **Working Capital Intensive Operations:** The business requires significant investment in inventory and receivables, which may result in higher dependence on working capital financing and increased liquidity pressure.
- **Moderate Export Contribution:** Limited geographical diversification in exports may increase dependence on domestic market demand and expose the Company to regional economic slowdowns.
- **Execution Risk in Capacity Expansion:** Delays or cost overruns associated with proposed greenfield expansion and capacity enhancement projects may impact operational and financial performance.
- **Technology & Product Upgradation Requirements:** Continuous investment in advanced manufacturing processes and product innovation is necessary to remain competitive in the specialty metals segment.
- **Competitive Pricing Pressure:** Intense competition from organized domestic and international manufacturers may limit pricing flexibility and impact margins.

7 Competitive Benchmarking

7.1 Brief Profile of Peers

Listed Players

Mukand Limited

Mukand Limited is one of India's leading manufacturers of specialty alloy steel, stainless steel long products and heavy engineering equipment. Established in 1937 and a part of the Bajaj Group, the company operates integrated manufacturing facilities at Hospet, Karnataka and Thane, Maharashtra. Its steel portfolio includes alloy steel, stainless steel, wire rods, bars and bright bars catering primarily to the automobile, engineering, railways, defence and capital goods sectors. In addition to steel manufacturing, Mukand has a well-established industrial machinery division engaged in the design, manufacture and commissioning of cranes, bulk material handling systems and process plant equipment. The company has also entered into strategic joint ventures with Sumitomo Corporation, Japan, for manufacturing and marketing value-added steel products.

Mangalam Worldwide Limited

Mangalam Worldwide Limited is a fully integrated specialty stainless steel manufacturer headquartered in Ahmedabad, Gujarat. Backed by a legacy of over eight decades, the company operates manufacturing facilities at Halol, Changodar and Kapadvanj with integrated operations covering melting, rolling, finishing and value-added processing. Under the brands "Mangalam Saarloh" and "Mangalam Tubicore", the company manufactures a broad portfolio of stainless steel long products, seamless and welded pipes and tubes, bright bars, blooms and engineered products across austenitic, ferritic, martensitic, duplex and high-alloy grades. With an annual manufacturing capacity of approximately 180,000 metric tonnes, the company caters to diverse industries including oil & gas, aerospace, power, engineering, medical devices and infrastructure. Its integrated manufacturing model enables greater quality control, product customization and supply chain efficiency, supporting both domestic and export markets.

Welspun Specialty Solutions Limited

Welspun Specialty Solutions Limited (WSSL) manufactures alloy steel, special steel and stainless steel products for critical industrial applications. The company operates an integrated manufacturing facility at Bharuch, Gujarat, comprising electric furnace-based steelmaking, secondary refining, continuous casting, block casting and precision rolling facilities. Its product portfolio includes hot rolled, heat-treated and peeled & polished bars serving sectors such as oil & gas, energy, automobile, engineering, defence, railways and nuclear power. The company operates a NABL-accredited testing laboratory and maintains internationally recognized quality certifications.

Bansal Wire Industries Limited

Bansal Wire Industries Limited is engaged in the manufacturing of steel wire and stainless steel wire products catering to diverse industrial applications. Incorporated in 1985, the company offers an extensive portfolio of over 3,000 stock keeping units (SKUs) across carbon steel, stainless steel and alloy steel wire products. Its products cater to a diversified customer base spanning automobile, infrastructure, general engineering, power and transmission, agriculture, consumer durables, hardware and auto replacement sectors. The company exports its products to more than 50 countries and operates multiple manufacturing facilities supported by internationally recognized quality certifications, including ISO 9001, ISO 14001 and IATF 16949. With a diversified customer base, a cost-plus pricing model and continuous capacity expansion, including development of a large integrated manufacturing facility at Dadri, the company has established a strong position in the domestic and global steel wire industry.

Unlisted Players

Chandan Steel Limited

Chandan Steel Limited is an integrated manufacturer of stainless steel long products, seamless tubes and pipes, forgings, wire rods and engineered components. Established with over four decades of industry experience, the company has evolved from a stainless steel trading business into a diversified manufacturer serving domestic and international markets. Its manufacturing facility at Umbergaon, Gujarat, is equipped with modern production infrastructure across steel melting, rolling, forging and finishing operations. The company has an installed production capacity of 60,000 metric tonnes per annum (MTPA) of blooms and hot rolled bars, 46,500 MTPA of precision bars and special profiles, 14,400 MTPA of flanges and fittings, and 6,000 MTPA of seamless tubes and pipes. Chandan Steel caters to industries including infrastructure, engineering, oil & gas, power and process industries, with an emphasis on quality, technological advancement and sustainable manufacturing practices.

Laxcon Steels Limited

Laxcon Steels Limited is an integrated stainless steel manufacturer engaged in the production of hot and cold finished stainless steel long products. Founded in 1978 and headquartered in Gujarat, the company operates four state-of-the-art manufacturing facilities with an aggregate production capacity exceeding 140,000 MTPA. Its product portfolio includes stainless steel bars, wire rods, bright bars, flats and customized special steel products catering to industries such as automobile, oil & gas, renewable energy, construction, pharmaceuticals, aerospace, railways, marine and defence. The company exports to more than 80 countries and emphasizes continuous technological upgradation, research and development, and stringent quality control. Supported by integrated manufacturing operations and an extensive distribution network, Laxcon has established a significant presence in both domestic and international stainless steel markets.

Ambica Steels Limited

Ambica Steels Limited is a manufacturer of specialty stainless steel and alloy steel products with over five decades of operating history. Incorporated in 1970, the company operates integrated manufacturing facilities equipped with electric melting furnaces, argon oxygen decarburization (AOD) refining, continuous casting, rolling mills and finishing lines. Its product portfolio comprises stainless steel blooms, wire rods, bright bars, black bars, flats, angles and customized engineering steel products across a wide range of stainless steel grades. Ambica primarily caters to sectors including automobile, oil & gas, petrochemicals, defence, railways, aerospace, nuclear energy and engineering. The company focuses on manufacturing high-quality value-added stainless steel products through continuous investments in technology, process modernization and quality assurance, enabling it to serve both domestic and export markets.

Jay Jagdamba Limited

Jay Jagdamba Limited is a manufacturer and exporter of stainless steel long and engineering products with integrated manufacturing facilities located in Maharashtra. The Company operates across four principal product segments comprising blocks and blooms, rolled and bright products, flanges, and seamless pipes. Its product portfolio includes stainless steel blooms, blocks, wire rods, hot rolled round bars, bright round bars, bright wires, flanges and seamless pipes catering to a wide range of industrial applications. The manufacturing facilities comprise integrated steel melting, rolling, bright bar and flange divisions, supported by a seamless pipe unit commissioned on a trial basis. The Company maintains quality management systems supported by certifications such as ISO 9001:2015 and other internationally recognized certifications. Jay Jagdamba serves customers across domestic and international markets, exporting its products to more than 50 countries across Europe, Asia, the Middle East, North America and South America. The Company focuses on manufacturing value-added stainless steel products for end-use industries including engineering, construction, energy, process industries and industrial manufacturing.

7.2 Financial Benchmarking

Table 13: Financial Benchmarking across Peers

FY24

Particulars	Units	Avtar Steel Limited	Mangalam Worldwide Limited	Welspun Specialty Solutions Limited	Mukand Limited	Bansal Wire Industries Limited
Revenue from Operations	(Rs Million)	11,026.43	8,181.08	6,966.70	51,748.10	24,660.31
Profit After Tax	(Rs Million)	203.94	229.77	624.70	1,038.50	752.43
Net Worth	(Rs Million)	934.57	1,803.81	926.40	9,047.80	4,223.70
PAT Margin	(%)	1.85%	2.81%	8.97%	2.01%	3.05%
EBITDA	(Rs Million)	512.54	381.56	558.30	2,919.90	1,444.00
EBITDA Margin	(%)	4.65%	4.66%	8.01%	5.64%	5.86%
Cash Profit	(Rs Million)	283.19	302.27	779.50	1,535.70	886.94
Net Debt	(Rs Million)	2,648.07	1,014.05	2,595.00	14,380.40	6,793.31
Debt Equity ratio	Times	2.81	0.56	2.79	1.65	1.61
Return on Capital Employed	(%)	13.89%	12.18%	19.41%	11.08%	11.76%
Return on Equity	(%)	24.28%	13.84%	102.03%	11.81%	20.89%
Inventory Days	Number of days	81	60	194	171	51
Debtor Days	Number of days	42	34	24	35	45
Creditor Days	Number of days	65	17	170	53	7
Cash Conversion Cycle	Number of days	58	77	48	153	90
Fixed Asset Turnover Ratio	Times	13.28	8.62	3.44	11.37	14.30
Debt/EBITDA	Times	5.17	2.67	4.65	5.10	4.72

FY25

Particulars	Units	Avtar Steel Limited	Mangalam Worldwide Limited	Welspun Specialty Solutions Limited	Mukand Limited	Bansal Wire Industries Limited
Revenue from Operations	(Rs Million)	11,128.17	10,607.09	7,237.20	48,899.90	35,071.68
Profit After Tax	(Rs Million)	370.29	295.26	-40.90	758.90	1,463.66
Net Worth	(Rs Million)	1,355.07	2,559.23	4,352.80	9,496.20	12,690.12

PAT Margin	(%)	3.33%	2.78%	-0.57%	1.55%	4.17%
EBITDA	(Rs Million)	831.25	547.31	307.90	2,842.30	2,664.21
EBITDA Margin	(%)	7.47%	5.16%	4.25%	5.81%	7.60%
Cash Profit	(Rs Million)	477.10	381.35	121.00	1,266.20	1,763.55
Net Debt	(Rs Million)	3,109.90	1,909.07	-512.10	15,376.90	6,063.50
Debt Equity ratio	Times	2.37	0.75	0.05	1.64	0.48
Return on Capital Employed	(%)	17.14%	11.16%	9.47%	9.98%	12.95%
Return on Equity	(%)	32.06%	13.51%	-1.55%	8.18%	17.10%
Inventory Days	Number of days	104	93	200	215	64
Debtor Days	Number of days	57	46	43	36	43
Creditor Days	Number of days	80	35	182	62	17
Cash Conversion Cycle	Number of days	81	104	61	189	91
Fixed Asset Turnover Ratio	Times	8.76	10.91	3.68	9.88	7.61
Debt/EBITDA	Times	3.90	3.49	0.68	5.49	2.28

FY26

Particulars	Units	Avtar Steel Limited	Mangalam Worldwide Limited	Welspun Specialty Solutions Limited	Mukand Limited	Bansal Wire Industries Limited
Revenue from Operations	(Rs Million)	12,633.41	12,079.81	8,862.00	48,898.30	41,597.86
Profit After Tax	(Rs Million)	591.45	501.43	226.70	6,041.50	1,609.42
Net Worth	(Rs Million)	1,945.48	2,996.94	4,567.30	15,223.30	14,306.71
PAT Margin	(%)	4.68%	4.15%	2.56%	12.36%	3.87%
EBITDA	(Rs Million)	1,129.85	908.34	468.90	1,710.30	3,101.43
EBITDA Margin	(%)	8.94%	7.52%	5.29%	3.50%	7.46%
Cash Profit	(Rs Million)	739.96	602.91	393.80	6,665.50	2,181.22
Net Debt	(Rs Million)	3,349.35	2,320.14	238.40	16,809.90	5,501.15
Debt Equity ratio	Times	1.71	0.78	0.08	1.11	0.39
Return on Capital Employed	(%)	20.74%	16.08%	10.52%	21.36%	13.25%
Return on Equity	(%)	35.49%	18.03%	5.09%	48.88%	11.92%
Inventory Days	Number of days	129	146	148	256	77
Debtor Days	Number of days	58	50	55	32	47

Creditor Days	Number of days	90	44	183	67	32
Cash Conversion Cycle	Number of days	98	151	20	220	92
Fixed Asset Turnover Ratio	Times	8.74	12.98	4.48	8.39	5.46
Debt/EBITDA	Times	2.97	2.56	0.75	9.92	1.78

Source: Company Annual Report and Financials; Note: Financial information is presented on a consolidated basis, wherever available.

Revenue from Operations

Avtar Steel reported revenue growth from Rs 11,026 million in FY24 to Rs 12,633 million in FY26, reflecting a steady expansion trajectory despite volatility in the stainless steel market. Revenue growth during the period compares favorably with certain peers such as Mukand Limited, whose revenue remained broadly flat over FY24-FY26, and Welspun Specialty Solutions Limited, which reported comparatively moderate growth. Bansal Wire Industries Limited recorded stronger revenue growth driven by capacity expansion and increasing penetration in value-added wire products, while Mangalam Worldwide Limited also demonstrated healthy growth supported by rising stainless steel product demand. The Company's growth indicates continued customer additions, product diversification and increasing market penetration in alloy and special steel products, notwithstanding fluctuations in raw material prices and end-user demand.

EBITDA and EBITDA Margin

Avtar Steel's EBITDA increased from Rs 512.54 million in FY24 to Rs 1,129.85 million in FY26, while EBITDA margins improved from 4.65% to 8.94%. The margin expansion was significantly higher than that observed in most comparable companies during the same period. While Mukand's EBITDA margins declined to 3.50% in FY26 and Welspun Specialty Solutions experienced margin pressure due to lower profitability and higher operating costs, Avtar Steel demonstrated consistent operating leverage and improved cost efficiency. Public disclosures of Welspun Specialty Solutions indicate that FY25 profitability was adversely impacted by higher finance costs and margin compression despite revenue growth. The improvement in Avtar Steel's operating performance may be attributable to an enhanced product mix, better capacity utilization and operational efficiencies, resulting in stronger earnings growth relative to revenue growth.

Profit After Tax and PAT Margin

The Company's PAT increased from Rs 203.94 million in FY24 to Rs 591.45 million in FY26, with PAT margins improving from 1.85% to 4.68%. Among the peer set, Avtar Steel demonstrated one of the strongest improvements in profitability margins. Although Mukand reported significantly higher PAT in FY26, public disclosures indicate that FY26 earnings included exceptional gains, which contributed materially to reported profitability. Welspun Specialty Solutions reported losses in FY25 following a decline in operating margins and an increase in finance costs. The Company's sustained PAT growth reflects strengthening operational performance and improving earnings quality over the period under review.

Cash Profit

Cash profit increased from Rs 283.19 million in FY24 to Rs 739.96 million in FY26, reflecting growth in operating profitability and internal accrual generation. The increase in cash profits strengthens the Company's ability to fund working capital requirements, capital expenditure and debt servicing obligations through internally generated resources. While larger peers generated higher absolute cash profits due to scale, Avtar Steel's growth rate in cash profit compares favorably with several peers.

Net Worth

Net worth increased from Rs 934.57 million in FY24 to Rs 1,945.48 million in FY26, representing more than a two-fold increase over the period. The increase was primarily driven by retention of profits and strengthening of the Company's capital base. Compared with peers, Avtar Steel demonstrated one of the strongest net worth growth trajectories, indicating effective value creation for shareholders and improved financial resilience.

Net Debt and Debt-Equity Ratio

Net debt increased from Rs 2,648.07 million in FY24 to Rs 3,349.35 million in FY26, reflecting ongoing funding requirements for growth and working capital. However, the debt-equity ratio improved significantly from 2.8x to 1.7x during the same period. The decline in leverage despite higher borrowings was driven by substantial growth in shareholders' funds. Compared to Mukand and Welspun Specialty Solutions, which have historically operated with relatively elevated leverage levels, Avtar Steel exhibited a meaningful improvement in capital structure during the period under review.

Return on Capital Employed (ROCE)

Avtar Steel reported ROCE of 13.9%, 17.1% and 20.7% in FY24, FY25 and FY26, respectively. The Company's ROCE remained substantially above most peers during the period, indicating efficient deployment of capital and strong operating profitability relative to invested capital. In FY26, Avtar Steel reported the highest ROCE among the peer set considered in this report.

Return on Equity (ROE)

Avtar Steel's ROE improved from 24.3% in FY24 to 35.5% in FY26, reflecting growth in profitability and efficient utilization of shareholders' funds. The Company's ROE compares favorably with most peers and remained consistently strong throughout the period. Although certain peers reported elevated ROE in isolated years due to exceptional gains or low equity bases, Avtar Steel's ROE performance reflects sustained earnings growth and improving shareholder returns.

8 Profiling of Avtar Steel Limited

8.1 Business Profile

Avtar Steel Limited ("ASL") is engaged in the manufacturing of stainless steel long products and wire products. ASL's registered and corporate office is located in Delhi, India. ASL has been engaged in the stainless steel business for over three decades since 1996.

ASL has integrated manufacturing capabilities across melting, refining, casting, rolling, finishing, wire rod manufacturing and testing, providing it with control over multiple stages of the manufacturing process and the flexibility to manufacture products across varied specifications. Its portfolio spans more than over 150 stainless steel grades and multiple product forms, including duplex, super duplex, lean duplex, ultra-low-phosphorus, ultra-low-cobalt, certain high-nickel and corrosion-resistant grades, together with the capability to manufacture SS blocks weighing up to 20 tonnes, enabling ASL to address diverse requirements relating to chemical composition, dimensions, surface characteristics, mechanical properties and large-format products. ASL also has technical capabilities to manufacture stainless steel and high-alloy grades, including ER 309LMO, ER 308LSI, ER 904L, ER 385 and Incoloy 825, intended for customers operating across specialised industrial applications. Its manufacturing processes enable control over chemical composition and phase balance, subject to applicable grade specifications and customer requirements.

ASL's product portfolio includes higher-grade stainless steel products, including certain 300-series electrode products. The selling prices and margins of such products are generally higher than those of commodity-grade products, although they may vary depending on product specifications, raw material and alloy content, order volumes, customer requirements, market conditions and competitive intensity.

ASL's manufacturing infrastructure comprises stainless steel melting capacity of 72,000 MTPA, wire rod manufacturing capacity of 120,000 MTPA and rolling and bright bar manufacturing capacity of 24,000 MTPA, supported by casting, heat treatment, finishing and testing facilities. Steel scrap constitutes ASL's principal metallic input, and ASL uses a combination of scrap, ferroalloys and controlled prime additions to achieve prescribed product compositions. Its raw material practices include the use of certain secondary metallic inputs, such as low-yield scrap, dust, fines and chips, where technically suitable, with certain categories of low-yield scrap providing indicative metallic recovery rates ranging from approximately 75% to 80%. ASL's wire rod and bar manufacturing infrastructure supports the production of wire rod coils through the garret and block routes and bars through the cooling-bed route.

ASL supplies products to customers across automotive, oil and gas, energy, engineering, construction, tubes and pipes, consumer appliances, kitchenware and other industrial applications. It serves customers across India, with a focus on northern and western markets, and exports products to markets including South Korea, the United Kingdom, Italy, Türkiye and Vietnam. ASL's manufacturing operations in Sonipat and New Delhi have access to industrial clusters, National Highway 44, rail freight infrastructure, the Inland Container Depot at Sonipat and port infrastructure used for international shipments.

Further, the proposed commissioning of Unit-I is intended to expand ASL's manufacturing capabilities to include alloy steel products in addition to stainless steel products, thereby broadening its integrated manufacturing capabilities. Separately, the Company's applications under the PLI Scheme 1.2 relate to two proposed capacity augmentation projects for eligible specialty steel products. In FY26, ASL reported the highest Return on Capital Employed ("ROCE") at 20.74% among the peer companies considered in this Report.

Product Portfolio, Specifications & End-Use Applications

Table 14: Service and Product Mix with End-Use Application Areas

Product Category	Key Specifications & Grades	End-Use Applications
SS Blooms & Blocks	Square & rectangular, ASTM/EN standards	Forging, wire rods, aerospace, auto, R&D
SS Bars (Round, Square, Hex)	5–125 mm, annealed, polished	Construction, automobile, machine components
SS Angles & Flats	20x20 to 65x65 mm; 25–300 mm width	Structural support, food & beverage, architecture
SS Wire Rods & Wires	5.5–34 mm; ER 308LSi grade, 904L (ER385) grade, ER309LMO grade	Welding electrodes, springs, oil & gas, precision components

Source: Company Websites, CareEdge Research

Manufacturing Process at the Company

ASL's manufacturing operations are undertaken at three manufacturing facilities located in Sonipat, Haryana. The manufacturing operations are organised across the following divisions:

- The Steel Melt Shop Division (Unit – II);
- The Hot Rolling And Cold Finishing Facility (Unit – III); And
- The Wire Rod And Bar Division (Unit – IV).

These divisions undertake different stages of ASL's manufacturing process for stainless steel long products and wire products.

Steel Melt Shop Division

The manufacturing process at ASL's Steel Melt Shop Division commences with the procurement of stainless steel scrap and ferroalloys. The principal ferroalloys and other alloying materials used in the manufacturing process include nickel, chrome, molybdenum, silicon, manganese and niobium. The type and proportion of raw materials used depend on, among other factors, the chemical composition and technical specifications of the products proposed to be manufactured. Depending on the applicable product grade and customer specifications, ASL selects and blends stainless steel scrap, ferroalloys and other alloying materials to manufacture conventional as well as specialised stainless steel grades requiring specified chemical composition and metallurgical properties. Prior to being accepted for use in the manufacturing process, raw materials are subjected to chemical-composition testing using spectrometers and X-ray fluorescence ("XRF") analysers in accordance with ASL's internal testing procedures. Raw materials that do not meet the applicable acceptance parameters are dealt with in accordance with ASL's procurement and quality-control procedures. Accepted raw materials are charged into induction furnaces for melting. The molten metal is subsequently transferred to an Argon Oxygen Decarburisation ("AOD") vessel for refining. During the refining process, the chemical composition of the molten metal is adjusted in accordance with the specifications applicable to the relevant grade of stainless steel. Following the refining process, the molten metal is cast into blooms, slabs or blocks using continuous-casting or pit-mould-casting processes, depending on the relevant product and manufacturing requirements. The resulting cast products may subsequently undergo cutting and surface-conditioning processes, including grinding and sanding, depending on the condition of the cast product and applicable product specifications.

Hot Rolling and Cold Finishing Facility

Blooms/Blocks manufactured at the Steel Melt Shop Division and intended for further processing at the Hot Rolling and Cold Finishing Facility are reheated and passed through rolling mills. Through these processes, ASL manufactures stainless steel long products in various forms, including rounds, squares, hexagons, angles, flats and channels. Depending on the relevant product specifications and customer requirements, rolled products may undergo one or more additional processing operations, including:

- Annealing;
- Shot Blasting;
- Pickling;
- Straightening;
- Peeling;
- Cold Drawing;
- Grinding; And
- Polishing.

These processing operations are undertaken to achieve specified dimensional tolerances, surface characteristics and mechanical properties, as applicable to the relevant product. Certain wire rod products may also undergo wire-drawing operations to achieve the dimensions and other characteristics specified for such products. The specific sequence of processing operations varies based on, among other factors, the grade, form, dimensions, technical specifications and intended application of the relevant product.

Wire Rod and Bar Division

At ASL's Wire Rod and Bar Division, blooms/blocks manufactured through ASL's steel melting operations are reheated and processed using ASL's Multi Continuous Rolling Technology ("MCRT") system. The reheated blooms/blocks undergo progressive rolling through a series of rolling stands to manufacture wire rods and bars in various dimensions. rolling process is undertaken through the applicable garret route or block route for coils, and through the cooling-bed route for bars, depending on the product dimensions and specifications. The products manufactured through this division are subsequently subjected to the finishing, inspection and testing procedures applicable to the relevant product specifications.

Quality Control

ASL undertakes quality-control and inspection procedures at identified stages of the manufacturing process. Depending on the stage of production, product specifications and customer requirements, these procedures may include:

- Visual Inspection;
- Dimensional Verification;
- Chemical Analysis;
- Mechanical Testing; And
- Non-Destructive Testing.

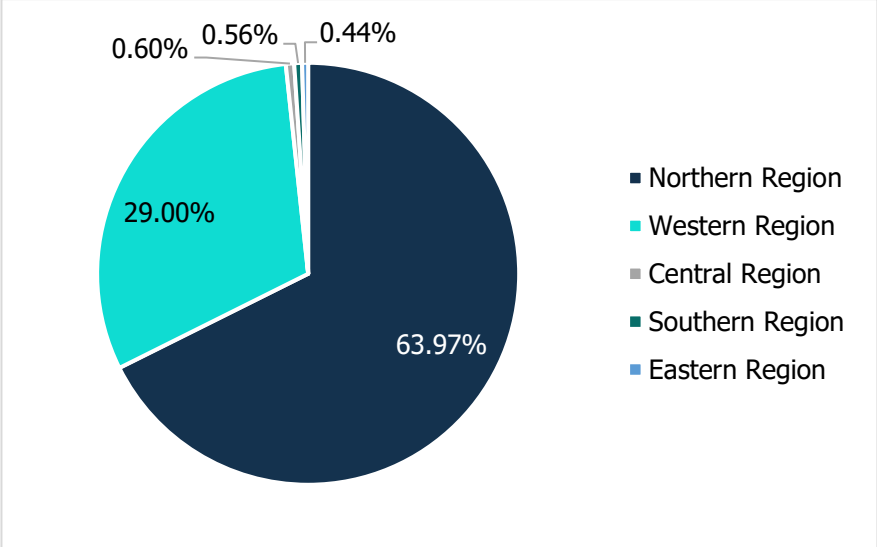
The nature and frequency of testing vary according to the relevant product, manufacturing stage, applicable standards and customer specifications. Products or intermediate materials that do not meet the applicable acceptance criteria are identified and segregated in accordance with ASL's internal quality-control procedures. Depending on the nature of the

deviation and technical feasibility, such products or intermediate materials may be reprocessed or returned to the melting process.

8.2 Geographic Presence and Operational Footprint (FY26)

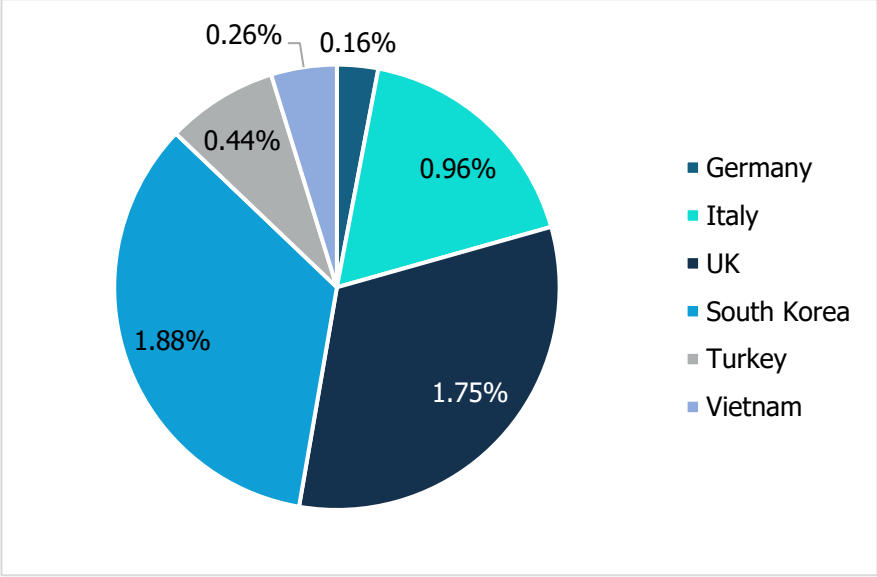
ASL majorly cater to the domestic market in the north and west India regions along with exports primarily to United Kingdom, South Korea, Italy, Turkey, and Vietnam. At present, the company is supplying its products to over 13 states and 2 union territories, with more than 50% of the sales volume coming from just 3 states, namely Haryana, Uttar Pradesh, and Rajasthan. The region-wise split for the company's sales volume for FY26 is as below:

Chart 64: Region-Wise Split of Company's sales volume (FY26)



Source: Company Documents

Chart 65: Country-Wise Split of Company's sales volume (FY26)



Source: Company Documents

8.3 SWOT Analysis of the company

Strengths

- **Manufacturing Facilities Located in Proximity to Industrial and Logistics Infrastructure:** ASL manufacturing facilities are located in Sonipat, Haryana. These locations provide access to customers and suppliers located in the National Capital Region and other parts of northern and western India. ASL's manufacturing facilities are connected to road transportation infrastructure, including National Highway 44. Unit III and Unit IV are located approximately 27 kilometres and 40 kilometres, respectively, by road from the Inland Container Depot at Sonipat. ASL uses road, rail and container-freight infrastructure for the procurement of raw materials and transportation of finished products, including products intended for export. ASL's export shipments may be transported through ports including Mundra Port and Pipavav Port, depending on, among other factors, the destination, freight availability, shipping schedules, customer requirements and commercial considerations. The availability of road, rail, inland-container-depot and port infrastructure provides ASL with alternatives for transporting raw materials and finished products.

- **Manufacturing Capabilities Across Multiple Stages of The Production Process: :** ASL's manufacturing operations include melting, refining, casting, hot rolling, cold finishing, bright-bar processing and wire-rod manufacturing. These operations are undertaken through our Steel Melt Shop Division, Hot Rolling and Cold Finishing Facility, and Wire Rod and Bar Division. ASL's manufacturing infrastructure enables it to undertake multiple stages of the production process, from the melting and refining of metallic inputs to the rolling and finishing of stainless steel products. This provides it with the ability to manufacture products across different grades, forms and dimensions, subject to ASL's technical capabilities, equipment availability, applicable standards and customer specifications. Undertaking multiple manufacturing processes internally also provides ASL with oversight over identified production and quality-control stages.

- **Diversified Product Portfolio with Multiple End-Use Applications:** ASL manufactures stainless steel products in various forms, including blooms, slabs, blocks, wire rods, bars, angles, flats and hexagonal bars. ASL products are supplied to customers whose businesses include automobile, oil and gas, defence, aerospace, water solutions, energy, shipping, fabrication and construction, chemical, food and dairy industries. As of July 31, 2026, ASL had the capability to manufacture more than 150 grades of stainless steel products, including duplex, super duplex, lean duplex, ultra-low-phosphorus, ultra-low-cobalt and certain high-nickel grades. ASL also manufacture products with chemical compositions, dimensions and surface characteristics customised to meet specified customer requirements, subject to manufacturing feasibility, applicable standards and our technical capabilities. ASL presence across different product forms and grades allows it to address requirements across more than one customer and end-use category.

- **Capability to Manufacture Specialised Stainless Steel and High-Nickel Alloy Blocks:** ASL manufacture steel blocks in grades including duplex, super duplex and certain high-nickel alloys and supplies such products to customers, including customers located in northern India. These grades may be used for applications that require specified corrosion resistance, mechanical properties, chemical composition or performance characteristics, depending on the relevant grade and customer application. ASL's manufacturing infrastructure enables it to manufacture such blocks in different chemical compositions and dimensions, subject to technical feasibility, available equipment, product specifications and customer requirements. This capability enables ASL to participate in customer requirements for certain specialised stainless steel and high-nickel alloy products. The

suitability of a grade for a particular application is determined based on its technical specifications, applicable standards, customer requirements and intended operating conditions.

- **Capability to Manufacture Blocks of Specified Weights:** ASL's manufacturing facilities are capable of producing individual steel blocks weighing up to 20 tonnes, subject to the applicable grade, dimensions, equipment configuration, process parameters and customer specifications. This allows ASL to undertake orders requiring blocks of relatively large dimensions or weights, where technically feasible. Depending on the customer's manufacturing process and intended application, a larger-format block may permit the customer to derive multiple or larger sections from a single block. The suitability of a particular block size and any resulting processing benefits are determined by the customer and vary according to product design, grade, dimensions, manufacturing process and intended application.

- **Wire Rod Manufacturing Infrastructure:** ASL's manufacturing infrastructure includes a tandem wire rod rolling mill through which reheated blooms pass sequentially through multiple rolling stands. The rolling line is used to manufacture wire rods in different grades and dimensions, subject to the facility's technical specifications. The configuration of the rolling line allows ASL to undertake progressive rolling and to monitor relevant process parameters during production. Product dimensions, surface characteristics, production rates and yields vary depending on factors including the relevant grade, dimensions, product specifications, equipment condition, operating parameters, production schedules and availability of raw materials and utilities.

- **Scrap-Based Manufacturing Process and Ability to Recycle Internal Process Scrap:** Steel scrap constitutes the principal metallic input used in our melting operations. Depending on product requirements and manufacturing feasibility, ASL also utilises certain low-yield metallic inputs, including dusts, fines and chips, together with ferroalloys and controlled prime-metal additions, as part of its raw material mix. The use of such materials is subject to quality testing, process controls and recovery considerations. ASL uses scrap together with ferroalloys and other materials selected according to the chemical composition specified for the product proposed to be manufactured. The use of a scrap-based melting process allows different categories of scrap and alloying materials to be selected and blended, subject to testing, availability and applicable process requirements. We also return certain internal process scrap and non-conforming intermediate materials to the melting process where technically feasible and permissible under our internal procedures. The scrap-based manufacturing process provides a route for recycling steel scrap as a metallic input. However, its operational, financial and environmental outcomes are affected by factors including:
    - Availability and Quality Of Suitable Scrap;
    - Prices of Domestic And Imported Scrap;
    - Alloy and Consumable Prices;
    - Contamination and Recovery Rates;
    - Energy Requirements;
    - Transportation Distances;
    - Process Yields;
    - Emissions and Waste-Management Arrangements; and
    - Applicable Environmental Requirements.

- **Quality-Control, Testing and Product-Development Capabilities:** ASL maintains in-house testing facilities and employs personnel with experience in metallurgy, manufacturing and quality control. Depending on the relevant product, process stage, applicable standard and customer specification, ASL quality-control

procedures may include chemical analysis, dimensional verification, visual inspection, mechanical testing and non-destructive testing. ASL's testing facilities support the examination of raw materials, intermediate products and finished products at identified stages of the manufacturing process. ASL also undertakes process-development and product-development activities in response to manufacturing requirements and customer specifications.

- **Experience of Promoters and Management Team:** ASL's Promoters have experience in the steel industry and are supported by members of the senior management team with experience across manufacturing, operations, procurement, quality control, finance, sales and marketing. As of July 31st, 2026, ASL's Promoters had over 19 years of experience in the steel industry, and the members of the senior management had an average of approximately 10 years of relevant industry or functional experience. Their experience has contributed to the development of our manufacturing operations, product portfolio and relationships with customers and suppliers.

- **Relationships with Customers across Domestic and Export Markets:** ASL has supplied products to customers in India and certain international markets. As of March 31, 2026, 17 of ASL's top 30 customers had maintained business relationships with the Company for more than five years. Sales to repeat customers represented 93.36%, 85.55% and 85.64% of the Company's revenue from operations during FY24, FY25 and FY26, respectively. ASL's customer relationships are supported by its ability to manufacture products in different grades, dimensions and specifications, subject to its technical capabilities and customer qualification requirements.

- **Components and Materials for Consumer-Appliance and Cookware Applications:** ASL manufactures certain components used by customers in the manufacture or assembly of water heaters and stainless steel pressure cookers. The Company also manufactures stainless steel raw materials for sensitive cookware and geyser components requiring specified metallurgical properties and quality parameters. These products are supplied to customers operating in the consumer-appliance and kitchenware value chains and may be manufactured according to specified grades, dimensions, designs and quality parameters. This product category provides ASL with exposure to the consumer-appliance and kitchenware markets, in addition to its other end-use industries. Demand for these products depends on customer orders, consumer demand, product qualification requirements, competition and conditions prevailing in the relevant end-use markets.

- **Participation in the PLI Scheme:** The Company has signed a Memorandum of Understanding (MOU) under the Government of India's Production Linked Incentive (PLI) Scheme 1.2 for Specialty Steel, under which eligible production of alloy steel (including stainless steel) long products is expected to qualify for incentives ranging from 11% to 13% of incremental production value, and eligible stainless-steel wire is expected to qualify for incentives ranging from 7% to 10% of incremental production value over the prescribed baseline.
  As of the date of this Draft Red Herring Prospectus:
  - ASL Applications were selected;
  - ASL had executed a Memorandum of Understanding (MoU) with the Ministry of Steel in relation to the approved projects;

- **Track Record of Growth in Revenue From Operations:** ASL's Revenue from operations increased from Rs 11,026.43 million in FY24 to Rs 12,633.41 million in FY26, representing a compound annual growth rate ("CAGR") of 7%. During the same period:

- EBITDA changed from Rs 512.54 million to Rs 1,129.85 million;
- Profit after tax changed from Rs 203.94 million to Rs 591.45 million;
- EBITDA margin changed from 4.65% to 8.94%; and
- Profit-after-tax margin changed from 1.85% to 4.68%.
- The growth in revenue from operations during this period was attributable to increased sales volumes.

Weaknesses

- **Moderate Profitability Margins:** ASL's EBITDA margin and profit-after-tax margin were 4.65% and 1.85%, respectively, in FY24, 7.47% and 3.33%, respectively, in FY25, and 8.94% and 4.68%, respectively, in FY26. ASL's profitability is affected by, among other factors, prices of stainless steel scrap and ferro alloys including nickel, chrome, molybdenum, silicon, manganese and niobium. ASL's ability to pass through increases in these costs depends on market conditions, competitive pricing, contractual arrangements, timing of orders and negotiations with customers. There may be a time lag between an increase in input prices and a corresponding revision in selling prices.

- **Working Capital Intensive Operations:** The business requires ASL to maintain inventories of stainless steel scrap, ferroalloys, work-in-progress and finished goods and to extend credit to certain customers. As of 31st March, FY26, our:

  - Inventory days were 129 days;
  - Trade-receivable days were 58 days;
  - Trade-payable days were 90 days;
  - Net working-capital days were 98 days; and
  - Delays in customer collections, increases in raw-material prices, requirements to maintain additional inventory or reductions in credit extended by suppliers may increase ASL's working-capital requirements.

- **Limited Export Diversification:** Revenue from exports represented approximately 11.78%, 7.11% and 5.40% of ASL's revenue from operations during FY24, FY25, and FY26, respectively. Accordingly, ASL derives a substantial majority of its revenue from customers in India, including customers located in northern and western India. Adverse changes in demand, competition, economic conditions, industrial activity or customer spending in our principal domestic markets may affect our business.

Opportunities

- **Infrastructure and construction:** Government and private-sector investment in infrastructure, railways, metro systems, renewable energy and urban development may support demand for stainless steel, alloy steel and specialty-steel products. ASL's ability to benefit from such demand will depend on its product capabilities, available capacity, customer approvals and ability to secure orders.

- **Automotive and electric vehicles:** Growth in the automotive and electric-vehicle sectors may increase demand for corrosion-resistant and high-strength metal products. ASL's participation will depend on compliance with applicable technical standards, customer qualification requirements and commercial viability.

- **Government incentives:** Initiatives such as the Production Linked Incentive ("PLI") Scheme for Specialty Steel may support domestic investment and capacity augmentation. Any benefit available to ASL will remain subject to approval of its applications, fulfilment of eligibility conditions and achievement of prescribed investment, production and sales milestones.

- **Export markets: ASL** may evaluate opportunities in Europe, North America, the Middle East and ASEAN markets. Export growth will depend on customer approvals, product certifications, pricing, freight availability, trade regulations, currency movements and competitive conditions.
- **Value-added products:** Demand for products requiring specialised grades, additional processing, closer dimensional tolerances or specified surface characteristics may provide opportunities for ASL. Contribution from such products will depend on customer demand, raw-material costs, manufacturing yields, product mix and pricing.
- **Renewable-energy and industrial applications:** Investment in renewable energy, power transmission and industrial infrastructure may support demand for products with specified corrosion resistance, strength and durability. ASL's ability to address such applications will depend on product suitability, technical capabilities and customer approvals.
- **Recyclability and resource efficiency:** Increasing emphasis on recyclable materials may support the use of stainless steel in certain applications. ASL uses steel scrap as a principal metallic input; however, the environmental impact of its operations also depends on energy consumption, emissions, manufacturing yields, waste management and transportation. The use of steel scrap as a principal metallic input may also contribute to lower greenhouse gas emissions compared with certain primary steelmaking routes, although the overall environmental performance of the manufacturing process depends on factors including electricity source, manufacturing yields, transportation, waste management and operating efficiency.
- **Defence, aerospace, shipbuilding and engineering:** Investment in these sectors may create demand for products meeting specified chemical, mechanical, dimensional, testing and traceability requirements. ASL's participation will be subject to relevant qualifications, certifications, customer approvals and applicable regulatory requirements.
- **Technology and automation:** Adoption of automation, process-control systems and testing equipment may assist ASL in monitoring production parameters and maintaining specified product tolerances. The benefits derived will depend on successful implementation, equipment utilisation, maintenance and integration with existing operations.
- **Import substitution:** Domestic demand for specialty and high-grade steel products currently sourced through imports may provide opportunities for ASL, subject to its ability to meet applicable product standards, achieve customer qualification and manufacture such products on commercially viable terms.

Threats

- **Competitive pressures:** ASL operates in a competitive industry comprising domestic and international manufacturers. Competition based on price, product quality, technical capabilities, delivery timelines and customer relationships may affect ASL's market share, realisations and profitability.
- **Demand cyclicality:** Demand for ASL's products is dependent on activity in end-use industries, including automobile, oil and gas, defence, aerospace, water solutions, energy, shipping, fabrication and construction, chemical, food and dairy industries. A slowdown in these industries may reduce order volumes and adversely affect capacity utilisation and financial performance.
- **Manufacturing and operational disruptions:** ASL's operations depend on the continued functioning of furnaces, casting equipment, rolling mills, finishing lines and testing facilities. Equipment breakdowns, maintenance shutdowns, accidents, labour disruptions or shortages of power, water, industrial gases and other utilities may interrupt production.
- **Project implementation risks:** ASL's proposed capacity expansion and commissioning of new manufacturing facilities are subject to construction delays, cost overruns, equipment installation and stabilisation risks, receipt

of approvals and availability of funding. Delays or inability to achieve the proposed capacity utilisation may affect expected returns from such investments.

- **Product-quality and qualification risks:** ASL's products are required to comply with customer specifications and applicable technical standards. Failure to meet prescribed chemical, mechanical, dimensional or surface-quality parameters may result in reprocessing, rejection, returns, loss of customers or product-liability claims.
- **Technology and obsolescence risks:** Changes in manufacturing technologies, product specifications and customer requirements may require ASL to incur additional expenditure on equipment, automation, testing infrastructure and employee training. Failure to adopt relevant technologies in a timely manner may affect ASL's competitiveness.
- **Environmental and regulatory compliance:** ASL's manufacturing activities involve emissions, effluents, chemicals, slag, dust and other waste streams. Changes in environmental, health and safety requirements, or any failure to obtain, renew or comply with applicable approvals, may result in additional costs, penalties or disruption of operations.
- **Logistics and supply-chain disruptions:** ASL depends on third-party transporters, inland container depots, ports and other logistics infrastructure for procurement and delivery. Freight-cost increases, container shortages, congestion, transportation delays or geopolitical disruptions may affect raw-material availability and order fulfilment.
- **Export-market risks:** ASL's export operations are exposed to changes in tariffs, trade-remedial measures, product standards, foreign-exchange rates, shipping costs and economic conditions in destination markets. These factors may affect ASL's ability to maintain or expand exports.

Table 15: Formula Table

Parameter	Formula
Revenue from operations	Revenue from Operations
EBITDA	Profit Before Exceptional Item & Tax + Finance Costs + Depreciation & Amortisation – Other Income
EBITDA Margin (%)	(EBITDA / Revenue from Operations)* 100
Cost Of Goods Sold (COGS)	Cost of Material Consumed + Construction Expense + Purchase of Stock in Trade + Changes in inventories of finished goods, stock-in-trade and work-in-progress
EBIT	EBITDA + Other Income - Depreciation & Amortisation
Total Debt	Current orrowings + Non-Current Borrowings + Current maturities of long-term debt
Total Equity	Equity Share Capital + Other Equity
Capital Employed	Total Debt + Total Equity + Non Controlling Interest + Deferred Tax Liability
PAT Margin (%)	Profit After Tax / Revenue from Operations × 100
Cash Profit	Profit After Tax + Depreciation & Amortisation
Net Debt	Total Debt – Cash & Cash Equivalents
Debt Equity Ratio	Total Debt / Total Equity
Return on Capital Employed (%)	EBIT / Capital Employed * 100
Return on Equity (%)	(Profit attributable to owners / Average Total Equity) *100
Return on Assets (%)	(Profit After Tax / Total Assets)*100
Current Ratio	Current Assets / Current Liabilities
Debtor Days	(Average Trade Receivables / Revenue from Operations)*365
Creditor Days	(Average Trade Payables / Cost of Goods Sold)* 365

Inventory Days	(Average Inventory / Cost of Goods Sold)* 365
Working Cycle	Inventory Days + Debtor Days – Creditor Days
Interest Coverage Ratio	EBIT / Finance Cost
Fixed Asset Turnover Ratio	Revenue from Operations / Average Net Property, Plant & Equipment (including Right-of-use Assets and Intangible Assets, where applicable)
EBITDA per Ton	EBITDA / Sales Volume (Metric Tons)
Debt/EBITDA	Total Debt / EBITDA
Gross Block/Ton	Gross Property, Plant & Equipment / Sales Volume (Metric Tons)

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About CARE Analytics and Advisory Private Ltd (CareEdge Research)

CareEdge (CARE Group) is a knowledge-based analytical group that aims to provide superior insights based on technology, data analytics capability and detailed research methods. CareEdge (CARE Ratings Limited) is one of the leading credit rating agencies in India. It has an impressive track record of rating companies for almost three decades and has played a pivotal role in developing the corporate debt market in India. CareEdge provides near real time research on all domestic and global economic developments. CARE Analytics & Advisory Private Ltd is a wholly owned subsidiary focused on providing advisory and consultancy services including the following:



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