

IRON AND STEEL¹

(Data in million metric tons, metal, unless otherwise specified)

Domestic Production and Use: The U.S. iron and steel industry produced 81 million tons of raw steel in 2024 with an estimated sales value of about \$120 billion, a 10% decrease from \$132 billion in 2023. Pig iron and raw steel were produced by two companies operating integrated steel mills in 12 locations. Raw steel from electric arc furnaces was produced by 49 companies at 104 minimills. Combined raw steel production capacity was about 107 million tons per year. Indiana accounted for an estimated 25% of total raw steel production, followed by Ohio, 12%; Texas, 6%; and Pennsylvania, 5%; no other individual State accounted for more than 4% of total domestic raw steel production. Construction accounted for an estimated 28% of net shipments by market classification, followed by steel service centers and distributors, 23%; automotive, 15%; steel for converting and processing, 9%; and appliances, machinery, and oil and gas, 3% each; all other applications accounted for 16% of net shipments.

<u>Salient Statistics—United States:</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024^e</u>
Pig iron production	18.3	22.2	20.0	22.5	22
Raw steel production	72.7	85.8	80.5	81.4	81
Distribution of raw steel production, percent:					
Basic oxygen furnaces	29	30	29	28	28
Electric arc furnaces	71	70	71	72	72
Continuously cast steel, percent	99.8	99.8	99.7	99.7	99.7
Shipments, steel mill products	73.5	85.9	81.2	81.0	78
Imports, steel mill products:					
Finished	14.6	20.6	22.9	19.7	20
Semifinished	<u>5.3</u>	<u>7.9</u>	<u>5.1</u>	<u>5.9</u>	<u>6</u>
Total	20.0	28.5	28.0	25.6	26
Exports, steel mill products:					
Finished	6.0	7.4	7.5	7.9	8
Semifinished	<u>0.1</u>	<u>0.1</u>	<u>0.1</u>	<u>0.3</u>	<u>0.3</u>
Total	6.1	7.5	7.6	8.2	8
Stocks, service centers, yearend ²	5.8	5.8	6.7	6.5	7.0
Consumption, apparent (steel mill products) ³	82.9	98.9	96.8	93.0	93
Producer price index for steel mill products (1982=100) ⁴	184	351	382	320	290
Employment, average, number:					
Iron and steel mills ⁴	83,200	78,300	80,800	84,000	81,000
Steel product manufacturing ⁴	54,900	52,700	55,400	58,500	56,000
Net import reliance ⁵ as a percentage of apparent consumption	12	13	17	13	13

Recycling: See the Iron and Steel Scrap and the Iron and Steel Slag chapters.

Import Sources (2020–23): Canada, 23%; Mexico, 16%; Brazil, 13%; Republic of Korea, 9%; and other, 39%.

<u>Tariff:</u>	<u>Item</u>	<u>Number</u>	<u>Normal Trade Relations</u>
			<u>12–31–24</u>
Carbon steel:			
Semifinished		7207.00.0000	Free.
Flat, hot-rolled		7208.00.0000	Free.
Flat, cold-rolled		7209.00.0000	Free.
Galvanized		7210.00.0000	Free.
Bars and rods, hot-rolled		7213.00.0000	Free.
Structural shapes		7216.00.0000	Free.
Stainless steel:			
Semifinished		7218.00.0000	Free.
Flat-rolled sheets		7219.00.0000	Free.
Bars and rods		7222.00.0000	Free.

Depletion Allowance: Not applicable.

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Government Stockpile:⁶

<u>Material</u>	FY 2024		FY 2025	
	<u>Potential acquisitions</u>	<u>Potential disposals</u>	<u>Potential acquisitions</u>	<u>Potential disposals</u>
Grain-oriented electrical steel ⁷	3,200	—	3,200	—

Events, Trends, and Issues: In January 2024, one domestic steel company was selected by the U.S. Department of Energy for up to \$575 million in funding towards decarbonization efforts by replacing furnaces with a direct-reduced iron plant and electric arc melting furnaces in Ohio and with induction slab reheat furnaces in Pennsylvania. In April, another domestic steel company was awarded \$281 million in grants from the U.S. Internal Revenue Service towards the construction of a 150,000-ton-per-year plant in Calvert, AL, that would produce non-grain-oriented electrical steel. Electrical steel was identified as a critical material by the U.S. Department of Energy in its 2023 Critical Materials Assessment owing to its role in the performance and efficiency improvements of electric motors used to power electric and hybrid vehicles. In May, one company headquartered in Tokyo, Japan, anticipated that its purchase of a major domestic steel company would be delayed until the end of 2024 following additional requests for documentation from the United States Department of Justice. The World Steel Association⁸ estimated that U.S. production of finished steel products would decrease by 1.5% and global finished steel consumption would decrease by 0.9% in 2024. End-use consumption of finished steel products was expected to decrease owing to issues affecting consumer demand, including geopolitical uncertainties, inflation, and monetary tightening. Effects of economic conditions in major developed nations, with the exception of India, included slowdowns in the automotive, construction, and manufacturing sectors.

World Production:

	Pig iron		Raw steel	
	<u>2023</u>	<u>2024^e</u>	<u>2023</u>	<u>2024^e</u>
United States	22.5	22	81.4	81
Brazil	26	27	32	34
Canada	6	6	12	12
China	871	840	1,020	990
Germany	24	23	35	35
India	86	93	141	150
Iran	4	4	31	33
Italy	3	3	21	21
Japan	63	62	87	85
Korea, Republic of	45	44	67	64
Mexico	1	1	16	16
Russia	55	54	76	75
Taiwan	12	12	19	19
Turkey	9	8	34	32
Ukraine	6	6	6	6
Vietnam	13	13	19	19
Other countries	<u>61</u>	<u>67</u>	<u>188</u>	<u>200</u>
World total (rounded)	1,310	1,300	1,890	1,900

World Resources: Not applicable. See the Iron Ore chapter for steelmaking raw-material resources.

Substitutes: Iron is the least expensive and most widely used metal. In most applications, iron and steel compete either with less expensive nonmetallic materials or with more expensive materials that have a performance advantage. Iron and steel compete with lighter materials, such as aluminum and plastics in the automotive industry; aluminum, concrete, and wood in construction; and aluminum, glass, paper, and plastics in containers.

^eEstimated. — Zero.

¹U.S. production and shipments data source is the American Iron and Steel Institute; see also the Iron and Steel Scrap and the Iron Ore chapters.

²Steel mill products. Source: Metals Service Center Institute, September 2024.

³Defined as steel mill product shipments + imports of finished steel mill products – exports of steel mill products ± adjustments for stock changes.

⁴Source: U.S. Department of Labor, Bureau of Labor Statistics, North American Industry Classification System Code 331100 and 332100.

⁵Defined as imports of finished steel mill products – total exports ± adjustments for industry stock changes.

⁶See Appendix B for definitions.

⁷Metric tons.

⁸Source: World Steel Association, 2024, worldsteel short range outlook October 2024: Brussels, Belgium, World Steel Association press release, October 14, 3 p.