

IRON AND STEEL¹

(Data in million metric tons of metal unless otherwise noted)

Domestic Production and Use: The U.S. iron and steel industry produced raw steel in 2019 with an estimated value of about \$92 billion, an 11% decrease from \$103 billion in 2018 and a 9% increase from \$84 billion in 2017. Pig iron and raw steel was produced by three companies operating integrated steel mills in nine locations. Fifty companies produced raw steel at 98 minimills. Combined production capacity was about 111 million tons. Indiana accounted for an estimated 26% of total raw steel production, followed by Ohio, 12%; Michigan, 5%; and Pennsylvania, 5%, with no other State having more than 5% of total domestic raw steel production. Construction accounted for an estimated 44% of total domestic shipments by market classification, followed by transportation (predominantly automotive), 28%; machinery and equipment, 9%; energy, 6%; appliances, 5%; and other applications, 8%.

Salient Statistics—United States:	2015	2016	2017	2018	2019^e
Pig iron production ²	25.4	22.3	22.4	24.1	23
Raw steel production	78.8	78.5	81.6	86.6	87
Basic oxygen furnaces, percent	37.3	33.0	31.6	32.0	30
Electric arc furnaces, percent	62.7	67.0	68.4	68.0	70
Continuously cast steel, percent	99.0	99.4	99.6	98.2	99
Shipments, steel mill products	78.5	78.5	82.5	86.4	87
Imports:					
Finished steel mill products	28.6	23.9	26.8	23.3	20
Semifinished steel mill products	6.6	6.1	7.8	7.3	7.0
Total steel mill products	35.2	30.0	34.6	30.6	27.0
Exports:					
Finished steel mill products	8.9	8.3	9.5	7.9	6.7
Semifinished products	(3)	(3)	(3)	(3)	(3)
Total steel mill products	9.0	8.4	9.6	8.0	6.7
Stocks, service centers, yearend ⁴	7.5	6.6	7.0	7.3	6.0
Consumption, apparent (steel) ⁵	110	105	111	101	100
Producer price index for steel mill products (1982=100) ⁶	177.1	167.8	187.4	211.1	207
Total employment, average, number ⁶					
Blast furnaces and steel mills	87,000	83,900	80,600	82,100	83,000
Iron and steel foundries	64,900	65,000	65,000	65,200	63,000
Net import reliance ⁷ as a percentage of apparent consumption	29	25	26	22	21

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

Import Sources (2015–18): Canada, 17%; Brazil, 13%; Republic of Korea, 11%; and other, 59%.

Tariff:	Item	Number	Normal Trade Relations 12–31–19
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.

Government Stockpile: None.

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Events, Trends, and Issues: After several Presidential proclamations were issued in 2018 imposing 25% ad valorem tariffs on steel imports from most countries of origin under the authority of Section 232 of the Trade Expansion Act of 1962 (83 FR 11625), the President of the United States modified proclamation 9705 and issued two additional proclamations in 2019. Presidential Proclamation 9886, issued in May 2019, reduced the ad valorem tariff on steel imports from Turkey to 25% from 50%. Also, in May 2019, Proclamation 9894 removed the Section 232 tariffs for steel imports from Canada and Mexico. Steel imports from all countries except Argentina, Australia, Brazil, Canada, Mexico, and the Republic of Korea still required a 25% ad valorem tariff. In September 2018, March 2019, and June 2019, the U.S. Department of Commerce issued additional guidance in the Federal Register for companies to request product exemptions from the Section 232 tariffs.

The World Steel Association⁸ forecast global finished steel demand to increase by 3.9% in 2019 and 1.7% in 2020, as a result of real estate investment in China and 4.1% growth in emerging and developing economies in 2020. Steel consumption in developed economies, except for China, was expected to remain the same or decrease slightly in 2019 despite growth in consumer and construction applications as potential and enacted trade policies affected investments and exports among the manufacturing sector. Growth of the construction sectors in 2019 and 2020 was expected to decrease slightly in the United States, as well as in the European Union, Latin America, Japan, and the Republic of Korea. In other countries in Asia, including India, Government stimulus was expected to increase demand in the construction sector. Automotive production rates were expected to decrease in 2019 in China, Germany, the Republic of Korea, and Turkey.

World Production:

	Pig iron		Raw steel	
	2018	2019 ^e	2018	2019 ^e
United States	24	23	87	87
Brazil	29	26	35	32
China	771	820	928	1,000
Germany	27	26	42	41
India	71	75	106	110
Iran	2	3	25	27
Italy	5	5	25	24
Japan	77	75	104	100
Korea, Republic of	47	48	72	72
Mexico	4	4	20	19
Russia	52	50	72	71
Taiwan	15	16	23	23
Turkey	11	10	37	34
Ukraine	21	21	21	22
Vietnam	6	10	18	27
Other countries	94	96	198	194
World total (rounded)	1,250	1,300	1,810	1,900

World Resources: Not applicable. See Iron Ore and Iron and Steel Scrap 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 motor vehicle industry; aluminum, concrete, and wood in construction; and aluminum, glass, paper, and plastics in containers.

^eEstimated.

¹Production and shipments data source is the American Iron and Steel Institute; see also Iron and Steel Scrap and Iron Ore.

²More than 95% of iron made is transported in molten form to steelmaking furnaces located at the same site.

³Less than ½ unit.

⁴Steel mill products. Source: Metals Service Center Institute.

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

⁶Source: U.S. Department of Labor, Bureau of Labor Statistics, North American Industry Classification System Code 331100.

⁷Defined as total imports – total exports + adjustments for industry stock changes.

⁸World Steel Association, 2019, Short range outlook October 2019: Brussels, Belgium, World Steel Association press release, October 14, 6 p.