IRON AND STEEL[1]

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

Domestic Production and Use: The iron and steel industry and ferrous foundries produced goods in 2017 with an estimated value of about $147 billion, up from $130 billion in 2016. Pig iron was produced by three companies operating integrated steel mills in nine locations. Fifty-four companies produced raw steel at 110 minimills. Combined production capacity was about 111 million tons. Indiana accounted for 27% of total raw steel production, followed by Ohio, 12%; Michigan, 6%; and Pennsylvania, 6%, with no other State having more than 5% of total domestic raw steel production. The distribution of steel shipments was estimated to be warehouses and steel service centers, 28%; construction, 20%; transportation (predominantly automotive), 17%; cans and containers, 2%; and other, 33%.

Salient Statistics—United States:	2013	2014	2015	2016	2017[e]
Pig iron production[2]	30.3	29.4	25.4	22.3	23
Raw steel production	86.9	88.2	78.8	78.5	82
Basic oxygen furnaces, percent	39.4	37.4	37.3	33.0	32
Electric arc furnaces, percent	60.6	62.6	62.7	67.0	68
Continuously cast steel, percent	98.8	98.5	99.0	99.4	99
Shipments:					
Steel mill products	86.6	89.1	78.5	78.5	83
Steel castings[e, 3]	0.4	0.4	0.4	0.4	0.4
Iron castings[e, 3]	4.0	4.0	4.0	4.0	4.0
Imports:					
Steel mill products	29.2	40.2	35.2	30.0	36
Semifinished products	6.6	9.6	6.6	6.1	8.4
Exports, steel mill products	11.5	10.9	9.0	8.4	11
Consumption, apparent (steel)[4]	98	107	99	95	100
Producer price index for steel mill products (1982=100)[5]	195.0	200.2	177.1	167.8	188
Stocks, service centers, yearend[6]	7.6	9.0	7.5	6.6	7
Total employment, average, number:					
Blast furnaces and steel mills[5]	90,900	91,000	87,000	83,600	83,000
Iron and steel foundries[5]	69,400	67,600	64,900	65,000	64,000
Net import reliance[7] as a percentage of apparent consumption	12	30	22	17	18

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

Import Sources (2013–16): Canada, 15%; Brazil, 13%; Republic of Korea, 12%; Mexico, 9%; and other, 51%.

Tariff: Item	Number	Normal Trade Relations 12–31–17
Carbon steel:		
Semifinished	7207.00.0000	Free.
Sheets, hot-rolled	7208.10.0000	Free.
Hot-rolled, pickled	7208.10.1500	Free.
Cold-rolled	7209.00.0000	Free.
Galvanized	7210.00.0000	Free.
Bars, hot-rolled	7213.00.0000	Free.
Structural shapes	7216.00.0000	Free.
Stainless steel:		
Semifinished	7218.00.0000	Free.
Cold-rolled sheets	7219.31.0000	Free.
Bars, cold-finished	7222.20.0000	Free.

Depletion Allowance: Not applicable.

Government Stockpile: None.

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IRON AND STEEL

Events, Trends, and Issues: China's steel mills make about one-half of the world's raw steel, exporting nearly 100 million tons worldwide, and thus strongly influencing world steel markets. Recently, in response to a number of trade petitions lodged in North America and Europe, the steel sector in China stated its intent to reduce excess steel output to address the issue of overcapacity. The Government of China pledged to remove as much as 150 million tons per year of steel production capacity by 2020, beginning with induction furnaces, poorly integrated mills, previously idled facilities, subscale equipment, and unprofitable mills. Following these closures, capacity could be reduced to about 700 million tons.

The American Society of Civil Engineers 2017 report card rated the United States infrastructure as a "D+". The Society, along with the American Iron and Steel Institute, called for commitments to fund long-term, multiyear projects that would rebuild bridges, energy infrastructure, railroads, roads, and waterways, which would require large quantities of iron and steel. They called for steel used in these projects to be made in the United States.

Lighter, stronger steels have been developed for use in several vehicle models to compete against aluminum as automobile manufacturers redesign vehicles to increase fuel efficiency. By 2025, high-strength steel in vehicles built in North America is projected to increase by 76% above the 2015 average. Global demand for press-hardened steel sheet, which is strong and malleable for complex stamped parts, was projected to increase by 36% by 2020.

In April 2017, the Federal Government began an investigation to determine whether steel imports pose a threat to national security under the authority of Section 232 of the Trade Expansion Act of 1963. The U.S. steel industry asserts that practices by Governments of other steel-producing countries distort global markets, and excess steel is dumped into the United States, threatening national security. Others believe that this investigation will harm U.S. steel-consuming industries, which depend on a reliable, economical supply of steel imports.

World Production:

	Pig iron		Raw steel	
	2016	2017[e]	2016	2017[e]
United States	22	23	78	82
Brazil	25	28	31	34
China	704	730	808	843
France	10	11	14	16
Germany	28	28	42	44
India	62	65	96	99
Japan	81	78	105	104
Korea, Republic of	46	47	69	70
Russia	52	60	71	70
Taiwan	15	15	22	23
Turkey	10	11	33	37
Ukraine	24	20	24	21
United Kingdom	6	6	8	8
Other countries	70	79	209	224
World total (rounded)	1,160	1,200	1,610	1,700

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.

[e]Estimated.

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

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

[3]Source: U.S. Census Bureau. North American Industry Classification System: 3311, 331511, 331512, and 331513.

[4]Defined as steel shipments + imports of steel mill products – exports + adjustments for industry stock changes – imports of semifinished steel products.

[5]Source: U.S. Department of Labor, Bureau of Labor Statistics.

[6]Steel mill products. Source: Metals Service Center Institute.

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