

IRON AND STEEL¹

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

Domestic Production and Use: The iron and steel industry and ferrous foundries produced goods valued at about \$73 billion. The steel industry consisted of 79 companies that produced raw steel at 119 locations, with combined raw steel production capability of 116 million tons. Indiana accounted for about 22% of total raw steel production, followed by Ohio, 16%, and Pennsylvania, 9%. Pig iron was produced by 15 companies operating integrated steel mills, with approximately 58 blast furnaces, of which about 41 were in continuous operation. Integrated companies accounted for about 59% of total steel production, including output of their electric arc furnaces. The distribution of steel shipments was estimated as follows: warehouses and steel service centers, 23%; transportation (predominantly for automotive production), 14%; construction, 12%; cans and containers, 4%; and others, 47%. Ferrous foundries, numbering about 1,000, continued to be importers of pig iron into the United States, mainly from Brazil and Russia.

Salient Statistics—United States:¹	1992	1993	1994	1995	1996^e
Pig iron production ²	47.4	48.2	49.4	50.9	49.9
Steel production:	84.3	88.8	91.2	95.2	95.4
Basic oxygen furnaces, percent	62.0	60.6	60.7	59.6	58.1
Electric arc furnaces, percent	38.0	39.4	39.3	40.4	41.9
Open hearth furnaces, percent	—	—	—	—	—
Continuously cast steel, percent	79.3	85.7	89.5	91.0	93.1
Shipments:					
Steel mill products	74.6	80.8	86.3	88.4	91.5
Steel castings ³	.9	1.4	1.0	.9	.8
Iron castings ³	7.4	11.9	13.2	13.0	12.7
Imports of steel mill products	15.5	17.7	27.3	22.1	24.5
Exports of steel mill products	3.9	3.6	3.5	6.4	5.0
Apparent steel consumption ⁴	86.2	92.0	104	108	112
Producer price index for steel mill products (1982=100) ⁵	106.4	108.2	113.4	120.1	115.5
Steel mill product stocks at service centers, yearend ⁶	5.3	5.7	6.6	5.9	6.0
Total employment, average, ⁷ number					
Blast furnaces and steel mills	187,000	175,000	172,000	172,000	166,000
Iron and steel foundries	120,000	119,000	125,000	130,000	127,000
Net import reliance ⁸ as a percent of apparent consumption	13	15	22	21	17

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

Import Sources (1992-95): European Union⁹, 29%; Canada, 20%; Japan, 11%; Brazil, 8%; and other, 32%.

Tariff:¹⁰ Item	Number	Most favored nation (MFN)¹¹ 12/31/96	Canada 12/31/96	Mexico 12/31/96	Non-MFN¹² 12/31/96
Pig iron	7201.10.0000	Free	Free	Free	\$1.11/t.
Carbon steel:					
Semifinished	7207.12.0050	3.4%	0.8%	2.9%	20%.
Structural shapes	7216.33.0090	0.7%	0.1%	0.6%	2%.
Bars, hot-rolled	7213.20.0000	1.5%	0.3%	1.3%	5.5%.
Sheets, hot-rolled	7208.39.0030	3.9%	0.9%	3.4%	20%.
Hot-rolled, pickled	7208.27.0060	4.1%	1.0%	3.5%	0.4¢/kg+20%.
Cold-rolled	7209.18.2550	2.6%	0.6%	2.2%	20%.
Galvanized	7210.49.0090	5.2%	1.3%	4.5%	21.5%.
Stainless steel:					
Semifinished	7218.91.0015	4.2%	1.0%	3.6%	29%.
	7218.99.0015	4.2%	1.0%	3.6%	29%.
Bars, cold-finished	7222.20.0075	8.5%	2.1%	7.4%	29%.
Pipe and tube	7304.41.3045	¹³ 6.1%	¹³ 1.5%	Free	29%.
Cold-rolled sheets	7219.33.0035	8.1%	2.0%	7.0%	29%.

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Depletion Allowance: Not applicable.

Government Stockpile: None.

Events, Trends, and Issues: Steel production and shipments continued to increase during 1996, and plants operated at near effective capacity. Although demand remained strong and imports continued below peak 1994 levels, spot prices and profits generally declined for the major producers, partly as a result of low contract prices negotiated during 1994, high fixed capital and labor costs, and continuing environmental costs.

As the six major integrated steel producers continued to lose market share to efficient and less costly minimills, more new minimill construction was in progress. New facilities opened as employee-owned companies or as joint ventures with foreign companies. Nearly 15 million tons of additional electric arc furnace steel output, especially from new thin-slab minimills, is planned or under construction owing to lower capital, fixed, and operating costs. This additional capacity would continue to exert downward pressure on steel prices unless the market grows at a similar pace.

Imports of steel mill products rose above those of 1995, but were still below the peak 1994 level. Export activity declined below the record 1995 level, and continued to be primarily regular shipments to Canadian and Mexican customers.

World Production:

	Pig iron		Raw steel	
	1995	1996 ^e	1995	1996 ^e
United States	50.9	49.9	95.2	95.4
Brazil	25.1	22.4	25.1	24.3
China	102	104	93.0	97.9
European Union ⁹	102	91.2	150	146
Japan	74.9	73.8	102	97.5
Korea, Republic of	21.0	23.0	36.8	39.3
Russia	39.8	31.2	51.3	49.3
Ukraine	17.7	18.3	22.3	22.1
Other countries	91.9	94.3	177	154
World total (rounded)	525	508	752	726

World Resources: Not applicable. See Iron Ore.

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 having a property 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 (AISI); see also Iron Ore and Iron and Steel Scrap.

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

³U.S. Department of Commerce, Bureau of the Census. Data for years prior to 1993 may not be comparable due to changes in survey panel.

⁴Defined as steel shipments + imports - exports + adjustments for industry stock changes + adjustment for imports of semifinished steel products.

⁵Bureau of Labor Statistics.

⁶Steel Service Center Institute.

⁷Bureau of Labor Statistics. Blast furnaces and steel mills: SIC 3312; Iron and steel foundries: SIC 3320.

⁸Defined as imports - exports + adjustments for Government and industry stock changes.

⁹Data are for the expanded European Union, which, as of Jan. 1, 1995, was joined by Austria, Finland, and Sweden.

¹⁰All tariff percentages are ad valorem.

¹¹No tariff for Israel and certain Caribbean and Andean nations.

¹²See Appendix B.

¹³No tariff for use in civil aircraft.