

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 in 2012 that were estimated to be valued at \$112 billion. Pig iron was produced by 5 companies operating integrated steel mills in 15 locations. About 48 companies produce raw steel at about 108 minimills. Combined production capability was about 118 million tons. Indiana accounted for 23% of total raw steel production, followed by Ohio, 14%; Michigan, 7%; and Pennsylvania, 6%. The distribution of steel shipments was estimated to be warehouses and steel service centers, 26%; construction, 16%; transportation (predominantly automotive), 15%; cans and containers, 3%; and other, 40%.

Salient Statistics—United States:	2008	2009	2010	2011	2012^e
Pig iron production ²	33.7	19.0	26.8	30.2	33
Steel production:	91.9	59.4	80.5	86.4	91
Basic oxygen furnaces, percent	42.6	38.2	38.7	39.7	41
Electric arc furnaces, percent	57.4	61.8	61.3	60.3	59
Continuously cast steel, percent	96.4	97.5	97.4	98.0	99
Shipments:					
Steel mill products	89.4	56.4	75.7	83.3	89
Steel castings ^{e,3}	0.7	0.4	0.4	0.4	0.4
Iron castings ^{e,3}	7.4	4.0	4.0	4.0	4.0
Imports of steel mill products	29.0	14.7	21.7	25.9	31
Exports of steel mill products	12.2	8.4	11.0	12.2	13
Apparent steel consumption ⁴	102	63	80	90	101
Producer price index for steel mill products (1982=100) ⁵	220.6	165.2	191.7	216.2	200
Steel mill product stocks at service centers, yearend ⁶	7.8	5.6	7.0	7.6	7
Total employment, average, number:					
Blast furnaces and steel mills	99,000	85,000	87,000	94,000	90,000
Iron and steel foundries ^e	86,000	86,000	86,000	86,000	86,000
Net import reliance ⁷ as a percentage of apparent consumption	13	11	6	7	11

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

Import Sources (2008–11): Canada, 24%; European Union, 16%; Mexico, 11%; Republic of Korea, 8%; and other, 41%.

Tariff:	Item	Number	Normal Trade Relations 12–31–12
	Pig iron	7201.00.0000	Free.
	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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Events, Trends, and Issues: The expansion or contraction of gross domestic product (GDP) may be considered a predictor of the health of the steelmaking and steel manufacturing industries, worldwide and domestically. The World Bank's (WB) global GDP growth forecast for 2013 and 2014 was 3.0% and 3.3%, respectively, after 2.5% in 2012. The WB forecast that the U.S. economy would expand in 2013 and 2014 at rates of 2.4% and 2.8%, respectively.

According to the Institute of Supply Management (ISM), economic activity in the manufacturing sector expanded in October 2012 for the second consecutive month following 3 consecutive months of slight contraction, and the overall economy grew for the 41st consecutive month. The ISM manufacturing Purchasing Managers Index fluctuated between 49.6 and 54.8 during the 12 months ending October 2012 while averaging 52.2, which corresponds to a 3.2% increase in real GDP. An index in excess of 42.6 for a period of time generally indicates an expansion of the overall economy.

MEPS International Inc. forecast total world steel production in 2012 to be 5% more than that in 2011. MEPS also forecast changes in steel production in 2012 in Asia (excluding China), Africa/Middle East, China, the Commonwealth of Independent States/other Europe, European Union, North America, and South America, of 2.4%, 8.1%, 7.9%, 3.6%, 1.6%, 4.7%, and 5.4%, respectively. China accounted for about 47% of world steel production.

According to the World Steel Association, world apparent steel consumption (ASC) was expected to increase by 2.1% to 1.41 billion tons in 2012, and increase by 3.2% to 1.46 billion tons in 2013. ASC in China, the world's leading producer and consumer of steel, is expected to increase by 2.5% and by 3.1% in 2012 and 2013, to 640 million tons and 659 million tons, respectively. ASC for North America is expected to increase by 7.5% in 2012 to 130 million tons and by 3.6% in 2013 to 135 million tons. ASC for India is expected to increase by 5.5% and 5.0% in 2012 and 2013, respectively. The global steel industry has been struggling from the impact of the debt crisis in Europe and slowing demand and oversupply in China. The global economy unexpectedly deteriorated during the second quarter of 2012 owing to continued uncertainty in the Euro area and a sharper than expected slowing of the China economy.

World Production:

	Pig iron		Raw steel	
	<u>2011</u>	<u>2012^e</u>	<u>2011</u>	<u>2012^e</u>
United States	30	33	86	91
Brazil	31	27	33	35
China	630	670	683	720
France	10	10	16	16
Germany	28	27	44	43
India	39	42	72	76
Japan	81	82	108	108
Korea, Republic of	42	42	69	70
Russia	50	51	68	72
Ukraine	29	29	35	34
United Kingdom	7	7	10	10
Other countries	<u>113</u>	<u>80</u>	<u>296</u>	<u>225</u>
World total (rounded)	1,090	1,100	1,520	1,500

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 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 Ore and Iron and Steel Scrap.

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

³U.S. Census Bureau.

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

⁵U.S. Department of Labor, Bureau of Labor Statistics.

⁶Metals Service Center Institute.

⁷Defined as imports - exports + adjustments for Government and industry stock changes.