

## IRON AND STEEL<sup>1</sup>

(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 2009 and 2010 that were estimated to be valued at \$74 billion and \$139 billion, respectively. Pig iron was produced by 5 companies operating integrated steel mills in 15 locations. About 56 companies produce raw steel at about 114 minimills. Combined production capability was about 108 million tons. Indiana accounted for 24% of total raw steel production, followed by Ohio, 10%, Michigan, 7%, and Pennsylvania, 7%. The distribution of steel shipments was estimated to be: warehouses and steel service centers, 25%; construction, 22%; transportation (predominantly automotive), 13%; cans and containers, 3%; and other, 37%.

<b>Salient Statistics—United States:</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010<sup>e</sup></b>
Pig iron production <sup>2</sup>	37.9	36.3	33.7	19.0	29
Steel production:	98.2	98.1	91.9	59.4	90
Basic oxygen furnaces, percent	42.9	41.8	42.6	38.2	39
Electric arc furnaces, percent	57.1	58.2	57.4	61.8	61
Continuously cast steel, percent	96.7	96.7	96.4	97	97
Shipments:					
Steel mill products	99.3	96.5	89.3	56.4	76
Steel castings <sup>e,3</sup>	<sup>e</sup> 0.7	<sup>e</sup> 0.7	<sup>e</sup> 0.7	<sup>e</sup> 0.4	0.4
Iron castings <sup>e,3</sup>	<sup>e</sup> 7.4	<sup>e</sup> 7.4	<sup>e</sup> 7.4	<sup>e</sup> 4.0	4.0
Imports of steel mill products	41.1	30.2	29.0	14.7	22
Exports of steel mill products	8.8	10.1	12.2	8.4	11
Apparent steel consumption <sup>4</sup>	120	116	102	63	82
Producer price index for steel mill products (1982=100) <sup>5</sup>	174.1	182.9	220.6	165.2	200
Steel mill product stocks at service centers yearend <sup>6</sup>	15.0	9.3	7.8	5.6	6.7
Total employment, average, number					
Blast furnaces and steel mills	102,000	102,000	107,000	<sup>e</sup> 109,000	110,000
Iron and steel foundries <sup>e</sup>	95,000	95,000	86,000	86,000	86,000
Net import reliance <sup>7</sup> as a percentage of apparent consumption	17	16	13	11	7

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

**Import Sources (2006–09):** Canada, 19%; European Union, 15%; China, 13%; Mexico, 9%; and other, 44%.

<b>Tariff:</b>	<b>Item</b>	<b>Number</b>	<b>Normal Trade Relations</b>
			<b>12-31-10</b>
	Pig iron	7201.10.0000	Free.
	Carbon steel:		
	Semifinished	7207.12.0050	Free.
	Hot-rolled, pickled	7208.27.0060	Free.
	Sheets, hot-rolled	7208.39.0030	Free.
	Cold-rolled	7209.18.2550	Free.
	Galvanized	7210.49.0090	Free.
	Bars, hot-rolled	7213.20.0000	Free.
	Structural shapes	7216.33.0090	Free.
	Stainless steel:		
	Semifinished	7218.91.0015	Free.
	Do.	7218.99.0015	Free.
	Cold-rolled sheets	7219.33.0035	Free.
	Bars, cold-finished	7222.20.0075	Free.
	Pipe and tube	7304.41.3045	Free.

**Depletion Allowance:** Not applicable.

**Government Stockpile:** None.

## IRON AND STEEL

**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 global GDP growth forecast for 2010 and 2011 was 2.7% and 3.2%, respectively, after 2.2% in 2009. The Federal Reserve Bank of Philadelphia survey of forecasters showed the economy expanding in 2010 and 2011 at rates of 4.2% and 4.3%, respectively, after contracting at a rate of 2.6% in 2009.

According to the Institute of Supply Management (ISM), economic activity in the manufacturing sector expanded in September 2010 for the 14th consecutive month and the overall economy grew for the 17th consecutive month. However, the ISM manufacturing index declined steadily during 2010 from its high in January 2010, suggesting weaker demand for steel products and slower growth in manufacturing activity during the remainder of 2010.

MEPS (International) Inc. forecast total world steel production in 2010 to be up 14% from that in 2009. MEPS also forecast increasing steel production in 2010 in the European Union, South America, Asia, the Commonwealth of Independent States (CIS), and Africa of 22%, 13%, 12%, 8%, and 6%, respectively.

According to the World Steel Association, world apparent steel consumption (ASC) was expected to increase by 5% in 2011, after increasing by 13% during 2010. China's ASC was expected to increase by 3.5% in 2011 and was expected to account for 46% of world steel consumption. ASC in India was expected to increase by 14% in 2011. ASC in the United States was expected to increase by 8% in 2011. European Union ASC was expected to increase by almost 6% in 2011 after increasing 19% in 2010.

### World Production:

	Pig iron		Raw steel	
	<u>2009</u>	<u>2010<sup>e</sup></u>	<u>2009</u>	<u>2010<sup>e</sup></u>
United States	19	29	59	90
Brazil	35	32	34	33
China	544	600	568	630
France	8	10	13	16
Germany	20	29	33	44
India	30	39	57	67
Japan	86	82	88	110
Korea, Republic of	30	31	53	56
Russia	44	47	59	66
Ukraine	26	26	30	31
United Kingdom	8	7	10	10
Other countries	<u>85</u>	<u>67</u>	<u>236</u>	<u>250</u>
World total (rounded)	935	1,000	1,240	1,400

**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.

<sup>e</sup>Estimated. Do. Ditto.

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

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

<sup>3</sup>U.S. Census Bureau.

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

<sup>5</sup>U.S. Department of Labor, Bureau of Labor Statistics.

<sup>6</sup>Metals Service Center Institute.

<sup>7</sup>Defined as imports - exports + adjustments for Government and industry stock changes.