

ZINC

(Data in thousand metric tons of zinc content unless otherwise noted)

Domestic Production and Use: The value of zinc mined in 2011, based on zinc contained in concentrate, was about \$1.78 billion. It was produced in 4 States at 13 mines operated by 4 companies. Two facilities—one primary and the other secondary—produced the bulk of refined zinc metal of commercial grade in 2011. Of the total zinc consumed, about 55% was used in galvanizing, 21% in zinc-based alloys, 16% in brass and bronze, and 8% in other uses. Zinc compounds and dust were used principally by the agriculture, chemical, paint, and rubber industries.

Salient Statistics—United States:	2007	2008	2009	2010	2011^e
Production:					
Mine, zinc in ore and concentrate	803	778	736	748	760
Primary slab zinc	121	125	94	120	117
Secondary slab zinc	157	161	109	129	134
Imports for consumption:					
Zinc in ore and concentrate	271	63	74	32	30
Refined zinc	758	725	686	671	690
Exports:					
Zinc in ore and concentrate	816	725	785	752	630
Refined zinc	8	3	3	4	20
Shipments from Government stockpile	10	(¹)	(¹)	—	—
Consumption, apparent, refined zinc	1,040	1,010	893	907	924
Price, average, cents per pound:					
North American ²	154.4	88.9	77.9	102.0	106.0
London Metal Exchange (LME), cash	147.0	85.0	75.1	98.0	100.0
Reported producer and consumer stocks, slab zinc, yearend	55	56	49	58	55
Employment:					
Mine and mill, number ³	2,290	2,520	1,580	1,790	2,180
Smelter primary, number	264	250	248	255	255
Net import reliance ⁴ as a percentage of apparent consumption (refined zinc)	73	72	77	73	73

Recycling: In 2011, about 53% (134,000 tons) of the slab zinc produced in the United States was recovered from secondary materials—mainly electric arc furnace dust, as well as galvanizing residues.

Import Sources (2007–10): Ore and concentrate: Peru, 69%; Ireland, 25%; Canada, 3%; and Mexico, 3%. Metal: Canada, 77%; Mexico, 13%; Peru, 3%; Kazakhstan, 3%; and other, 4%. Waste and scrap: Canada, 60%; Mexico, 28%; Italy, 4%; Thailand, 3%; and other, 5%. Combined total: Canada, 67%; Peru, 12%; Mexico, 12%; Ireland, 3%; and other, 6%.

Tariff: Item	Number	Normal Trade Relations⁵ 12-31-11
Zinc ores and concentrates, Zn content	2608.00.0030	Free.
Hard zinc spelter	2620.11.0000	Free.
Zinc oxide and zinc peroxide	2817.00.0000	Free.
Unwrought zinc, not alloyed:		
Containing 99.99% or more zinc	7901.11.0000	1.5% ad val.
Containing less than 99.99% zinc:		
Casting-grade	7901.12.1000	3% ad val.
Other	7901.12.5000	1.5% ad val.
Zinc alloys	7901.20.0000	3% ad val.
Zinc waste and scrap	7902.00.0000	Free.

Depletion Allowance: 22% (Domestic), 14% (Foreign).

Government Stockpile:**Stockpile Status—9-30-11⁶**

Material	Uncommitted inventory	Authorized for disposal	Disposal plan FY 2011	Disposals FY 2011
Zinc	7	7	7	—

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Events, Trends, and Issues: Global zinc mine production in 2011 increased by 4% to 12.4 million tons, mostly owing to increases in zinc mine production in China, India, Mexico, and Russia. According to the International Lead and Zinc Study Group, refined metal production increased by 3% to 13.2 million tons, while world metal consumption increased by 2% to 12.9 million tons, resulting in a market surplus of 317,000 tons of metal. A smaller surplus is anticipated in 2012. Demand for zinc generally follows industrial production or, more generally, global economic growth. Global economic activity slowed in 2011 from that of 2010, with growth in advanced economies considerably lagging behind those of emerging economies. Significant increases in zinc consumption in 2011 took place in Brazil, China, India, the Republic of Korea, and Turkey. However, in China, the rate of increase in apparent zinc consumption fell in 2011 owing to a destocking of unreported inventories that were built up in 2010. In Europe, zinc consumption increased slightly by 2.5%.

Domestically, zinc mine production increased in 2011 from that of 2010 owing to increased production at the zinc mining complexes in Tennessee. Primary production slightly decreased in 2011, as production at a zinc refinery in Tennessee underwent planned maintenance in the third quarter. Secondary zinc production increased from that of 2010 owing to increased production at a smelter in Pennsylvania during the first half of the year compared with production in the same period of 2010.

Monthly average zinc prices generally declined during the course of 2011, reaching annual peaks of about 113 cents per pound in February and July. The LME cash price for Special High Grade zinc averaged 108 cents per pound in January and decreased to 86 cents per pound by mid-October.

World Mine Production and Reserves: Reserve estimates for Australia, Canada, China, and Kazakhstan were revised based on new company information and country reports. All other reserve estimates were revised based on a commercially available database of reserves and resources of mines and potential mines.

	Mine production ⁸		Reserves ⁹
	2010	2011 ^e	
United States	748	760	12,000
Australia	1,480	1,400	56,000
Bolivia	411	430	5,000
Canada	649	660	4,200
China	3,700	3,900	43,000
India	700	790	12,000
Ireland	342	350	1,800
Kazakhstan	500	500	12,000
Mexico	518	630	17,000
Peru	1,470	1,400	19,000
Other countries	1,490	1,600	68,000
World total (rounded)	12,000	12,400	250,000

World Resources: Identified zinc resources of the world are about 1.9 billion metric tons.

Substitutes: Aluminum, plastics, and steel substitute for galvanized sheet. Aluminum, magnesium, and plastics are major competitors as diecasting materials. Aluminum alloy, cadmium, paint, and plastic coatings replace zinc for corrosion protection; aluminum alloys substitute for brass. Many elements are substitutes for zinc in chemical, electronic, and pigment uses.

^eEstimated. — Zero.

¹Less than ½ unit.

²Platts Metals Week price for North American Special High Grade zinc; based on the London Metal Exchange cash price plus premiums or discounts, depending on market conditions.

³Includes mine and mill employment at all zinc-producing mines. Source: Mine Safety and Health Administration.

⁴Defined as imports – exports + adjustments for Government and industry stock changes.

⁵No tariff for Canada, Mexico, and Peru for items shown.

⁶See Appendix B for definitions.

⁷Actual quantity limited to remaining inventory.

⁸Zinc content of concentrate and direct shipping ore.

⁹See Appendix C for resource/reserve definitions and information concerning data sources.