

ZINC

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

Domestic Production and Use: The value of zinc mined in 2009, based on zinc contained in concentrate, was about \$1.18 billion. It was produced in 6 States at 13 mines operated by 6 companies. Two facilities—one primary and the other secondary—produced the bulk of refined zinc metal of commercial grade in 2009. 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. Major coproducts of zinc mining and smelting were lead, sulfuric acid, cadmium, silver, gold, and germanium.

Salient Statistics—United States:	2005	2006	2007	2008	2009^e
Production:					
Mine, zinc in ore and concentrate	748	727	803	778	690
Primary slab zinc	195	113	121	125	100
Secondary slab zinc	156	156	157	161	115
Imports for consumption:					
Zinc in ore and concentrate	156	383	271	63	75
Refined zinc	700	895	758	725	700
Exports:					
Zinc in ore and concentrate	786	825	816	725	850
Refined zinc	1	3	8	3	3
Shipments from Government stockpile	27	30	10	(¹)	(¹)
Consumption, apparent, refined zinc	1,080	1,190	1,040	998	920
Price, average, cents per pound:					
North American ²	67.1	158.9	154.4	88.9	78.0
London Metal Exchange (LME), cash	62.7	148.5	147.0	85.0	75.0
Producer and consumer stocks, slab zinc, yearend	71	70	68	78	70
Employment:					
Mine and mill, number ³	1,620	1,680	2,290	2,520	1,540
Smelter primary, number	600	246	264	250	230
Net import reliance ⁴ as a percentage of apparent consumption (refined zinc)	67	77	73	71	76

Recycling: In 2009, about 54% (117,000 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 (2005-08): Ore and concentrate: Peru, 68%; Ireland, 15%; Mexico, 14%; Canada, 2%; and other, 1%. Metal: Canada, 70%; Mexico, 15%; Kazakhstan, 3%; Republic of Korea, 3%; and other, 9%. Waste and scrap: Canada, 69%; Mexico, 19%; Italy, 4%; Thailand, 3%; and other, 5%. Combined total: Canada, 55%; Peru, 15%; Mexico, 15%; Ireland, 3%; and other, 12%.

Tariff: Item	Number	Normal Trade Relations⁵ 12-31-09
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:

Material	Stockpile Status—9-30-09^{6,7}			
	Uncommitted inventory	Authorized for disposal	Disposal plan FY 2009	Disposals FY 2009
Zinc	7	7	⁸ 27	(¹)

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Events, Trends, and Issues: According to the International Lead and Zinc Study Group's October 2009 forecast, global zinc mine production fell 5.4% to 11.1 million metric tons as a result of mine closures and cutbacks during late 2008 and early 2009. Refined metal production fell 4.7% to 11.1 million metric tons, while world consumption fell 5.6% to 10.8 million metric tons, resulting in a surplus of 380,000 tons of metal on the market. Another surplus is anticipated in 2010.

Global economic activity continued to contract during the first half of 2009, with the notable exception of China and India. As global economic activity began recovering during the third quarter, global demand for zinc began to increase. By yearend, however, China (by 17%) and India (by 6%) were the only two countries where zinc consumption increased year over year. China's rise in consumption is thought to have been supported partly by its fiscal stimulus package, which directed investment into infrastructure.

Domestically, several U.S. zinc-producing mines closed in early 2009 owing to low metal prices, including mines in Montana and Washington and a zinc-complex in Tennessee. Zinc smelters in Pennsylvania and Tennessee reduced production during this time in response to the downturn in the zinc market. As market conditions improved, a zinc mine in Tennessee restarted during the third quarter, but at a low production rate. The zinc smelters either returned to full production or increased production.

Despite the zinc metal market being in surplus during 2009, average monthly zinc prices increased over the course of the year, possibly owing to speculative investment. The LME cash price for Special High Grade zinc averaged 54 cents per pound in January and had risen to 94 cents per pound by October.

World Mine Production and Reserves: Reserves estimates were revised, excluding Australia and China, based on a commercially available database of reserves and resources of mines and potential mines.

	Mine production ⁹		Reserves ¹⁰
	2008	2009 ^e	
United States	778	690	14,000
Australia	1,480	1,300	21,000
Canada	750	730	8,000
China	3,200	2,800	33,000
India	610	650	10,000
Ireland	400	380	2,000
Kazakhstan	460	490	17,000
Mexico	400	520	14,000
Peru	1,600	1,470	19,000
Other countries	1,920	2,090	62,000
World total (rounded)	11,600	11,100	200,000

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.

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 and Mexico for items shown.

⁶See Appendix B for definitions.

⁷Sales of zinc under Basic Ordering Agreement DLA-ZINC-004 were suspended on August 6, 2008.

⁸Actual quantity will be limited to remaining inventory.

⁹Zinc content of concentrate and direct shipping ore.

¹⁰See Appendix C for definitions. Reserve base estimates were discontinued in 2009; see Introduction.