

ZINC

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

Domestic Production and Use: The value of zinc mined in 2008, based on zinc contained in concentrate, was about \$1.51 billion. It was produced in 7 States at 16 mines operated by 9 companies. Two facilities—one primary and the other secondary—produced the bulk of refined zinc metal of commercial grade in 2008. 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, in order of decreasing tonnage, were lead, sulfuric acid, cadmium, silver, gold, and germanium.

Salient Statistics—United States:	2004	2005	2006	2007	2008^e
Production:					
Mine, zinc in ore and concentrate	739	748	727	803	770
Primary slab zinc ¹	194	195	113	121	122
Secondary slab zinc ¹	156	156	156	157	150
Imports for consumption:					
Zinc in ore and concentrate	231	156	383	271	44
Refined zinc ²	868	700	895	758	744
Exports:					
Zinc in ore and concentrate	745	786	825	816	851
Refined zinc	3	1	3	8	4
Shipments from Government stockpile	32	27	30	10	(³)
Consumption, apparent, refined zinc	1,250	1,080	1,200	1,050	1,010
Price, average, cents per pound:					
North American ⁴	52.5	67.1	158.9	154.4	89.0
London Metal Exchange (LME), cash	47.5	62.7	148.5	147.0	85.0
Producer and consumer stocks, slab zinc, yearend	63	61	47	35	40
Employment:					
Mine and mill, number ⁵	910	980	1,130	1,560	1,870
Smelter primary, number ^e	600	600	246	264	264
Net import reliance ⁶ as a percentage of apparent consumption (refined zinc)	72	67	78	74	73

Recycling: In 2008, an estimated 102,000 metric tons of zinc waste and scrap was exported, mainly to China (90%), and 17,000 metric tons was imported for consumption, most of which came from Canada (60%).

Import Sources (2004-07): Ore and concentrate: Peru, 69%; Ireland, 14%; Mexico, 12%; Australia, 4%; and other, 1%. Metal: Canada, 66%; Mexico, 16%; Republic of Korea, 4%; Australia, 3%; and other, 11%. Waste and scrap: Canada, 75%; Mexico, 15%; and other, 10%. Combined total: Canada, 50%; Peru, 17%; Mexico, 15%; Ireland, 3%; and other, 15%.

Tariff: Item	Number	Normal Trade Relations⁷ 12-31-08
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).

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Government Stockpile:**Stockpile Status—9-30-08^{8, 9}**

Material	Uncommitted inventory	Authorized for disposal	Disposal plan FY 2008	Disposals FY 2008
Zinc	7	7	¹⁰ 27	(³)

Events, Trends, and Issues: According to an October forecast from the International Lead and Zinc Study Group, in 2008, global zinc mine production increased by 3.9% to 11.6 million tons, refined metal production by 5.1% to 11.9 million tons, and consumption by 3.8% to 11.8 million tons. This leaves an excess of 150,000 tons of metal on the market, with a larger surplus anticipated in 2009.

Increased mine production was driven by expansions in Latin America and increased output in China, India, Iran, and Kazakhstan. Metal production rose as a result of increased output in China and India. A decline in zinc consumption in Europe and the United States during the year was offset by increased consumption in countries with emerging markets, particularly China, as well as Brazil and India. China's continued growth in demand was supported by the increased production of galvanized products—especially those used in transportation (highway barriers) and communication (galvanized iron towers) infrastructure.

Zinc prices continued to decline during 2008 as the metal market remained in surplus over the year. The LME cash price for zinc in October 2008 averaged \$1,301 per metric ton, an approximate 70% decline in value from its peak reached in 2006. A wave of zinc mine closings and cutbacks (particularly in Australia, Canada, and the United States) began around midyear as prices began to fall below operating costs, and a few smelters announced production cutbacks towards the end of the year in order to prevent an accumulation of stocks. Mines in New York and Tennessee closed in 2008 because of low zinc prices.

World Mine Production, Reserves, and Reserve Base:

	Mine production ¹¹		Reserves ¹²	Reserve base ¹²
	2007	2008 ^e		
United States	803	770	14,000	90,000
Australia	1,520	1,510	42,000	100,000
Canada	620	660	5,000	30,000
China	2,900	3,200	33,000	92,000
Kazakhstan	390	420	14,000	35,000
Mexico	430	460	7,000	25,000
Peru	1,440	1,450	18,000	23,000
Other countries	<u>2,800</u>	<u>2,840</u>	<u>49,000</u>	<u>87,000</u>
World total (rounded)	10,900	11,300	180,000	480,000

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.

¹Production estimate increases resulted from reanalysis of and revisions to data.

²Revised to include casting-grade zinc (Tariff no. 7901.12.1000).

³Less than ½ unit.

⁴Platts Metals Week price for North American Special High Grade zinc.

⁵Includes mine and mill employment at lead-zinc, zinc, and zinc-lead producing mines only. Source: Mine Safety and Health Administration.

⁶Defined as imports – exports + adjustments for Government and industry stock changes.

⁷No tariff for Canada and Mexico for items shown.

⁸[See Appendix B for definitions.](#)

⁹Sales of zinc under Basic Ordering Agreement DLA-ZINC-004 were suspended on August 6, 2008.

¹⁰Actual quantity will be limited to remaining inventory.

¹¹Zinc content of concentrate and direct shipping ore.

¹²[See Appendix C for definitions.](#)