

ZINC

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

Domestic Production and Use: The value of zinc mined in 2010, based on zinc contained in concentrate, was about \$1.65 billion. It was produced in 4 States at 12 mines operated by 4 companies. Two facilities—one primary and the other secondary—produced the bulk of refined zinc metal of commercial grade in 2010. 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:	2006	2007	2008	2009	2010^e
Production:					
Mine, zinc in ore and concentrate	727	803	778	736	720
Primary slab zinc	113	121	125	94	120
Secondary slab zinc	156	157	161	109	85
Imports for consumption:					
Zinc in ore and concentrate	383	271	63	74	30
Refined zinc	895	758	725	686	700
Exports:					
Zinc in ore and concentrate	825	816	725	785	700
Refined zinc	3	8	3	3	4
Shipments from Government stockpile	30	10	(¹)	(¹)	—
Consumption, apparent, refined zinc	1,190	1,040	1,010	893	901
Price, average, cents per pound:					
North American ²	158.9	154.4	88.9	77.9	104
London Metal Exchange (LME), cash	148.5	147.0	85.0	75.1	100
Reported producer and consumer stocks, slab zinc, yearend	60	55	56	49	49
Employment:					
Mine and mill, number ³	1,680	2,290	2,520	1,580	1,740
Smelter primary, number ⁴	246	264	250	248	250
Net import reliance ⁴ as a percentage of apparent consumption (refined zinc)	77	73	72	77	77

Recycling: In 2010, about 41% (85,000 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 (2006–09): Ore and concentrate: Peru, 69%; Ireland, 16%; Mexico, 13%; and Canada, 2%. Metal: Canada, 73%; Mexico, 13%; Kazakhstan, 3%; Republic of Korea, 3%; and other, 8%. Waste and scrap: Canada, 64%; Mexico, 24%; Italy, 4%; Thailand, 3%; and other, 5%. Combined total: Canada, 59%; Peru, 16%; Mexico, 13%; Ireland, 3%; and other, 9%.

Tariff: Item	Number	Normal Trade Relations⁵ 12-31-10
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—9-30-10^{6,7}		Disposal plan FY 2010⁸	Disposals FY 2010
	Uncommitted inventory⁷	Authorized for disposal⁷		
Zinc	7	7	8	—

ZINC

Events, Trends, and Issues: Global zinc mine production in 2010 was forecast to increase to 12 million tons, mostly owing to increases in zinc mine production in Australia and China. According to the International Lead and Zinc Study Group, refined metal production increased by 11% to 12.5 million tons, while world metal consumption increased by 13% to 12.3 million tons, resulting in a market surplus of 233,000 tons of metal. A smaller surplus is anticipated in 2011. Demand for zinc generally follows industrial production or, more generally, global economic growth. Global economic activity expanded during 2010, albeit at a sluggish pace. The rate of growth in the United States and Japan was slower than that of Europe and the major emerging economies—most notably Brazil, China, and India. The rise in global zinc consumption in 2010 was credited to a strong recovery of consumption in Europe (24%) as well as continued strong growth in consumption in China (11%).

Domestically, production continued to ramp up at two recently reopened zinc mining complexes in Tennessee. However, overall zinc mine production decreased in 2010 from that of 2009 owing to the loss of production from mines in Montana and Washington, both of which had ceased operations in 2009. Primary production returned to normal levels in 2010, as production at the zinc refinery in Tennessee was near capacity throughout the year. Secondary zinc production decreased from that of 2009, as the zinc smelter in Pennsylvania halted production from July through November as a result of a fire at the plant.

After declining through the first half of the year, average monthly zinc prices rebounded during the second half of 2010. The LME cash price for Special High Grade zinc averaged 110 cents per pound in January, decreased to 79 cents per pound by midyear, and then rose to 106 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
	2009	2010 ^e	
United States	736	720	12,000
Australia	1,290	1,450	53,000
Bolivia	422	430	6,000
Canada	699	670	6,000
China	3,100	3,500	42,000
India	695	750	11,000
Ireland	386	350	2,000
Kazakhstan	480	480	16,000
Mexico	390	550	15,000
Peru	1,510	1,520	23,000
Other countries	1,490	1,580	62,000
World total (rounded)	11,200	12,000	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.

⁶[See Appendix B for definitions.](#)

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

⁸Actual quantity limited to remaining inventory.

⁹Zinc content of concentrate and direct shipping ore.

¹⁰[See Appendix C for resource/reserve definitions and information concerning data sources.](#)