

ZINC

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

Domestic Production and Use: The value of zinc mined in 2012, based on zinc contained in concentrate, was about \$1.53 billion. It was produced in 3 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 2012. 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 agricultural, chemical, paint, and rubber industries.

Salient Statistics—United States:	2008	2009	2010	2011	2012^e
Production:					
Mine, zinc in ore and concentrate	778	736	748	769	748
Primary slab zinc	125	94	120	110	115
Secondary slab zinc	161	109	129	138	150
Imports for consumption:					
Zinc in ore and concentrate	63	74	32	27	6
Refined zinc	725	686	671	716	680
Exports:					
Zinc in ore and concentrate	725	785	752	660	448
Refined zinc	3	3	4	19	13
Shipments from Government stockpile	(¹)	(¹)	—	—	—
Consumption, apparent, refined zinc	1,010	893	907	939	942
Price, average, cents per pound:					
North American ²	88.9	77.9	102.0	106.2	93.0
London Metal Exchange (LME), cash	85.0	75.1	98.0	99.5	86.0
Reported producer and consumer stocks, slab zinc, yearend	58	85	108	114	104
Employment:					
Mine and mill, number ³	2,520	1,580	1,790	2,240	2,250
Smelter primary, number	250	248	255	244	244
Net import reliance ⁴ as a percentage of apparent consumption (refined zinc)	72	77	73	74	72

Recycling: In 2012, about 57% (150,000 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 (2008–11): Ore and concentrate: Peru, 81%; Canada, 7%; Ireland, 6%; Mexico, 6%. Metal: Canada, 74%; Mexico, 12%; Peru, 6%; Spain, 2%; and other, 6%. Waste and scrap: Canada, 63%; Mexico, 32%; Dominican Republic, 2%; Netherlands, 1%; and other, 2%. Combined total: Canada, 69%; Mexico, 12%; Peru, 10%; Spain, 2%; and other, 7%.

Tariff: Item	Number	Normal Trade Relations⁵ 12–31–12
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—9–30–12⁶		Disposal plan FY 2012	Disposals FY 2012
	Uncommitted inventory	Authorized for disposal		
Zinc	7	7	77	—

ZINC

Events, Trends, and Issues: Global zinc mine production in 2012 increased slightly to 13 million tons. According to the International Lead and Zinc Study Group, refined metal production decreased by 2% to 12.9 million tons in 2012, and world metal consumption also declined slightly to 12.7 million tons, resulting in a market surplus of 153,000 tons of metal. A larger surplus was anticipated in 2013. Significant increases in zinc consumption in 2012 took place in India, Indonesia, the Republic of Korea, and Turkey. Consumption rose slightly in the United States while remaining flat in Japan. In China, consumption rose by only 0.5%, and in Europe, zinc consumption contracted by 5%.

Domestic zinc mine production decreased in 2012 from that of 2011 despite an increase in zinc production from zinc mines in Tennessee. A zinc-lead mine in Alaska produced significantly less zinc as a result of lower ore-processing rates, and a zinc-producing mine in Idaho was temporarily idled for the year while the company carried out underground structural work. Zinc metal production rose in 2012 owing mostly to increased secondary zinc production from a smelter in Pennsylvania, which began sourcing higher quality raw materials in the first quarter, and subsequently improved zinc recovery rates during the year. Apparent zinc consumption increased in 2012 from that of 2011 owing to increased demand for zinc at continuous galvanizing plants.

Monthly average North American Special High Grade (SHG) zinc prices began the year at \$0.97 per pound in January, peaked in February at \$1.01 per pound, and then declined through the following months, reaching a low of \$0.91 per pound in August. By mid-October, prices averaged about \$0.92 per pound. North American SHG zinc premiums began the year at 7 cents per pound and increased to 7.5 cents per pound by September.

World Mine Production and Reserves: Reserve estimates for Canada, India, Ireland, Mexico, Peru, and the United States were revised based on a commercially available database of reserves and resources of mines and potential mines. The reserve estimate for Australia was revised based on new information provided by Geoscience Australia, and the reserve estimate for Kazakhstan was revised based on new company information.

	Mine production ⁸		Reserves ⁹
	2011	2012 ^e	
United States	769	748	11,000
Australia	1,520	1,490	70,000
Bolivia	427	430	6,000
Canada	612	640	7,800
China	4,310	4,600	43,000
India	710	690	12,000
Ireland	340	345	1,300
Kazakhstan	495	420	10,000
Mexico	632	630	16,000
Peru	1,260	1,270	18,000
Other countries	1,730	1,770	55,000
World total (rounded)	12,800	13,000	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 SHG 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. Apparent consumption from 2008 through 2010 does not necessarily reflect reported industry stock changes. Stocks increased during these years owing to an increased response rate from industry.

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.