

ZINC

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

Domestic Production and Use: The value of zinc mined in 2014, based on zinc contained in concentrate, was about \$1.94 billion. Zinc was mined in 4 States at 14 mines operated by 4 companies. Four facilities, one primary and three secondary, operated by three companies produced commercial-grade zinc metal. Of the total reported zinc consumed, about 80% was used in galvanizing, 6% in brass and bronze, 5% in zinc-base alloys, and 9% in other uses.

Salient Statistics—United States:	2010	2011	2012	2013	2014^e
Production:					
Mine, zinc in concentrate	748	769	738	784	820
Metal production					
At primary smelters	120	110	114	106	115
At secondary smelters	129	138	147	127	70
Imports for consumption:					
Zinc in ore and concentrate	32	27	6	3	—
Refined zinc	671	716	655	713	810
Exports:					
Zinc in ore and concentrate	752	653	591	669	650
Refined zinc	4	18	14	12	15
Shipments from Government stockpile	—	—	—	—	—
Consumption, apparent, refined zinc ¹	907	939	891	940	990
Price, average, cents per pound:					
North American ²	102.0	106.2	95.8	95.6	107.5
London Metal Exchange (LME), cash	98.0	99.5	88.3	86.6	98.5
Reported producer and consumer stocks, refined zinc, yearend	108	145	156	150	140
Employment:					
Mine and mill, number ³	1,790	2,240	2,310	2,560	2,600
Smelter, primary ⁴ , number	255	244	252	257	257
Net import reliance ⁴ as a percentage of apparent consumption (refined zinc)	73	74	71	75	81

Recycling: In 2014, about 52% (95,000 tons) of the refined zinc produced in the United States was recovered from secondary materials at both primary and secondary smelters. Secondary materials included galvanizing residues and crude zinc oxide recovered from electric arc furnace dust.

Import Sources (2010–13): Ore and concentrate: Peru, 74%; Canada, 16%; Mexico, 8%; and Turkey%. Refined metal: Canada, 69%; Mexico, 13%; Peru, 8%; Australia, 4%; and other, 6%. Waste and scrap: Canada, 69%; Mexico, 28%; Dominican Republic, 2%; and other, 1%. Combined total: Canada, 68%; Mexico, 13%; Peru, 9%; and other, 10%.

Tariff: Item	Number	Normal Trade Relations⁵ 12–31–14
Zinc ores and concentrates, Zn content	2608.00.0030	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.

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

Government Stockpile:**Stockpile Status—9–30–14⁶**

Material	Inventory	Disposal Plan FY 2014	Disposals FY 2014
Zinc	7	—	—

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Events, Trends, and Issues: Global zinc mine production in 2014 was 13.3 million tons, essentially unchanged from that of 2013. According to the International Lead and Zinc Study Group, refined zinc production in 2014 increased by 3% to 13.25 million tons, and metal consumption rose by 5% to 13.65 million tons, resulting in a production-to-consumption deficit of about 400,000 tons of refined zinc. Domestic zinc mine production increased by 5% in 2014 from that of 2013 owing to increased production at the Red Dog Mine in Alaska; mill throughput at the mine rose significantly as a result of processing softer ores from the Aqqaluk deposit. The Pend Oreille Mine in Washington reopened in 2014 and began shipping concentrates by yearend. At full production, the mine could produce zinc in concentrate at a rate of 44,000 tons per year. Zinc metal production decreased by 20% owing to a decline in secondary production; a zinc-recycling company closed its smelter in Pennsylvania coincident with the startup of its new 140,000-metric-ton-per-year recycling facility in North Carolina in the second quarter. Technical issues, however, delayed rampup efforts at the new facility in the latter half of the year. Apparent zinc consumption increased by 5% in 2014 as reflected by a rise in net imports of unwrought zinc and a decline in yearend industry stocks. Increased consumption was attributed to increased U.S. residential construction and infrastructure development.

North American Special High Grade (SHG) zinc prices averaged \$1.01 per pound in the first quarter of 2014, \$1.03 per pound in the second quarter, and \$1.14 per pound during the third quarter. North American SHG zinc premiums began the year at about 9.3 cents per pound and remained around that level through April, after which they declined to just under 9 cents per pound by October.

In November, the U.S. Senate Permanent Subcommittee on Investigations released a report revealing that several financial holding companies used their physical commodity activities to gain access to commercially valuable nonpublic information and thus gained unfair trading advantages in these markets. Two banks owned and operated a network of metal warehouses in the United States that stored LME-registered metal, including zinc, during the year.

World Mine Production and Reserves: Reserves estimates for Bolivia, Canada, Ireland, Mexico, and other countries were revised based on company data. The reserves estimates for Australia and Peru were revised based on data from Government reports.

	Mine production ⁷		Reserves ⁸
	2013	2014 ^e	
United States	784	820	10,000
Australia	1,520	1,500	⁹ 62,000
Bolivia	407	410	4,500
Canada	426	350	5,900
China	5,000	5,000	43,000
India	793	700	11,000
Ireland	327	300	1,100
Kazakhstan	362	330	10,000
Mexico	643	700	16,000
Peru	1,350	1,300	29,000
Other countries	1,800	1,900	42,000
World total (rounded)	13,400	13,300	230,000

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

Substitutes: Aluminum and plastics substitute for galvanized sheet in automobiles; and aluminum alloy, cadmium, paint, and plastic coatings replace zinc coatings in other applications. Aluminum- and magnesium-based alloys are major competitors for zinc-based die-casting alloys. Many elements are substitutes for zinc in chemical, electronic, and pigment uses.

^eEstimated. — Zero.

¹Apparent consumption in 2010 and 2011 does not necessarily reflect reported industry stock changes. Stocks increased during these years owing to an increased response rate from industry.

²Platts Metals Week price for North American SHG zinc; based on the LME cash price plus premium.

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. The net import reliance from 2009 to 2011 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.

⁷Zinc content of concentrate and direct shipping ore.

⁸See [Appendix C](#) for resource/reserve definitions and information concerning data sources.

⁹For Australia, Joint Ore Reserves Committee (JORC)-compliant reserves were 28.9 million tons.