

ZINC

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

Domestic Production and Use: The value of zinc mined in 2020, based on zinc contained in concentrate, was about \$1.6 billion. Zinc was mined in five States at 14 mines operated by five companies. Three smelter facilities, one primary and two secondary, operated by three companies, produced commercial-grade zinc metal. Of the total reported zinc consumed, most was used in galvanizing, followed by brass and bronze, zinc-based alloys, and other uses.

Salient Statistics—United States:	2016	2017	2018	2019	2020^e
Production:					
Zinc in ores and concentrates	805	774	824	753	670
Refined zinc ¹	126	132	116	115	150
Imports for consumption:					
Zinc in ores and concentrates	(2)	7	(2)	(2)	4
Refined zinc	713	729	775	830	710
Exports:					
Zinc in ores and concentrates	597	682	806	796	560
Refined zinc	47	33	23	5	2
Shipments from Government stockpile	—	—	—	—	—
Consumption, apparent, refined zinc ³	792	829	868	939	860
Price, average, cents per pound:					
North American ⁴	101.4	139.3	141.0	124.1	109.0
London Metal Exchange (LME), cash	94.8	131.2	132.7	115.6	101.0
Stocks, reported producer and consumer, refined zinc, yearend					
	79	114	119	116	130
Employment, number:					
Mine and mill ⁵	2,350	2,420	2,630	2,490	2,400
Smelter, primary	246	240	250	250	250
Net import reliance ⁶ as a percentage of apparent consumption:					
Ores and concentrates	E	E	E	E	E
Refined zinc	84	84	87	88	83

Recycling: In 2020, an estimated one-third 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 (2016–19): Ores and concentrates: Peru, 98%; the Republic of Korea, 1%; other, 1%. Refined metal: Canada, 64%; Mexico, 14%; Peru, 7%; Spain, 7%; and other, 8%. Waste and scrap (gross weight): Canada, 65%; Mexico, 33%; and other, 2%. Combined total (includes gross weight of waste and scrap): Canada, 64%; Mexico, 14%; Peru, 8%; Spain, 7%; and other, 7%.

Tariff:	Item	Number	Normal Trade Relations 12–31–20
	Zinc ores and concentrates, Zn content	2608.00.0030	Free.
	Zinc oxide; 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:⁷

Material	FY 2020			FY 2021	
	Inventory as of 9–30–20	Potential acquisitions	Potential disposals	Potential acquisitions	Potential disposals
Zinc	7.25	—	7.25	—	7.25

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Events, Trends, and Issues: Global zinc mine production in 2020 was estimated to be 12 million tons, a 6% decrease from that of 2019. Government-mandated lockdowns and a decrease in zinc prices following the onset of the global COVID-19 pandemic resulted in a decrease in zinc mine production in many countries, particularly in South America.

According to the International Lead and Zinc Study Group,⁸ global refined zinc production in 2020 was estimated to increase slightly to 13.60 million tons, and metal consumption was estimated decrease by 5% to 12.98 million tons, resulting in a production-to-consumption surplus of about 620,000 tons of refined zinc.

Domestic zinc mine production decreased in 2020, owing partially to the closure of the Pend Oreille Mine in Washington State in 2019 after current reserves were exhausted and a decrease in production at the Red Dog Mine in Alaska related to the mining of lower grade ores after a change in the mine plan to manage water levels at the site. Refined zinc production increased after the reopening of an idled secondary zinc refinery in North Carolina in March. Apparent consumption of refined zinc decreased to an estimated 860,000 tons in 2020, consistent with a contraction in the domestic steel industry during the year as a result of the pandemic. The estimated annual average North American Special High Grade (SHG) zinc price decreased by 12% in 2020 from that in 2019 to \$1.09 per pound.

World Mine Production and Reserves: Reserves for Canada, India, and Peru were revised based on Government or industry reports.

	Mine production ⁹		Reserves ¹⁰
	2019	2020 ^e	
United States	753	670	11,000
Australia	1,330	1,400	¹¹ 68,000
Bolivia	520	330	4,800
Canada	336	280	2,300
China	4,210	4,200	44,000
India	720	720	10,000
Kazakhstan	304	300	12,000
Mexico	677	600	22,000
Peru	1,400	1,200	20,000
Russia	260	260	22,000
Sweden	245	220	3,600
Other countries	<u>1,950</u>	<u>2,000</u>	<u>34,000</u>
World total (rounded)	12,700	12,000	250,000

World Resources:¹⁰ Identified zinc resources of the world are about 1.9 billion tons.

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

^eEstimated. E Net exporter. — Zero.

¹Includes primary and secondary refined production.

²Less than ½ unit.

³Defined as refined production + refined imports – refined exports + adjustments for Government stock changes.

⁴Source: Platts Metals Week, North American Special High Grade (SHG) zinc; based on the LME cash price plus premium.

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

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

⁷See Appendix B for definitions.

⁸International Lead and Zinc Study Group, 2020, ILZSG session/forecasts: Lisbon, Portugal, International Lead and Zinc Study Group press release, October 21, 5 p.

⁹Zinc content of concentrates and direct shipping ores.

¹⁰See Appendix C for resource and reserve definitions and information concerning data sources.

¹¹For Australia, Joint Ore Reserves Committee-compliant reserves were 24 million tons.