

ZINC

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

Domestic Production and Use: The value of zinc mined in 2005, based on contained zinc recoverable from concentrate, was about \$1.06 billion. It was produced in 5 States by 10 mines operated by 5 companies. Alaska, Missouri, Montana, and Washington accounted for about 99.9% of domestic mine output; the Red Dog Mine in Alaska accounted for 86% of total U.S. production. Two primary and 12 large- and medium-sized secondary smelters refined zinc metal of commercial grade in 2005. Of zinc metal consumed, about 75% was used in Illinois, Indiana, Michigan, New York, Ohio, and Pennsylvania, mostly by steel companies. Of the total zinc consumed, about 55% was used in galvanizing, 21% in zinc-base 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, sulfur, cadmium, silver, gold, and germanium.

Salient Statistics—United States:	2001	2002	2003	2004	2005^e
Production:					
Mine, zinc in ore ¹	842	780	768	739	760
Primary slab zinc	203	182	187	189	250
Secondary slab zinc	108	113	116	117	155
Imports for consumption:					
Ore and concentrate	84	122	164	231	180
Refined zinc	813	874	758	812	700
Exports:					
Ore and concentrate	696	822	841	745	900
Refined zinc	1	1	2	3	1
Shipments from Government stockpile	18	11	14	29	18
Consumption:					
Apparent, refined zinc	1,140	1,180	1,080	1,140	1,120
Apparent, all forms	1,410	1,420	1,340	1,400	1,370
Price, average, cents per pound:					
Domestic producers ²	44.0	38.6	40.6	52.5	63.2
London Metal Exchange, cash	40.2	35.3	37.5	47.5	60.5
Stocks, slab zinc, yearend	75	78	73	73	74
Employment:					
Mine and mill, number ^e	2,400	1,500	1,000	600	600
Smelter primary, number ^e	900	600	600	600	600
Net import reliance ³ as a percentage of apparent consumption:					
Refined zinc	73	75	72	73	64
All forms of zinc	59	62	58	60	52

Recycling: In 2005, an estimated 360,000 tons of zinc was recovered from waste and scrap; about 30% was recovered in the form of slab zinc and the remainder in alloys, oxide, and chemicals. Of the total amount of scrap recycled, 311,000 tons was derived from new scrap, and 49,000 tons was derived from old scrap. About 45,000 tons of scrap was exported, mainly to China, and 8,000 tons was imported, most of which came from Canada (84%).

Import Sources (2001-04): Ore and concentrate: Peru, 61%; Australia, 22%; Ireland, 10%; and other, 7%. Metal: Canada, 60%; Mexico, 17%; Kazakhstan, 6%; and other, 17%. Combined total: Canada, 54%; Mexico, 16%; Peru, 14%; and other, 16%.

Tariff: Item	Number	Normal Trade Relations⁴ 12-31-05
Ore and concentrate	2608.00.0030	Free.
Unwrought metal	7901.11.0000	1.5% ad val.
Alloys, casting-grade	7901.12.1000	3% ad val.
Alloys	7901.20.0000	3% ad val.
Waste and scrap	7902.00.0000	Free.
Hard zinc spelter	2620.11.0000	Free.
Zinc oxide	2817.00.0000	Free.

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

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Government Stockpile:**Stockpile Status—9-30-05⁵**

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposal plan FY 2005	Disposals FY 2005
Zinc	49	7	49	45	15

Events, Trends, and Issues: The zinc producers worldwide continue to benefit from a major price recovery that started in the third quarter of 2004 and picked up renewed momentum in the second half of 2005. World zinc consumption for the year 2005 was larger than world refined zinc metal production. Consequently, London Metal Exchange stocks were drawn down by more than 200,000 tons in 2005. These are both positive signs for continued strength of the zinc market well into 2006.

The United States remained one of the leading consumers of zinc and zinc products. However, domestic metal production capacity, both primary and secondary, accounts for less than one-third of the quantity consumed domestically. Canada and Mexico are the leading sources of zinc for the United States because of their geographical proximity and because of trade agreements. Concentrate, metal, and scrap can be imported duty free from those sources.

World Mine Production, Reserves, and Reserve Base:

	Mine production⁶		Reserves⁷	Reserve base⁷
	2004	2005^e		
United States	739	760	30,000	90,000
Australia	1,300	1,400	33,000	80,000
Canada	790	790	11,000	31,000
China	2,300	2,300	33,000	92,000
Kazakhstan	360	370	30,000	35,000
Mexico	460	380	8,000	25,000
Peru	1,200	1,300	16,000	20,000
Other countries	<u>2,400</u>	<u>2,800</u>	<u>59,000</u>	<u>87,000</u>
World total (rounded)	9,600	10,100	220,000	460,000

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

Substitutes: Aluminum, steel, and plastics substitute for galvanized sheet. Aluminum, plastics, and magnesium are major competitors as diecasting materials. Plastic coatings, paint, and cadmium and aluminum alloy coatings replace zinc for corrosion protection; aluminum alloys are used in place of brass. Many elements are substitutes for zinc in chemical, electronic, and pigment uses.

^eEstimated.

¹Zinc recoverable after smelting and refining was reported for mine production prior to Mineral Commodity Summaries 2001.

²Platts Metals Week price for North American Special High Grade zinc.

³Defined as imports – exports + adjustments for Government and industry stock changes.

⁴No tariff for Canada and Mexico for items shown.

⁵[See Appendix B for definitions.](#)

⁶Zinc content of concentrate and direct shipping ore.

⁷[See Appendix C for definitions.](#)