

# Mineral Industry Surveys

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## ZINC IN DECEMBER 2012

Domestic mine production (recoverable) of zinc in 2012 was 714,000 metric tons (t), a 4% decrease compared with that of 2011, owing mostly to a decline in production at Teck Resources Ltd.'s (Vancouver, British Columbia, Canada) Red Dog Mine in Alaska. Zinc in concentrate production at Red Dog declined by 8% (or 43,100 t) in 2012 from that in 2011 as a result of reduced mill throughput and lower average zinc grade. Reduced production at Red Dog, however, was partially offset by an increase in zinc production at Nyrstar NV's (Balen, Belgium) East Tennessee Mines and Middle Tennessee Mines. Combined production at the Tennessee mines increased by 36% (or 29,000 t of zinc in concentrate) in 2012 compared with that in 2011, which Nyrstar attributed to improved operational performance (Nyrstar NV, 2013, p. 7; Teck Resources Ltd., 2013, p. 23).

According to preliminary data released by the International Lead and Zinc Study Group (ILZSG) (2013), global zinc mine production increased by 5% in 2012 from that of 2011 to 13.6 million metric tons (Mt) owing mostly to a 14% year-on-year increase in Chinese mine production. However, global metal output decreased by 4% in 2012 to 12.7 Mt as a result of production decreases in Australia, Brazil, Bulgaria, Canada,

China, India, and South Africa. Zinc consumption declined, as well, by 3% in 2012 from that in 2011 to 12.4 Mt owing to significant decreases in Europe, China, Japan, and the United States. According to ILZSG preliminary data, global production of zinc metal exceeded consumption by 265,000 t in 2012, marking the sixth consecutive year that the zinc metal market has been in surplus.

### References Cited

- International Lead and Zinc Study Group, 2013, Review of trends in 2012—Zinc: Lisbon, Portugal, International Lead and Zinc Study Group news release, February 19, 2 p. (Accessed on February 19, 2013, via [http://www.ilzsg.org/generic/pages/list.aspx?table=document&ff\\_aa\\_document\\_type=R&from=1](http://www.ilzsg.org/generic/pages/list.aspx?table=document&ff_aa_document_type=R&from=1).)
- Nyrstar NV, 2013, Nyrstar announces 2012 full year results: Balen, Belgium, Nyrstar NV news release, February 7, 39 p. (Accessed on February 11, 2013, via <http://www.nyrstar.com/investors/en/Pages/reportspresentations.aspx>.)
- Teck Resources Ltd., 2013, Teck reports unaudited fourth quarter results for 2012: Vancouver, British Columbia, Canada, Teck Resources Ltd. news release, February 7, 36 p. (Accessed on February 11, 2013, via <http://www.teck.com/Generic.aspx?PAGE=Teck+Site%2fInvestors+Pages%2fFinancial+Reporting&portalName=tc>.)

TABLE 1  
SALIENT ZINC STATISTICS<sup>1</sup>

(Metric tons, unless otherwise specified)

	2011	2012		
	January– December	November	December	January– December
<b>Production:</b>				
Mine, zinc content of concentrate <sup>2</sup>	769,000	67,300	70,900	739,000
Mine, recoverable zinc <sup>2</sup>	743,000	65,100	68,500	714,000
Smelter, refined zinc <sup>e,3</sup>	248,000	21,400 <sup>r</sup>	21,400	257,000
<b>Consumption of refined zinc:</b>				
Apparent <sup>4</sup>	939,000	71,500 <sup>r</sup>	78,600	900,000
Reported	604,000	36,700	35,600	441,000
Reported stocks of refined zinc, end of period, producer and consumer	114,000	81,800	81,800	81,800
<b>Imports for consumption:</b>				
Ore and concentrate (zinc content)	26,700	225	499	6,140
Refined zinc	716,000	52,500	57,500	655,000
<b>Exports:</b>				
Ore and concentrate (zinc content)	660,000	29,200	8,350	592,000
Refined zinc	19,000	2,340	254	14,100
<b>Price:<sup>5</sup></b>				
London Metal Exchange cash, average, dollars per metric ton	2,192.89	1,904.01	2,037.18	1,947.73
Platts Metals Week North American, average, cents per pound	106.24	93.88	99.93	95.76

<sup>e</sup>Estimated. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

<sup>2</sup>Reported zinc content in both zinc and lead concentrates.

<sup>3</sup>Includes zinc metal used to manufacture zinc oxide.

<sup>4</sup>Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

<sup>5</sup>Special High Grade Zinc.

TABLE 2  
MINE AND SMELTER PRODUCTION OF ZINC IN THE UNITED STATES<sup>1</sup>

(Metric tons)

Period	Mine <sup>2</sup>		Smelter <sup>e,3</sup>
	Zinc content	Recoverable	
<b>2011:</b>			
December	69,500	67,200	23,500
January–December	769,000	743,000	248,000
<b>2012:</b>			
January	60,100	58,000	21,700
February	59,600	57,500	21,700
March	60,400	58,400	21,700
April	62,600	60,400	22,600
May	62,300	60,200	22,600
June	56,600	54,700	22,600
July	60,600	58,600	20,000
August	58,900	56,900	20,000
September	62,300	60,200	20,000
October	57,800	55,800	21,400 <sup>r</sup>
November	67,300	65,100	21,400 <sup>r</sup>
December	70,900	68,500	21,400
January–December	739,000	714,000	257,000

<sup>e</sup>Estimated. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes the zinc content in both lead and zinc concentrates.

<sup>3</sup>Includes zinc metal used to manufacture zinc oxide.

TABLE 3  
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING  
TO INDUSTRY USE AND PRODUCT<sup>1</sup>

(Metric tons)

	2011	2012		
	January– December	November <sup>r</sup>	December	January– December
Galvanizing:				
Sheet and strip	387,000	41,200	44,700	506,000
Other	165,000	8,790	10,500	114,000
Total	552,000	50,000	55,200	621,000
Brass and bronze	164,000	8,570	9,940	114,000
Zinc-base alloy	159,000	9,530	10,200	117,000
Other uses <sup>2</sup>	64,000	3,360	3,320	48,400
Grand total	939,000	71,500	78,600	900,000

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, casting, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF ZINC<sup>1</sup>

(Gross weight, unless otherwise specified)

Material	2011		2012			
	Quantity (metric tons)	Value (thousands)	December		January–December	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	26,700	\$43,000	499	\$825	6,140	\$11,200
Unwrought:						
Refined (slab) zinc	716,000	1,610,000	57,500	117,000	655,000	1,320,000
Zinc alloys	47,400	106,000	440	922	20,600	41,900
Wrought:						
Bars, rods, profiles, wire	2,680	8,120	178	472	2,570	7,270
Plates, sheets, strip, foil	3,650	16,500	200	727	2,920	12,700
Other:						
Dross, ashes, fume (zinc content)	14,400	17,600	1,610	1,770	23,200	26,800
Powders, flakes, dust	30,100	89,300	1,800	5,190	28,200	80,500
Waste and scrap	18,500	23,400	1,050	1,210	20,000	24,600
Chemicals:						
Oxide	90,000	181,000	5,710	10,700	82,700	158,000
Chloride	255	1,290	10	88	190	1,490
Sulfate	53,900	51,700	2,590	2,320	56,300	51,100
Compounds, other <sup>2</sup>	3,850	6,620	297	811	3,460	10,500

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes zinc sulfide (HTS 2830.90.1000 and 2830.90.1500), chromates of zinc or of lead (HTS 2841.90.4500), and lithopone and other pigments and preparations based on zinc sulfide (HTS 3206.42.0000).

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY<sup>1</sup>

(Metric tons, gross weight, unless otherwise specified)

Material and country	General imports			Imports for consumption		
	2011	2012		2011	2012	
		December	January–December		December	January–December
<b>Ore and concentrate (zinc content):</b>						
Canada	4,650	499	3,450	4,650	499	3,450
Mexico	2,800	--	2,680	2,800	--	2,680
Netherlands	81	--	--	81	--	--
Peru	17,800	--	--	17,800	--	--
Turkey	1,270	--	--	1,270	--	--
United Kingdom	155	--	--	155	--	--
Total	26,700	499	6,140	26,700	499	6,140
<b>Refined (slab) zinc:</b>						
Australia	4,000	5,000	26,500	13,500	5,000	29,000
Brazil	8,050	526	7,020	8,050	526	7,020
Canada	448,000	38,600	463,000	448,000	38,600	463,000
China	65	9	65	65	9	65
France	--	--	52	--	--	52
Japan	1,420	--	(2)	1,490	--	(2)
Korea, Republic of	--	--	--	12,000	--	471
Mexico	88,700	8,170	94,400	88,700	8,170	94,400
Namibia	59,500	--	--	59,500	--	--
Netherlands	--	--	1,300	--	--	1,320
Peru	61,900	5,190	58,300	62,300	5,190	58,300
Russia	1,480	--	--	1,480	--	--
Spain	--	--	1	21,600	--	729
Taiwan	53	6	49	53	6	49
Other	13	(2)	(2)	13	(2)	(2)
Total	673,000	57,500	651,000	716,000	57,500	655,000
<b>Oxide:</b>						
Australia	1,310	78	1,080	1,310	78	1,080
Belgium	1,170	8	175	1,170	8	175
Canada	45,000	2,710	42,500	45,000	2,710	42,500
China	566	19	675	566	19	675
Germany	3,390	227	3,210	3,390	227	3,210
Indonesia	107	--	1	107	--	1
Japan	2,490	146	3,050	2,490	146	3,050
Mexico	27,700	1,640	25,900	27,700	1,640	25,900
Netherlands	4,060	824	5,240	4,060	824	5,240
Peru	2,000	--	170	2,000	--	170
Spain	144	--	(2)	144	--	(2)
Turkey	1,780	40	355	1,780	40	355
United Arab Emirates	140	--	--	140	--	--
Other	162 <sup>r</sup>	13	407	162 <sup>r</sup>	13	407
Total	90,000	5,710	82,700	90,000	5,710	82,700

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. EXPORTS OF ZINC<sup>1</sup>

(Gross weight, unless otherwise specified)

Material	2011		2012			
	Quantity (metric tons)	Value (thousands)	December		January–December	
			Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Ore and concentrate (zinc content)	660,000	\$997,000	8,350	\$13,200	592,000	\$806,000
Unwrought:						
Refined (slab) zinc	19,000	19,800	254	263	14,100	14,900
Zinc alloys	13,500	34,900	1,570	4,080	17,900	46,000
Wrought:						
Bars, rods, profiles, wire	25,700	39,100	485	913	17,700	28,900
Plates, sheets, strip, foil	8,730	26,000	396	1,300	6,040	20,600
Other:						
Dross, ashes, fume (zinc content)	19,700	11,700	3,560	3,640	34,900	19,900
Powders, flakes, dust	15,600	34,000	931	2,290	14,200	33,200
Waste and scrap	85,600	93,900	9,900	11,400	90,500	107,000
Chemicals:						
Oxide	31,600	51,300	2,430	3,000	41,800	50,200
Chloride	1,800	2,860	44	70	902	1,590
Sulfate	285	588	3	6	774	1,160
Compounds, other <sup>2</sup>	5,630	8,800	706	1,400	8,690	15,000

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes zinc sulfide (Schedule B 2830.90.1000 and 2830.90.1500), chromates of zinc or of lead (Schedule B 2841.90.4500), and lithopone and other pigments and preparations based on zinc sulfide (Schedule B 3206.42.0000).

Source: U.S. Census Bureau.

TABLE 7  
AVERAGE PRICES FOR SPECIAL HIGH GRADE ZINC

Period	North American <sup>1</sup>	London Metal Exchange cash <sup>2</sup>	
	¢/lb.	¢/lb.	\$/t
2011:			
December	94.35	86.90	1,915.85
January–December	106.24	99.47	2,192.89
2012:			
January	96.84	89.83	1,980.38
February	100.57	93.34	2,057.86
March	99.54	92.27	2,034.21
April	97.82	90.56	1,996.47
May	94.79	87.53	1,929.68
June	91.43	84.16	1,855.49
July	91.30	83.95	1,850.82
August	89.77	82.26	1,813.46
September	98.31	90.80	2,001.81
October	94.88	86.70	1,911.42
November	93.88	86.36	1,904.01
December	99.93	92.41	2,037.18
January–December	95.76	88.35	1,947.73

<sup>1</sup>Platts Metals Week North American price. Based on the London Metal Exchange cash price plus premiums or discounts, depending on market conditions.

<sup>2</sup>Average of the cash buyer price and the cash seller and settlement price.

Source: Platts Metals Week.