

Mineral Industry Surveys

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TIN IN OCTOBER, NOVEMBER, AND DECEMBER 2008

Domestic consumption of primary tin in the fourth quarter of 2008 was estimated to be 5,760 metric tons (t), compared with 5,900 t in the third quarter of 2008. In 2008, tinplate was the leading consumption category, followed by, in decreasing order, solder, chemicals, and bronze and brass.

The Platts Metals Week average composite price for tin in December 2008 was \$7.08 per pound, compared with \$10.07 per pound in December 2007.

The International Tin Research Institute (ITRI) (Uxbridge, United Kingdom) observed that global tin destocking had accelerated in the fourth quarter of 2008, and that there was a substantial decline in tin consumption in the fourth quarter, especially in the sectors of solder and tin chemicals. ITRI forecast global primary tin consumption for 2008 to be 350,000 t, down almost 4% from a record 363,000 t in 2007. ITRI estimated that total (primary and secondary) tin consumption in 2007 was 450,000 t, of which 20% was secondary tin. ITRI announced that solder accounted for 53% in tin consumption in 2007 and that electronic solder alone accounted for 44% of all refined tin usage (Platts Metals Week, 2008).

PT Timah Tbk (Bangka, Indonesia) expected to produce 45,000 t of refined tin in 2008, 23% lower than the record output of 58,000 t in 2007. Twenty-five percent of Timah's output was sold to traders and the rest to end users around the world (CRU International, 2008d).

A consortium of seven small Indonesian tin smelters announced that they stopped production in October because of falling tin prices. They indicated that the stoppage could continue until yearend 2008. The consortium operated in Indonesia's main tin producing region of Bangka, Belitung Province, Sumatra Island, and had a combined production capacity of 5,000 metric tons per month (t/mo) of ingots, although actual production had been around 3,000 t/mo (Metals Place, 2008a).

Minsur S.A. (Lima, Peru), completed the purchase of the Paranapanema Group's (Rio de Janeiro, Brazil) Taboca tin division. The deal, valued at \$374 million, was effected through Minsur's Brazilian subsidiary Serra de Madeira, and added 20% to Minsur's annual tin production capacity. Mineracao Taboca's main asset was the Pitinga tin mine in Amazonas, which had

large low-grade reserves of tin, along with niobium, tantalum, and uranium. The mine produced 7,000 t of tin-in-concentrates in 2007 and was expanded in 2008 to a capacity of 10,000 metric tons per year (t/yr). The combined tin resources of Minsur's San Rafael Mine in Peru and the Pitinga Mine were 1 million metric tons with a capacity of 50,000 t/yr (CRU International, 2008e).

The Ministry of Commerce in China announced that the export quota for tin and tin products in 2009 would be 23,300 t, a decrease of 30% compared with that in 2008 (China Metal Market—Lead, Zinc & Tin, 2008).

Yunnan Tin Co. Ltd. (Kunming, Yunnan Province, China), the world's leading tin producer, announced that it would decrease its tin production by 30% in the fourth quarter of 2008 from the rate prevailing during the first three quarters of the year, owing to the economic slowdown (Metals Place, 2008d).

Liuzhou China Tin Group Co. Ltd. (Liuzhou, Guangxi Province, China) closed a tin ore processing plant after a tailings discharge resulted in arsenic poisoning of 136 local villagers. The affected people in the village of Xialuntun in Guangxi Province were treated for poisoning, but then were all released from the hospital. The incident was attributed to heavy rains causing the tin waste ponds to overflow into the local river. Liuzhou was China's second leading integrated tin producer and produced 13,200 t of refined tin in 2007 (CRU International, 2008a).

Asia had been the world's most active region for tin mill product capacity expansion during the past year. Tinplate producers in China, India, and Thailand had been especially active, spurred both by the promise of their own potential markets and the opportunities for exports. Some examples include:

- Hengshui Steel—Commissioned a new 100,000-t/yr tinplate line in April.
- Meishan Steel (Nanjing, Jiangsu Province, China)—This Baosteel subsidiary planned to start its new 200,000-t/yr tinplate line in August 2009.
- Posco-Zhongyue (Qinhuangdao, Hebei Province, China)—This was a \$60 million joint venture between Posco of the Republic of Korea and Zhongshan

Zhongyue Tinplate Industrial Co. It started production at its 250,000-t/yr tinplate line in February.

- Thai Tinplate Co. Ltd. (Samut Prakan, Thailand) was building a \$6.3 million expansion to increase the production capacity of tin-free steel by 30% to 156,000 t/yr by yearend 2008.
- Siam Tinplate Co., Ltd. (Rayong, Thailand) planned to raise its tinplate capacity from 140,000 t/yr to 260,000 t/yr by July 2009 (Metal Bulletin Monthly, 2008)

In Bolivia, Government-owned mining organization Corporación Minera de Bolivia (Comibol) (La Paz), announced plans to invest \$155 million in the mining sector in 2009, triple the amount invested in 2008. A large portion of the 2009 investment would go into Bolivia's leading tin mine, the Huanuni Tin Mine in Oruro department. About \$21.5 million was expected to be spent on developing reserves at the lower levels of the mine and in preparatory work for a tripling of milling capacity to 3,000 metric tons per day. Comibol planned to increase tin production capacity at Huanuni from 7,670 t/yr in 2007 to more than 13,000 t/yr by 2010 (Metals Place, 2008c).

In Poland, Fenix Metals (Tarnobrzeg) started production at its 3,500-t/yr capacity secondary tin refinery. Fenix began business in 2004 as a secondary tin smelter and solder producer. The new installation would enable Fenix to supply more pure tin and more lead-free solder products. The vacuum distillation plant was installed by the inventors of the technology—Dan Engineering Co. (Copenhagen, Denmark). Dan Engineering was the majority shareholder in Fenix with Stoop N.V. of Belgium, also a partner (CRU International, 2008c).

The Government of Congo (Kinshasa) reportedly planned to ban exports of tantalum, tin, and tungsten raw materials from the eastern Provinces of North Kivu and South Kivu, and Maniema starting in January 2009. Government officials believed that adding value to its materials domestically would enable the country to reap the real benefits from them. It is not clear whether the proposed new rules would require ore processing up to a minimum concentrate level, or would go further and require smelting into refined metal. Currently most tin concentrate leaving Congo (Kinshasa) grades about 65% tin (CRU International, 2008b).

Also in Congo (Kinshasa), Kiva Resources Ltd. (Port Louis, Mauritius) abandoned plans to develop industrial-scale mining of tin at the Bisiye deposit in North Kivu Province because of continuing military instability in the area. Bisiye had been the main location of artisanal mining in recent years. Kivu's board of directors blocked plans to spend \$28 million developing Bisiye, one of Congo (Kinshasa)'s leading tin deposits 200 kilometers (km) west of North Kivu's capital, Goma. Kivu Resources instead planned to focus its attention on the more

stable Katanga Province, where it was exploring a 3,000-square-kilometer concession near Manono, one of the main historic centers of tin production in the country (Metals Place, 2008b).

In Egypt, Mena Glass, through its fully owned subsidiary Sphinx Glass, signed a \$143 million agreement with Italian firm Ianua S.p.A. (Padova, Italy) for the engineering, plant construction, assembly, and supervision of a new greenfield float glass manufacturing facility. Sphinx Glass' greenfield plant would be in Sadat City, about 70 km north of Cairo and had licensed world-class production technologies from PPG Industries Inc. (Pittsburgh, PA). The plant would have a production capacity of 600 t of glass per day. The glass, with thickness between 2 and 19 millimeters, would be manufactured for use in the automotive and construction sectors (Glass Magazine, 2008).

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TABLE 1
SALIENT TIN STATISTICS¹

(Metric tons, unless otherwise noted)

	2008					
	2007	September	October	November	December	January-December
Production, secondary ^{e,2}	11,900	994	994	994	994	11,900
Consumption:						
Primary	23,700	1,970	1,870	1,950	1,940	21,100
Secondary	7,490	717	737	712	713	10,800
Imports for consumption, metal	34,600	4,230	2,590	3,580	2,790	36,300
Exports, metal	6,410	883	1,020	851	435	9,800
Stocks at end of period	9,100	7,960	7,990	7,940	7,970	XX
Prices (average cents per pound): ³						
Metals Week composite ⁴	899.48	1,120.90	888.44	841.08	707.66	XX
Metals Week New York dealer	679.50	862.22	680.06	657.43	541.64	XX
London, standard grade, cash	659.00	832.77	628.73	617.31	508.73	XX
Kuala Lumpur	658.42	833.84	650.20	613.61	515.42	XX

^eEstimated. XX Not applicable.

¹Data are rounded to no more than three significant digits, except prices.

²Includes tin recovered from alloys and tinplate. The detinning of tinplate (coated steel) yields only a small part of the total.

³Source: Platts Metals Week.

⁴The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges and a risk factor. It is normally substantially higher than other tin prices.

TABLE 2
METALS WEEK COMPOSITE PRICE¹

(Cents per pound)

Period	High	Low	Average
2007	1,056.54	655.02	899.48
2008:			
January	1,031.54	988.63	1,004.58
February	1,138.12	1,023.31	1,054.61
March	1,255.43	1,147.64	1,206.50
April	1,468.60	1,213.43	1,311.05
May	1,529.29	1,293.17	1,454.06
June	1,414.29	1,266.59	1,342.82
July	1,427.60	1,357.97	1,394.67
August	1,329.80	1,076.18	1,221.28
September	1,198.91	1,058.05	1,120.90
October	1,083.41	714.40	888.44
November	935.30	731.44	841.08
December	787.09	630.41	707.66
Year	1,529.29	630.41	1,128.97

¹The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges and a risk factor. It is normally substantially higher than other tin prices.

Source: Platts Metals Week.

TABLE 3
TINPLATE PRODUCTION AND SHIPMENTS IN THE UNITED STATES¹

(Metric tons, unless otherwise noted)

Period	Tinplate waste (waste, strips, cobble, etc.) (gross weight)	Tinplate (all forms)			Shipments ²
		Gross weight	Tin content	Tin per metric ton of plate (kilograms)	
2007	58,900	1,780,000	7,010	3.9	1,770,000
2008:					
January	3,350	166,000	532	3.2	140,000
February	2,440	166,000	510	3.1	143,000
March	2,230	175,000	524	3.0	172,000
April	2,590	203,000	584	2.9	183,000
May	2,520	203,000	554	2.7	149,000
June	2,430	194,000	542	2.8	181,000
July	2,710	207,000	579	2.8	153,000
August	2,750	213,000	601	2.8	159,000
September	2,750	174,000	597	3.4	107,000
October	2,470	174,000	494	2.8	138,000
November	2,370	199,000	586	2.9	136,000
December	2,310	203,000	585	2.9	111,000

¹Data are rounded to no more than three significant digits.

²Source: American Iron and Steel Institute monthly publication.

TABLE 4
U.S. TIN IMPORTS FOR CONSUMPTION AND EXPORTS¹

(Metric tons)

Country or product	2008					January- December
	2007	September	October	November	December	
Imports:						
Metal (unwrought tin):						
Bolivia	4,340	261	237	633	666	4,980
Brazil	2,600	125	126	171	50	1,570
China	4,230	56	207	156	83	2,380
Indonesia	1,680	20	660	200	40	2,000
Malaysia	14	901	150	275	272	1,740
Netherlands	100	--	--	--	--	--
Peru	18,700	2,870	1,080	1,970	1,670	20,900
Singapore	1,730	--	--	61	--	706
Taiwan	15	--	--	--	--	6
Thailand	--	--	--	--	--	1,670
United Kingdom	881	--	125	--	--	225
Other	299	--	3	118	14	146
Total	34,600	4,230	2,590	3,580	2,790	36,300
Other (gross weight):						
Alloys	1,940	201	125	135	59	1,720
Bars and rods	3,840	367	307	261	175	4,190
Foil, tubes, pipes	40 ^r	29 ^r	2	7	10	97
Plates, sheets, strip	1,930 ^r	16 ^r	34	9	406	1,150
Waste and scrap	10,200	823	570	91	337	23,300
Miscellaneous	3,780	321	306	192	195	2,940
Total	21,700^r	1,760^r	1,340	695	1,180	33,400
Exports (metal)	6,410	883	1,020	851	435	9,800

^rRevised. -- Zero.

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

Source: U.S. Census Bureau.

TABLE 5
CONSUMPTION OF TIN IN THE UNITED STATES, BY FINISHED PRODUCT¹

(Metric tons of contained tin)

Product	2007	2008													
		September			October			November			December			January-	
		Primary	Secondary	Total	Primary	Secondary	Total	Primary	Secondary	Total	Primary	Secondary	Total	December	
Alloys (miscellaneous) ²	W	127	W	127	131	W	131	128	W	128	124	W	124	1,800	
Babbitt	604	19	W	19	21	W	21	21	W	21	21	W	21	459	
Bar tin and anodes	788	18	--	18	18	--	18	18	--	18	18	--	18	218	
Bronze and brass	2,800	91	95	186	90	77	167	81	90	171	73	90	163	2,250	
Chemicals	6,070	242	W	242	242	W	242	242	W	242	242	W	242	2,940	
Collapsible tubes and foil	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
Solder	10,400	202	277	480	199	277	476	199	277	476	201	277	478	5,750	
Tinning	451	26	--	26	25	--	25	22	--	22	30	--	30	322	
Tinplate ³	7,010	597	--	597	494	--	494	586	--	586	585	--	585	6,690	
Tin powder	W	18	W	18	18	W	18	18	--	18	18	W	18	227	
White metal ⁴	W	W	W	W	W	W	W	W	--	W	W	W	W	W	
Other	3,000	31	45	76	33	83	116	31	45	76	32	45	77	389	
Total reported	31,100	1,370	417	1,790	1,270	437	1,710	1,350	412	1,760	1,340	413	1,760	21,100	
Estimated undistributed consumption ⁵	--	600	300	900	600	300	900	600	300	900	600	300	900	10,800	
Grand total	31,100	1,970	717	2,690	1,870	737	2,610	1,950	712	2,660	1,940	713	2,660	31,900	

W Withheld to avoid disclosing company proprietary data; included with "Other." -- Zero.

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

²Includes terre metal.

³Includes secondary pig tin and tin components of tinplating chemical solutions.

⁴Includes pewter, britannia metal, and jewelers' metal.

⁵Estimated consumption of plants reporting on an annual basis.