

Mineral Industry Surveys

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TIN IN JANUARY 2000

Domestic consumption of primary tin in January was estimated by the U.S. Geological Survey to be 5% above that in December and 4% below that of January 1999.

The *Platt's Metals Week* average composite price for tin in January was \$3.98 per pound, 3% higher than in December and 14% higher than in January 1999.

Ohio Coatings Co. (Yorkville, OH) announced that 1999 represented a solid year of growth in tinplate output for the company. Ohio Coatings, a joint venture of Wheeling-Pittsburgh Steel Corp., Dongyang (Republic of Korea), and Nittetsu Shoji (Japan), commenced tinplate production in 1995 and was the first domestic greenfield tin mill since the early 1960's. The facility produced 230,000 metric tons of tinplate in 1999, a 47% increase over 1998 output (Metal Bulletin, 2000).

The Republic of South Korea, with four tinplate producers, has become a major force in the tinplate market during the past decade. South Korea's tinplate consumption is estimated at 385,000 tons annually, and imports account for about 25,000 tons of that total. Pohang Iron and Steel Corp. (POSCO) is the country's leading domestic tinplate market supplier with an estimated 31% market share in 1999, representing annual tinplate sales of 110,000 tons. The second largest local supplier is Dongbu Steel with sales of 96,000 tons in 1999, or about a 27% market share. In third place is Dongyang with an estimated 26% domestic market share, or 92,000 tons of sales. Shinwha is in fourth place, with sales of 57,000 tons and a 16% local market share. Both Dongbu and Dongyang have a larger tinplate manufacturing capacity than POSCO but rely on exports for over half their sales. Export orders are important to all four tinplate makers. In 1999, Dongbu and Dongyang were expected to ship export orders far exceeding their domestic sales, while both POSCO and Shinwha were expected to supply over half their output to domestic customers. South Korea's total tinplate-making capacity is 850,000 tons per year, almost half of which is used for export purposes.

Dongbu recently overtook Dongyang as South Korea's largest tinplate producer with the start-up of its Asan Bay electrolytic tinning line which has a top speed of 650 meters per minute.

Dongbu is now able to produce 280,000 tons of tinplate annually; Shinwha produces 90,000 tons. The other producer, POSCO, ranks as one of the world's major steel companies and has an annual production of 770,000 tons of blackplate substrate. In addition to supplying the domestic market, POSCO exports about 75,000 tons each year. POSCO's main tinplate markets are India and Southeast Asia (Tin International, 2000).

In Bolivia, Allied Deals plc (United Kingdom), the new owner of the Empresa Metalurgica Vinto tin smelter along with rights to develop the Huanuni tin deposit, expressed optimism for the potential growth in output at both facilities. The two new acquisitions cost Allied Deals \$28 million in a purchase from the Government-owned Corporacion Minera de Bolivia (COMIBOL). Allied officials stated that the company plans to cooperate with the hundreds of independent miners and co-operatives who have been exploiting the Huanuni deposit, with the strategy that increased output by these independents and co-operatives would help to provide needed feedstock for the Vinto tin smelter. The Vinto smelter is located on Bolivia's high plateau, some 230 km south of La Paz, near the city of Oruro. It has an annual capacity to produce 22,000 tons of refined tin but has been operating at only 50% of this rate. Allied is aiming to boost production to 13,000 tons per year within 2 years by raising output at the nearby Huanuni Mine. Allied also hopes to encourage output at other Bolivian tin mines and to renew agreements for tin concentrate from the Colquiri Mine, which is operated by another consortium. Output at Vinto of 10,000 tons of refined tin annually is apparently a profitable operation but does not meet Allied's investment needs. Allied expects to take over the operation in February or March after the contract with the Government has been signed. It was reported that the \$27 million deal included \$15 million for the actual purchase of Vinto and \$500,000 for the right to operate the Huanuni Mine lease for 30 years. The balance comprised future investment. The funding is coming from Allied's own assets and bank borrowing. Allied expects to benefit from tax deferral and other advantages contained within Bolivia's mining code for exploration and mining companies. Under a prior marketing

agreement, Allied has been taking most of Vinto's low-lead brand production for the past 2 years at a rate of 500-600 tons per month and selling the tin mostly in the United States and Europe (Mining Journal, 2000).

In Thailand, the Department of Mineral Resources reported that Thai tin-in-concentrate production increased 69% to 2,700 tons compared with 1,600 tons in 1998. Officials attributed the rise mostly to the increased number of active mines in 1999 (30 compared to 23 mines in 1998). Thailand has only one tin smelter, Thaisarco, which has a maximum output capacity of 36,000 tons per year of tin metal. Thaisarco produced 17,000 tons of tin metal in 1999, an 11% increase over the 15,000 tons produced in 1998. Thailand's tin metal exports were 13,000 tons in 1999, compared with 11,000 tons in 1998. Domestic tin sales increased 20% in 1999 to 4,800 tons (Platt's Metals Week, 2000).

In several countries, including Germany and the Republic of South Korea, the steel (tinplate) can still dominates the beverage container industry. This is also the case in Japan, where more than 60% of the cans used (or 20 billion cans) are made of steel. The typical Japanese resident consumes 200 steel beverage cans annually. More than 80% of these cans are recovered for recycling

(about 1 million tons) (Container Recycling Report, 2000).

Readers should note that the former Table 6 (Defense Logistics Agency Tin Stockpile Disposals), published for years as part of the tabular material in the monthly Mineral Industry Surveys for tin, has been discontinued. DLA has ended its spot sales program and only continues its long-term dealer contract program.

Update

On March 3, the *Platt's Metals Week* composite price for tin was \$382.01 per pound.

References Cited

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- Metal Bulletin, 2000, In brief: Metal Bulletin, no. 8449, February 10, p. 20.
- Mining Journal, 2000, New era for Bolivian tin?: Mining Journal, v. 334, no. 8566, January 21, p. 35.
- Platt's Metals Week, 2000, Thailand's tin output jumps as more mines operate: Platt's Metals Week, v. 71, no. 8, February 21, p. 15.
- Tin International, 2000, POSCO—South Korea tinplate market revives in 1999: Tin International, v. 73, no. 1, p. 6-8.

TABLE 1
SALIENT TIN STATISTICS 1/

(Metric tons, unless otherwise noted)

	1999 p/	1999	2000
		December	January
Production, secondary e/ 2/	10,800	900	900
Consumption:			
Primary	40,900	3,360	3,520
Secondary	10,300	867	975
Imports for consumption, metal	47,500	4,220	NA
Exports, metal	6,770	497	NA
Stocks at end of period	XX	8,300	7,960
Prices (average cents per pound): 3/			
Metals Week composite 4/	365.98	386.61	397.72
Metals Week New York dealer	254.54	268.07	277.61
London, standard grade, cash	245.00	259.00	269.00
Kuala Lumpur	240.70	256.31	264.93

e/ Estimated. p/ Preliminary. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices.

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

3/ From Platt's Metals Week.

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

TABLE 2
METALS WEEK COMPOSITE PRICE 1/

(Cents per pound)

Period	High	Low	Average
1999:			
January	353.37	343.72	348.60
February	364.44	351.24	356.57
March	363.63	356.99	361.19
April	377.31	357.08	365.05
May	384.76	373.61	380.66
June	368.44	354.81	360.01
July	362.56	356.00	357.87
August	362.04	355.27	358.10
September	372.30	357.68	364.61
October	383.67	363.53	369.61
November	397.54	385.56	391.55
December	403.52	381.53	386.61
Year	403.52	343.72	365.98
2000:			
January	405.27	390.75	397.72

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

Source: Platt's Metals Week.

TABLE 3
TINPLATE PRODUCTION AND SHIPMENTS IN THE UNITED STATES 1/

(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)	
1999 p/	W	1,760,000	9,080	5.2	2,370,000
2000:					
January	W	141,000	718	5.1	NA

p/ Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to three significant digits.

2/ Shipments data from American Iron and Steel Institute monthly publication.

TABLE 4
U.S. TIN IMPORTS FOR CONSUMPTION AND EXPORTS 1/

(Metric tons)

Country or product	1998	1999		
		November	December	January- December
Imports:				
Metal (unwrought tin):				
Bolivia	5,160	430	452	3,850
Brazil	4,710	656	360	4,700
Chile	894	364	254	3,980
China	9,870	1,520	994	13,900
Hong Kong	840	92	--	261
India	359	--	--	--
Indonesia	7,880	640	841	7,930
Japan	222	20	--	282
Malaysia	1,870	100	80	944
Peru	8,650	1,040	1,220	11,000
Singapore	822	--	--	60
Thailand	540	--	--	20
United Arab Emirates	100	--	--	--
United Kingdom	790	--	19	60
Vietnam	212	--	--	--
Other	1,060	94	2	533
Total	44,000	4,960	4,220	47,500
Other (gross weight):				
Alloys	1,320	84	192	3,090
Bars and rods	1,160	97	60	872
Foil, tubes, and pipes	3	(2/)	--	1
Plates, sheets, and strip	93	20	1	122
Waste and scrap	4,190	118	159	2,730
Miscellaneous	1,800	248	195	2,290
Total	8,560	567	607	9,100
Exports (metal)	5,020	586	497	6,770

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
CONSUMPTION OF TIN IN THE UNITED STATES, BY FINISHED PRODUCT 1/

(Metric tons of contained tin)

Product	1999 p/	1999			2000		
		December			January		
		Primary	Secondary	Total	Primary	Secondary	Total
Alloys (miscellaneous) 2/	W	W	W	W	126	W	126
Babbitt	22	W	W	W	34	W	34
Bar tin and anodes	244	20	--	20	25	--	25
Bronze and brass	3,170	104	137	241	107	154	261
Chemicals	8,140	663	W	663	718	W	718
Collapsible tubes and foil	W	W	W	W	W	W	W
Solder	14,000	813	325	1,140	1,040	413	1,450
Tinning	508	35	--	35	84	--	84
Tinplate 3/	9,080	745	--	745	718	--	718
Tin powder	W	W	--	W	49	--	49
White metal 4/	W	W	--	W	W	--	W
Other	6,120	384	105	489	17	108	125
Total reported	41,300	2,760	567	3,330	2,920	675	3,590
Estimated undistributed consumption 5/	9,900	600	300	900	600	300	900
Grand total	51,200	3,360	867	4,230	3,520	975	4,490

p/ Preliminary. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes terre metal.

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

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

5/ Estimated consumption of plants reporting on an annual basis.