

Mineral Industry Surveys

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TIN IN JULY 2006

Domestic consumption of primary tin in July was estimated by the U.S. Geological Survey to be about 2% lower than that in June 2006 and about 9% lower than that in July 2005.

Estimated domestic consumption of primary tin in the first 7 months of 2006 was about 9% lower than that in the comparable period of 2005. During the first 6 months of 2006, Peru remained the leading exporter of refined tin metal to the United States, followed by Bolivia, Indonesia, China, and Brazil.

The Platts Metals Week average composite price for tin in July was \$5.45 per pound, about 6% higher than that in June and about 16% higher than that in July 2005.

The steel can remains one of the most durable and leading applications for tin. Steel containers may have originated in Bohemia in the 14th century. In France, in 1809, a process was developed to package and preserve food in cans. In 1812, in Britain, tinplated cans were introduced. In 1938, the first steel beer can was made. Most steel cans are made from tinplate, which is a flat-rolled steel product made in some of the world's major steel plants. Tinplate has a thin layer of tin on both sides of the steel substrate that helps to prevent rusting and to protect food and beverage flavors. Steel cans account for more than 90% of food cans. More than 600 shapes, styles, and sizes of containers are used. In the past 20 years, the steel can recycling rate has risen sharply, but the amount and percentage of steel cans in municipal solid waste (MSW) has declined dramatically in the last 40 years because aluminum and plastic containers have replaced steel cans in the beverage industry. On an annual basis, steel cans account for 2.6 million metric tons (Mt) or 1.1% of all domestic MSW. In 2003, the recycling rate for steel cans was 60%, and 1.56 Mt of steel cans were recycled in that year. The average steel can has one-third less metal than 20 years ago, and the tin coating has been reduced by 30% over the past 25 years (Waste Age, 2006).

Silver Standard Resources Inc. (Vancouver, British Columbia, Canada), which controls the world's largest published in-ground silver resources of any publicly traded silver company, announced progress in developing its Piriquitas Project in Argentina. Piriquitas also has tin and zinc, which Standard plans to recover. Company officials estimate that 25% of the revenue

stream at Piriquitas could come from tin (Resource World, 2006).

GPT India (Andheri, Mumbai, India) announced the startup of a new tin mill at Gandhi Dham, India. The facility has a 180,000-metric-ton-per-year (t/yr) tinplate line that was operating at a reduced rate of 60,000 t/yr. GPT planned to expand capacity to 650,000 t/yr within 2 years. India consumes at least 300,000 t/yr of tinplate, of which 160,000 to 200,000 t/yr is imported. Tinplate Company of India, a Tata Group company, produces around 110,000 t/yr, and Steel Authority of India's Rourkela tin mill produces 30,000 t/yr (Metal Bulletin, 2006).

An important end use for tin is that of glass making. Molten tin in a large vat is used in the production of flat glass for car windshields and residential/commercial windows in the "float glass" process, now the dominant procedure for making flat glass since the procedure was introduced in the late 1960s. Two of the world's largest glassmakers have merged. Pilkington plc (St. Helens, Merseyside, United Kingdom) has merged with Nippon Sheet Glass Co., Ltd. (Tokyo, Japan). Nippon had been the world's sixth-largest glassmaker, but with this merger, it moves to the position of second-largest, behind Asahi Glass Co. Ltd. (Tokyo, Japan). The \$5.6 billion merger, completed June 16, will result in a company with annual sales of around \$7.4 billion, manufacturing operations in 26 countries, and ownership or interests in 50 "float glass" manufacturing lines worldwide (Glass Magazine, 2006).

Update

On September 8, 2006, the Platts Metals Week composite price for tin was \$5.81 per pound.

References Cited

- Glass Magazine, 2006, Details surface on Pilkington, Nippon merger: Glass Magazine, v. 56, no. 8, August, p. 17.
- Metal Bulletin, 2006, GPT looks for tinplate buyers in Europe and Middle East: Metal Bulletin, no. 8957, August 14, p. 20.
- Resource World, 2006, A conversation with Robert Quartermain: Resource World, v. 4, no. 7, August, p. 8-12.
- Waste Age, 2006, Steel cans: Waste Age, v. 37, no. 8, August, p. 42.

TABLE 1
SALIENT TIN STATISTICS¹

(Metric tons, unless otherwise noted)

	2005	2006		
	January- December ^p	June	July	January- July
Production, secondary ^{e, 2}	10,800	900	900	6,300
Consumption:				
Primary	35,900	2,830 ^r	2,780	20,100
Secondary	10,800	750 ^r	695	4,900
Imports for consumption, metal	37,500	2,920	NA	NA
Exports, metal	4,330	552	NA	NA
Stocks at end of period	5,400	5,420 ^r	5,400	XX
Prices (average cents per pound): ³				
Metals Week composite ⁴	443.03	516.34	545.14	XX
Metals Week New York dealer	329.69	380.66	401.53	XX
London, standard grade, cash	304.00	358.00	381.00	XX
Kuala Lumpur	301.83	360.41	382.00	XX

^eEstimated. ^pPreliminary. ^rRevised. NA Not available. 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
2005	496.08	469.82	483.04
2006:			
January	521.70	492.15	503.78
February	517.39	499.65	507.70
March	533.89	508.89	517.91
April	605.47	508.89	569.88
May	609.29	527.83	572.77
June	533.94	504.15	516.34
July	570.52	521.54	545.14

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)	
2005 ^P	W	2,270,000	7,670	3.4	1,860,000
2006:					
January	4,890	183,000	584	3.2	166,000
February	4,640	174,000	591	3.4	138,000
March	4,870	185,000	626	3.4	166,000
April	4,640	169,000	602	3.6	144,000
May	4,860	179,000	604	3.4	166,000
June	4,820 ^r	189,000 ^r	639 ^r	3.4	165,000
July	4,660	177,000	602	3.4	NA

^PPreliminary. ^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data.

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	2006			January- June
	2005	May	June	
Imports:				
Metal (unwrought tin):				
Bolivia	5,400	642	661	4,000
Brazil	2,150	25	50	401
Chile	20	--	--	--
China	4,510	374	492	2,200
Indonesia	5,220	269	135	2,780
Malaysia	1,530	--	25	194
Peru	18,300	1,960	1,240	8,590
Thailand	45	15	20	60
United Kingdom	67	373	(2)	397
Other	264	149	299	960
Total	37,500	3,800	2,920	19,600
Other (gross weight):				
Alloys	7,460	726	473	4,550
Bars and rods	1,030	161	216	863
Foil, tubes, pipes	8	(2)	--	1
Plates, sheets, strip	324	19	4	133
Waste and scrap	3,530	14	76	991
Miscellaneous	3,310	349	206	1,360
Total	15,700	1,270	975	7,900
Exports (metal)	4,330	508	552	2,510

-- Zero.

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

²Less than ½ unit.

Source: U.S. Census Bureau.

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

(Metric tons of contained tin)

Product	2005			2006				
	January December ^p	June			July			January- July
		Primary	Secondary	Total	Primary	Secondary	Total	
Alloys (miscellaneous) ²	1,240	178	--	178	178	--	178	1,030
Babbitt	276	16	W	16	18	W	18	144
Bar tin and anodes	275	26	W	26	27	W	27	182
Bronze and brass	3,700	106	191	297	99	136	235	1,840
Chemicals	8,680	616	W	616	616	W	616	4,590
Collapsible tubes and foil	W	W	W	W	W	W	W	W
Solder	12,200	580 ^r	250	830 ^r	575	250	825	6,070
Tinning	740	40 ^r	--	40 ^r	35	--	35	298
Tinplate ³	7,670	639 ^r	--	639 ^r	602	--	602	4,230
Tin powder	W	W	--	W	W	--	W	W
White metal ⁴	W	W	--	W	W	--	W	W
Other	1,070	32	9 ^r	41 ^r	33	9	42	345
Total reported	35,900	2,230 ^r	450 ^r	2,680 ^r	2,180	395	2,580	18,700
Estimated undistributed consumption ⁵	10,800	600	300	900	600	300	900	6,300
Grand total	46,700	2,830 ^r	750 ^r	3,580 ^r	2,780	695	3,480	25,000

^pPreliminary. ^rRevised. 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 terne 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.