



Mineral Industry Surveys

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TITANIUM IN THE SECOND QUARTER 2013

Titanium mill product shipments in the second quarter of 2013 were 9,150 metric tons (t), essentially unchanged from revised shipment totals in the previous quarter and a 10% decrease compared with those of the second quarter 2012. Shipments during the first half of 2013 were 16% more than those in the first half of 2012. Ingot production in the second quarter of 2013 decreased by 7% from revised first quarter totals and by 8% from production in the second quarter 2012. Production for the first half of 2013 was 7% lower than in the first half of 2012. Ingot shipments in the second quarter of 2013 increased by 63% from first quarter revised totals owing to an anomalous drop in first quarter shipments and were 28% higher than those in the second quarter 2012 reflecting continued aerospace demand. Year-to-date shipments increased by 7% from those of the same

period in 2012. Receipts of titanium scrap in the second quarter 2013 totaled 11,200 t, a 13% increase compared to revised receipts from the previous quarter and a 4% increase from those in the second quarter 2012.

In the second quarter, approximately 75% of mill products and castings was produced for commercial and military aerospace applications. Other applications for titanium mill products and castings included, in descending order, industrial, medical, other commercial, nonaerospace military, and consumer. Data for titanium metal products are developed by the USGS from a voluntary survey of domestic operations. Data for nonrespondents were estimated based on previously reported data.

TABLE 1
COMPONENTS OF U.S. TITANIUM METAL SUPPLY AND DEMAND¹

(Metric tons)

	2012				2013		
	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	1st quarter– 2d quarter
Production:							
Sponge	W	W	W	W	W	W	W
Ingot	16,500	17,800	17,100	68,800	16,300 ^r	15,200	31,500
Mill products	10,200	10,700	8,850	29,800	9,270 ^r	9,200	18,500
Exports:							
Waste and scrap	2,900	1,990	1,610	8,760	1,490	1,130	2,620
Sponge	344	517	347	1,420	359	316	675
Ingot	935	1,380	1,140	3,760	1,410	1,460	2,860
Other unwrought	38	36	59	159	114	426	540
Bar, rod, profiles, wire	858	891	805	3,560	754	850	1,600
Billet	1,040	816	768	3,660	705	953	1,660
Bloom, sheet bar, slab	599	387	532	2,180	552	628	1,180
Other wrought	3,250	2,950	3,820	13,800	2,870	3,540	6,410
Total	9,950	8,970	9,080	37,400	8,240	9,300	17,500
Imports:							
Waste and scrap	3,950	3,440	3,050	14,400	3,130	3,220	6,350
Sponge ²	9,060	8,870	6,920	33,700	5,600	3,390	8,990
Ingot	147	55	87	510	164	105	269
Powder	21	6	4	34	20	40	60
Other unwrought	114	48	101	448	147	279	426
Wrought	1,640	1,540	1,530	6,360	1,370	1,730	3,100
Castings	7	6	19	36	5	15	20
Other	155	83	72	448	104	115	219
Total	15,100	14,100	11,800	56,000	10,500	8,900	19,400
Stocks, end of period:							
Sponge, industry	14,800	14,700	18,100	18,100	21,500 ^r	22,600	22,600
Scrap	13,100	12,700	13,500	13,500	12,300 ^r	12,600	12,600
Ingot	3,400	3,330	4,170	4,170	4,490 ^r	5,200	5,200
Consumption:							
Sponge	7,890	11,200	7,530	35,100	6,140 ^r	6,170	12,300
Scrap	8,660	10,200	11,200	38,700	8,660 ^r	8,990	17,600
Ingot	14,100	14,700	13,100	57,300	14,100 ^r	10,700	24,800
Shipments:							
Ingot and slab (producer net shipments)	4,840	5,430	5,770	20,500	3,790 ^r	6,190	9,980
Mill products (net shipments):							
Forging and extrusion billet	4,600	4,350	3,540	12,500 ^r	6,300 ^r	W	6,300
Other	5,550	6,300	5,340	22,900	2,930 ^r	9,150	12,100
Total	10,100	10,600	8,880	35,400 ^r	9,230 ^r	9,150	18,400
Castings	W	W	W	W	W	W	W
Receipts, scrap:							
Home	4,530	3,690	6,670	14,900 ^r	3,810 ^r	4,140	7,950
Purchased	6,280	7,290	6,770	20,300 ^r	6,110 ^r	7,090	13,200
Total	10,800	11,000	13,400	35,200 ^r	9,920 ^r	11,200	21,100

^rRevised. W Withheld to avoid disclosing company proprietary data.

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

²Estimated by the U.S. Geological Survey.

TABLE 2
U.S. EXPORTS OF TITANIUM PRODUCTS¹

(Metric tons)

	2012				2013		
	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	1st quarter– 2d quarter
Metal:							
Waste and scrap	2,900	1,990	1,610	8,760	1,490	1,130	2,620
Unwrought:							
Sponge	344	517	347	1,420	359	316	675
Ingot	935	1,380	1,140	3,760	1,410	1,460	2,860
Other unwrought	38	36	59	159	114	426	540
Wrought:							
Bar, rod, profiles, wire	858	891	805	3,560	754	850	1,600
Billet	1,040	816	768	3,660	705	953	1,660
Bloom, sheet bar, slab	599	387	532	2,180	552	628	1,180
Other	3,250	2,950	3,820	13,800	2,870	3,540	6,410
Ferrotitanium and ferrosilicon titanium	1,080	1,060	705	3,610	1,580	1,010	2,590
Ores and concentrates	6,390	17,100	16,000	43,000	6,640	2,490	9,140
Pigment:							
80% or more titanium dioxide	145,000	151,000	112,000	587,000	142,000	170,000	312,000
Other titanium dioxide	10,600	9,180	4,060	33,100	9,060	11,300	20,400
Unfinished titanium dioxide ²	777	1,590	971	4,570	782	937	1,720

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

²Unmixed and not surface treated.

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM METAL¹

(Metric tons)

	2012				2013		
	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	1st quarter– 2d quarter
Waste and scrap:							
Canada	206	156	189	757	214	176	390
France	540	400	516	1,950	536	371	907
Germany	557	598	458	2,260	484	400	884
Israel	115	109	85	410	128	111	239
Italy	94	12	74	301	67	60	127
Japan	554	479	402	2,040	309	418	727
Korea, Republic of	313	140	19	605	172	90	262
Mexico	137	150	150	541	130	157	287
Sweden	36	93	48	314	50	54	105
Taiwan	101	98	47	383	97	69	165
United Kingdom	967	855	799	3,540	770	1,080	1,850
Other	329	351	264	1,350	168	233	401
Total	3,950	3,440	3,050	14,400	3,130	3,220	6,350
Unwrought:							
Sponge:							
China	892	908	238	3,510	1,040	738	1,780
Japan	4,930	5,130	4,510	18,900	3,370	2,070	5,440
Kazakhstan ^c	2,150	2,060	1,530	8,150	495	120	615
Ukraine	434	307	291	1,470	433	348	780
Other ²	663	469	347	1,680	256	121	377
Total	9,060	8,870	6,920	33,700	5,600	3,390	8,990
Ingot:							
Germany	30	20	--	109	--	--	--
Russia	117	35	87	401	164	101	265
Other	--	--	--	--	--	4	4
Total	147	55	87	510	164	105	269
Powder	21	6	4	34	20	40	60
Other	114	48	101	448	147	279	426
Wrought:							
Bar, rod, profiles, wire	500	374	367	1,750	308	457	766
Billet	257	282	220	1,010	241	253	493
Bloom, sheet bar, slab	15	1	2	21	3	21	24
Plate, sheet, strip, foil	647	742	716	2,860	639	706	1,350
Tube and pipe	83	42	89	303	62	79	139
Other	140	100	137	420	112	218	331
Total	1,640	1,540	1,530	6,360	1,370	1,730	3,100
Other articles of titanium:							
Castings	7	6	19	36	5	15	20
Other	155	83	72	446	104	115	219
Ferrotitanium and ferrosilicon titanium	767	505	483	2,410	380	539	920

^cEstimated. -- Zero.

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

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM CONCENTRATES¹

(Metric tons)

	2012				2013		
	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	1st quarter– 2d quarter
Ilmenite:							
Australia	38,200	62,300	45,000	245,000	35,600	32,200	67,800
Mozambique	20,000	25,000	22,000	99,800	15,500	41,000	56,600
Other	9,970	--	9,640	29,400	--	--	--
Total	68,200	87,300	76,600	374,000	51,100	73,300	124,000
Titanium slag:							
Canada	59,000	101,000	65,100	303,000	41,000	79,700	121,000
South Africa	83,100	25,400	108,000	315,000	129,000	101,000	230,000
Other	1	--	--	1	--	697	697
Total	142,000	127,000	173,000	618,000	170,000	181,000	351,000
Rutile:							
Australia	22,700	33,600	25,400	131,000	17,200	47,500	64,800
South Africa	41,600	30,500	38,600	135,000	27,400	29,500	57,000
Other	5,030	4,610	40	10,200	10,600	23,500	34,100
Total	69,300	68,700	64,000	277,000	55,300	101,000	156,000
Synthetic rutile:							
Australia	10,200	35,000	22,000	107,000	30,500	51,300	81,800
Other	199	434	704	4,380	510	1,000	1,510
Total	10,400	35,500	22,700	112,000	31,000	52,300	83,300
Titaniferous iron ore, Canada	--	--	102	286	146	13,600	13,700

-- Zero.

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

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM PIGMENT¹

(Metric tons)

	2012				2013		
	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	1st quarter– 2d quarter
80% or more titanium dioxide:							
Canada	20,200	16,500	10,700	68,300	17,200	16,100	33,300
China	7,880	8,200	4,910	25,300	7,270	9,870	17,100
Finland	1,210	2,220	1,440	5,990	1,400	1,790	3,190
France	1,240	1,460	742	5,110	1,220	943	2,170
Germany	1,870	4,570	643	8,380	3,400	5,230	8,630
Japan	1,000	1,130	1,190	4,220	1,300	2,400	3,690
Mexico	900	3,100	466	4,490	602	939	1,540
Norway	--	--	--	--	855	1,860	2,710
Ukraine	4,030	3,270	912	11,100	3,090	3,690	6,780
Other	4,550 ^r	5,200 ^r	4,570 ^r	17,700 ^r	3,510 ^r	3,210	6,720
Total	42,900	45,700	25,500	151,000	39,900	46,000	85,900
Other titanium dioxide:							
Canada	2,110	2,180	1,630	8,190	2,160	2,240	4,390
China	447	679	322	1,750	194	365	559
France	259	2	82	427	46	5	51
Germany	185	156	165	656	48	310	358
Japan	281	276	54	789	76	86	162
Other	391	381	270	1,320	117	253	370
Total	3,680	3,670	2,520	13,100	2,640	3,260	5,890
Unfinished titanium dioxide:²							
China	4,610	3,230	3,590	15,800	3,120	2,620	5,750
Czech Republic	753	668	609	2,620	692	581	1,270
Finland	552	440	881	2,450	683	1,310	1,990
France	370	281	908	2,760	2,180	2,080	4,260
Germany	1,080	784	651	3,340	1,090	864	1,950
Italy	1,040	865	154	2,730	589	808	1,400
Japan	932	222	772	3,260	127	78	205
Korea, Republic of	1,310	1,340	1,190	4,490	1,180	1,410	2,600
Other	261	371	531	1,310 ^r	561	812	1,370
Total	10,900	8,200	9,290	38,800	10,200	10,600	20,800
Grand total	57,500	57,500	37,400	203,000	52,700	59,800	113,000

^rRevised. -- Zero.

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

²Unmixed and not surface treated.

Source: U.S. Census Bureau.

TABLE 6
PRICES FOR TITANIUM MATERIALS

(End of period)

		2012			2013	
		2d quarter	3d quarter	4th quarter	1st quarter	2d quarter
Concentrate:						
Ilmenite, f.o.b. Australian ports ¹	dollars per metric ton	250-350	250-350	250-350	250-350	250-350
Titanium slag, import ²	do.	708-1,022	532-981	512-763	524-949	526-653
Rutile, natural:¹						
Bagged, f.o.b. Australian ports	do.	2,500-2,800	2,500-2,800	2,500-2,800	1,500-1,700	1,500-1,700
Bulk, f.o.b. Australian ports	do.	2,050-2,400	2,050-2,400	2,050-2,400	1,400-1,700	1,400-1,700
Metal:						
Sponge metal, Japan, import ²	dollars per pound	6.81	6.87	6.73	6.78	6.44
Titanium mill products	producer price index ³	184	184	179	170 ^r	175
Titanium scrap, turnings, unprocessed (Ti-6Al-4V) ⁴	dollars per pound	2.00-2.10	1.80-1.90	1.70-1.75	1.55-1.60	2.85-3.00
Ferrotitanium, 70% (max. 4.5% Al) per pound Ti ⁴	do.	3.50-3.55	3.25-3.35	3.20-3.25	3.15-3.25	5.80-6.00
Pigment:						
Titanium dioxide pigment, import ²	dollars per metric ton	3,780	3,530	3,414	3,191	3,058
Titanium dioxide pigment	producer price index ³	303	293	268	254 ^r	246

^rRevised. do. Ditto.

¹Source: Industrial Minerals (London).

²Unit value based on landed-duty-paid U.S. imports for consumption.

³June 1982=100. Source: U.S. Department of Labor, Bureau of Labor Statistics.

⁴Source: Platts Metals Week.