



Mineral Industry Surveys

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TITANIUM IN THE THIRD QUARTER 2013

Titanium mill product shipments in the third quarter of 2013 were 15,000 metric tons (t), an increase of 64% from shipment totals in the previous quarter and a 41% increase compared with those of the third quarter 2012. Shipments during the first three quarters of 2013 were 9% more than the same period of 2012 owing to continued demand by the aerospace industry. Ingot production in the third quarter of 2013 increased by 8% from second quarter totals and decreased by 8% from production in the third quarter 2012. Production for the first three quarters of 2013 was 7% lower than in the first three quarters of 2012. Ingot shipments in the third quarter of 2013 increased by 6% from second quarter totals and were 21% higher than those in the third quarter 2012. Year-to-date shipments increased by 13%

from those of the same period in 2012. Receipts of titanium scrap in the third quarter 2013 totaled 11,800 t, a 5% increase compared to receipts from the previous quarter and a 7% increase from those in the third quarter 2012.

In the third 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 U.S. Geological Survey 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			
	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
Production:							
Sponge	W	W	W	W	W	W	W
Ingot	17,800	17,100	68,800	16,300	15,200	16,400	47,900
Mill products	10,700	8,850	39,800	9,270	9,200	9,020	27,500
Exports:							
Waste and scrap	1,990	1,610	8,760	1,490	1,130	484	3,100
Sponge	517	347	1,420	359	316	82	758
Ingot	1,380	1,140	3,760	1,410	1,460	1,060	3,920
Other unwrought	36	59	159	114	426	308	848
Bar, rod, profiles, wire	891	805	3,560	754	850	651	2,260
Billet	816	768	3,660	705	953	688	2,350
Bloom, sheet bar, slab	387	532	2,180	552	628	388	1,570
Other wrought	2,950	3,820	13,800	2,870	3,540	2,480	8,890
Total	8,970	9,080	37,400	8,240	9,300	6,130	23,700
Imports:							
Waste and scrap	3,440	3,050	14,400	3,130	3,220	2,230	8,570
Sponge ²	8,870	6,920	33,700	5,600	3,390	3,840	12,800
Ingot	55	87	510	164	105	172	441
Powder	6	4	34	20	40	6	66
Other unwrought	48	101	448	147	279	117	543
Wrought	1,540	1,530	6,360	1,370	1,730	821	3,920
Castings	6	19	36	5	15	14	33
Other	83	72	448	104	115	90	310
Total	14,100	11,800	56,000	10,500	8,900	7,290	26,700
Stocks, end of period:							
Sponge, industry	14,700	18,100	18,100	21,500	22,600	24,400	24,400
Scrap	12,700	13,500	13,500	12,300	12,600	12,500	12,500
Ingot	3,330	4,170	4,170	4,490	5,200	5,600	5,600
Consumption:							
Sponge	11,200	7,530	35,100	6,140	6,170	5,230	17,500
Scrap	10,200	11,200	38,700	8,660	8,990	10,600	28,300
Ingot	14,700	13,100	57,300	14,100	10,700	12,800	37,600
Shipments:							
Ingot and slab (producer net shipments)	5,430	5,770	20,500	3,790	6,190	6,590	16,600
Mill products (net shipments):							
Forging and extrusion billet	4,350	3,540	16,700	6,300	W	6,020	12,300
Other	6,300	5,340	22,900	2,930	9,150	8,960	21,000
Total	10,600	8,880	39,600	9,230	9,150	15,000	33,400
Castings	W	W	W	W	W	W	W
Receipts, scrap:							
Home	3,690	6,670	21,900	3,810	4,140	4,690	12,600
Purchased	7,290	6,770	26,800	6,110	7,090	7,160	20,400
Total	11,000	13,400	48,800	9,920	11,200	11,800	33,000

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			
	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
Metal:							
Waste and scrap	1,990	1,610	8,760	1,490	1,130	484	3,100
Unwrought:							
Sponge	517	347	1,420	359	316	82	758
Ingot	1,380	1,140	3,760	1,410	1,460	1,060	3,920
Other unwrought	36	59	159	114	426	308	848
Wrought:							
Bar, rod, profiles, wire	891	805	3,560	754	850	651	2,260
Billet	816	768	3,660	705	953	688	2,350
Bloom, sheet bar, slab	387	532	2,180	552	628	388	1,570
Other	2,950	3,820	13,800	2,870	3,540	2,480	8,890
Ferrotitanium and ferrosilicon titanium	1,060	705	3,610	1,580	1,010	488	3,080
Ores and concentrates	17,100	16,000	43,000	6,640	2,490	1,590	10,700
Pigment:							
80% or more titanium dioxide	151,000	112,000	587,000	142,000	170,000	107,000	419,000
Other titanium dioxide	9,180	4,060	33,100	9,060	11,300	8,770	29,100
Unfinished titanium dioxide ²	1,590	971	4,570	782	937	613	2,330

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			
	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
Waste and scrap:							
Canada	156	189	757	214	176	95	485
France	400	516	1,950	536	371	350	1,260
Germany	598	458	2,260	484	400	513	1,400
Israel	109	85	410	128	111	69	308
Italy	12	74	301	67	60	15	142
Japan	479	402	2,040	309	418	267	994
Korea, Republic of	140	19	605	172	90	108	370
Mexico	150	150	541	130	157	132	419
Sweden	93	48	314	50	54	--	105
Taiwan	98	47	383	97	69	51	216
United Kingdom	855	799	3,540	770	1,080	467	2,320
Other	351	264	1,350	168	233	160	561
Total	3,440	3,050	14,400	3,130	3,220	2,230	8,570
Unwrought:							
Sponge:							
China	908	238	3,510	1,040	738	342	2,120
Japan	5,130	4,510	18,900	3,370	2,070	3,080	8,520
Kazakhstan ^c	2,060	1,530	8,150	495	120	105	720
Ukraine	307	291	1,470	433	348	271	1,050
Other ²	469	347	1,680	256	121	49	426
Total	8,870	6,920	33,700	5,600	3,390	3,840	12,800
Ingot:							
Germany	20	--	109	--	--	--	--
Russia	35	87	401	164	101	172	437
Other	--	--	--	--	4	--	4
Total	55	87	510	164	105	172	441
Powder							
Powder	6	4	34	20	40	6	66
Other	48	101	448	147	279	117	543
Wrought:							
Bar, rod, profiles, wire	374	367	1,750	308	457	360	1,130
Billet	282	220	1,010	241	253	143	636
Bloom, sheet bar, slab	1	2	21	3	21	(2)	24
Plate, sheet, strip, foil	742	716	2,860	639	706	210	1,560
Tube and pipe	42	89	303	62	79	44	182
Other	100	137	420	112	218	63	394
Total	1,540	1,530	6,360	1,370	1,730	821	3,920
Other articles of titanium:							
Castings	6	19	36	5	15	14	33
Other	83	72	446	104	115	90	310
Ferrotitanium and ferrosilicon titanium	505	483	2,410	380	539	298	1,220

^cEstimated. -- 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 4
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM CONCENTRATES¹

(Metric tons)

	2012			2013			
	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
Ilmenite:							
Australia	62,300	45,000	245,000	35,600	32,200	40,200	108,000
Mozambique	25,000	22,000	99,800	15,500	41,000	40,000	96,600
Other	--	9,640	29,400	--	--	--	--
Total	87,300	76,600	374,000	51,100	73,300	80,300	205,000
Titanium slag:							
Canada	101,000	65,100	303,000	41,000	79,700	42,100	163,000
South Africa	25,400	108,000	315,000	129,000	101,000	69,500	299,000
Other	--	--	1	--	697	--	697
Total	127,000	173,000	618,000	170,000	181,000	112,000	463,000
Rutile:							
Australia	33,600	25,400	131,000	17,200	47,500	8,630	73,400
Sierra Leone	--	--	--	--	10,900	10,000	20,900
South Africa	30,500	38,600	135,000	27,400	29,500	34,000	91,000
Other	4,610	40	10,200	10,600	12,600 ^r	263	23,500
Total	68,700	64,000	277,000	55,300	101,000	52,900	209,000
Synthetic rutile:							
Australia	35,000	22,000	107,000	30,500	51,300	12,000	93,800
Other	434	704	4,380	510	1,000	886	2,400
Total	35,500	22,700	112,000	31,000	52,300	12,900	96,200
Titaniferous iron ore, Canada	--	102	286	146	13,600	--	13,700

^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
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM PIGMENT¹

(Metric tons)

	2012			2013			
	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
80% or more titanium dioxide:							
Canada	16,500	10,700	68,300	17,200	16,100	9,030	42,300
China	8,200	4,910	25,300	7,270	9,870	6,070	23,200
Finland	2,220	1,440	5,990	1,400	1,790	1,170	4,360
France	1,460	742	5,110	1,220	943	262	2,430
Germany	4,570	643	8,380	3,400	5,230	2,320	11,000
Italy	491	533	2,620	--	--	--	--
Japan	1,130	1,190	4,220	1,300	2,400	1,240	4,930
Mexico	3,100	466	4,490	602	939	297	1,840
Spain	1,230	564	3,140	863	1,280	711	2,850
Ukraine	3,270	912	11,100	3,090	3,690	2,030	8,810
Other	3,480 ^r	3,470 ^r	12,000 ^r	3,500 ^r	3,790 ^r	2,790	10,100
Total	45,700	25,500	151,000	39,900	46,000	25,900	112,000
Other titanium dioxide:							
Canada	2,180	1,630	8,190	2,160	2,240	1,180	5,570
China	679	322	1,750	194	365	442	1,000
France	2	82	427	46	5	4	56
Germany	156	165	656	48	310	311	670
Japan	276	54	789	76	86	30	192
Other	381	270	1,320	117	253	115	485
Total	3,670	2,520	13,100	2,640	3,260	2,080	7,970
Unfinished titanium dioxide:²							
China	3,230	3,590	15,800	3,120	2,620	1,600	7,350
Czech Republic	668	609	2,620	692	581	393	1,670
Finland	440	881	2,450	683	1,310	467	2,460
France	281	908	2,760	2,180	2,080	1,170	5,430
Germany	784	651	3,340	1,090	864	820	2,770
Italy	865	154	2,730	589	808	479	1,880
Japan	--	--	--	127	78	208	413
Korea, Republic of	1,340	1,190	4,490	1,180	1,410	375	2,970
Other	593 ^r	1,300 ^r	4,560 ^r	561	812	311	1,680
Total	8,200	9,290	38,800	10,200	10,600	5,830	26,600
Grand total	57,500	37,400	203,000	52,700	59,800	33,800	146,000

^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		
		3d quarter	4th quarter	1st quarter	2d quarter	3d 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.	532–981	512–763	524–949	526–653	500–605
Rutile, natural:¹						
Bagged, f.o.b. Australian ports	do.	2,500–2,800	2,500–2,800	1,500–1,700	1,500–1,700	1,500–1,700
Bulk, f.o.b. Australian ports	do.	2,050–2,400	2,050–2,400	1,400–1,700	1,400–1,700	1,400–1,700
Metal:						
Sponge metal, Japan, import ²	dollars per pound	6.87	6.73	6.78	6.92 ^r	6.17
Titanium mill products	producer price index ³	184	179	170	174	185
Titanium scrap, turnings, unprocessed (Ti-6Al-4V) ⁴	dollars per pound	1.80–1.90	1.70–1.75	1.55–1.60	2.85–3.00	2.75–2.80
Ferrotitanium, 70% (max. 4.5% Al) per pound Ti ⁴	do.	3.25–3.35	3.20–3.25	3.15–3.25	5.80–6.00	5.90–6.00
Pigment:						
Titanium dioxide pigment, import ²	dollars per metric ton	3,530	3,414	3,191	3,058	3,010
Titanium dioxide pigment	producer price index ³	293	268	254	246	245

^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.