

Mineral Industry Surveys

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TITANIUM IN THE THIRD QUARTER 2011

Titanium mill product shipments in the third quarter of 2011 were 11,100 metric tons (t), a 22% decrease compared with shipments in the previous quarter. Ingot production increased by 10%, and ingot shipments increased slightly. Receipts of titanium scrap totaled 11,400 t, a 6% increase compared with receipts from the previous quarter.

In the third quarter, approximately 67% of mill products and castings were produced for commercial and military aerospace

applications. Other applications for titanium mill products and castings included, in descending order, industrial, medical, other commercial, consumer, and nonaerospace military. 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)

	2010			2011			
	Third quarter	Fourth quarter	First–Fourth quarter	First quarter	Second quarter	Third quarter	First–Third quarter
Production:							
Sponge	W	W	W	W	W	W	W
Ingot	15,100	15,100	56,400	14,500	13,800	15,200	43,500
Mill products	8,380	9,580	36,300	9,660	9,860	11,300	30,800
Exports:							
Waste and scrap	728	1,460	3,480	1,240	1,230	1,310	3,770
Sponge	58	55	293	45	60	36	140
Ingot	246	51	467	36	29	29	95
Other unwrought	635	516	2,570	59	82	182	324
Bar, rod, profiles, wire	770	799	2,830	893	1,000	861	2,750
Billet	557	741	2,240	781	889	938	2,610
Bloom, sheet bar, slab	278	472	1,240	279	326	390	996
Other wrought	2,250	2,380	8,450	2,960	3,980	4,490	11,400
Total	5,520	6,470	21,600	6,290	7,590	8,240	22,100
Imports:							
Waste and scrap	2,850	2,820	10,700	2,670	3,960	3,430	10,000
Sponge ²	5,860	6,420	20,500	7,160	7,910	8,730	23,800
Ingot	111	117	237	105	196	115	416
Powder	36	36	119	6	23	21	49
Other unwrought	14	13	88	43	55	23	122
Wrought	2,150	1,930	8,440	1,560	1,810	1,460	4,830
Castings	(3)	1.00	4	(3)	35	12	48
Other	59	72	276	165	158	151	473
Total	11,100	11,400	40,300	11,700	14,100	13,900	39,800
Stocks, end of period:							
Sponge, industry	11,500	10,500	10,500	7,000	8,490	5,000	5,000
Scrap	7,640	7,900	7,900	8,500	10,400	11,300	11,300
Ingot	2,970	2,920	2,920	3,380	3,470	3,000	3,000
Consumption:							
Sponge	10,100	9,870	34,900	12,600	12,000	12,100	36,700
Scrap	8,420	5,830	29,200	6,750	6,940	9,320	23,000
Ingot	10,200	10,600	40,900	12,200	12,500	15,800	40,500
Shipments:							
Ingot and slab (producer net shipments)	3,870	3,210	13,700	2,950	4,300	4,390	11,600
Mill products (net shipments):							
Forging and extrusion billet	3,970	4,780	19,700	4,810	3,280	4,580	12,700
Other	4,740	4,870	18,500	5,530	11,100	6,570	23,200
Total	8,710	9,650	38,300	10,300	14,300	11,100	35,800
Castings	W	W	W	W	W	W	W
Receipts, scrap:							
Home	2,460	2,530	9,770	W	2,990	4,140	7,130 ⁴
Purchased	5,590	5,660	23,400	W	7,770	7,290	15,100 ⁴
Total	8,050	8,190	33,200	6,600	10,800	11,400	28,800

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.

³Less than ½ unit.

⁴Data for second and third quarter only.

TABLE 2
U.S. EXPORTS OF TITANIUM PRODUCTS¹

(Metric tons)

	2010			2011			
	Third quarter	Fourth quarter	First–Fourth quarter	First quarter	Second quarter	Third quarter	First–Third quarter
Metal:							
Waste and scrap	728	1,460	3,480	1,240	1,230	1,310	3,770
Unwrought:							
Sponge	58	55	293	45	60	36	140
Ingot	246	51	467	36	29	29	95
Other unwrought	635	516	2,570	59	82	182	324
Wrought:							
Bar, rod, profiles, wire	770	799	2,830	893	1,000	861	2,750
Billet	557	741	2,240	781	889	938	2,610
Bloom, sheet bar, slab	278	472	1,240	279	326	390	996
Other	2,250	2,380	8,450	2,960	3,980	4,490	11,400
Ferrotitanium and ferrosilicon titanium	751	695	2,570	665	987	895	2,550
Ores and concentrates	4,400	4,670	18,900	7,380	7,760	8,540	23,700
Pigment:							
80% or more titanium dioxide	180,000	190,000	717,000	177,000	181,000	204,000	562,000
Other titanium dioxide	10,700	9,190	36,700	9,880	11,600	10,400	31,900
Unfinished titanium dioxide ²	1,070	1,260	4,160	2,230	1,640	1,830	5,690

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)

	2010			2011			
	Third quarter	Fourth quarter	First–Fourth quarter	First quarter	Second quarter	Third quarter	First–Third quarter
Waste and scrap:							
Canada	125	184	682	188	178	132	498
France	439	363	1,480	349	525	447	1,320
Germany	565	461	2,050	290	655	492	1,440
Israel	48	82	256	106	143	173	422
Italy	135	76	398	63	107	83	253
Japan	358	593	1,550	590	612	418	1,620
Korea, Republic of	75	100	416	84	106	280	470
Mexico	29	60	151	67	125	82	273
Russia	52	25	243	46	45	14	106
Spain	92	34	134	47	96	38	181
Taiwan	88	194	692	165	390	114	669
United Kingdom	480	467	1,720	436	623	840	1,900
Other	361	179	943	235	353	312	900
Total	2,850	2,820	10,700	2,670	3,960	3,430	10,000
Unwrought:							
Sponge:							
China	297	555	868	1,220	886	1,550	3,650
Japan	2,820	3,240	9,790	4,150	3,610	3,690	11,500
Kazakhstan ^e	2,300	2,060	8,550	1,230	2,730	2,660	6,620
Russia	276	422	918	150	399	350	898
Other ²	172	146	331	409	279	491	1,180
Total	5,860	6,420	20,500	7,160	7,910	8,730	23,800
Ingot:							
China	34	13	48	--	7	--	7
Germany	77	80	156	99	99	48	246
Russia	--	12	12	3	91	67	161
Other	--	13	21	2	--	--	2
Total	111	117	237	105	196	115	416
Powder	36	36	119	6	23	21	49
Other	14	13	88	43	55	23	122
Wrought:							
Bar, rod, profiles, wire	627	597	2,530	371	519	438	1,330
Billet	442	436	2,010	183	260	257	699
Bloom, sheet bar, slab	17	7	103	5	10	4	19
Plate, sheet, strip, foil	961	762	3,320	852	876	588	2,320
Tube and pipe	63	88	329	89	103	128	316
Other	39	37	149	62	41	47	151
Total	2,150	1,930	8,440	1,560	1,810	1,460	4,830
Other articles of titanium:							
Castings	(3)	1	4	(3)	35	12	48
Other	59	72	276	165	158	151	473
Ferrotitanium and ferrosilicon titanium	462	363	2,740	475	635	544	1,650

^eEstimated. -- Zero.

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

²All or part of these data have been referred to the U.S. Census Bureau for verification.

³Less than ½ unit.

Source: U.S. Census Bureau.

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

(Metric tons)

	2011						
	Third quarter	Fourth quarter	First–Fourth quarter	First quarter	Second quarter	Third quarter	First–Third quarter
Ilmenite:							
Australia	21,000	44,000	98,200	53,400	57,200	77,500	188,000
Mozambique	40,000	38,000	199,000	32,100	26,100	25,000	83,200
Ukraine	20,000	17,600	57,500	--	10,000	--	10,000
Other ²	18	11,000	22,300	--	9,340	--	9,340
Total	81,000	111,000	377,000	85,500	103,000	103,000	291,000
Titanium slag:							
Canada	21,000	46,600	150,000	21,600	55,800	32,200	110,000
South Africa	78,700	88,400	325,000	68,900	80,900	79,000	229,000
Total	99,700	135,000	475,000	90,500	137,000	111,000	338,000
Rutile:							
Australia	15,000	26,600	83,500	35,300	20,000	34,300	89,500
Sierra Leone	9,880	10,000	29,800	--	--	19	19
South Africa	26,300	28,900	96,500	23,200	47,900	22,900	94,000
Other ²	5,050	500	19,100	67	9,020	594	9,680
Total	56,200	66,000	229,000	58,500	76,900	57,800	193,000
Synthetic rutile:							
Australia	24,000	54,000	109,000	18,500	50,500	26,800	95,900
Other ²	13,500	36	13,600	92	704	1,260	2,060
Total	37,500	54,100	122,000	18,600	51,200	28,100	97,900
Titaniferous iron ore, Canada ²	254	46,900	83,100	--	42	21	63

-- Zero.

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

²All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

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

(Metric tons)

	2010			2011			
	Third quarter	Fourth quarter	First–Fourth quarter	First quarter	Second quarter	Third quarter	First–Third quarter
80% or more titanium dioxide:							
Canada	23,500	19,000	83,400	20,700	20,600	21,100	62,400
China	2,400	2,340	8,120	2,460	3,880	1,270	7,610
Finland	1,860	1,810	7,970	1,790	1,750	1,470	5,010
France	1,020	598	4,200	1,440	1,000	1,140	3,590
Germany	1,670	1,180	5,720	852	1,710	2,160	4,730
Italy	1,040	566	2,890	970	710	933	2,610
Japan	1,010	1,140	4,350	793	1,200	1,190	3,180
Netherlands	1,280	1,270	4,730	1,010	297	303	1,610
Ukraine	2,190	2,600	9,890	3,300	3,580	2,540	9,430
Other	3,860	4,260	13,700	2,580	3,360	3,230	9,170
Total	39,800	34,700	145,000	35,900	38,100	35,400	109,000
Other titanium dioxide:							
Canada	1,800	1,530	7,230	1,850	2,400	2,390	6,640
China	494	645	1,550	253	167	309	728
Germany	284	99	1,440	262	216	155	633
Japan	222	238	836	175	198	126	500
Other	236	289	1,060	263	290	235	787
Total	3,030	2,800	12,100	2,800	3,280	3,210	9,290
Unfinished titanium dioxide:²							
China	9,640	5,430	22,400	5,170	6,330	7,000	18,500
Czech Republic	689	559	2,400	689	625	627	1,940
Finland	748	745	2,960	553	842	732	2,130
France	1,320	1,490	4,910	1,170	1,150	1,840	4,150
Germany	1,240	1,310	4,920	1,320	1,090	1,090	3,500
Italy	133	608	2,220	970	1,010	875	2,850
Korea, Republic of	909	1,050	4,450	927	858	406	2,190
Other	452	510	2,930	749	679	327	1,750
Total	15,100	11,700	47,200	11,500	12,600	12,900	37,000
Grand total	58,000	49,200	204,000	50,200	53,900	51,500	156,000

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)

		2010		2011		
		Third quarter	Fourth quarter	First quarter	Second quarter	Third quarter
Concentrate:						
Ilmenite, f.o.b. Australian ports ¹	dollars per metric ton	65–85	65–85	65–85	130–150	140–250
Titanium slag, import ²	do.	427–482	367–433	480–495	449–498	320–475
Rutile, natural: ¹						
Bagged, f.o.b. Australian ports	do.	725–800	760–805	775–820	950–1,180	1,348–1,600
Bulk, f.o.b. Australian ports	do.	530–550	530–550	625–700	750–875	1,000–1,120
Metal:						
Sponge metal, Japan, import ²	dollars per pound	6.26	6.24	5.81 ^r	5.84 ^r	5.68
Titanium mill products	producer price index ³	189	203	206	200 ^r	219
Titanium scrap, turnings, unprocessed (Ti-6Al-4V) ⁴	dollars per pound	2.00–2.20	2.00–2.10	2.50–2.65	2.75–2.85	2.60–2.65
Ferrotitanium, 70% (max. 4.5% Al) per pound Ti ⁴	do.	3.30–3.40	3.18–3.25	3.85–3.95	4.30–4.45	4.10–4.20
Pigment:						
Titanium dioxide pigment, import ²	dollars per metric ton	2,306	2,448	2,647	2,856	3,133
Titanium dioxide pigment	producer price index ³	184	194	213	221 ^r	252

^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.