



Mineral Industry Surveys

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TITANIUM IN THE THIRD QUARTER 2019

Industry participation is key to the publication of aggregated totals of domestic titanium statistics. In the third quarter of 2019, domestic production, consumption, shipments, and stocks of sponge, ingot, slab, and mill products were withheld to avoid disclosing company proprietary data owing to limited responses (table 1).

The U.S. Geological Survey's (USGS) National Minerals Information Center canvasses the nonfuel mining and mineral processing industry in the United States for data on mineral production, consumption, recycling, stocks, and shipments. Reporting is voluntary, and the USGS greatly appreciates the data provided by companies participating in the surveys throughout the United States. The data that companies provide are the foundation upon which the USGS builds its minerals information publications. Unless authorization is granted for release, the data furnished are aggregated to avoid disclosing company proprietary data and are treated as confidential by the Department of the Interior.

Companies may report on a monthly, quarterly, semiannual, and (or) annual basis, depending on the frequency of the

surveys. Canvass forms are mailed shortly after the end of the reporting period and are requested to be returned within about 30 days. In addition to reporting by paper canvass forms, companies can electronically submit data to contribute to this valuable effort. Companies already registered with the USGS can sign up to report electronically by selecting the "Sign up" link at <https://mids.er.usgs.gov>. To notify the USGS of a new operation, or for further information on registering for electronic submissions, visit <https://mids.er.usgs.gov>. The USGS titanium metal quarterly survey has a canvas code of G37. For more information on how to participate in the titanium surveys, please contact Joseph Gambogi using the contact information listed above.

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/nmic/>.

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

(Metric tons)

	2018			2019			
	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	21,900	20,700	85,000	W	W	W	W
Mill products	9,580	9,310	38,000	W	W	W	W
Exports:							
Waste and scrap	3,210	4,150	11,900	3,230	4,030	3,640	10,900
Sponge	30	46	533	233	375	198	806
Ingot	2,950	2,310	10,600	2,100	1,780	1,340	5,230
Other unwrought	755	632	2,770	500	616	636	1,750
Bar, rod, profiles, wire	1,440	1,820	5,980 ^r	1,760 ^r	1,820 ^r	1,880	5,450
Bloom, sheet bar, slab	442	357	2,600	311	345	287	942
Other wrought	2,790	3,040	11,300	3,180 ^r	3,170 ^r	2,780	9,130
Total	11,600	12,400	45,600	11,300 ^r	12,100	10,800	34,200
Imports:							
Waste and scrap	7,090	7,180	26,700	6,980	8,140	7,490	22,600
Sponge ²	7,110 ^r	6,750	23,700	6,720	8,320	8,150	23,200
Ingot	629	319	1,950	570	533 ^r	533	1,640
Powder	44	42	191	38	41	51	130
Other unwrought	332	315	1,190	332	280	324	937
Wrought	2,040 ^r	1,890 ^r	7,690 ^r	1,940	2,460	2,360	6,760
Castings	21	25	85	30	15	8	53
Other	195	205	678	186	253	260	699
Total	17,500 ^r	16,700	62,400 ^r	16,800	20,000 ^r	19,200	56,000
Stocks, end of period:							
Sponge, industry	10,700	10,700	10,700	W	W	W	W
Scrap	15,900	15,900	15,900	11,500	W	W	W
Ingot	6,040	8,530	8,530	10,400	W	W	W
Consumption:							
Sponge	8,920	8,860	35,200	W	W	W	W
Scrap	16,300	10,900	52,100	W	W	W	W
Ingot	17,500	16,200	67,600	W	W	W	W
Shipments:							
Ingot and slab (producer net shipments)	5,470	6,810	23,300	W	W	W	W
Mill products (net shipments):							
Forging and extrusion billet	6,730	6,010	25,800	W	W	W	W
Other	2,850	3,310	12,200	W	W	W	W
Total	9,580	9,310	38,000	W	W	W	W
Castings	W	W	W	W	W	W	W
Receipts, scrap:							
Home	6,060	5,900	23,200	W	W	W	W
Purchased	13,800	12,600	52,000	W	W	W	W
Total	19,800	18,500	75,200	W	W	W	W

^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)

	HTS ² Code	2018			2019			
		3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
Metal:								
Waste and scrap	8108.30.0000	3,210	4,150	11,900	3,230	4,030	3,640	10,900
Unwrought:								
Sponge	8108.20.0010	30	46	533	233	375	198	806
Ingot	8108.20.0030	2,950	2,310	10,600	2,100	1,780	1,340	5,230
Other unwrought	8108.20.0090	755	632	2,770	500	616	636	1,750
Wrought:								
Bar, rod, profiles, wire	8108.90.6031	1,440	1,820	5,980	1,760 ^r	1,820 ^r	1,880	5,450
Bloom, sheet bar, slab	8108.90.6020	442	357	2,600	311	345	287	942
Other	8108.90.8000	2,790	3,040	11,300	3,180 ^r	3,170 ^r	2,780	9,130
Ferrotitanium and ferrosilicon titanium	7202.91.0000	1,000	975	3,120	325	490	331	1,150
Ores and concentrates	2614.00.0000	2,760	2,120	51,400	2,460	1,130	1,160	4,750
Pigment:								
80% or more titanium dioxide	3206.11.0000	126,000	114,000	508,000	93,300	90,800	101,000	285,000
Other titanium dioxide	3206.19.0000	3,210	3,170	15,800	3,510	3,770	2,970	10,200
Unfinished titanium dioxide ³	2823.00.0000	1,190	1,300	4,680	985	1,780	1,380	4,140

^rRevised.

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

²Harmonized Tariff Schedule of the United States.

³Unmixed and not surface treated.

Source: U.S. Census Bureau.

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

(Metric tons)

	HTS ² Code	2018			2019			
		3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
Waste and scrap:	8108.30.0000							
Canada		388	381	1,520	315	388	566	1,270
France		1,050	861	3,490	839	866	903	2,610
Germany		1,010	680	3,350	821	1,460	1,560	3,840
Italy		555	568	2,140	691	516	520	1,730
Japan		887	1,130	3,780	1,070	1,280	1,250	3,600
Korea, Republic of		461	339	1,290	379	377	165	921
Mexico		386	373	1,190	471	420	372	1,260
Singapore		138	92	586	221	217	166	605
Spain		141	81	471 ^r	103	207	176	485
United Kingdom		1,430	1,910	6,200	1,600	1,710	1,110	4,420
Other		650 ^r	761 ^r	2,700 ^r	473 ^r	701 ^r	705	1,880
Total		7,090	7,180	26,700	6,980	8,140	7,490	22,600
Unwrought:								
Sponge:	8108.20.0010							
Japan		6,870	6,180	22,100	6,190	7,370	7,180	20,700
Kazakhstan ^c		220 ^r	558 ^r	1,540 ^r	494	862	787	2,140
Russia		--	13	13	18	15	27	60
Ukraine		--	--	52	--	13	85	99
Other		17 ^r	1 ^r	22 ^r	18 ^r	56 ^r	67	140
Total		7,110 ^r	6,750	23,700	6,720	8,320	8,150	23,200
Ingot:	8108.20.0030							
Russia		629	314	1,940	539	342 ^r	380	1,260
Kazakhstan		--	--	--	14	58	131	203
Other		(3)	4	12	16 ^r	133 ^r	23	172
Total		629	319	1,950	570	533 ^r	533 ^r	1,640
Powder	8108.20.0015	44	42	191 ^r	38	41	51	130
Other	8108.20.0095	332	315	1,190	332	280	324	937
Wrought:								
Bar, rod, profiles, wire	8108.90.6031	630	525	2,210	525	589	648	1,760
Bloom, sheet bar, slab	8108.90.6020	80	5	466 ^r	279	448	257	983
Plate, sheet, strip, foil	8108.90.6045	950	919	3,650	908	1,150	1,080	3,130
Tube and pipe	8108.90.6060	206	150	686	91	105	229	425
Other	8108.90.6075	169	287	676	137	173	152	461
Total		2,040	1,890	7,690 ^r	1,940	2,460	2,360	6,760
Other articles of titanium:								
Castings	8108.90.3030	21	25	85	30	15	8	53
Other	8108.90.3060	195	205	678	186	253	260	699
Ferrotitanium and ferrosilicon titanium	7202.91.0000	551	477	2,710	1,100	825	545	2,470

^rEstimated. ^rRevised. -- Zero.

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

²Harmonized Tariff Schedule of the United States.

³Less than ½ unit.

Source: U.S. Census Bureau.

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

(Metric tons)

	HTS ² Code	2018			2019			
		3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
Ilmenite:	2614.00.6020							
Australia		77,300	62,100	256,000	28,400	36,000	38,700	101,000
Madagascar		74,000	3,020	169,000	86,000	92,000	25,000	203,000
Mozambique		25,000	32,200	141,000	91,000	20,000	61,000	172,000
Senegal		--	25,700	66,200	27,300	28,100	26,100	81,400
Ukraine		--	33,500	68,600	40,300	--	20,000	60,300
Other		--	--	5,200	--	--	--	--
Total		176,000	157,000	796,000	273,000	176,000	171,000	620,000
Titanium slag:	2620.99.5000							
Canada		29,200	42,600	136,000	11,000	30,900	22,100	64,000
Norway		10,500	--	20,500	9,650	--	20,400	30,100
South Africa		74,900	79,900	343,000	70,800	144,000	90,300	305,000
Total		115,000	123,000	500,000	91,400	175,000	133,000	399,000
Rutile:	2614.00.6040							
Australia		17,100	6,180	65,800	32,900	17,600	241	50,700
Kenya		--	--	--	21,000	11,600	--	32,600
South Africa		44,600	46,200	163,000	42,500	52,500	31,200	126,000
Other		5,180 ^r	10,000 ^r	15,600 ^r	5,980 ^r	4,040 ^r	112	10,100
Total		66,900	62,400	245,000	102,000	85,700	31,600	220,000
Synthetic rutile:	2614.00.3000							
Australia		--	6,000	15,000	--	--	12,000	12,000
Other		53	20	73	60	39	42	140
Total		53	6,020	15,100	60	39	12,000	12,100
Titaniferous iron ore, Canada³		--	16	10,100	--	(4)	41	41

^rRevised. -- Zero.

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

²Harmonized Tariff Schedule of the United States.

³Includes materials consumed for purposes other than the production of titanium commodities, principally heavy aggregate and steel-furnace flux.

Titaniferous ore from Canada is classified as ilmenite under the Harmonized Tariff Schedule of the United States and is not included in the previous ilmenite totals.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

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

(Metric tons)

	HTS ² Code	2018			2019			
		3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	1st quarter– 3d quarter
80% or more titanium dioxide:	3206.11.0000							
Australia		259	655	1,240	2,940	2,350	2,060	7,350
Belgium		4,340	3,880	13,000	2,550	5,020	2,850	10,400
Canada		22,800	21,200	85,600	23,300	23,400	19,000	65,700
China		14,200	10,300	48,500	3,680	2,790	3,200	9,670
Czechia		1,290	1,340	5,630	1,380	1,510	1,290	4,180
Germany		4,180	8,410	21,500	3,310	4,670	6,410	14,400
Japan		1,560	1,090	5,640	1,590	1,300	1,260	4,150
Mexico		1,300	1,710	9,060	1,050	1,160	1,150	3,360
Norway		1,040	913	3,520	1,460	856	850	3,170
Spain		1,380	1,960	7,670	2,420	3,320	2,860	8,600
Other		3,870 ^r	4,120 ^r	14,300 ^r	6,600 ^r	4,760 ^r	4,320	15,700
Total		56,200	55,500	216,000	50,300	51,100	45,300	147,000
Other titanium dioxide:	3206.19.0000							
Canada		2,450	2,640	10,900	2,940	2,900 ^r	3,250	9,090
China		1,060	776	3,600	457	348 ^r	337	1,140
France		188	6	772	205	149 ^r	4	357
Italy		418	89	794	126	249 ^r	100	475
Other		412 ^r	491 ^r	1,780 ^r	385 ^r	459 ^r	328	1,170
Total		4,530	4,000	17,800	4,110	4,110 ^r	4,020	12,200
Unfinished titanium dioxide: ³	2823.00.0000							
Canada		18	--	277	66	1,330	2,120	3,520
China		5,340	4,470	21,900	2,600	2,630	2,430	7,650
France		224	809	2,050	574	416	481	1,470
Germany		1,690	1,150	4,730	843	627	955	2,430
India		604	516	3,200	415	975	417	1,810
Korea, Republic of		12	60	332	253	361	354	968
Other		1,440 ^r	477 ^r	2,940 ^r	493 ^r	719 ^r	827	2,040
Total		9,330	7,480	35,400	5,240	7,060	7,580	19,900
Grand total		70,100	67,000	269,000	59,600	62,300	56,900	179,000

^rRevised. -- Zero.

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

²Harmonized Tariff Schedule of the United States.

³Unmixed and not surface treated.

Source: U.S. Census Bureau.

TABLE 6
PRICES FOR TITANIUM MATERIALS

(End of period)

		2018				2019		
		1st quarter	2d quarter	3d quarter	4th quarter	1st quarter	2d quarter	3d quarter
Concentrate:								
Ilmenite, CIF, China ¹	dollars per metric ton	185–200	190–200	160–180	164–180	170–180	180–190	190–210
Titanium slag, import ²	do.	622–742	638–749	642–790	700–790	790–872	731–861	787–1,026
Rutile, natural:¹								
Bagged, f.o.b. Australian ports	do.	950–1,200	1,000–1,250	1,050–1,300	1,045–1,350	1,045–1,350	1,150–1,350	1,250–1,350
Bulk, f.o.b. Australian ports	do.	800–900	800–900	1,000–1,050	1,000–1,050	1,000–1,100	1,100–1,200	1,100–1,200
Metal:								
Sponge metal, Japan, import ²	dollars per kilogram	10.90	10.70	10.50	10.80	10.50	10.30	10.60
Titanium mill products	producer price index ³	174	173	178	171	174	173	174
Titanium scrap, turnings, unprocessed (Ti-6Al-4V) ⁴	dollars per pound	0.65–0.70	0.70–0.75	0.80–0.90	0.80–0.90	0.85–0.90	0.85–0.90	0.85–0.90
Ferrotitanium, 70% (max. 4.5% Al) per pound Ti ⁴	do.	2.20–2.50	2.30–2.70	2.90–3.10	3.00–3.20	2.90–3.10	2.90–3.10	2.90–3.10
Pigment:								
Titanium dioxide pigment, import ²	dollars per metric ton	2,588	2,761	2,752	2,847	2,680	2,780	2,770
Titanium dioxide pigment	producer price index ³	216	214	214	214	208	NA ⁵	NA ⁵

do. Ditto. NA Not available.

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.

⁵The last titanium dioxide pigment producer price index update was February 2019.