

Mineral Industry Surveys

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NICKEL IN JULY 2007

Reported domestic nickel consumption in July, on a daily average basis, was 10% less than the total for June, according to the U.S. Geological Survey. Daily average use of nickel metal and ferronickel for stainless and heat resisting steels was 14% less than the corresponding average for June. Use of nickel metal to make superalloys (such as INCONEL 718 and Waspaloy) decreased by 8% from June levels, on a daily average basis. However, use of nickel to produce INCONEL 600, Nickel 200, and related materials in the "Other nickel & nickel alloys" category was unchanged on a daily average basis. Sales to plating companies averaged 25.4 metric tons per day (t/d), 8% less than the June figure of 27.7 t/d. Percentages reported in this paragraph are based on data withheld to avoid revealing individual company proprietary data.

The United States imported 59,400 metric tons (t) of primary nickel in the first half of 2007, 28% less than the 82,700 t for the corresponding period of 2006. About 87%, or 51,600 t, of the primary nickel was Class I materials. Class I materials are refined products with a nickel content of 99% or greater

(electrolytic cathode, briquets, granules, pellets, powders, rondelles, etc.). Trade data for July 2007 will appear in a subsequent report.

On July 31, stocks in London Metal Exchange (LME) warehouses worldwide totaled 14,412 t, up 63% from 8,856 t on June 30. LME stocks had been minimal during the first quarter of 2007 owing to strong demand in Asia. However, LME stocks began to grow in May as global production of austenitic stainless steel, the principal first use of nickel, started to slow.

World prices weakened as LME stocks gradually built up during the summer from critically low levels. The average monthly LME cash price turned downward in June after reaching a record high in May of \$52,161 per metric ton (\$23.660 per pound). The average price for July was \$33,417 per metric ton (\$15.158 per pound), a 20% decrease from the June figure of \$41,705 per metric ton (\$18.917 per pound). The average LME 3-month mean nickel price for July was \$33,330 per metric ton (\$15.118 per pound), also indicating that the cash price was significantly weakening.

TABLE 1
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE¹

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
2006:					
July	6,290 ^r	677	50 ^r	7,020 ^r	52,600 ^r
August	6,550 ^r	788	57 ^r	7,390 ^r	60,000 ^r
September	6,310 ^r	823	54 ^r	7,180 ^r	67,200 ^r
October	6,530 ^r	851	55 ^r	7,440 ^r	74,600 ^r
November	6,270 ^r	709	50 ^r	7,030 ^r	81,600 ^r
December	5,390 ^r	655	49 ^r	6,100 ^r	87,700 ^r
January-December	77,700 ^r	9,350	688 ^r	87,700 ^r	XX
2007:					
January	6,370 ^r	854	53 ^r	7,280 ^r	7,280 ^r
February	6,020 ^r	759	53 ^r	6,830 ^r	14,100
March	5,700 ^r	846	61 ^r	6,600 ^r	20,700 ^r
April	6,280 ^r	812	56 ^r	7,150 ^r	27,900
May	6,000 ^r	723	54 ^r	6,780 ^r	34,600 ^r
June	6,080 ^r	827	60 ^r	6,970 ^r	41,600 ^r
July:					
Steel:					
Stainless and heat resisting	2,300	700	W	3,000	22,900
Alloy (excludes stainless)	253	--	--	253	1,690
Superalloys	1,090	--	W	1,090	8,180
Copper-nickel alloys	W	--	--	W	W
Electric, magnetic, and expansion alloys	12	--	--	12	72
Other nickel & nickel alloys	W	--	W	W	W
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	788	--	W	788	5,580
Chemical and chemical uses	W	--	--	W	W
Other uses	1,290	--	49	1,340	9,640
Total reported	5,720 ²	700	49	6,470	48,100
Total all companies (calc) ³	XX	XX	XX	12,700	94,400
2007: January-July	42,200	5,520	389	48,100	XX
2006: January-July	46,700	5,520	421	52,600	XX

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable. -- Zero.

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

²Of consumption, 3,540 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

³Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (50.94%) to apparent primary consumption for 2007.

TABLE 2
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS,
BY FORM AND USE^{1,2}

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
2006:				
July	2,030	333	151	2,510
August	2,000	439	166	2,610
September	1,860	413	151	2,430
October	1,570	364	153	2,080
November	1,790	364	175	2,330
December	1,880	380	159	2,420
2007:				
January	1,920	427	163	2,510
February	1,660	466	171	2,290
March	1,790	471	156	2,420
April	1,470	463	166	2,100
May	1,570	466	172	2,210
June	1,550	403 ^r	149 ^r	2,110
July:				
Steel (stainless, heat resisting and alloy)	734	419	(3)	1,150
Nonferrous alloys ⁴	835	W	(3)	835
Foundry (cast irons)	(3)	W	--	(3)
Chemical (catalysts, ceramics, plating salt, etc.) and unspecified uses	67	W	173	240
Total	1,640	419	173	2,230

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

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

²Stocks held by companies that consume nickel in more than one end-use category are credited to the major category. Stocks are subject to revisions owing to inventory adjustments.

³Included in the "Chemical and unspecified uses" category.

⁴Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE¹

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap ²	Nonferrous scrap ³	Total scrap	Ferrous scrap ²	Nonferrous scrap ³	Total scrap
2006:						
July	4,450	658	5,100	3,110	57	3,170
August	5,560	705	6,260	2,710	50	2,760
September	5,950	741	6,690	2,340	47	2,380
October	5,050	590	5,640	2,460	58	2,520
November	4,390	506	4,890	2,630	45	2,670
December	3,540	465	4,000	2,740	48	2,790
January-December	54,500	7,980	62,400	XX	XX	XX
2007:						
January	NA	674	NA	NA	53	NA
February	NA	573	NA	NA	77	NA
March	NA	888	NA	NA	47	NA
April	NA	NA	NA	NA	49	NA
May	NA	NA	NA	NA	48	NA
June	NA	NA	NA	NA	47	NA
July	NA	NA	NA	NA	NA	NA

NA Not available. XX Not applicable.

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

²Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

³Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY¹

(Metric tons, nickel content)²

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total ³	Total year to date ⁴	Wrought nickel
2006:										
June	10,900	648	1,050	67	713	1,500	326	15,200	92,400	174
July	9,460	802	1,530	98	731	1,540	215	14,400	107,000	105
August	11,000	785	1,200	80	543	1,620	290	15,500	122,000	88
September	10,100	739	1,020	72	418	1,150	336	13,800	136,000	78
October	8,150	542	1,220	161	575	1,060	358	12,100	148,000	88
November	10,300	513	932	99	564	881	311	13,600	162,000	61
December	7,450	609	1,570	76	526	957	168	11,400	173,000	59
January-December	125,000	8,780	14,600	1,210	6,850	13,500	3,680	173,000	XX	1,110
2007:										
January	8,330	536	627	107	476	728	348	11,200	11,200	51
February	6,610	562	832	97	463	674	254	9,490	20,600	75
March	8,550	626	1,350	7	579	1,090	357	12,600	33,200	51
April	8,460	600	941	80	549	898	329	11,900	45,100	77
May	8,090	583	1,020	18	570	1,020	274	11,600	56,600	67
June:										
Australia	427	24	--	--	17	--	--	468	5,300	2
Canada	4,430	330	--	--	156	596	13	5,520	32,600	(5)
China	--	--	--	--	6	--	12	18	183	6
Colombia	--	--	306	--	--	7	--	313	1,220	--
Dominican Republic	--	--	508	--	--	--	--	508	3,740	--
Finland	209	--	--	--	--	1	9	219	1,330	--
France	23	--	--	--	54	--	9	86	507	20
Germany	--	23	--	--	25	--	37	85	593	38
Japan	--	17	--	--	19	--	34	70	611	10
Mexico	--	--	--	--	31	237	2	270	1,620	--
New Caledonia	--	--	150	--	--	--	--	150	806	--
Norway	805	--	--	--	--	--	--	805	5,590	--
Russia	2,070	80	--	--	10	--	--	2,160	10,200	--
South Africa	--	60	--	--	--	--	--	60	410	--
Sweden	--	1	--	--	--	--	--	1	21	--
United Kingdom	10	5	--	2	263	--	18	298	1,590	2
Zimbabwe	158	--	--	--	--	--	--	158	463	--
Other	(5)	12	1	(5)	131	17	71	232	1,180	1
Total	8,130	552	965	2	712	858	205	11,400	68,100	79
2007: January-June	48,200	3,460	5,730	312	3,350	5,270	1,770	68,100	XX	401
2006: January-June	68,100	4,790	7,130	621	3,490	6,280	2,000	92,400	XX	630

XX Not applicable. --Zero.

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

²The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemicals category includes chlorides (25%); sulfates (22%); other salts (22%); supported catalysts (22%); and oxide, sesquioxide and hydroxide (65%).

³Excludes wrought nickel.

⁴May include revisions for prior months.

⁵Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF NICKEL, BY COUNTRY¹

(Metric tons, nickel content)²

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total ³	Total year to date	Wrought nickel
2006:										
June	48	64	(4)	4	1,420	2,910	454	4,890	30,300	84
July	39	73	3	4	2,120	3,090	358	5,690	36,000	101
August	25	78	3	5	2,010	3,120	673	5,920	41,900	96
September	68	67	(4)	9	2,000	4,170	556	6,870	48,800	89
October	13	71	1	5	2,420	2,630	591	5,740	54,500	85
November	47	106	3	11	2,650	3,140	491	6,450	61,000	66
December	57	71	--	7	2,610	3,350	389	6,480	67,400	61
January-December	882	1,030	67	150	21,300	38,100	5,920	67,400	XX	1,230
2007:										
January	64	88	2	2	3,160	4,440	254	8,010	8,010	144
February	112	79	(4)	2	2,620	5,940	525	9,280	17,300	192
March	93	112	5	249	2,810	6,330	659	10,300	27,500	99
April	83	79	1	752	2,900	4,350	802	8,960	36,500	187
May	81	76	(4)	475	3,580	5,230	703	10,200	46,700	226
June:										
Australia	(4)	2	--	--	17	1	--	20	235	--
Belgium	--	4	--	2	--	5	(4)	11	241	(4)
Canada	1	11	--	523	4,030	219	200	4,980	14,600	20
China	(4)	4	--	(4)	61	728	69	862	6,720	1
Finland	--	--	--	--	--	893	--	893	2,230	--
Germany	15	28	--	--	86	--	27	156	1,460	2
India	3	1	--	--	26	401	--	431	2,220	1
Italy	--	1	--	--	--	8	4	13	51	2
Japan	--	4	--	--	1,480	403	2	1,890	10,100	6
Korea, Republic of	--	1	--	--	129	423	8	561	2,720	4
Mexico	29	4	--	--	--	--	10	43	929	8
Netherlands	--	(4)	--	--	55	38	38	131	808	1
South Africa	--	--	--	--	--	--	--	--	27	--
Spain	--	--	--	--	--	382	(4)	382	3,460	--
Sweden	--	--	--	--	64	--	(4)	64	334	(4)
Taiwan	1	4	(4)	--	7	1,470	4	1,490	9,130	(4)
United Kingdom	1	2	--	--	15	42	30	89	614	17
Other	5	18	2	(4)	--	789	46	858	3,580	63
Total	54	82	2	525	5,970	5,800	438	12,900	59,500	125
2007: January-June	488	517	11	2,010	21,000	32,100	3,380	59,500	XX	973
2006: January-June	633	560	57	110	7,470	18,600	2,870	30,300	XX	732

XX Not applicable. -- Zero.

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

²The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemicals category includes chlorides (25%); sulfates (22%); other salts (22%); supported catalysts (22%); and oxide, sesquioxide, and hydroxide (65%).

³Excludes wrought nickel.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY¹

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2006:									
June	486	338	524	259	31	373	276	2,290	13,500
July	578	581	526	242	10	457	182	2,580	16,100
August	705	522	427	338	3	217	133	2,350	18,400
September	373	281	501	272	14	183	143	1,770	20,200
October	517	464	492	390	34	316	160	2,370	22,600
November	336	482	755	355	26	237	133	2,330	24,900
December	351	485	431	363	25	465	149	2,270	27,200
January-December	6,180	4,990	6,270	3,640	234	3,620	2,250	27,200	XX
2007:									
January	438	481	573	204	29	307	91	2,120	2,120
February	390	459	452	311	21	188	148	1,970	4,090
March	418	480	691	328	12	183	139	2,250	6,340
April	423	505	688	403	25	257	178	2,480	8,820
May	412	432	648	360	(2)	157	235	2,240	11,100
June:									
Australia	101	(2)	(2)	--	--	--	1	102	754
Belgium	--	--	2	1	--	--	--	3	56
Canada	3	(2)	2	(2)	--	10	5	20	264
China	--	--	1	--	(2)	(2)	111	112	384
France	20	5	185	26	--	9	3	248	1,430
Germany	43	78	241	210	10	77	8	667	5,050
Italy	--	177	12	--	--	--	(2)	189	1,500
Japan	--	1	6	10	--	118	(2)	135	451
Mexico	--	--	1	--	--	9	1	11	48
Netherlands	--	--	(2)	3	--	1	3	7	75
Sweden	--	106	187	4	--	22	--	319	1,660
United Kingdom	26	61	1	1	(2)	5	30	124	644
Other	26	67	19	--	(2)	2	43	157	839
Total	219	495	657	255	10	253	205	2,090	13,200
2007: January-June	2,300	2,850	3,710	1,860	98	1,350	996	13,200	XX
2006: January-June	3,320	2,170	3,140	1,680	121	1,740	1,340	13,500	XX

XX Not applicable. -- 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 7
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY¹

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
2006:									
June	550	1,650	75	426	21	226	286	3,230	20,700
July	317	1,230	61	391	16	194	261	2,470	23,100
August	606	1,460	95	400	16	234	292	3,110	26,200
September	814	1,350	62	443	14	494	207	3,380	29,600
October	829	1,430	66	412	21	1,170	253	4,180	33,800
November	488	1,170	80	361	14	182	223	2,520	36,300
December	387	1,430	55	537	14	226	198	2,850	39,200
January-December	7,550	18,000	881	4,890	252	4,410	3,240	39,200	XX
2007:									
January	417	1,340	48	395	6	255	244	2,700	2,700
February	688	1,280	43	508	9	265	157	2,950	5,650
March	720	1,600	78	702	15	316	158	3,590	9,250
April	519	1,300	76	780	8	235	167	3,090	12,300
May	615	1,190	123	458	13	217	326	2,940	15,300
June:									
Australia	--	(2)	1	(2)	--	1	1	3	37
Belgium	186	281	9	2	--	(2)	(2)	478	2,090
Canada	10	59	23	28	3	40	18	181	1,320
China	6	122	22	61	(2)	22	37	270	1,610
France	135	327	12	29	--	2	2	507	2,430
Germany	10	98	10	68	(2)	4	3	193	1,780
India	(2)	11	5	3	--	21	(2)	40	117
Ireland	(2)	--	1	(2)	--	--	2	3	20
Israel	6	96	1	3	--	1	(2)	107	540
Italy	26	14	1	111	(2)	2	2	156	764
Japan	17	36	1	13	2	3	2	74	1,360
Korea, Republic of	3	11	(2)	17	--	6	1	38	452
Mexico	7	64	8	5	11	48	129	272	1,490
Netherlands	(2)	17	--	5	(2)	2	1	25	171
Singapore	(2)	16	2	3	(2)	6	1	28	209
Spain	6	1	--	--	--	(2)	(2)	7	89
Sweden	2	15	(2)	1	--	(2)	3	21	71
Switzerland	12	2	(2)	4	(2)	3	1	22	78
Taiwan	(2)	2	(2)	4	--	7	2	15	95
United Kingdom	25	171	9	95	2	7	4	313	1,910
Other	6	82	27	40	2	27	30	215	1,600
Total	457	1,430	132	492	20	202	239	2,970	18,200
2007: January-June	3,420	8,140	500	3,340	73	1,490	1,290	18,200	XX
2006: January-June	4,110	9,890	462	2,340	157	1,910	1,810	20,700	XX

XX Not applicable. -- 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 8
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
July 2007:		
Stainless and heat resisting steels	100	(1)
Alloy steels	98	2
Superalloys	87	13
Copper-nickel alloys	94	6
Other nickel-base alloys	100	(1)

¹Less than ½ unit.

TABLE 9
NICKEL PRICES

Date	Platts Metals Week				American Metal Market ^{2,3}		
	Cathode NY Dealer \$/lb.	LME Cash mean ¹ \$/t	LME Cash mean ¹ \$/lb.	18/8 Stainless steel scrap free market \$/long ton (gw)	18/8 Stainless steel scrap Pittsburgh \$/long ton (gw)	304 Stainless steel scrap: solids, clips Pittsburgh \$/long ton (gw)	316 Stainless steel scrap: solids, clips Pittsburgh \$/long ton (gw)
2006:							
Average for month of:							
October	14.822	32,692.500	14.829	2,584	2,662	XX	XX
November	14.535	32,099.773	14.560	2,561	XX	2,783	3,750
December	15.657	34,559.079	15.676	2,728	XX	2,805	3,881
Yearly average	10.982	24,243.860	10.997	2,090	2,090	XX	XX
2007:							
Average for week ending:							
August 3	14.171-14.504	30,543.500	13.854	1,570-1,800	XX	2,800-2,850	4,000-4,150
August 10	12.867-13.808	27,804.500	12.612	1,450-1,570	XX	2,000-2,050	3,200-3,250
August 17	11.815-13.060	26,212.000	11.890	1,450-1,500	XX	2,200-2,250	3,600-3,650
August 24	12.028-13.196	26,952.500	12.225	1,400-1,500	XX	2,200-2,250	3,600-3,650
August 31	12.518-13.196	28,136.875	12.763	1,680-1,790	XX	2,200-2,250	3,600-3,650
September 7	12.560-14.171	27,825.500	12.621	1,900-2,020	XX	2,000-2,050	3,100-3,150
September 14	12.393-12.835	27,014.500	12.254	1,900-2,015	XX	2,000-2,050	3,100-3,150
September 21	13.151-15.407	30,976.500	14.051	2,200-2,315	XX	2,000-2,050	3,100-3,150
September 28	15.058-15.310	32,287.500	14.645	2,465-2,530	XX	2,000-2,050	3,100-3,150
October 5	13.969-14.534	30,248.500	13.720	2,350-2,575	XX	2,300-2,325	3,600-3,650
October 12	13.854-15.101	30,932.500	14.031	2,350-2,575	XX	2,300-2,325	3,600-3,650
October 19	14.564-15.169	31,745.000	14.399	2,350-2,575	XX	2,300-2,325	3,600-3,650
October 26	14.514-15.124	31,295.500	14.195	2,550-2,620	XX	2,300-2,325	3,600-3,650
Average for month of:							
January	16.177	36,795.227	16.690	2,866	XX	2,917	4,114
February	18.309	41,171.125	18.675	3,141	XX	3,146	4,243
March	21.238	46,303.409	21.003	3,738	XX	3,481	4,856
April	23.139	50,249.474	22.793	4,069	XX	3,925	5,550
May	23.737	52,160.833	23.660	3,638 ⁴	XX	4,060	5,589
June	18.491	41,704.762	18.917	2,016	XX	3,719	5,018
July	15.285	33,416.591	15.158	1,501	XX	2,804	4,032
August	12.680	27,643.182	12.539	1,571	XX	2,364	3,708
September	13.291	29,526.000	13.393	2,168	XX	2,036	3,151
October	14.225	31,044.891	14.082	2,493	XX	2,263	3,538

XX Not applicable.

¹Mean of the cash buyer price and the cash seller and settlement price.

²On November 1, 2006, American Metal Market (AMM) changed its price listings for austenitic stainless steel scrap. AMM has begun reporting prices for Type 316 solids & clips and has changed its listing for 18-8 bundles, solids & clips to Type 304 solids & clips. See November 2006 AMM Scrap Iron & Steel Prices section for details. All prices remain in dollars per gross (long) ton. More complete AMM price data will appear in subsequent U.S. Geological Survey Mineral Industry Surveys. AMM monthly averages prior to July 2007 were calculated by the U.S. Geological Survey.

³American Metal Market began publishing monthly stainless consumer buying prices for the first time in its September 2007 issue. Computation of the monthly average price is based on the number of actual working days in the month and does not include weekends and holidays. See individual issues for details.

⁴Confirmed by Platts Metals Week.

