

Mineral Industry Surveys

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CHROMIUM IN MAY 2007

On the basis of gross weight, consumption of chromium ferroalloys and metal in May 2007 decreased slightly compared with consumption in April 2007, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of

chromium materials in May 2007, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of May 2007, U.S. foreign trade data for selected chromium containing materials in April 2007, and chromium ferroalloys and metals prices.

TABLE 1 U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

| | 2006 | 2007 | | | |
|---|------------------------|---------|---------|---------|------------------|
| | Janua ry- | | | | January- |
| | De cember ² | March | April | May | May ² |
| Production: | | | | | |
| Stainless steel production ³ | 2,460,000 | 216,000 | 199,000 | 191,000 | 1,010,000 4 |
| Components of U.S. supply: | | | | | |
| Stainless steel scrap receipts | 1,050,000 | 89,800 | 78,200 | 78,100 | 428,000 |
| Stainless steel scrap consumption | 1,500,000 | 132,000 | 115,000 | 115,000 | 624,000 |
| Imports for consumption: | | | | | |
| Chromite ore | 150,000 | 7,370 | 3,790 | 3,420 | 52,800 |
| Ferrochromium: | | | | | |
| More than 4% carbon | 393,000 | 21,500 | 36,000 | 49,800 | 186,000 |
| More than 0.5%, but not more than 3% carbon | 29 | 1,300 | 600 | | 4,500 |
| Not more than 0.5% carbon | | 4,970 | 2,680 | 2,990 | 14,800 |
| Ferrochromium silicon | 38,300 | 4,940 | 5,690 | | 13,300 |
| Total ferroalloy imports | 459,000 | 32,700 | 44,900 | 52,700 | 219,000 |
| Chromium metal ⁵ | 10,900 | 928 | 1,240 | 1,140 | 4,600 |
| Stainless steel | 872,000 | 72,500 | 69,200 | 74,300 | 358,000 |
| Stainless steel scrap | 180,000 | 14,500 | 12,000 | 13,600 | 58,800 |
| Distribution of U.S. supply: | — | | | | |
| Consumption, industry, chromium ferroalloys and metal | 553,000 | 37,300 | 37,700 | 37,200 | 185,000 |
| Exports: | _ | | | | |
| Chromite ore | 53,900 | 899 | 12,000 | 13,100 | 27,300 |
| Chromium ferroalloys: | | | | | |
| High-carbon ferrochromium | 18,800 | 1,120 | 1,340 | 939 | 17,000 |
| Low-carbon ferrochromium | 16,600 | 168 | 395 | 3,010 | 11,700 |
| Ferrochromium silicon | 248 | 32 | 82 | 110 | 224 |
| Total ferroalloy exports | 35,700 | 1,320 | 1,820 | 4,060 | 28,900 |
| Chromium metal | 1,020 | 80 | 140 | 105 | 547 |
| Stainless steel | 410,000 | 47,100 | 44,800 | 54,600 | 220,000 |
| Stainless steel scrap | 506,000 | 84,400 | 58,000 | 69,800 | 351,000 |
| Stocks at end of period: | | | | | |
| Consumer, industry, chromium ferroalloys and metal | — XX | 11,900 | 11,700 | 12,800 | XX |
| | | | | | |
| Government stoc kpile: | | | | | |
| Government stockpile: Chromium ferroalloys | XX | 303,000 | 286,000 | 268,000 | XX |

XX Not applicable. -- Zero.

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

²May include revised data.

³Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

⁴Includes revised data that are not broken out by specific month.

⁵Includes waste and scrap and other.

U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN $2007^{1,\,2}$

(Metric tons, gross weight unless otherwise noted)

| | | | January- |
|------------------------------------|--------|--------|------------------|
| | April | May | May ³ |
| Consumption by end use: | | | |
| Alloy uses: | | | |
| Iron alloys: | | | |
| Steel: | | | |
| Carbon steel | 314 | 309 | 1,540 |
| High-strength low-alloy steel | 421 | 420 | 2,260 |
| Stainless and heat-resisting steel | 33,000 | 32,600 | 163,000 |
| Full alloy steel | 1,830 | 1,780 | 7,590 |
| Electrical steel | W | W | W |
| Tool steel | 426 | 440 | 2,190 |
| Unspecified steel | W | W | W |
| Cast irons | W | W | W |
| Superalloys | 744 | 709 | 3,560 |
| Other alloys ⁴ | 34 | 37 | 172 |
| Total | 37,700 | 37,200 | 185,000 |
| Total, chromium content | 22,000 | 21,500 | 108,000 |
| Consumption by material: | | | |
| Low-carbon ferrochromium | 2,070 | 1,970 | 10,000 |
| High-carbon ferrochromium | 32,100 | 32,100 | 158,000 |
| Ferrochromium silicon | 3,110 | 2,690 | 15,100 |
| Chromium metal | 375 | 357 | 1,830 |
| Chromite ore | W | W | W |
| Chromium-aluminum alloy | 24 | 22 | 112 |
| Other chromium materials | W | W | W |
| Total | 37,700 | 37,200 | 185,000 |
| Total, chromium content | 22,000 | 21,500 | 108,000 |
| Consumer stocks: | | | |
| Low-carbon ferrochromium | 1,870 | 2,000 | XX |
| High-carbon ferrochromium | 8,400 | 9,560 | XX |
| Ferrochromium silicon | 1,180 | 1,040 | XX |
| Chromium metal | 153 | 132 | XX |
| Chromite ore | 18 | 21 | XX |
| Chromium-aluminum alloy | 18 | 19 | XX |
| Other chromium materials | 13 | 10 | XX |
| Total | 11,700 | 12,800 | XX |
| Total, chromium content | 6,870 | 7,480 | XX |

W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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

²Includes estimates.

³May include revised data.

⁴Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

U.S. GOVERNMENT STOCKPILE INVENTORY OF

CHROMIUM MATERIALS^{1, 2}

(Metric tons)

| | Chromiur | n ferroalloys | |
|-----------|-------------|---------------|----------|
| | High-carbon | Low-carbon | - |
| | ferro- | ferro- | Chromium |
| Period | chromium | chromium | metal |
| 2006: | | | |
| May | 271,000 | 139,000 | 5,280 |
| June | 270,000 | 139,000 | 5,280 |
| July | 270,000 | 137,000 | 5,280 |
| August | 267,000 | 137,000 | 5,280 |
| September | 265,000 | 135,000 | 5,280 |
| October | 263,000 | 133,000 | 5,280 |
| November | 255,000 | 132,000 | 5,280 |
| December | 229,000 | 118,000 | 5,280 |
| 2007: | | | |
| January | 223,000 | 111,000 | 5,280 |
| February | 215,000 | 108,000 | 5,280 |
| March | 204,000 | 98,900 | 5,280 |
| April | 191,000 | 94,900 | 5,280 |
| May | 177,000 | 91,300 | 5,280 |

¹Data are rounded to no more than three significant digits.

²These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

Source: Defense National Stockpile Center.

| TABLE 4 | |
|---|------------------|
| U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND MET | 'AL ¹ |

| | Chromi | te ore | Ch | romium ferroalloys | Chromium metal ³ | | |
|------------------|---------------|-------------|---------------|--------------------|-----------------------------|---------------|-------------|
| | Gross | | Gross | Chromium | | Gross | |
| | weight | Value | weight | content | Value | weight | Value |
| Period | (metric tons) | (thousands) | (metric tons) | (metric tons) | (thousands) | (metric tons) | (thousands) |
| 2006: | | | | | | | |
| April | - 331 | \$163 | 708 | 403 | \$982 | 43 | \$1,370 |
| May | 1,080 | 277 | 1,710 | 937 | 1,670 | 58 | 1,440 |
| June | - 8,160 | 825 | 6,300 | 3,750 | 5,660 | 66 | 1,380 |
| July | - 8,780 | 725 | 8,570 | 5,170 | 7,060 | 95 | 1,800 |
| August | 6,940 | 5,550 | 2,380 | 1,410 | 3,000 | 109 | 2,270 |
| September | 2,280 | 309 | 1,440 | 801 | 2,060 | 109 | 1,910 |
| October | 445 | 157 | 2,050 | 1,240 | 2,360 | 95 | 1,830 |
| November | 22,700 | 1,240 | 2,560 | 1,610 | 3,650 | 85 | 1,720 |
| December | - 286 | 116 | 7,380 | 4,410 | 8,550 | 62 | 1,490 |
| January-December | 53,900 | 10,200 | 35,700 | 21,300 | 38,100 | 1,020 | 21,300 |
| 2007: | | | | | | | |
| January | 455 | 185 | 5,410 | 3,330 | 6,050 | 107 | 1,990 |
| February | 821 | 361 | 16,300 | 11,100 | 15,500 | 115 | 1,600 |
| March | - 899 | 368 | 1,320 | 745 | 1,620 | 80 | 1,600 |
| April | 12,000 | 748 | 1,820 | 1,070 | 2,310 | 140 | 2,490 |
| January-April | 14,200 | 1,660 | 24,900 | 16,200 | 25,500 | 442 | 7,680 |

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

²Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal waste and scrap and unwrought powders.

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL^1

(Metric tons)

| | 2006 | 2007 | | |
|--|-----------------------|--------|--------|--------------------|
| | January- | | | January- |
| | December ² | March | April | April ² |
| Chromite ore: | | | | |
| Not more than 40%: | | | | |
| Gross weight | 117 | | 5 | 5 |
| Chromic oxide content | 45 | | 2 | 2 |
| More than 40% but less than 46% chromic oxide: | | | | |
| Gross weight | 3,810 | 73 | 48 | 25,900 |
| Chromic oxide content | 1,750 | 34 | 22 | 11,900 |
| 46% or more chromic oxide: | | | | |
| Gross weight | 146,000 | 7,300 | 3,740 | 23,600 |
| Chromic oxide content | 76,300 | 3,410 | 1,780 | 11,000 |
| Total, all grades: | | | | |
| Gross weight | 150,000 | 7,370 | 3,790 | 49,400 |
| Chromic oxide content | 78,100 | 3,440 | 1,800 | 22,900 |
| Ferrochromium: | | | | |
| Low-carbon: ³ | | | | |
| Not more than 0.5%: | | | | |
| Gross weight | 28,100 | 4,970 | 2,680 | 11,800 |
| Chromium content | 19,300 | 3,410 | 1,840 | 8,070 |
| More than 0.5% but not more than 3%: | | | | |
| Gross weight | 29 | 1,300 | 600 | 4,500 |
| Chromium content | 23 | 715 | 419 | 2,530 |
| Total, low-carbon: | | | | |
| Gross weight | | 6,270 | 3,280 | 16,300 |
| Chromium content | 19,300 | 4,130 | 2,260 | 10,600 |
| High-carbon: ⁴ | | | | |
| Gross weight | 393,000 | 21,500 | 36,000 | 137,000 |
| Chromium content | 230,000 | 13,700 | 21,000 | 80,100 |
| Total, all grades: | | | | |
| Gross weight | 421,000 | 27,800 | 39,200 | 153,000 |
| Chromium content | 249,000 | 17,900 | 23,200 | 90,700 |
| Chromium metal: | | | | |
| Unwrought powders | 1,250 | 96 | 90 | 419 |
| Waste and scrap | | 1 | 4 | 6 |
| Other than waste and scrap and unwrought powders | 9,540 | 831 | 1,150 | 3,040 |
| Total, all grades | 10,900 | 928 | 1,240 | 3,460 |

-- Zero.

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

²May include revised data.

³Ferrochromium containing not more than 3% carbon.

⁴Ferrrochromium containing more than 4% carbon.

TABLE 6 U.S. IMPORTS FOR CONSUMPTION OF FERROC HROMIUM IN 2007, BY GRADE AND BY COUNTRY¹

| | | April | | January-April ² | | | |
|---|---------------|---------------|--------------------|----------------------------|---------------|--------------------|--|
| | Gross | Chromium | | Gross | Chromium | | |
| | weight | c on te nt | Value ³ | weight | content | Value ³ | |
| Grade and country | (metric tons) | (metric tons) | (thousands) | (metric tons) | (metric tons) | (thousands) | |
| High-carbon ferrochromium: ⁴ | | | | | | | |
| India | | | | 55 | 36 | \$27 | |
| Kazakhstan | 15,600 | 10,900 | \$19,700 | 51,300 | 36,000 | 54,500 | |
| Russia | 493 | 306 | 405 | 8,500 | 5,360 | 6,930 | |
| South Africa | 19,900 | 9,820 | 11,600 | 67,300 | 33,400 | 39,500 | |
| Switzerland | | | | 3,500 | 1,680 | 2,130 | |
| Zimbabwe | | | | 6,050 | 3,630 | 5,580 | |
| Total | 36,000 | 21,000 | 31,600 | 137,000 | 80,100 | 109,000 | |
| Low-carbon ferrochromium: ⁵ | | | | | | | |
| Not more than 0.5% carbon: | | | | | | | |
| Brazil | | | | 2 | 1 | 6 | |
| China | 4 | 3 | 6 | 143 | 94 | 296 | |
| Germany | 819 | 576 | 1,680 | 2,350 | 1,650 | 5,220 | |
| Japan | 456 | 305 | 853 | 1,580 | 1,060 | 3,190 | |
| Kaz akh sta n | 200 | 140 | 364 | 1,700 | 1,190 | 2,870 | |
| Russia | 1,180 | 806 | 1,940 | 5,760 | 3,910 | 9,230 | |
| South Africa | 20 | 13 | 39 | 282 | 159 | 270 | |
| Sweden | | | | 19 | 14 | 69 | |
| Total | 2,680 | 1,840 | 4,880 | 11,800 | 8,070 | 21,200 | |
| More than 0.5% but not more than 3% | | | | | | | |
| Kaz akh sta n | 600 | 419 | 1,090 | 600 | 419 | 1,090 | |
| South Africa | | | | 3,900 | 2,120 | 3,860 | |
| Total | 600 | 419 | 1,090 | 4,500 | 2,530 | 4,950 | |
| All grades: | | | | | | | |
| Braz il | | | | 2 | 1 | 6 | |
| China | 4 | 3 | 6 | 143 | 94 | 296 | |
| Germany | 819 | 576 | 1,680 | 2,350 | 1,650 | 5,220 | |
| India | | | | 55 | 36 | 27 | |
| Japan | 456 | 305 | 853 | 1,580 | 1,060 | 3,190 | |
| Kazakhstan | 16,400 | 11,400 | 21,100 | 53,600 | 37,700 | 58,500 | |
| Russia | 1,670 | 1,110 | 2,340 | 14,300 | 9,270 | 16,200 | |
| South Africa | 19,900 | 9,830 | 11,600 | 71,500 | 35,600 | 43,600 | |
| Sweden | | | | 19 | 14 | 69 | |
| Switzerland | | | | 3,500 | 1,680 | 2,130 | |
| Zimbabwe | | | | 6,050 | 3,630 | 5,580 | |
| Total | 39,200 | 23,200 | 37,600 | 153,000 | 90,700 | 135,000 | |
| 7 | | | 2.,200 | 22,000 | , | ,500 | |

-- Zero.

 $^1\mbox{Data}$ are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges ⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing not more than 3% carbon.

TABLE 7 U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2007, BY GRADE AND BY COUNTRY $^{\rm I}$

| | Ap | ril | January | | |
|---|---------------|--------------------|---------------|--------------------|--|
| | Gross weight | Value ³ | Gross weight | Value ³ | |
| Grade and country | (metric tons) | (thousands) | (metric tons) | (thousands) | |
| Unwrought powders: | | | | | |
| China | | \$373 | 38 | \$624 | |
| France | | | 3 | 20 | |
| Germany | | | 12 | 71 | |
| Japan | 6 | 284 | 17 | 682 | |
| Russia | 17 | 95 | 167 | 1,430 | |
| Spain | 16 | 86 | 16 | 86 | |
| United Kingdom | 33 | 166 | 165 | 1,190 | |
| Total | 90 | 1,000 | 419 | 4,110 | |
| Waste and scrap: | | | | | |
| Japan | 4 | 36 | 4 | 45 | |
| Korea, Republic of | | | (4) | 8 | |
| Taiwan | | | 2 | 28 | |
| Total | 4 | 36 | 6 | 81 | |
| Other than waste and scrap and unwrought powders: | | | | | |
| China | | 1,420 | 721 | 6,040 | |
| France | | 1,850 | 781 | 6,990 | |
| Germany | 9 | 281 | 19 | 521 | |
| Italy | | | (4) | 3 | |
| Japan | (4) | 12 | (4) | 24 | |
| Netherlands | 7 | 31 | 7 | 31 | |
| Russia | 574 | 3,580 | 1,050 | 6,960 | |
| Switzerland | (4) | 5 | (4) | 5 | |
| Taiwan | 5 | 9 | 5 | 9 | |
| United Kingdom | | 1,610 | 459 | 3,620 | |
| Total | 1,150 | 8,790 | 3,040 | 24,200 | |
| All grades: | | | | | |
| China | | 1,790 | 759 | 6,660 | |
| France | | 1,850 | 783 | 7,010 | |
| Germany | 9 | 281 | 32 | 591 | |
| Italy | | | (4) | 3 | |
| Japan | | 332 | 21 | 750 | |
| Korea, Republic of | | | (4) | 8 | |
| Netherlands | 7 | 31 | 7 | 31 | |
| Russia | - 592 | 3,680 | 1,220 | 8,390 | |
| Spain | | 86 | 16 | 86 | |
| Switzerland | (4) | 5 | (4) | 5 | |
| Taiwan | 5 | 9 | 6 | 38 | |
| United Kingdom | 235 | 1,770 | 624 | 4,810 | |
| Total | 1,240 | 9,830 | 3,460 | 28,400 | |

-- Zero.

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

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and ⁴Less than ¹/₂ unit.

| TABLE 8 |
|---|
| U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2007 ¹ |

| | Apr | il | Januar | y-April |
|----------------------------------|---------------|--------------------|---------------|--------------------|
| | Gross weight | Value ² | Gross weight | Value ² |
| Stainless steel product | (metric tons) | (thousands) | (metric tons) | (thousands) |
| Exports: | | | | |
| Ingot | 1,160 | \$7,520 | 4,780 | \$31,300 |
| Flat-rolled (width > 600 mm) | | 82,000 | 90,400 | 290,000 |
| Flat-rolled (width < 600 mm) | 8,640 | 48,600 | 36,600 | 190,000 |
| Bars and rods in irregular coils | 872 | 4,520 | 3,340 | 16,300 |
| Other bars and rods | 3,780 | 26,900 | 12,900 | 90,600 |
| Wire | 813 | 5,490 | 2,750 | 19,100 |
| Tubes, pipes, hollow profiles | 4,060 | 30,300 | 14,700 | 108,000 |
| Total | 44,800 | 205,000 | 165,000 | 746,000 |
| Stainless steel scrap | 58,000 | 124,000 | 281,000 | 643,000 |
| Grand total | 103,000 | 329,000 | 446,000 | 1,390,000 |
| Imports: | | | | |
| Ingot | 10,600 | 51,400 | 44,600 | 200,000 |
| Flat-rolled (width > 600 mm) | 29,000 | 131,000 | 117,000 | 474,000 |
| Flat-rolled (width < 600 mm) | 3,650 | 22,600 | 15,400 | 85,000 |
| Bars and rods in irregular coils | 2,390 | 11,100 | 10,400 | 47,900 |
| Other bars and rods | 8,640 | 46,700 | 36,200 | 185,000 |
| Wire | 3,610 | 23,100 | 14,400 | 85,600 |
| Tubes, pipes, hollow profiles | 11,300 | 86,300 | 45,700 | 332,000 |
| Total | 69,200 | 372,000 | 284,000 | 1,410,000 |
| Stainless steel scrap | 12,000 | 21,300 | 45,200 | 62,100 |
| Grand total | 81,100 | 393,000 | 329,000 | 1,470,000 |

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

²Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and there fore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 9 HIGH-CARBON FERROCHROMIUM AVERAGE MONTHLY PRICES

(Cents per pound, contained chromium)

| | United States ¹ | | | | | | |
|-------------|----------------------------|-------------|-------------|-------------|-------------|--|--|
| Month | 1 | 2 | 3 | 4 | 5 | | |
| 007: | | | | | | | |
| January | 71.0 - 76.0 | 67.5 - 70.0 | 65.0 - 66.3 | 67.3 - 69.0 | 63.0 - 65.0 | | |
| February | 71.0 - 76.0 | 72.8 - 75.0 | 68.0 - 70.0 | 72.0 - 74.0 | 66.5 - 69.5 | | |
| March | 71.0 - 76.0 | 80.6 - 82.8 | 75.2 - 77.2 | 80.0 - 82.6 | 70.0 - 74.0 | | |
| April | 80.5 - 83.0 | 96.0 - 99.5 | 86.0 - 92.5 | 93.5 - 100 | 80.0 - 85.0 | | |
| May | 81.0 - 83.0 | 102 - 106 | 88.5 - 97.5 | 98.3 - 105 | 91.0 - 96.5 | | |
| Yearly avg. | 74.9 - 78.8 | 83.7 - 86.6 | 76.5 - 80.7 | 82.2 - 86.2 | 74.1 - 78.0 | | |

See footnotes at end of table.

TABLE 9--Continued HIGH-CARBON FERROCHROMIUM AVERAGE MONTHLY PRICES

| | | Europe ² | | | Japan ³ | | Hong Kong ⁴ | | |
|-------------|-------------|---------------------|-------------|-------------|--------------------|------|------------------------|---------|--------------------|
| Month | 1 | 2 | 3 | 4 | 1 | 2 | 1 | 2 | China ⁵ |
| 2007: | | | | | | | | | |
| January | 67.0 - 71.0 | 57.0 - 60.0 | 77.0 - 79.0 | 66.5 - 71.0 | 68.3 - 69.8 | 83.0 | 68.0 - 70.0 | NA - NA | 6900 - 7060 |
| February | 75.0 - 77.0 | 72.0 - 74.0 | 77.0 - 78.0 | 70.5 - 77.0 | 72.0 - 73.0 | 83.0 | 68.0 - 70.0 | NA - NA | 7330 - 7440 |
| Marc h | 75.0 - 77.0 | 78.0 - 80.6 | NA - 75.0 | 83.2 - 91.2 | 78.8 - 80.6 | 83.0 | 68.0 - 70.0 | NA - NA | 7600 - 7770 |
| April | 79.5 - 81.5 | 91.0 - 95.0 | 81.0 - 79.0 | 95.3 - 105 | 82.0 - 84.8 | 86.5 | 68.0 - 70.0 | NA - NA | 8290 - 8450 |
| May | 84.0 - 86.0 | 100 - 105 | 81.0 - 83.0 | 99.0 - 109 | 85.0 - 90.0 | 90.0 | 76.5 - 82.5 | NA - NA | 8550 - 8950 |
| Yearly avg. | 76.1 - 78.5 | 79.6 - 82.9 | 79.0 - 78.8 | 82.9 - 90.5 | 77.2 - 79.6 | 85.1 | 69.7 - 72.5 | NA - NA | 7730 - 7930 |

(Cents per pound, contained chromium)

NA Not available.

¹Source for United States 1 is Platts Metals Week; United States 1 is called United States charge 50% - 55% chromium, imported, by Platts Metals Week. Source for United States 2 is called United States 60% - 65% chromium, imported, by Platts Metals Week. Source for United States 3 is called 50% - 52% chromium, imported, by Platts Metals Week. Source for United States 3 is called 50% - 52% chromium, imported, North American transaction by Ryan's Notes. Source for United States 4 is called 60% - 65% chromium, imported, North American transaction by Ryan's Notes. Source for United States 5 is Metal Bulletin; United States 5 is called 60% - 65% chromium, max. 2% silicon, by Metal Bulletin.

²Source for Europe 1 is Platts Metals Week; Europe 1 is called high-carbon 52% chromium, by Platts Metals Week. Source for Europe 2 is Platts Metals Week; Europe 2 is called high-carbon 62% chromium, by Platts Metals Week. Source for Europe 3 is Metal Bulletin; Europe 3 is called lumpy chromium charge, basis 52% chromium, quarterly by Metal Bulletin. Source for Europe 4 is Metal Bulletin; Europe 4 is called 6% - 8% carbon, basis 60% chromium, max. 1.5% silicon, by Metal Bulletin.

³Source for Japan 1 is Platts Metals Week; Japan 1 is called 50% - 55% chromium, spot, cost insurance freight (c.i.f.), by Platts Metals Week. Source for Japan 2 is Platts Metals Week; Japan 2 is called 50% - 55% chromium, regular, c.i.f., by Platts Metals Week.

⁴Source for Hong Kong 1 is Platts Metals Week; Hong Kong 1 is called high-carbon 60% chromium, by Platts Metals Week. Source for Hong Kong 2 is Metal Bulletin; Hong Kong 2 is called 8% carbon, 50% chromium, free on board main Chinese ports, by Metal Bulletin.

⁵Source for China is Metal Bulletin; China is called 6% - 8% carbon, basis 60% chromium, delivered duty paid China RMB/tonne (metric ton), by Metal Bulletin.

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TABLE 10 LOW-CARBON FER ROCHROMIUM A VERAGE MONTHLY AND ANNUAL PRICES

| Month | United States ¹ | | | | | | | |
|-------------|----------------------------|-------------|-------------|-------------|-------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |
| 2007: | | | | | | | | |
| January | 1.19 - 1.24 | 1.13 - 1.16 | 1.12 - 1.15 | 1.19 - 1.22 | 1.13 - 1.15 | | | |
| February | 1.32 - 1.34 | 1.20 - 1.25 | 1.19 - 1.23 | 1.27 - 1.30 | 1.19 - 1.21 | | | |
| Marc h | 1.41 - 1.46 | 1.22 - 1.26 | 1.21 - 1.24 | 1.40 - 1.45 | 1.21 - 1.24 | | | |
| April | 1.50 - 1.55 | 1.29 - 1.32 | 1.27 - 1.30 | 1.46 - 1.51 | 1.27 - 1.30 | | | |
| May | 1.60 - 1.64 | 1.31 - 1.33 | 1.30 - 1.32 | 1.50 - 1.55 | 1.30 - 1.32 | | | |
| Yearly avg. | 1.40 - 1.44 | 1.23 - 1.26 | 1.22 - 1.25 | 1.36 - 1.40 | 1.22 - 1.24 | | | |

(Dollars per pound, contained chromium, unless otherwise noted)

See footnotes at end of table.

TABLE 10--Continued LOW-CARBON FERROCHROMIUM AVERAGE MONTHLY AND ANNUAL PRICES

(Dollars per pound, contained chromium, unless otherwise noted)

| | United States ¹ | | | | Europe ² | | |
|-------------|----------------------------|-------------|-------------|-------------|---------------------|-------------|-------------|
| Month | 6 | 7 | 8 | 9 | 1 | 2 | 3 |
| 2007: | | | | | | | |
| January | 1.10 - 1.13 | 1.16 - 1.18 | 1.05 - 1.08 | 1.02 - 1.06 | 1.03 - 1.13 | 1.16 - 1.20 | 1.20 - 1.24 |
| February | 1.18 - 1.20 | 1.21 - 1.27 | 1.13 - 1.17 | 1.07 - 1.10 | 1.03 - 1.13 | 1.17 - 1.21 | 1.22 - 1.26 |
| March | 1.20 - 1.22 | 1.25 - 1.35 | 1.20 - 1.25 | 1.12 - 1.14 | 1.03 - 1.13 | 1.22 - 1.28 | 1.25 - 1.30 |
| April | 1.24 - 1.26 | 1.35 - 1.40 | 1.24 - 1.28 | 1.13 - 1.15 | 1.14 - 1.22 | 1.22 - 1.27 | 1.25 - 1.30 |
| May | 1.24 - 1.26 | 1.45 - 1.53 | 1.28 - 1.32 | 1.16 - 1.20 | 1.25 - 1.30 | 1.37 - 1.42 | 1.42 - 1.47 |
| Yearly Avg. | 1.19 - 1.21 | 1.28 - 1.34 | 1.18 - 1.22 | 1.10 - 1.13 | 1.10 - 1.18 | 1.23 - 1.28 | 1.27 - 1.31 |

¹Source for United States 1 is Platts Metals Week; United States 1 is called United States low-carbon, 0.05% carbon, imported, by Platts Metals Week. Source for United States 2 is Platts Metals Week; United States 2 called United States low-carbon, 0.10% carbon, imported, by Platts Metals Week. Source for United States 3 is Platts Metals Week; United States 3 is called United States low-carbon, 0.15% carbon, imported, by Platts Metals Week. Source for United States 4 is Ryan's Notes; United States 4 is called 0.05% carbon, imported, North American transaction by Ryan's Notes. Source for United States 5 is called 0.1% carbon, imported, North American transaction by Ryan's Notes. Source for United States 6 is called 0.1% carbon, imported, North American transaction by Ryan's Notes. Source for United States 7 is called United States 6 is called 0.15% carbon, imported, North American transaction by Ryan's Notes. Source for United States 7 is called United States 6 is called 0.15% carbon, imported, North American transaction by Ryan's Notes. Source for United States 7 is called United States 6 is called 0.15% carbon, imported, North American transaction by Ryan's Notes. Source for United States 7 is called United States 6 is called 0.15% carbon, duty paid free on board (f.o.b.) Pittsburgh, 0.05% carbon, 65% min. chromium by Metal Bulletin. Source for United States 8 is called United States free market, low-carbon, duty paid f.o.b.

Pittsburgh, 0.10% carbon, 62% min. chromium by Metal Bulletin. Source for United States 9 is Metal Bulletin; United States 9 is called United States free market, low-carbon, duty paid f.o.b. Pittsburgh, 0.15% carbon, 60% min. chromium by Metal Bulletin.

 2 Source for Europe 1 is Platts Metals Week; Europe 1 is called 0.1% carbon, by Platts Metals Week. Source for Europe 2 is Metal Bulletin; Europe 2 is called 0.1% carbon, average 68% - 70% chromium, by Metal Bulletin. Source for Europe 3 is Metal Bulletin; Europe 3 is called European low-carbon, in warehouse, 0.06% carbon max., 65% chromium, by Metal Bulletin.

FERROCHROMIUM SILICON AND CHROMIUM METAL AVERAGE MONTHLY AND ANNUAL PRICES

| | | Chromium metal | | | | | | | |
|-------------|----------------------|---|--------|--------------------|-----------------------------|------|--------|------|--|
| | | | | | | Euro | ре | | |
| | Ferrochromium | United States | | | Aluminothermic ⁴ | | | | |
| Month | silicon ¹ | Electrolytic ² Aluminothermic ³ | | ermic ³ | 1 | | 2 | | |
| 2007: | | | | | | | | | |
| January | 0.51 | 4.50 | 3.00 - | 3.05 | 2.81 - | 2.95 | 4.65 - | 4.83 | |
| February | 0.52 | 4.50 | 3.14 - | 3.19 | 2.86 - | 2.95 | 4.65 - | 4.83 | |
| Marc h | 0.56 | NA | 3.40 - | 3.48 | 3.11 - | 3.20 | 4.65 - | 4.83 | |
| April | 0.62 | NA | 3.64 - | 3.73 | 0.00 - | 0.00 | 0.00 - | 0.00 | |
| May | 0.65 | NA | 3.65 - | 3.75 | 0.00 - | 0.00 | 0.00 - | 0.00 | |
| Yearly avg. | 0.57 | 4.50 | 3.37 - | 3.44 | 1.76 - | 1.82 | 2.79 - | 2.90 | |

(Dollars per pound, gross weight, unless otherwise noted)

NA Not Available

¹Source for ferrochromium silicon, North American transaction is Ryan's Notes.

²Source for United States Electrolytic is Ryan's Notes; United States Electrolytic is called North American producer chrome metal, by Ryan's Notes.

³Source for United States Aluminothermic is Ryan's Notes; United States Aluminothermic is called aluminothermic imported chrome metal, by Ryan's Notes.

⁴Source for Europe Aluminothermic 1 is Metal Bulletin; Europe Aluminothermic 1 is called alumino-thermic, min. 99% metal, by Metal Bulletin; price converted from dollars per metric ton to dollars per pound. Source for Europe Aluminothermic 2 is Metal Bulletin; Europe Aluminothermic 2 is called western un-degassed AT, min. 99.4% metal, by Metal Bulletin; price converted from dollars per kilogram to dollars per pound.