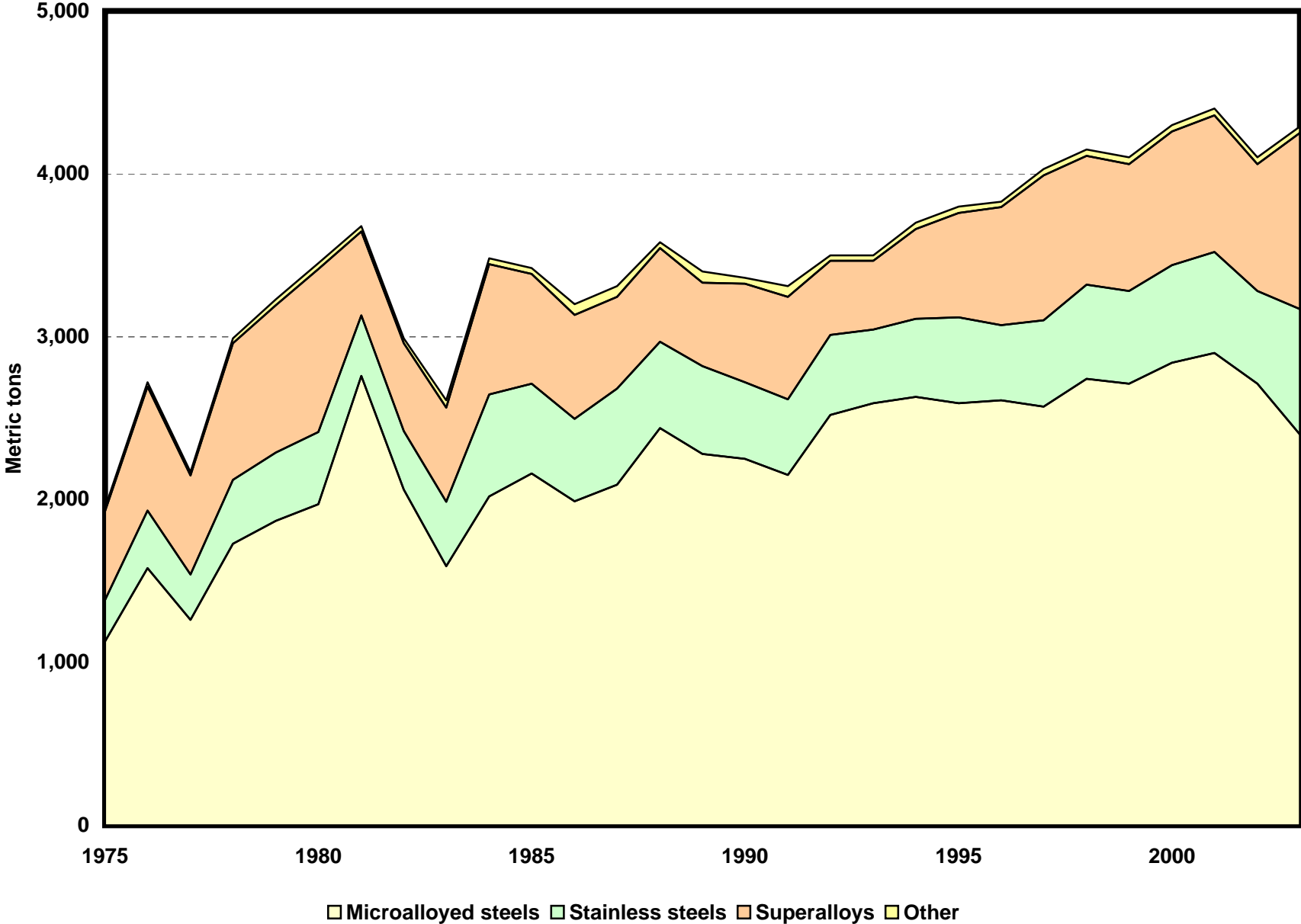


COLUMBIUM (NIOBIUM) END-USE STATISTICS¹
U.S. GEOLOGICAL SURVEY
[Metric tons of columbium content]
Last modification: September 1, 2005

Year	Microalloyed steels	Stainless steels	Superalloys	Other	Apparent consumption
1975	1,130	254	546	20	1,950
1976	1,580	353	760	27	2,720
1977	1,260	280	608	22	2,170
1978	1,730	390	840	30	2,990
1979	1,870	420	905	35	3,230
1980	1,970	445	1,000	35	3,450
1981	2,760	370	515	35	3,680
1982	2,060	360	540	30	2,990
1983	1,590	395	580	45	2,610
1984	2,020	625	800	35	3,480
1985	2,160	550	675	35	3,420
1986	1,990	505	640	65	3,200
1987	2,090	590	565	65	3,310
1988	2,440	530	575	35	3,580
1989	2,280	540	510	70	3,400
1990	2,250	470	605	35	3,360
1991	2,150	465	630	65	3,310
1992	2,520	490	455	35	3,500
1993	2,590	455	420	35	3,500
1994	2,630	480	550	40	3,700
1995	2,590	530	640	40	3,800
1996	2,610	460	725	35	3,830
1997	2,570	530	890	40	4,030
1998	2,740	580	790	40	4,150
1999	2,710	570	780	40	4,100
2000	2,840	600	820	40	4,300
2001	2,900	620	840	40	4,400
2002	2,710	570	780	40	4,100
2003	2,400	770	1,080	40	4,300

¹Compiled by G.R. Matos, L.D. Cunningham, and M.J. Magyar.

End Uses of Columbium (Niobium)



Columbium (Niobium) End-Use Worksheet Notes

Data Sources

The sources of data for the columbium (niobium) end-use worksheet are the Commodity Data Summaries and the Mineral Commodity Summaries, annual mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey; and the report Columbium (Niobium) Recycling in the United States in 1998, U.S. Geological Survey.

End Use

End use is defined as the use of the mineral commodity in a particular industrial sector or product. End-use data are derived by applying estimated percentages of end-use consumption to the calculated U.S. apparent consumption. End-use categories are microalloyed steels, stainless steels, superalloys, and other industrial uses.

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

References

- Cunningham, L.D., 2004, Columbium (niobium) recycling in the United States in 1998: U.S. Geological Survey Circular 1196-I, 9 p. (Also available online at <http://pubs.usgs.gov/circ/2004/1196am/c1196a-m.pdf>.)
- U.S. Bureau of Mines, 1975–77, Commodity Data Summaries, 1975–77.
- U.S. Bureau of Mines, 1978–95, Mineral Commodity Summaries, 1978–95.
- U.S. Geological Survey, 1997–2005, Mineral Commodity Summaries, 1997–2005.
- U.S. Geological Survey and U.S. Bureau of Mines, 1996, Mineral Commodity Summaries, 1996.

Recommended Citation Format:

(1) If taken from CD version:

U.S. Geological Survey, [year of last update, e.g., 2005], [Mineral commodity, e.g., Gold] statistics, *in* Kelly, T.D., and Matos, G.R., comps., Historical statistics for mineral and material commodities in the United States: U.S. Geological Survey Data Series 140, one CD-ROM. (Also available online at <http://pubs.usgs.gov/ds/2005/140/>.)

(2) If taken from online version:

U.S. Geological Survey, [year of last update, e.g., 2005], [Mineral commodity, e.g., Gold] statistics, *in* Kelly, T.D., and Matos, G.R., comps., Historical statistics for mineral and material commodities in the United States: U.S. Geological Survey Data Series 140, available online at <http://pubs.usgs.gov/ds/2005/140/>. (Accessed [date].)

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