# BALL CLAY END-USE STATISTICS ${ }^{1}$ 

 U.S. GEOLOGICAL SURVEY[Metric tons]

| Year | Fillers, extenders, and binders | Floor and wall tile | Ceramics | Pottery | Refractories | Sanitaryware | Miscellaneous | Trade adjustments | $\begin{gathered} \text { Apparent } \\ \text { consumption } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1975 | 3,430 | 103,000 | 83,900 | 116,000 | 54,300 | 88,200 | 96,300 | -35,300 | 510,000 |
| 1976 | 9,140 | 86,400 | 78,700 | 237,000 | 30,800 | 71,100 | 117,000 | -35,400 | 594,000 |
| 1977 | 74,700 | 49,300 | 62,900 | 236,000 | 77,800 | 67,400 | 159,000 | -10,700 | 715,000 |
| 1978 | 11,800 | 107,000 | 88,000 | 239,000 | 88,700 | 128,000 | 96,400 | -34,100 | 725,000 |
| 1979 | 13,000 | 108,000 | 94,100 | 224,000 | 90,200 | 138,000 | 117,000 | -30,400 | 754,000 |
| 1980 | 14,900 | 82,200 | 74,200 | 201,000 | 106,000 | 76,600 | 137,000 | -64,500 | 628,000 |
| 1981 | 18,000 | 74,500 | 66,100 | 199,000 | 97,000 | 73,300 | 137,000 | -83,400 | 581,000 |
| 1982 | 21,000 | 78,100 | 41,500 | 143,000 | 71,000 | 111,000 | 41,200 | -49,800 | 457,000 |
| 1983 | 18,900 | 92,700 | 51,600 | 178,000 | 82,700 | 124,000 | 52,500 | -51,800 | 549,000 |
| 1984 | 17,800 | 116,000 | 58,300 | 179,000 | 94,100 | 125,000 | 119,000 | -70,500 | 639,000 |
| 1985 | 17,700 | 117,000 | 39,800 | 185,000 | 97,400 | 139,000 | 152,000 | -113,000 | 634,000 |
| 1986 | 67,700 | 116,000 | 40,000 | 222,000 | 31,800 | 136,000 | 88,500 | -40,300 | 661,000 |
| 1987 | 117,000 | 131,000 | 35,200 | 204,000 | 53,400 | 162,000 | 60,900 | -31,400 | 732,000 |
| 1988 | 109,000 | 132,000 | 72,700 | 248,000 | 64,200 | 171,000 | 54,600 | -46,400 | 806,000 |
| 1989 | 92,000 | 162,000 | 62,600 | 187,000 | 60,900 | 194,000 | 37,800 | -48,500 | 748,000 |
| 1990 | 103,000 | 158,000 | 12,000 | 100,000 | 40,000 | 158,000 | 127,000 | 23,400 | 720,000 |
| 1991 | 120,000 | 148,000 | 9,000 | 117,000 | 38,000 | 155,000 | 107,000 | 32,800 | 727,000 |
| 1992 | 133,000 | 202,000 | 33,300 | 114,000 | 36,100 | 174,000 | 61,900 | 51,400 | 806,000 |
| 1993 | 138,000 | 205,000 | 39,800 | 116,000 | 42,000 | 185,000 | 69,200 | 56,700 | 852,000 |
| 1994 | 125,000 | 269,000 | 37,300 | 123,000 | 43,300 | 228,000 | 67,100 | 46,800 | 940,000 |
| 1995 | 114,000 | 251,000 | 62,200 | 128,000 | 70,800 | 208,000 | 48,900 | 83,400 | 966,000 |
| 1996 | 74,900 | 223,000 | 45,500 | 118,000 | 78,900 | 207,000 | 57,800 | 50,400 | 856,000 |
| 1997 | 78,600 | 315,000 | 72,400 | 102,000 | 64,600 | 219,000 | 62,600 | 55,800 | 970,000 |
| 1998 | 82,900 | 325,000 | 76,000 | 108,000 | 50,600 | 239,000 | 107,000 | 4,670 | 993,000 |
| 1999 | W | 353,000 | 72,900 | 121,000 | 42,200 | 292,000 | 155,000 | 54,800 | 1,090,000 |
| 2000 | W | 400,000 | 151,000 | 22,700 | 68,500 | 256,000 | 78,600 | 64,500 | 1,040,000 |
| 2001 | W | 387,000 | 135,000 | 20,500 | 62,200 | 247,000 | 76,900 | 11,600 | 940,000 |
| 2002 | 25,100 | 395,000 | 169,000 | 23,100 | 63,100 | 246,000 | 52,200 | 19,400 | 993,000 |
| 2003 | 85,800 | 409,000 | 230,000 | 21,000 | 66,600 | 267,000 | 78,100 | 26,800 | 1,180,000 |

W Withheld to avoid disclosing company proprietary data; data included in the miscellaneous category.
${ }^{1}$ Compiled by G.R. Matos and R.L. Virta.

## End Uses of Ball Clay


$\square$ Fillers, extenders, and binders $\square$ Floor and wall tile $\square$ Ceramics $\square$ Pottery $\square$ Refractories $\square$ Sanitaryware $\square$ Miscellaneous

## Ball Clay End-Use Worksheet Notes

## Data Source

The source of data for the ball clay end-use worksheet is the Minerals Yearbook, an annual collection, compilation, and analysis of mineral industry data, published by the U.S. Bureau of Mines and the U.S. Geological Survey.

## End Use

End use is defined as the use of the mineral commodity in a particular industrial sector or product. For ball clay sold or used by producers, end-uses categories are fillers, extenders, and binders; floor and wall tile; ceramics; pottery; refractories; sanitaryware; and miscellaneous uses. The trade adjustments category includes imports for which ball clay applications are unknown and discrepancies of exports reported by producers and exports reported by the U.S. Census Bureau.

Sales of ball clay for filler, extenders, and binders are relatively small and often depend on spot markets for sales. This results in large variations from year-to-year in sales tonnages. Ball clay also competes with many other minerals as filler and extender, so sales gain and lose relative to these other minerals. In the mid-1990s, ball clay lost its animal feed binder market as a result of a health-related issue, causing a large decline in end-use sales afterwards.

Other markets, particularly sanitaryware and tile are influenced by housing starts and commercial construction trends so sales of ball clay generally follow these trends. For 2000 to 2002, a large portion of pottery sales is included in the ceramics category. The long decline in domestic clay-based pottery is due to competition from alternative products, primarily plastics and imported goods.

W in the spreadsheet indicates information withheld to avoid disclosing company proprietary data; data are included in the miscellaneous category. A negative number in the trade adjustments category indicates net exports of ball clay. Data are rounded to no more than three significant digits; data may not add to totals shown.

## References

U.S. Bureau of Mines, 1977-96, Minerals Yearbook, v. I, 1975-94
U.S. Geological Survey, 1997-2005, Minerals Yearbook, v. I, 1995-2003.

## 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].)

## For more information, please contact:

## USGS Clays Commodity Specialist

