## INDUSTRIAL DIAMOND STATISTICS ${ }^{1}$

U.S. GEOLOGICAL SURVEY
[All values in metric tons ( $\mathbf{t}$ ) diamond unless otherwise noted]

| Year | Primary production | Secondary production | Imports | Exports | Government shipments | Stocks | Apparent consumption | Unit value (\$/t) | Unit value (98\$/t) | World production |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1900 | 0 |  |  |  |  |  | 0.022 | 28,400,000 | 557,000,000 |  |
| 1901 | 0 |  |  |  |  |  | 0.031 | 26,800,000 | 525,000,000 |  |
| 1902 | 0 |  |  |  |  |  | 0.030 | 27,000,000 | 509,000,000 |  |
| 1903 | 0 |  |  |  |  |  | 0.027 | 27,500,000 | 500,000,000 |  |
| 1904 | 0 |  |  |  |  |  | 0.018 | 29,300,000 | 533,000,000 |  |
| 1905 | 0 |  |  |  |  |  | 0.0056 | 35,000,000 | 637,000,000 |  |
| 1906 | 0 |  |  |  |  |  | 0.0077 | 33,400,000 | 607,000,000 |  |
| 1907 | 0 |  |  |  |  |  | 0.022 | 28,400,000 | 498,000,000 |  |
| 1908 | 0 |  |  |  |  |  | 0.031 | 26,800,000 | 487,000,000 |  |
| 1909 | 0 |  |  |  |  |  | 0.030 | 27,000,000 | 490,000,000 |  |
| 1910 | 0 |  |  |  |  |  | 0.0081 | 33,100,000 | 580,000,000 |  |
| 1911 | 0 |  |  |  |  |  | 0.0096 | 32,200,000 | 565,000,000 |  |
| 1912 | 0 |  |  |  |  |  | 0.019 | 29,000,000 | 491,000,000 |  |
| 1913 | 0 |  |  |  |  |  | 0.020 | 28,800,000 | 474,000,000 |  |
| 1914 | 0 |  |  |  |  |  | 0.023 | 28,100,000 | 458,000,000 |  |
| 1915 | 0 |  |  |  |  |  | 0.015 | 30,100,000 | 486,000,000 |  |
| 1916 | 0 |  |  |  |  |  | 0.034 | 26,400,000 | 395,000,000 |  |
| 1917 | 0 |  |  |  |  |  | 0.060 | 24,200,000 | 308,000,000 |  |
| 1918 | 0 |  |  |  |  |  | 0.048 | 25,100,000 | 271,000,000 |  |
| 1919 | 0 |  |  |  |  |  | 0.11 | 22,100,000 | 208,000,000 |  |
| 1920 | 0 |  |  |  |  |  | 0.16 | 20,700,000 | 168,000,000 |  |
| 1921 | 0 |  |  |  |  |  | 0.016 | 29,900,000 | 272,000,000 |  |
| 1922 | 0 |  |  |  |  |  | 0.040 | 25,800,000 | 250,000,000 |  |
| 1923 | 0 |  |  |  |  |  | 0.0067 | 34,000,000 | 324,000,000 |  |
| 1924 | 0 |  | 0.0268 |  |  |  | 0.027 | 51,400,000 | 490,000,000 |  |
| 1925 | 0 |  | 0.0789 |  |  |  | 0.079 | 34,700,000 | 324,000,000 |  |
| 1926 | 0 |  | 0.00354 |  |  |  | 0.0035 | 58,800,000 | 539,000,000 |  |
| 1927 | 0 |  | 0.00725 |  |  |  | 0.0073 | 305,000,000 | 2,850,000,000 |  |
| 1928 | 0 |  | 0.00787 |  |  |  | 0.0079 | 354,000,000 | 3,380,000,000 |  |
| 1929 | 0 |  | 0.0103 |  |  |  | 0.010 | 403,000,000 | 3,840,000,000 |  |
| 1930 | 0 |  | 0.0302 |  |  |  | 0.030 | 94,300,000 | 925,000,000 |  |
| 1931 | 0 |  | 0.0452 |  |  |  | 0.045 | 53,600,000 | 573,000,000 |  |
| 1932 | 0 |  | 0.0329 |  |  |  | 0.033 | 32,600,000 | 389,000,000 |  |
| 1933 | 0 |  | 0.0533 |  |  |  | 0.053 | 24,600,000 | 309,000,000 |  |
| 1934 | 0 |  | 0.106 |  |  |  | 0.11 | 27,800,000 | 338,000,000 |  |
| 1935 | 0 |  | 0.192 |  |  |  | 0.19 | 22,900,000 | 272,000,000 |  |
| 1936 | 0 |  | 0.234 |  |  |  | 0.23 | 18,800,000 | 222,000,000 |  |

## INDUSTRIAL DIAMOND STATISTICS ${ }^{1}$

U.S. GEOLOGICAL SURVEY
[All values in metric tons ( $\mathbf{t}$ ) diamond unless otherwise noted]

| Year | Primary production | Secondary production | Imports | Exports | Government shipments | Stocks | Apparent consumption | Unit value $(\$ / t)$ | Unit value (98\$/t) | $\begin{array}{c\|} \text { World } \\ \text { production } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1937 | 0 |  | 0.378 |  |  |  | 0.38 | 17,900,000 | 203,000,000 |  |
| 1938 | 0 |  | 0.279 |  |  |  | 0.28 | 15,400,000 | 178,000,000 | 2.20 |
| 1939 | 0 |  | 0.714 |  |  |  | 0.71 | 13,700,000 | 161,000,000 | 2.20 |
| 1940 | 0 |  | 0.762 |  |  |  | 0.76 | 14,500,000 | 169,000,000 | 2.85 |
| 1941 | 0 |  | 1.38 |  |  |  | 1.4 | 10,800,000 | 120,000,000 | 1.87 |
| 1942 | 0 |  | 2.24 | 0.00909 |  |  | 2.2 | 9,850,000 | 98,600,000 | 1.94 |
| 1943 | 0 |  | 2.44 | 0.0233 |  |  | 2.4 | 9,030,000 | 85,200,000 | 2.01 |
| 1944 | 0 |  | 2.53 | 0.0239 |  |  | 2.5 | 9,070,000 | 84,000,000 | 2.09 |
| 1945 | 0 |  | 2.16 | 0.0184 |  |  | 2.1 | 5,970,000 | 54,300,000 | 2.16 |
| 1946 | 0 |  | 0.941 | 0.0233 |  |  | 0.92 | 15,400,000 | 128,000,000 | 2.23 |
| 1947 | 0 |  | 0.823 | 0.0246 |  |  | 0.80 | 16,600,000 | 121,000,000 | 2.30 |
| 1948 | 0 |  | 2.13 | 0.0105 |  |  | 2.1 | 15,600,000 | 106,000,000 | 2.38 |
| 1949 | 0 |  | 1.28 | 0.0111 |  |  | 1.3 | 13,900,000 | 95,100,000 | 2.45 |
| 1950 | 0 |  | 2.24 | 0.0117 |  |  | 2.2 | 16,600,000 | 112,000,000 | 2.52 |
| 1951 | 0 |  | 2.46 | 0.0121 |  |  | 2.5 | 19,200,000 | 121,000,000 | 2.82 |
| 1952 | 0 |  | 2.74 | 0.0352 |  |  | 2.7 | 19,100,000 | 117,000,000 | 3.16 |
| 1953 | 0 |  | 2.71 | 0.0353 |  |  | 2.7 | 18,200,000 | 111,000,000 | 3.28 |
| 1954 | 0 |  | 2.80 | 0.287 |  |  | 2.5 | 17,400,000 | 105,000,000 | 3.36 |
| 1955 | 0 | 0.200 | 3.02 | 0.322 |  |  | 2.9 | 21,900,000 | 134,000,000 | 3.50 |
| 1956 | 0 | 0.200 | 3.28 | 0.333 |  |  | 3.2 | 22,600,000 | 136,000,000 | 3.66 |
| 1957 | 0 | 0.200 | 2.52 | 0.356 |  |  | 2.4 | 20,400,000 | 118,000,000 | 4.16 |
| 1958 | 0.260 | 0.200 | 2.01 | 0.470 |  |  | 2.0 | 19,500,000 | 110,000,000 | 4.48 |
| 1959 | 0.300 | 0.200 | 2.62 | 0.549 |  |  | 2.6 | 24,000,000 | 134,000,000 | 4.18 |
| 1960 | 0.400 | 0.200 | 2.63 | 0.565 |  |  | 2.7 | 19,700,000 | 108,000,000 | 4.20 |
| 1961 | 0.500 | 0.360 | 2.84 | 0.782 |  | 0.0117 | 2.9 | 24,100,000 | 131,000,000 | 5.44 |
| 1962 | 0.800 | 0.400 | 2.46 | 0.779 |  |  | 2.9 | 20,800,000 | 112,000,000 | 5.53 |
| 1963 | 1.00 | 0.400 | 2.40 | 0.986 |  |  | 2.8 | 21,100,000 | 112,000,000 | 6.05 |
| 1964 | 1.00 | 0.400 | 2.86 | 1.43 |  |  | 2.8 | 21,000,000 | 111,000,000 | 6.02 |
| 1965 | 1.10 | 0.400 | 2.60 | 1.19 |  |  | 2.9 | 21,400,000 | 110,000,000 | 5.86 |
| 1966 | 1.20 | 0.400 | 3.71 | 1.20 |  |  | 4.1 | 18,600,000 | 93,500,000 | 6.21 |
| 1967 | 1.60 | 0.500 | 3.42 | 1.52 |  |  | 4.0 | 18,600,000 | 90,600,000 | 6.25 |
| 1968 | 2.20 | 0.600 | 2.74 | 2.09 |  |  | 3.4 | 22,000,000 | 103,000,000 | 5.18 |
| 1969 | 2.60 | 0.600 | 2.82 | 2.48 | 0 |  | 3.5 | 18,800,000 | 83,400,000 | 5.42 |
| 1970 | 2.60 | 0.600 | 2.67 | 2.57 | 0 |  | 3.3 | 18,300,000 | 77,000,000 | 5.84 |
| 1971 | 2.60 | 0.600 | 2.58 | 2.36 | 0.300 | 13.5 | 3.4 | 17,800,000 | 71,800,000 | 5.78 |
| 1972 | 3.00 | 0.600 | 3.03 | 2.77 | 0.940 | 13.0 | 4.35 | 17,400,000 | 67,700,000 | 6.25 |
| 1973 | 3.40 | 0.400 | 3.83 | 3.14 | 0.660 | 12.3 | 5.25 | 17,100,000 | 62,900,000 | 6.12 |

## INDUSTRIAL DIAMOND STATISTICS ${ }^{1}$

U.S. GEOLOGICAL SURVEY
[All values in metric tons ( $\mathbf{t}$ ) diamond unless otherwise noted]

| Year | Primary production | Secondary production | Imports | Exports | Government shipments | Stocks | $\begin{array}{c\|} \text { Apparent } \\ \text { consumption } \end{array}$ | Unit value (\$/t) | Unit value (98\$/t) | World <br> production |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1974 | 3.80 | 0.400 | 3.68 | 3.92 | 0.880 | 11.4 | 4.85 | 17,100,000 | 56,500,000 | 6.57 |
| 1975 | 3.80 | 0.400 | 2.86 | 3.54 | 0.680 | 10.7 | 4.20 | 18,700,000 | 56,600,000 | 6.12 |
| 1976 | 5.06 | 0.540 | 3.41 | 3.74 | 0.420 | 10.2 | 5.79 | 17,900,000 | 51,300,000 | 5.92 |
| 1977 | 6.16 | 0.540 | 4.53 | 4.48 | 0.520 | 9.68 | 7.27 | 17,500,000 | 47,000,000 | 6.08 |
| 1978 | 5.74 | 0.600 | 4.44 | 4.63 | 0.520 |  | 6.6 | 19,800,000 | 49,400,000 | 6.03 |
| 1979 | 8.40 | 0.600 | 9.91 | 11.8 | 0.420 | 8.80 | 7.6 | 21,500,000 | 48,400,000 | 5.84 |
| 1980 | 10.0 | 0.600 | 4.37 | 6.57 | 0.300 | 8.58 | 8.62 | 25,300,000 | 50,100,000 | 6.51 |
| 1981 | 11.4 | 0.460 | 4.08 | 6.29 | 0.300 | 8.28 | 9.95 | 27,100,000 | 48,500,000 | 5.92 |
| 1982 | 10.6 | 0.360 | 3.83 | 6.61 | 0.540 | 7.74 | 8.72 | 22,400,000 | 37,900,000 | 6.04 |
| 1983 | 13.8 | 0.360 | 4.98 | 9.19 | 0.240 | 7.50 | 10.2 | 17,800,000 | 29,100,000 | 6.47 |
| 1984 | 15.2 | 0.440 | 8.74 | 10.4 | 0.300 | 7.20 | 14.3 | 13,000,000 | 20,400,000 | 7.47 |
| 1985 | 15.2 | 0.300 | 9.24 | 11.1 | 0.300 | 6.90 | 14.0 | 13,800,000 | 20,900,000 | 7.96 |
| 1986 | 16.0 | 0.924 | 9.20 | 11.0 | 0.400 | 6.52 | 15.1 | 12,000,000 | 17,900,000 | 10.70 |
| 1987 |  | 0.660 | 9.78 | 12.0 | 0.400 | 6.10 | 14.4 | 9,770,000 | 14,000,000 | 10.10 |
| 1988 |  | 1.44 | 14.2 | 15.6 | 0.360 | 5.96 | 17.2 | 9,160,000 | 12,600,000 | 59.30 |
| 1989 | 18.0 | 0.720 | 14.1 | 16.2 | 0.000 | 5.96 | 15.8 | 7,480,000 | 9,840,000 | 76.10 |
| 1990 | 18.0 | 1.28 | 19.3 | 14.6 | 0.600 | 5.36 | 17.2 | 7,130,000 | 8,900,000 | 77.50 |
| 1991 | 18.0 | 0.760 | 15.5 | 16.4 | 1.00 | 4.36 | 17.2 | 6,990,000 | 8,360,000 | 95.60 |
| 1992 | 19.0 | 0.700 | 21.4 | 17.8 | 2.08 | 2.34 | 19.8 | 5,250,000 | 6,100,000 | 93.40 |
| 1993 | 21.0 | 3.22 | 27.6 | 22.0 | 0.260 | 2.09 | 29.8 | 4,230,000 | 4,770,000 | 100 |
| 1994 | 20.8 | 3.22 | 35.4 | 31.5 | 1.02 | 1.61 | 30.8 | 3,270,000 | 3,600,000 | 98.90 |
| 1995 | 23.0 | 5.26 | 38.3 | 21.3 | 0.100 | 1.42 | 40.0 | 2,840,000 | 3,030,000 | 100 |
| 1996 | 22.8 | 4.08 | 44.3 | 22.2 | 0.300 | 1.09 | 44.8 | 2,720,000 | 2,830,000 | 101 |
| 1997 | 25.0 | 2.10 | 51.4 | 26.5 | 0.380 | 0.690 | 56.8 | 2,540,000 | 2,580,000 | 103 |
| 1998 | 28.0 | 2.10 | 45.1 | 22.6 | 0.160 | 0.632 | 54.0 | 2,550,000 | 2,550,000 | 106 |
| 1999 | 41.6 | 2.02 | 42.3 | 21.0 | 0.120 | 0.499 | 66.0 | 2,520,000 | 2,470,000 | 96.20 |
| 2000 | 49.6 | 2.02 | 58.7 | 20.7 | 0.100 | 0.400 | 89.5 | 2,130,000 | 2,020,000 | 96.90 |
| 2001 | 40.0 | 2.00 | 56.8 | 19.5 | 0.082 | 0.318 | 79.2 | 1,650,000 | 1,520,000 | 113 |
| 2002 | 44.0 | 1.14 | 37.4 | 18.4 | 0.080 | 0.240 | 64.5 | 1,990,000 | 1,800,000 | 119 |
| 2003 | 47.2 | 0.98 | 50.3 | 16.8 | 0.060 | 0.180 | 81.6 | 1,400,000 | 1,240,000 | 117 |
| 2004 | 50.4 | 1.00 | 48.4 | 20.0 | 0.076 | 0.104 | 79.7 | 1,550,000 | 1,340,000 | 128 |
| 2005 | 51.2 | 1.03 | 57.2 | 18.5 | 0.000 | 0.104 | 90.9 | 1,870,000 | 1,560,000 | 130 |
| 2006 | 51.6 | 6.95 | 74.6 | 20.1 | 0.025 | 0.095 | 113.1 | 1,440,000 | 1,160,000 | 129 |

${ }^{1}$ Compiled by C.A. DiFrancesco (retired) and D.W. Olson.
Data are calculated, estimated, or reported. See notes for more information.

## Industrial Diamond Worksheet Notes

## Data Sources

Sources of data for the industrial diamond worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey-Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR); the Mineral Commodity Summaries (MCS) and its predecessor, Commodity Data Summaries (CDS); and the U.S. Bureau of Mines Mineral Facts and Problems (MFP). The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate that data either were not available or were withheld from publication because they are proprietary.

## Primary Production

Primary production data for the years 1900-57, 1962-65, 1967-85, and 1995-2006 were from the MYB. Primary production data for the years 1958-61 and 1966 were from the CDS. Primary production data for the years 1986-94 were withheld in order to avoid disclosing proprietary data. Primary production data for the years 1958-2006 represent the total quantity of synthetic industrial diamonds that were produced domestically.

## Secondary Production

Secondary production data for the years 1900-54 were not available. Secondary production for the years 1955-66 were from the CDS. Secondary production for the years 1967-94 and 1996-2006 were from the MYB. Secondary production datum for the year 1995 was withheld in order to avoid disclosing proprietary datum. Secondary production data for the years 1955-2006 represent the total quantity of industrial diamonds that were salvaged or recycled from industrial diamond tools and wet and dry diamond wastes.

## Imports

Import data for the years 1924-2006 were recorded from the MR and the MYB, and represent the total quantity of natural and synthetic industrial diamond materials that were imported into the United States for consumption purposes. Import data for the years 1900-23 were not available.

## Exports

Export data for the years 1942-2006 were from the MYB. Export data for the years 1942-2006 represent the total quantity of natural and synthetic industrial diamond materials that were exported from the United States to foreign recipients. Export data for the years 1900-41 were not available.

## Government Shipments

Shipment data for the years 1969-77 were from the MFP. Shipment data for the years 1978-2006 were from the MCS. Shipment data for the years 1969-2006 represent the total quantity of natural and synthetic industrial diamond stones, grit, and powder that were shipped from government stockpiles to domestic recipients. Shipment data for the years 1900-68 were not available.

## Stocks

Stock data for the years 1961, 1971-77, and 1979-2006 were from the MYB. Stock data for the years 1961, 1971-77, and 1979-2006 represent the total quantity of industrial diamond stones and bort that were held within Government stockpiles annually. Stock data for the years 1900-60, 1962-70, and 1978 were not available.

## Apparent Consumption

Apparent consumption figures were developed based on the following considerations:

- Apparent consumption figures were limited to two significant figures based on broad assumptions that had to be made throughout the period covered for the years 1900-71 and 1978-79. Exports for the years 1924-41 were assumed to be zero due to the low values for most of the earlier values in these series.
- Apparent consumption for the years 1900-23 was calculated by using imports that were estimated by regression analysis.
- Apparent consumption was estimated for the years 1924-85 by using the formula:


## APPARENT CONSUMPTION = PRIMARY PRODUCTION + SECONDARY PRODUCTION + IMPORTS - EXPORTS $\pm$ GOVERNMENT SHIPMENTS $\pm$ STOCK CHANGES.

- No secondary production, export, stock, or government shipment data were available for the years 1924-41 and were assumed to be zero.
- No secondary production, stock, or government shipment data were available for the years 1942-54 and were assumed to be zero.
- No government shipment or stock data were available for the years 1955-60 and 1962-68 and were assumed to be zero.
- No government shipment and insufficient stock data were available for the year 1961 and were assumed to be zero.
- No stock data were available for the years 1969-71 and 1978-79 and were assumed to be zero when apparent consumption was calculated.
- Domestic consumption data from the MYB were used as an estimate for apparent consumption for the years 1986-2006.


## Unit Value (\$/t)

Unit value is the value in dollars of 1 metric ton ( $\mathrm{t)} \mathrm{of} \mathrm{natural} \mathrm{and} \mathrm{synthetic} \mathrm{diamond} \mathrm{apparent} \mathrm{consumption}$. years 1900-2006 were estimated as being equal to the total value of imports divided by the total import quantity. Unit values rose steeply from 1926 to 1927-29 due to the added demand for glaziers' and engravers', unset, and miners' diamond and decreased in 1930 when demand subsided. Unit value decreased, especially during the late 1980s to 2004, due to an increasing amount of synthetic diamonds being produced.

## Unit Value (98\$/t)

Unit value is estimated in terms of constant 1998 dollars by dividing the Consumer Price Index conversion factors, with 1998 as the base year, into the actual unit value data.

## World Production

World production data for the years 1938-2006 were from the MYB. World production data for the years 1938-87 represent the total quantity of natural industrial diamonds that were produced annually throughout the world. World production data for the years 19882000 represent the total quantity of natural and synthetic industrial diamonds that were produced annually throughout the world. World production data for the years 1900-37 were not available. Production data for the United States were not included in world production for the years 1986-94.

## References

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