

**INDUSTRIAL DIAMOND STATISTICS**  
**By Carl A. DiFrancesco and Donald W. Olson**  
 [All values in metric tons (t) unless otherwise noted]  
 Last modification: August 6, 2003

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	

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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

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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		0.924	9.20	11.0	0.400	6.52	15.1	12,000,000	17,900,000	10.7
1987		0.660	9.78	12.0	0.400	6.10	14.4	9,770,000	14,000,000	10.1
1988		1.44	14.2	15.6	0.360	5.96	17.2	9,160,000	12,600,000	59.3
1989		0.720	14.1	16.2	0.000	5.96	15.8	7,480,000	9,840,000	76.1
1990		1.28	19.3	14.6	0.600	5.36	17.2	7,130,000	8,900,000	77.5
1991		0.760	15.5	16.4	1.00	4.36	17.2	6,990,000	8,360,000	95.6
1992		0.900	21.4	17.8	2.08	2.34	19.8	5,250,000	6,100,000	93.4
1993		3.22	27.6	22.0	0.260	2.09	29.8	4,230,000	4,770,000	100
1994		3.22	35.4	31.5	1.02	1.61	30.8	3,270,000	3,600,000	98.9
1995	23.0		38.3	21.3	0.100	1.42	40.0	2,840,000	3,030,000	100
1996	22.8	4.00	44.3	22.2	0.300	1.09	44.8	2,720,000	2,830,000	101
1997	25.0	2.00	51.4	26.5	0.380	0.690	56.8	2,540,000	2,580,000	103
1998	28.0	2.00	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	105
2000	49.6	2.02	58.7	19.6	0.200	0.302	96.8	2,130,000	2,020,000	110

# 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 1995–2000 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 1958–2000 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 1996–2000 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 1955–2000 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 1924–2000 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 1942–2000 were from the MYB. Export data for the years 1942–2000 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 1978–2000 were from the MCS. Shipment data for the years 1969–2000 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 1979–2000 were from the MYB. Stock data for the years 1961, 1971–77, and 1979–2000 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:

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

- 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 1986–2000.

### **Unit Value (\$/t)**

Unit value is the value in dollars of 1 metric ton (t) of natural and synthetic diamond apparent consumption. Unit value data for the years 1900–2000 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 1980's to 2000, 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 1938–2000 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 1988–2000 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.

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