

DIAMOND (INDUSTRIAL)

(Data in million carats, unless otherwise noted)

Domestic Production and Use: Industrial diamond output declined slightly, but the United States continued to be the world's largest consumer of industrial diamond. Most industrial diamond produced domestically was synthetic grit and powder. The output was from two major firms, one each in New Jersey and Ohio. Six firms recovered and sold industrial diamond as their principal product. Additional firms recovered industrial diamond in secondary operations. Most consumption was accounted for by the following industry sectors: machinery manufacturing, mineral services, stone and ceramic production, abrasive industries, construction, and transportation equipment manufacturing. Mineral services, primarily drilling, accounted for most industrial stone consumption.

Salient Statistics—United States:¹	1992	1993	1994	1995	1996^e
Bort, grit, and powder and dust; natural and synthetic:					
Production: Manufactured diamond	95.0	105	104	115	110
Secondary ²	3.4	15.9	16.0	26.1	48
Imports for consumption	97.3	133	174	188	212
Exports and reexports	83.6	107	153	101	107
Sales from Government stockpile excesses	10.4	—	2.0	.2	1
Consumption, apparent	122	146	141	228	263
Price, value of imports, dollars per carat	.70	.61	.51	.43	.45
Net import reliance ³ as a percent of apparent consumption	19	18	15	38	40
Stones, natural:					
Production: Mine	—	—	—	—	(4)
Secondary	.1	.1	.1	.3	.3
Imports for consumption ⁵	9.8	5.2	2.8	4.1	3.2
Exports and reexports ⁶	5.6	3.4	4.4	5.2	3.8
Sales from Government stockpile excesses	—	1.3	3.1	.3	.6
Consumption, apparent	4.3	1.9	NA	NA	NA
Price, value of imports, dollars per carat	4.56	6.85	9.41	6.62	6.97
Net import reliance ³ as a percent of apparent consumption	98	95	NA	NA	NA

Recycling: At least 2 million carats of old scrap were salvaged.

Import Sources (1992-95): Bort, grit, and powder and dust; natural and synthetic: Ireland, 60%; China, 5%; Russia, 5%; and other, 30%. Stone, natural: United Kingdom, 28%; Ireland, 27%; Zaire, 15%; and other, 30%.

Tariff: Item	Number	Most favored nation (MFN) 12/31/96	Non-MFN⁷ 12/31/96
Miners' diamond, carbonados	7102.21.1010	Free	Free.
Other	7102.21.1020	Free	Free.
Industrial diamond, natural advanced	7102.21.3000	2.9% ad val.	30% ad val.
Industrial diamond, natural not advanced	7102.21.4000	Free	Free.
Industrial diamond, other	7102.29.0000	Free	Free.
Dust, grit, or powder	7105.10.0000	Free	Free.

DIAMOND (INDUSTRIAL)

Depletion Allowance: 14% (Domestic), 14% (Foreign).

Government Stockpile: Excess crushing bort and industrial stones were sold at auction.

Stockpile Status—9-30-96

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposals Jan.-Sept. 96
Crushing bort	0.816	0.503	0.724	0.993
Industrial stones	4.65	0.210	1.58	0.573

Events, Trends, and Issues: The United States will continue to be the largest market for industrial diamond through the remainder of this decade. Both domestic and world demand for diamond grit and powder will experience growth through the next 5 years. Increases in demand for synthetic grit and powder are expected to be greater than for natural diamond material. Constant-dollar prices of synthetic diamond products probably will continue to decline as production increases make them more cost-effective. However, the consolidation of major synthetic diamond producers could stabilize prices.

World Mine Production, Reserves, and Reserve Base:⁸

	Mine production		Reserves ^{e 9}	Reserve base ^{e 9}
	1995	1996 ^e		
United States	—	(4)	—	Unknown
Australia	22.4	23.0	500	900
Botswana	5.3	5.0	130	200
Brazil	.9	.9	5	15
China	.9	.9	10	20
Russia	9.0	9.0	40	65
South Africa	5.4	5.5	70	150
Zaire	13.0	13.0	150	350
Other countries	.8	.7	80	200
World total (may be rounded)	57.7	58.0	980	1,900

World Resources: Potential for the discovery of diamond resources in the United States, Canada, and Russia has improved. However, the significance of deposits already discovered will take several more years of evaluation. Technology has been developed to synthesize diamond powder, dust, and grit for industrial use worldwide; firms in the United States and Japan manufacture synthetic stones. World resources of natural industrial diamond in the stone-size range are unknown.

Substitutes: Competitive materials include manufactured abrasives (such as cubic boron nitride, fused aluminum oxide, and silicon carbide) and natural abrasives (such as garnet, emery, and corundum). Synthesized polycrystalline diamond is competitive with natural stones in many applications. Research continues on additional uses of synthetic polycrystalline compacts and shapes as substitutes for stones and on the uses of diamond films and diamond-like carbon coatings.

^eEstimated. NA Not available.

¹Industry stocks and employment are unknown.

²Includes both new and old scrap after 1992.

³Defined as imports - exports including reexports + adjustments for Government and industry stock changes.

⁴Less than ½ unit.

⁵May include synthetic miners diamond.

⁶Includes diamonds in manufactured abrasive products.

⁷See Appendix B.

⁸Natural industrial diamond only.

⁹See Appendix C for definitions.