

SAND AND GRAVEL (INDUSTRIAL)

(Data in thousand metric tons, unless otherwise noted)¹

Domestic Production and Use: Industrial sand and gravel valued at about \$542 million was produced by 76 companies from 136 operations in 37 States. Leading States, in order of tonnage, were Illinois, Michigan, California, Wisconsin, North Carolina, Oklahoma, Texas, and New Jersey. Combined production from these States represented 58% of the domestic total. About 38% of the U.S. tonnage was used as glassmaking sand, 22% as foundry sand, 5% as abrasive sand, 5% as hydraulic fracturing sand, and the remaining 30% for other uses.

Salient Statistics—United States:	1996	1997	1998	1999	2000^e
Production	27,800	28,500	28,200	28,900	29,500
Imports for consumption	7	39	44	211	135
Exports	1,430	980	2,400	1,670	1,570
Consumption, apparent	26,400	27,600	26,200	27,400	28,000
Price, average value, dollars per ton	17.88	17.93	18.19	18.64	18.40
Stocks, yearend	NA	NA	NA	NA	NA
Employment, quarry and mill, number ^e	1,450	1,450	1,400	1,400	1,400
Net import reliance ² as a percent of apparent consumption	E	E	E	E	E

Recycling: There is some recycling of foundry sand, and recycled cullet (pieces of glass) represents a significant amount of reused silica.

Import Sources (1996-99): Canada, 43%; Mexico, 39%; Australia, 13%; and other, 5%.

Tariff: Item	Number	Normal Trade Relations 12/31/00
95% or more silica and not more than 0.6% iron oxide	2505.10.1000	Free.

Depletion Allowance: Industrial sand or pebbles, 14% (Domestic and foreign).

Government Stockpile: None.

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Events, Trends, and Issues: Domestic sales of industrial sand and gravel in 2000 increased by just over 2% compared to those of 1999. U.S. apparent consumption reached 28 million tons in 2000, the highest consumption since 1979. Imports dropped 36% in 2000 compared to those of 1999. Import levels in 1999 had been the highest reported in at least the past 20 years. Imports of silica are generally of two types: small-quantity shipments of very high purity silica or a few large shipments of lower grade silica that were shipped only when special circumstances were achieved (e.g., very low freight rates).

The United States was the world's largest producer and consumer of industrial sand and gravel based on estimated world production figures. It was difficult to collect definitive numbers on silica sand and gravel production in most nations because of the wide range of terminologies and specifications for silica from country to country. The United States remained a major exporter of silica sand, shipping sand to almost every region of the world. This was attributed to the high quality and advanced processing techniques of a large variety of grades of silica, meeting virtually every specification for silica sand and gravel.

It is estimated that 2001 domestic production and apparent consumption will be about 29.5 million tons and 28 million tons, respectively.

The industrial sand and gravel industry continued to be concerned with safety and health regulations and environmental restrictions in 2000. Local shortages were expected to continue to increase owing to local zoning regulations and land development alternatives. These situations are expected to continue to cause a movement of sand and gravel operations away from high-population centers.

World Mine Production, Reserves, and Reserve Base:

	Mine production ^e		Reserves and reserve base ³
	1999	2000	
United States	28,900	29,500	Large. Silica is abundant in the Earth's crust. The reserves and reserve base are determined mainly by the location of population centers.
Australia	2,500	2,500	
Austria	6,000	5,800	
Belgium	2,400	2,400	
Brazil	2,700	2,700	
Canada	2,000	2,000	
France	6,500	6,600	
Germany	7,000	6,800	
India	1,300	1,400	
Italy	3,000	3,000	
Japan	2,800	2,700	
Mexico	1,800	1,900	
Netherlands	3,000	3,000	
Paraguay	10,000	10,000	
South Africa	2,200	2,100	
Spain	6,000	6,000	
United Kingdom	4,000	4,000	
Other countries	<u>15,000</u>	<u>15,000</u>	
World total (rounded)	107,000	107,000	

World Resources: Sand and gravel resources of the world are sizable. However, because of their geographic distribution, environmental restrictions, and quality requirements for some uses, extraction of these resources is sometimes uneconomic. Quartz-rich sand and sandstones, the main source of industrial silica sand, occur throughout the world.

Substitutes: Silica sand continues to be the major material used for glassmaking and for foundry and molding sands; alternates are zircon, olivine, staurolite, and chromite sands.

^eEstimated. E Net exporter. NA Not available.

¹See Appendix A for conversion to short tons.

²Defined as imports - exports + adjustments for Government and industry stock changes.

³See Appendix C for definitions.