

**SAND AND GRAVEL (CONSTRUCTION)<sup>1</sup>**

(Data in million metric tons unless otherwise noted)

**Domestic Production and Use:** In 2017, 890 million tons of construction sand and gravel valued at more than \$7.7 billion was produced by an estimated 3,600 companies operating 9,400 pits and 360 sales/distribution yards in 50 States. Leading producing States were, in order of decreasing tonnage, California, Texas, Minnesota, Michigan, Arizona, Colorado, Washington, Ohio, Wisconsin, and New York, which together accounted for about 52% of total output. It is estimated that about 44% of construction sand and gravel was used as concrete aggregates; 25% for road base and coverings and road stabilization; 13% as asphaltic concrete aggregates and other bituminous mixtures; 12% as construction fill; 1% each for concrete products, such as blocks, bricks, and pipes; plaster and gunite sands; and snow and ice control; and the remaining 3% for filtration, golf courses, railroad ballast, roofing granules, and other miscellaneous uses.

The estimated output of construction sand and gravel in the United States shipped for consumption in the first 9 months of 2017 was 673 million tons, a slight decrease compared with that of the same period of 2016. Third quarter shipments for consumption were virtually unchanged compared with those of the same period of 2016. Additional production information by quarter for each State, geographic region, and the United States is published by the U.S. Geological Survey in its quarterly Mineral Industry Surveys for Crushed Stone and Sand and Gravel.

<b>Salient Statistics—United States:</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017<sup>e</sup></b>
Production	824	831	885	892	890
Imports for consumption	4	4	4	3	8
Exports	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Consumption, apparent <sup>3</sup>	830	830	890	900	900
Price, average value, dollars per metric ton	7.76	8.03	8.22	8.57	8.70
Employment, mine and mill, number <sup>4</sup>	36,400	34,600	34,800	35,300	34,100
Net import reliance <sup>5</sup> as a percentage of apparent consumption	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	1

**Import Sources (2013–16):** Canada, 93%; Mexico, 4%; and other, 3%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations 12–31–17</b>
Sand, other	2505.90.0000	Free.
Pebbles and gravel	2517.10.0015	Free.

**Depletion Allowance:** Common varieties, 5% (Domestic and foreign).

**Government Stockpile:** None.

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**Events, Trends, and Issues:** Construction sand and gravel production was about 890 million tons in 2017, about the same as that of 2016. Apparent consumption was virtually unchanged at about 900 million tons. Demand for construction sand and gravel was lower than expected in 2017 because States along the Gulf Coast and in the Southeast were hit by powerful hurricanes, Harvey and Irma, which temporarily led to decreased demand and production in these areas. Long-term increases in construction aggregates demand will be influenced by activity in the public and private construction sectors, as well as by construction work related to security measures being implemented around the Nation. The underlying factors that would support a rise in prices of construction sand and gravel are expected to be present in 2018, especially in and near metropolitan areas.

The construction sand and gravel industry remained concerned with environmental, health, permitting, safety, and zoning regulations. Movement of sand and gravel operations away from densely populated regions was expected to continue where regulations and local sentiment discouraged them. Resultant regional shortages of construction sand and gravel would likely result in higher-than-average price increases in industrialized and urban areas.

### World Mine Production and Reserves:

	Mine production <sup>e</sup>		Reserves <sup>6</sup>
	2016	2017	
United States	892	890	Reserves are controlled largely by land use and (or) environmental concerns.
Other countries <sup>7</sup>	NA	NA	
World total	NA	NA	

**World Resources:** Sand and gravel resources of the world are plentiful. However, because of environmental regulations, geographic distribution, and quality requirements for some uses, sand and gravel extraction is uneconomic in some cases. The most important commercial sources of sand and gravel have been glacial deposits, river channels, and river flood plains. Use of offshore deposits in the United States is mostly restricted to beach erosion control and replenishment. Other countries routinely mine offshore deposits of aggregates for onshore construction projects.

**Substitutes:** Crushed stone, the other major construction aggregate, is often substituted for natural sand and gravel, especially in more densely populated areas of the Eastern United States. Crushed stone remains the dominant choice for construction aggregate use. Increasingly, recycled asphalt and portland cement concretes are being substituted for virgin aggregate, although the percentage of total aggregate supplied by recycled materials remained very small in 2017.

<sup>e</sup>Estimated. NA Not available.

<sup>1</sup>See also Sand and Gravel (Industrial) and Stone (Crushed).

<sup>2</sup>Less than ½ unit.

<sup>3</sup>Defined as production + imports – exports.

<sup>4</sup>Including office staff. Source: Mine Safety and Health Administration.

<sup>5</sup>Defined as imports – exports.

<sup>6</sup>See [Appendix C](#) for resource and reserve definitions and information concerning data sources.

<sup>7</sup>No reliable production information is available for most countries owing to the wide variety of ways in which countries report their sand and gravel production. Some countries do not report production for this mineral commodity. Production information for some countries is available in the U.S. Geological Survey Minerals Yearbook, Volume III, Area Reports: International.