

STONE (CRUSHED)¹

(Data in million metric tons unless otherwise noted)

Domestic Production and Use: In 2021, 1.5 billion tons of crushed stone valued at more than \$19 billion was produced by an estimated 1,410 companies operating 3,440 quarries and 180 sales and (or) distribution yards in 50 States. Leading States were, in descending order of production, Texas, Missouri, Florida, Pennsylvania, Ohio, Georgia, North Carolina, Virginia, California, and Tennessee, which together accounted for about 54% of total crushed stone output. Of the total domestic crushed stone produced in 2021, about 70% was limestone and dolomite; 15%, granite; 6%, traprock; 5%, miscellaneous stone; 3%, sandstone and quartzite; and the remaining 1% was divided, in descending order of tonnage, among marble, volcanic cinder and scoria, calcareous marl, slate, and shell. It is estimated that about 72% of crushed stone was used as a construction aggregate, mostly for road construction and maintenance; 16% for cement manufacturing; 8% for lime manufacturing; 2% for agricultural uses; and the remaining 2% for other chemical, special, and miscellaneous uses and products.

The estimated output of crushed stone in the United States shipped for consumption in the first 9 months of 2021 was 1.14 billion tons, an increase of 3% compared with that in the same period of 2020. Third quarter shipments for consumption increased by 4% compared with those in the same period of 2020. Additional production information, by quarter, for each State, geographic division, and the United States is reported by the U.S. Geological Survey in its quarterly Mineral Industry Surveys for crushed stone and sand and gravel.

| Salient Statistics—United States: | 2017 | 2018 | 2019 | 2020 | 2021^e |
|--|-------------|-------------|-------------|-------------|-------------------------|
| Production | 1,370 | 1,390 | 1,490 | 1,470 | 1,500 |
| Recycled material | 43 | 38 | 38 | 38 | 38 |
| Imports for consumption | 19 | 21 | 24 | 20 | 18 |
| Exports | 1 | (2) | (2) | (2) | (2) |
| Consumption, apparent ³ | 1,430 | 1,450 | 1,550 | 1,530 | 1,600 |
| Price, average value, dollars per metric ton | 11.36 | 11.64 | 11.96 | 12.22 | 13.00 |
| Employment, quarry and mill, number ⁴ | 68,600 | 68,500 | 69,000 | 67,000 | 67,000 |
| Net import reliance ⁵ as a percentage of apparent consumption | 1 | 1 | 2 | 1 | 1 |

Recycling: Road surfaces made of asphalt concrete and portland cement concrete surface layers, which contain crushed stone aggregate, were recycled on a limited but increasing basis in most States. In 2021, asphalt and portland cement concrete road surfaces were recycled in all 50 States.

Import Sources (2017–20): Mexico, 54%; Canada, 28%; The Bahamas, 12%; Honduras, 5%; and other, 1%.

| Tariff: | Item | Number | Normal Trade Relations 12–31–21 |
|--|-------------|---------------|--|
| Chalk: | | | |
| | Crude | 2509.00.1000 | Free. |
| | Other | 2509.00.2000 | Free. |
| Limestone, except pebbles and gravel | | 2517.10.0020 | Free. |
| Crushed or broken stone | | 2517.10.0055 | Free. |
| Marble granules, chippings and powder | | 2517.41.0000 | Free. |
| Stone granules, chippings and powders | | 2517.49.0000 | Free. |
| Limestone flux; limestone and other calcareous stone | | 2521.00.0000 | Free. |

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Depletion Allowance: For some special uses, 14% (domestic and foreign); if used as ballast, concrete aggregate, riprap, road material, and similar purposes, 5% (domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: Crushed stone production was about 1.5 billion tons in 2021, an increase of 3% compared with 1.47 billion tons in 2020. Apparent consumption also increased to 1.6 billion tons. Consumption of crushed stone increased in 2021 because of growth in the private and public construction markets. Usually, commercial and heavy-industrial construction activity, infrastructure funding, labor availability, new single-family housing unit starts, and weather affect growth in crushed stone production and consumption. Long-term increases in construction aggregates demand are influenced by activity in the public and private construction sectors, as well as by construction work related to infrastructure improvements around the Nation. The underlying factors that would support a rise in prices of crushed stone are expected to be present in 2022, especially in and near metropolitan areas.

The crushed stone industry continued to be concerned with environmental, health, safety, and zoning regulations. On November 15, 2021, the Infrastructure Investment and Jobs Act was signed into law. The legislation will reauthorize surface transportation programs for 5 years and invest \$110 billion in additional funding to repair roads and bridges and support major, transformational projects. Shortages in some urban and industrialized areas are expected to continue to increase owing to local zoning regulations and land-development alternatives. These issues are expected to continue and to cause new crushed stone quarries to be located away from large population centers. Resultant regional shortages of crushed stone and higher fuel costs could result in higher-than-average price increases in industrialized and urban areas.

World Mine Production and Reserves:

| | Mine production | | Reserves ⁶ |
|------------------------------|-----------------|-------------------|---|
| | 2020 | 2021 ^e | |
| United States | 1,470 | 1,500 | Adequate, except where special types are needed or where local shortages exist. |
| Other countries ⁷ | NA | NA | |
| World total | NA | NA | |

World Resources:⁶ Stone resources are plentiful throughout the world. The supply of high-purity limestone and dolomite suitable for specialty uses is limited in many geographic areas. The largest resources of high-purity limestone and dolomite in the United States are in the central and eastern parts of the country.

Substitutes: Crushed stone substitutes for roadbuilding include sand and gravel, and iron and steel slag. Substitutes for crushed stone used as construction aggregates include construction sand and gravel, iron and steel slag, sintered or expanded clay or shale, perlite, or vermiculite. 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 2021.

^eEstimated. NA Not available.

¹See also Sand and Gravel (Construction) and Stone (Dimension).

²Less than ½ unit.

³Defined as production + recycled material + imports – exports.

⁴Including office staff. Source: Mine Safety and Health Administration.

⁵Defined as imports – exports.

⁶See Appendix C for resource and reserve definitions and information concerning data sources.

⁷No reliable production information is available for most countries owing to the wide variety of ways in which countries report their crushed stone 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.