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2019 Minerals Yearbook

CEMENT [ADVANCE RELEASE]

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Cement

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In 2019, salient statistics for the cement industry in the United States showed slight increases in activity (production, consumption, shipments, and so on) from that in 2018. Except where otherwise indicated, data and trends in this report exclude those in Puerto Rico. Production of portland and masonry cement in the United States was 87.2 million metric tons (Mt), a slight increase from that in 2018. Production in 2019 was 12% lower than the record-high 99.3 Mt in 2005. Overall cement consumption, as measured by sales to domestic final customers, increased by 3.6% to 102 Mt from that in 2018, 20% lower than the 2005 record-high consumption of 128 Mt. The average mill net value ("price") for cement increased slightly to a record-high $122.50 per metric ton, surpassing the previous record set in 2018. The overall value of sales increased by 5.9% to $12.6 billion, slightly lower than the record high of $12.8 billion set in 2006. World production of cement increased slightly to 4.13 billion metric tons (Gt) (table 1).

This report covers hydraulic varieties of cement broadly classified as portland cement (including blended cements and other varieties listed in table 15) and masonry cement (including portland-lime and plastic cements). Other types of hydraulic cement and clinker are included in some of the trade data (tables 16–18, 21) and in the world production data (table 22). The tables in this report exclude supplementary cementious materials (SCMs), such as fly ash, other pozzolans, and ground granulated blast furnace slag (GGBFS), except where incorporated in finished cement and clinker. General background information on cement manufacturing and the U.S. Geological Survey (USGS) cement canvasses can be found in van Oss (2005).

Government Programs and Environmental Issues

Much of the cement consumed to make concrete was for public-sector construction projects. Cement quantities sold for these projects are dependent on various government funding sources, especially for new construction rather than for repairs. State and Federal funding for public-sector construction, in terms of 2009 constant dollars, decreased slightly in 2019 (Portland Cement Association, 2020a). Public Law 114–94, "Fixing America's Surface Transportation Act" (FAST Act), authorized $42.4 billion in Federal-Aid Highway Program apportionments in fiscal year 2019 (Federal Highway Administration, 2019), which may have contributed to increased portland cement consumption in 2019.

Large quantities of raw materials (mainly carbonate rocks, especially limestone) and fuels are burned at high temperatures to make clinker, resulting in emissions of large quantities of carbon dioxide (CO_2) and potentially significant emissions of nitrogen oxides, sulfur oxides, mercury and some other metals, volatile organic carbon compounds, and particulates. Increasingly, these emissions are being stringently regulated. The cement industry is one of the leading industrial emitters of CO_2, a greenhouse gas (GHG). For 2019, overall emissions of CO_2 by the U.S. cement industry were calculated to be about 67.0 Mt, or 0.85 metric ton (t) of CO_2 per metric ton of clinker produced, slightly lower than those in 2018.

Overall emissions were calculated from an average of two methods for estimating emissions from fuel combustion at individual plants plus process emissions from the calcination of limestone. One method uses "standard heat" values of fuel quantities consumed (table 7), which calculated CO_2 emissions to be 69.0 Mt. The other method totaled the heat values reported by individual plants, resulting in CO_2 emissions of 66.0 Mt. Process emissions from the calcination of limestone were calculated using the emission factor from the Intergovernmental Panel on Climate Change (IPCC) (Hanle and others, 2006). The calculations do not take into account any deductions for including materials such as ferrous slags and coal combustion ashes. Including these deductions could create a negative bias in the calculated emissions.

Certain fuels, including alternative or waste fuels, can reduce plant-level CO_2 emissions and may be allowed to be deducted from some reporting protocols for combustion emissions. These fuels may be lower in carbon per unit heat produced than other fuels, considered carbon neutral (certain biofuels), or may have credits allowed for their use (certain waste fuels). No fuel deductions were made to the averages above. Plant-level emissions from combustion can be reduced through use of alternative raw materials, upgrading to more-fuel-efficient kiln line technology, and use of SCMs and crushed limestone or other fillers in finished cement and concrete to reduce its clinker content.

The U.S. Environmental Protection Agency (EPA) applied emissions factors similar to those described above to clinker production data published by the USGS to calculate GHG emissions associated with the U.S. cement industry. The USGS and EPA calculations, based on the IPCC methodology, have an estimated 5% uncertainty. The EPA compared its calculations to the results of mandatory GHG reporting by major emitter industries; these data began for the 2010 (emissions) data year and are available for 2010−19 as summary spreadsheets for each year (U.S. Environmental Protection Agency, 2020).

Most emissions from cement plants are regulated by the national emissions standards for hazardous air pollutants (NESHAP), which were finalized in 2013 and amended in July 2015 (U.S. Environmental Protection Agency, 2015). The NESHAP rules define limits on emissions of mercury, total hydrocarbons, particulate matter (as a surrogate for nonvolatile metal pollutants), and hydrochloric acid. The NESHAP does not apply to plants that burn hazardous wastes, which fall under different EPA performance standards and emissions limits.

Production

In 2019, U.S. portland and blended cement production was 84.9 Mt, a slight increase from that in 2018 (table 3) and 10% lower than the record-high 93.9 Mt produced in 2005. Production of masonry cement was 2.3 Mt, a 3.8% decrease from that in 2018 (table 4) and 58% lower than the record-high 5.4 Mt produced in 2005. In 2019, the USGS obtained the data in this report through the USGS annual canvass of 123 U.S. industrial cement and clinker production facilities and certain independent terminals. Responses were received from 111 facilities, a response rate of 90%. Estimates were made for nonrespondents based on monthly data or past annual reporting. The data compiled from the surveys did not include a few importers that did not participate in the canvasses, accounting for an estimated additional 0.5% of portland cement sales.

Reported annual cement production capacity (grinding capacity) was 121 Mt, a slight increase from that in 2018 (table 3). Grinding capacity utilization was 70.3%, essentially unchanged from that in 2018 and lower than 82% in the record-high production year of 2005. A grinding capacity utilization of 85% or higher is considered to represent the industry operating at full capacity. Grinding capacity data include portland and masonry cements. The grinding capacity utilization percentages only include portland cement production. Capacity changes can reflect changes in demand for cements of various degrees of fineness, grinding equipment upgrades, shifts of some grinding capacity to other products (such as GGBFS), new plants and plant upgrades, and plant closures.

In 2019, the 10 leading cement companies were, in descending order of portland cement production, LafargeHolcim North America Inc.; Cemex USA; Lehigh Hanson, Inc.; CRH Americas Materials, Inc.; Buzzi Unicem USA, Inc. (including Alamo Cement Co.); Argos USA LLC; Eagle Materials Inc.; CalPortland Co.; Martin Marietta Materials, Inc.; and GCC of America, Inc. The U.S. cement industry continued to be heavily consolidated, with 60% of U.S. portland cement production from the top 5 companies and 81% from the top 10. Of the 10 leading companies, Eagle Materials and Martin Marietta were the only U.S.-owned companies at yearend 2019. Overall, about 89% of U.S. cement capacity was foreign owned in 2019.

In 2019, clinker production was 78.9 Mt, a 2.3% increase from that in 2018 (tables 1, 5) and 11% below the record-high production of 88.6 Mt in 2006. District-level changes in clinker production were 0.5 Mt or less. Clinker production capacity utilization increased slightly to 77% in 2019 from 76% in 2018 but was still well below the 88% in 2006. The reported subset for average days of routine maintenance was unchanged at 31 days in 2019 (table 5).

Kiln data were collected for plants that produced clinker for at least 1 day during the year, as well as some idle facilities. Some multikiln plants continued to rely on a single (generally the newest and most energy efficient) kiln for most of their clinker production. The continued idle or semi-idle status of the plants' older kilns may have reflected barriers to their restart including unknown operational challenges, poor kiln condition, and the possibility of exceeding the NESHAP limits. Thus, the active kiln count and plant capacities in table 5 may be lower than those listed, although actual capacity utilization percentages may be higher. A plant's apparent annual clinker capacity was dependent upon total reported downtime for the plant's kiln(s). In some districts, kiln capacity utilization may have been constrained by increased reliance on cement imports in the local markets.

The U.S. cement industry's consumption of nonfuel raw materials for the production of clinker and cement increased to 131 Mt for clinker and 11.2 Mt for cement in 2019 from 129 Mt and 10.6 Mt for clinker and cement, respectively, in 2018 (table 6). A variety of raw materials can be substituted to make clinker at cement plants. For the major raw materials consumed, changes tended to parallel clinker production, whereas some minor raw materials may have experienced significant changes in the activity of just a few plants.

Table 6 lists the nonfuel raw materials used to produce cement and clinker in the United States. In 2019, the use of limestone for clinker production increased by 2.0% to 103 Mt, which was in line with increased clinker production. Conversely, the use of limestone for cement production decreased by 3.8% to 2.8 Mt but was thought to be the result of higher quantities of other materials used to make cement. Use of cement kiln dust decreased as a raw material for combined clinker and cement production. Use of granulated blast furnace slag (including ground and unground material) as a raw material for combined clinker and cement production decreased by 16%; however, sales of GGBFS-blended cement decreased by 2%. The discrepancy may reflect a mischaracterization of sales or incomplete reporting. Fly ash consumed for clinker and cement increased by 12% to 2.1 Mt and decreased slightly to 181,000 t, respectively, in line with the decrease in sales of blended cement containing fly ash (tables 6, 15).

Based on data collected through the USGS survey, total fly ash consumption for blended cement and clinker of 2.1 Mt was less than the 2.6 Mt reported by the American Coal Ash Association (ACAA), whereas the total bottom ash consumption of 1.4 Mt (table 6) was more than the 0.9 Mt reported by the ACAA. The differences may reflect misidentification of various types of ashes and slag by USGS canvass respondents but also could reflect the difference between tonnages sold for a specific purpose (ACAA) and tonnages actually consumed by the cement plants (table 6). The total synthetic gypsum consumption reported to the USGS, but not specifically listed in table 6, of 1.8 Mt was higher than the sales of 1.5 Mt to the cement industry reported by the ACAA (American Coal Ash Association, 2021).

Table 7 details fuel consumption by the U.S. cement industry. As with nonfuel raw materials, data shifts can reflect activities at just a few plants. Consumption of petroleum coke, natural gas, and waste fuels derived from tires increased in 2019; consumption of all other fuel types decreased.

In 2019, the average heat consumption by unit (on a gross heat basis) was 4.0 billion joules per metric ton (GJ/t) of clinker produced, a slight decrease from that in 2018. Wet kiln plants averaged 7.5 GJ/t of clinker, unchanged from that in 2018. Dry kiln plants, responsible for 98% of clinker production in 2019, averaged 3.9 GJ/t of clinker, compared with 4.0 GJ/t of clinker in 2018. In 2019, the leading fuel sources for total heat consumed were bituminous coal, 41%; natural gas, 23%; petroleum coke, 21%; waste fuels, 14%; and fuel oil, not including any reported with liquid wastes, less than 1%.

Electricity consumption by U.S. cement plants in 2019 is shown in table 8. Average electricity consumption decreased for the remaining operational wet plants to 143 kilowatthours per ton of cement but increased slightly to 140 kilowatthours per ton of cement for dry plants.

Industry Structure Changes

Mergers and acquisitions continued in the North American cement industry in 2019. In September, HeidelbergCement, AG (Germany) announced its subsidiary Lehigh Hanson's agreement to purchase Giant Cement Co.'s Keystone plant in Bath, PA, pending regulatory approval (HeidelbergCement, AG, 2020, p. 31). In November, Cemex, S.A.B. de C.V. (Mexico) and Buzzi Unicem SpA (Italy) announced the divestment of their Kentucky partnership including the Kosmos plant in Louisville, KY, in which Cemex held a 75% interest and Buzzi Unicem USA held a 25% interest. Eagle Materials agreed to purchase the plant and related assets, pending regulatory approval (Cemex, S.A.B. de C.V., 2019).

A number of plant upgrades were underway or completed during 2019. CalPortland commissioned a new finish mill as part of its plant modernization program at its Oro Grande, CA, plant in March (CalPortland Co., 2019). In October, Lehigh Hanson broke ground on its expansion and modernization project at its Mitchell, IN, plant with completion expected by 2022 (Lehigh Hanson, Inc., 2019). In December, The National Cement Co., Inc. announced an investment project at its plant in Ragland, AL (National Cement Co., Inc., The, undated). Several other minor upgrades were ongoing across the country.

Consumption

Cement consumption data were reported in terms of sales (shipments) to final domestic customers. The data were derived from the USGS annual canvass (tables 1, 11, 12, and 14), which pertains to sales by location of the reporting entities, and monthly surveys (table 9, which is the only table to represent State-level sales). Sales in both datasets include domestically produced cement from domestic and imported clinker and imported cement.

Based on data collected via the USGS monthly cement survey, portland cement sales increased by 3.8% to 99.9 Mt in 2019. Masonry cement sales were essentially unchanged at 2.4 Mt overall (table 9). Cement consumption can be broadly correlated with construction spending levels. However, some factors constrain the comparison, such as spending for repairs instead of new construction, lags between the construction spending timeframe and when actual cement is consumed, and the type of construction with some requiring more portland cement concrete and therefore more cement than others.

In its analysis of value of construction put in place, the Portland Cement Association converts U.S. Census Bureau data on construction spending from current dollars to 2009 constant dollars. In these terms, 2019 construction spending decreased slightly to $1,041.5 billion (Portland Cement Association, 2020a, p. 12). The total cement "intensity" in 2019 increased to 99.7 t of cement consumed per $1 million of construction spending (Portland Cement Association, 2020b). The leading sector of total construction spending was residential construction, which decreased slightly to $411.3 billion, including new construction, which increased slightly to $266.2 billion. The major components of new construction were single family housing, which are masonry cement and brick and block dependent, and which increased by 2.7% to $220.7 billion, and multifamily housing, which is concrete dependent, and which decreased by 4.8% to $45.4 billion. Nonresidential building construction, which is concrete dependent, was essentially unchanged at $254.9 billion. Public-sector construction decreased slightly to $218 billion. Within public-sector construction, buildings decreased slightly to $98.1 billion and highways and streets decreased by 2.1% to $73.9 billion. The remaining public-sector categories combined increased by 3.4% to $46.1 billion (Portland Cement Association, 2020a).

In 2019, the reported quantity of cement sales to ready-mix concrete producers increased by 4.2% to 71.2 Mt and accounted for 71% of the total cement sold (table 14). The actual percentage was likely larger because some of the sales of cement to ready-mix concrete producers were reported in other sales categories, such as airport and road paving contractors, which use ready-mix concrete. The quantity of cement sold to concrete product manufacturers, including those categories listed in footnote 7 of table 14, increased by 2.0% to 11.3 Mt. By category, sales for precast and prestressed increased slightly to 3.87 Mt; sales for brick and block decreased by 2.8% to 3.45 Mt; sales for other or unspecified uses, which may include uses in any of the other categories, increased by 10% to 2.92 Mt; and sales for pipe decreased slightly to 1.1 Mt.

Cement sold to contractors, including those categories listed in footnote 8 of table 14, increased by 7.4% to 9.0 Mt (table 14). By category, sales for road paving increased by 12% to 3.9 Mt; sales for soil cement increased by 33% to 3.0 Mt; sales for other or unspecified uses decreased by 22% to 2.0 Mt; and sales for airport uses increased by 15% to 142,000 t. Sales for building material dealers increased by 2.2% to 3.8 Mt. Sales for oil well, mining, and waste stabilization, listed in footnote 9 of table 14, increased by 6.7% to 3.0 Mt. By category, sales for oil well drilling decreased by 2.1% to 2.3 Mt; sales for mining increased by 37% to 448,000 t; and sales for waste stabilization increased by 74% to 273,000 t. The decrease in sales for oil well drilling was generally in line with the 9% decrease in the average weekly drill count during 2019 (Baker Hughes Inc., 2021).

Portland cement sales by type of cement are listed in table 15. In 2019, sales of general use and moderate heat cements (Types I and II) and sulfate-resistant varieties (Type V and Type II/V hybrids reported as Type V), including equivalent cements sold under American Society for Testing and Materials (ASTM) International C1157 specifications, increased by 8.3% to 75.8 Mt and decreased by 9.3% to 16.6 Mt, respectively. High early strength cement (Type III) sales increased by 6.7% to 3.0 Mt, oil well cement [including non-American Petroleum Institute (API) varieties] sales were unchanged at 1.9 Mt, and white cement sales increased by 6.7% to 925,000 t. Total sales of blended cements increased by 3.6% to 2.0 Mt, including sales of 550,000 t of blended cement with GGBFS, a 2% decrease from that in 2018, and sales of 221,000 t of blended cement with fly ash, an 11% decrease from those in 2018.

Stocks

In 2019, yearend stocks of clinker decreased by 4.9% to 5.1 Mt (tables 1, 5). Yearend stocks of portland cement, including blended cement, decreased by 8.3% to 7.6 Mt (table 3). Yearend stocks of masonry cement decreased by 4.9% to 328,000 t (table 4). Yearend stocks of clinker and cement are sensitive to market conditions, omission of stocks at terminals, weather-affected yearend sales, and stock buildups ahead of planned kiln shutdowns. Individual respondents sometimes reported stocks at a plant that included terminals across multiple districts and that received and shipped cement from more than one plant, which can affect the regional distribution of stocks.

Prices

U.S. average unit values of cement (mill net values), differentiated into white and gray portland cement, are listed in table 13 as a proxy for prices. Unit value data by district for total portland and masonry cement are listed in tables 11 and 12, respectively. The estimated average price for portland cement increased slightly to $121.50 per metric ton; gray portland cement's price increased slightly to $121.00 per metric ton, whereas white portland cement's price decreased slightly to $212.50 per metric ton (table 13). The average price for masonry cement was essentially unchanged at $165.00 per metric ton. Because most masonry cement was sold in bags or packages, its average price was sensitive to even small shifts in bulk sales. Unit values for portland cement increased or remained essentially unchanged in all but five districts (table 11).

Mill net values are ex-factory average values for cement sold, including bagging and palletizing charges for cement sold in bags or packages. Most portland cement was sold in bulk, and most masonry cement was sold in bags or packages (table 10). Mill net values, except for independently reporting terminals that reported on a "terminal net" basis, excluded charges to terminals where much of the cement was sold and are, thus, better viewed as price indexes rather than the purchase prices for cement. They mainly show general regional variations and trends over time, and small unit value differences are of little statistical significance. Unlike sales tonnages, price data include a significant component of estimates in some districts.

Foreign Trade

Export data from the U.S. Census Bureau are provided in table 16 and import data from the U.S. Census Bureau are provided in tables 17 through 21. Exports have been only a small fraction of the U.S. cement industry's sales but did reach the record high of 1.75 Mt in 2012; exports have since declined as a result of increasing domestic cement sales. In 2019, exports increased by 9.0% to 1,002,000 t (table 16) and reported shipments to final customers in foreign countries decreased by 8.5% to 514,000 t (table 9). Most United States cement exports were to Canada, which received 81% of exports in 2019 (table 16).

Total imports of cement and clinker increased by 7.6% to 15.8 Mt (tables 1, 17) in 2019. The total imports in 2019 remained well below the record high of 35.6 Mt in 2006. Imports in 2019 supplied some of the growth in cement sales noted previously. Imports of gray portland cement increased by 7.9% to 12.6 Mt and accounted for 80% of the total imports (table 19). The leading import sources of cement and clinker in 2019 were, in descending order of tonnage, Canada, Turkey, Greece, Mexico, and China (table 17).

Data for cement imports from Mexico were incomplete for 2018 and 2019, especially total cement entering the El Paso, TX, customs district (table 18), because truckloads of cement with a total value of less than $2,500 were registered as "informal entries." Much of what is shown for this district in table 18 is white cement.

White cement imports increased slightly to 1.40 Mt (table 20). White cement imports significantly exceeded the reported white cement sales in table 15. The data for white cement imports may include some gray cement or clinker for which importers may have used the wrong tariff code. In addition, white cement may have been a significant fraction of the cement received by importers that did not participate in the USGS survey.

Imports of clinker increased by 20% to 1.16 Mt (table 21) in 2019. The increase was largely the result of higher imports from Turkey and Greece. Imports from Canada decreased by 15% but were likely underreported because truckloads of cement with a total value of less than $2,500 were registered as "informal entries." Clinker imports from France were 112,000 t, a decrease of 3.4% in 2019 and in the past have been used to manufacture aluminous cement.

For cement and clinker combined, the 10 leading custom districts for imports in 2019 were, in descending order of tonnage, Houston-Galveston, TX; New York, NY; Seattle, WA; Detroit, MI; San Francisco, CA; Miami, FL; Cleveland, OH; Tampa, FL; Columbia-Snake, OR and WA; and Buffalo, NY (table 18) and accounted for 73% of total imports.

World Review

Production of hydraulic cement, by country, is listed in table 22. For most countries, the data include all forms of hydraulic cement and some may be based on reported exports of clinker. Some country data may be incomplete. For the United States, data are for portland and masonry cement only.

World production of hydraulic cement in 2019 increased slightly to 4.13 Gt from 4.05 Gt in 2018. Cement was produced in 159 countries, but production was distributed very unevenly. China's production, which was 55% of the world total in 2019, increased by an estimated 72 Mt to an estimated 2.28 Gt, but still accounted for nearly seven times the production of India, which had the second highest production quantity of 338,000 t, or 8.2% of the world total. The remaining top producing countries were, in descending order by tonnage produced, Vietnam, the United States, Indonesia, Iran, Turkey, Russia, Brazil, Japan, the Republic of Korea, Egypt, Mexico, Saudi Arabia, and Pakistan, accounting for 18% of the world cement production in 2019.

In terms of regional production in 2019, the Asia and the Pacific region accounted for 75% of the world total and included 7 of the 15 leading producing countries. The Asia and the Pacific region was followed by Africa, 5.1%; Western Europe (including Turkey), 4.8%; the Middle East, 4.1%; North America (including Mexico), 3.5%; Central America and South America (including the Caribbean), 3.2%; the Commonwealth of Independent States, 2.6%; and Eastern Europe, 1.4%.

Outlook

Production of cement is expected to follow the trends in public-sector and housing construction. Cement production will likely increase if there are increased levels of public-sector construction spending. Some plants are expected to continue to idle kilns, largely for environmental reasons. Because domestic production capacity is expected to be inadequate to meet the overall demand for cement, imports of cement are expected to continue to increase (Hatfield, 2021).

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GENERAL SOURCES OF INFORMATION

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Slag Cement Association, annual survey.
World Cement, monthly.

TABLE 1
SALIENT CEMENT STATISTICS[1, 2]

(Thousand metric tons unless otherwise specified)

		2015	2016	2017	2018	2019
United States:						
Production:						
Cement[3]		84,405	84,695	86,356	86,400	87,200
Clinker		76,043	75,633	76,678	77,112	78,858
Shipments from mills and terminals:[3, 4]						
Quantity		92,000	94,300	96,900	98,500	102,000
Value[5]	thousand dollars	9,800,000	10,500,000	11,300,000	11,900,000	12,600,000
Average value[5]	dollars per metric ton	106.50	111.00	117.00	121.00	122.50
Stocks, yearend:						
Cement		7,230	7,420	7,870	8,580	7,890
Clinker		4,840	5,430	5,330	5,340	5,080
Exports		1,543	1,097	1,035	919 r	1,002
Imports:[6]						
Cement		10,376 [7]	11,742	12,288 [7]	13,764	14,690
Clinker		879 [8]	1,496 [8]	1,209	967	1,160
Total[9]		11,254 [7, 8]	13,237 [8]	13,497 [7]	14,731	15,850
Consumption, apparent[10]		92,150	95,150	97,160	98,500 r	101,600
World production[e, 11]		4,060,000 r	4,140,000 r	4,100,000 r	4,050,000	4,130,000

eEstimated. rRevised.
[1]Table includes data available through May 3, 2021. Unless otherwise indicated, data are for portland (including blended) and masonry cements only. Even where presented unrounded, data are thought to be accurate to no more than three significant digits.
[2]Excludes Puerto Rico.
[3]Includes imported cement and cement made from imported clinker. Includes less than 0.5% per year of double-counted portland cement used to produce masonry cement, exact quantity is unknown owing to stockpiles.
[4]Shipments to final domestic customers. Data are from an annual survey of plants and terminals and may differ from the totals in table 9, which are based on consolidated monthly surveys from companies.
[5]Free on board mill or independently reporting terminal.
[6]All forms of hydraulic cement or clinker.
[7]Adjusted by the U.S. Geological Survey to include cement that was misregistered by the importer under the tariff code for another commodity.
[8]Adjusted by the U.S. Geological Survey to exclude granulated blast furnace slag misregistered by the importer under the tariff code for clinker.
[9]May not add to totals shown because of independent rounding.
[10]Production (including that from imported clinker) of cement plus imports of cement minus exports of cement minus the change in yearend cement stocks.
[11]Total hydraulic cement. May include clinker exports for some countries.

TABLE 2
COUNTY BASIS OF SUBDIVISION OF STATES IN CEMENT TABLES

State subdivision	Defining counties
California, northern	Alpine, Fresno, Kings, Madera, Mariposa, Monterey, Tulare, Tuolumne, and all counties farther north.
California, southern	Inyo, Kern, Mono, San Luis Obispo, and all counties farther south.
Illinois, excluding Chicago	All counties other than those in metropolitan Chicago.
Illinois, metropolitan Chicago	Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will Counties.
New York, eastern	Delaware, Franklin, Hamilton, Herkimer, Otsego, and all counties farther east and south, except those within metropolitan New York.
New York, metropolitan	New York City (Bronx, Kings, New York, Queens, and Richmond), Nassau, Rockland, Suffolk, and Westchester Counties.
New York, western	Broome, Chenango, Lewis, Madison, Oneida, St. Lawrence, and all counties farther west.
Pennsylvania, eastern	Adams, Cumberland, Juniata, Lycoming, Mifflin, Perry, Tioga, Union, and all counties farther east.
Pennsylvania, western	Centre, Clinton, Franklin, Huntingdon, Potter, and all counties farther west.
Texas, northern	Angelina, Bell, Concho, Crane, Culberson, El Paso, Falls, Houston, Hudspeth, Irion, Lampasas, Leon, Limestone, McCulloch, Reagan, Reeves, Sabine, San Augustine, San Saba, Tom Green, Trinity, Upton, Ward, and all counties farther north.
Texas, southern	Brazos, Burnet, Crockett, Jasper, Jeff Davis, Llano, Madison, Mason, Menard, Milam, Newton, Pecos, Polk, Robertson, San Jacinto, Schleicher, Tyler, Walker, Williamson, and all counties farther south.

TABLE 3
PORTLAND AND BLENDED CEMENT PRODUCTION, CAPACITY, AND STOCKS IN THE UNITED STATES, BY DISTRICT[1]

(Thousand metric tons unless otherwise specified)

	2018					2019				
District[2]	Number of plants	Production[3]	Grinding capacity[4]	Percentage utilized[5]	Yearend stocks[6]	Number of plants	Production[3]	Grinding capacity[4]	Percentage utilized[5]	Yearend stocks[6]
Maine and New York	4	1,977	3,258	60.7	226	4	1,906	3,258	58.5	241
Pennsylvania	7	3,373	5,790 [7]	58.3 [7]	276 [7]	7	3,770 [7]	5,790 [7]	65.1 [7]	256 [7]
Illinois	3	1,057	2,531	41.7 [7]	122	3	1,218	2,531	48.1	180
Indiana and Ohio	6	3,366	4,960 [7]	67.8 [7]	371 [7]	6	3,484	4,964	70.2	282
Michigan	3	3,620	4,973	72.8	320	3	3,739	5,535	67.6	367
Iowa, Nebraska, South Dakota	4	3,073	4,340 [7]	70.8 [7]	485 [7]	4	3,182	4,340	73.3	451
Kansas	2	2,297	3,172	72.4	228	2	2,173	3,172	68.5	212
Missouri	5	9,233	11,253	82.1	1,820 [7]	5	8,876	11,253	78.9	1,626
Florida	8	6,384	10,234	62.4	493	8	6,390 [7]	10,200 [7]	62.4 [7]	363 [7]
Georgia, Maryland, Virginia, West Virginia	6	5,653	7,738	73.1	307	6	5,640 [7]	7,740 [7]	72.9 [7]	360 [7]
South Carolina	3	2,774	6,097	45.5	192	3	2,950 [7]	6,100 [7]	48.3 [7]	218 [7]
Alabama, Kentucky, Tennessee	8	6,782	10,277	66.0	688	8	6,950 [7]	10,300 [7]	67.6 [7]	527 [7]
Arkansas and Oklahoma	4	2,462	3,757	65.5	223	4	2,573	3,757	68.5	204
Texas, northern	6	5,393	8,001	67.4	389	6	5,620 [7]	8,000 [7]	70.2 [7]	325 [7]
Texas, southern	5	6,070 [7]	7,730 [7]	78.5 [7]	343 [7]	5	6,422	7,730	83.1	323
Arizona and New Mexico	4	2,894	3,720	77.8	153	4	2,711	3,715	73.0	123
Colorado and Wyoming	4	3,059	4,138	73.9	285	4	3,097	4,138	74.8	224
Montana, Nevada, Utah	5	2,581	3,318	77.8	238	5	2,532	3,318	76.3	200
Alaska and Hawaii	--	--	--	--	74	--	--	--	--	65
California	8	10,381	11,454	90.6	600	8	10,168	12,452	81.7	486
Oregon and Washington	4	1,545	2,563	60.3	203	4	1,539	2,563	60.1	296
Importers[8]	--	--	--	--	204 [7]	--	--	--	--	230 [7]
Total[9]	99	84,000 [7]	119,000 [7]	70.4 [7]	8,240 [7]	99	84,900 [7]	121,000 [7]	70.3 [7]	7,560 [7]
Puerto Rico	2	630 [7]	1,780 [7]	35.4 [7]	34 [7]	2	510	1,780	28.6	23
Grand total[9]	101	84,600 [7]	121,000 [7]	69.9 [7]	8,270 [7]	101	85,400 [7]	123,000 [7]	69.7 [7]	7,580 [7]

-- Zero.

[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits. Includes data for white cement. Includes cement made from imported clinker.

[2]District assignation is the location of the reporting facilities. Specific districts include importers where district assignations were possible.

[3]Data include a small amount of portland cement subsequently consumed at the plant to make masonry cement; the amount thus double counted cannot be determined precisely because of the involvement of cement stockpiles, but is less than 0.5% of the grand totals listed.

[4]Based on fineness needed to produce a plant's normal output mix, including masonry cement, and allowing for downtime for routine maintenance.

[5]Calculated relative to portland cement output; utilization would be higher if calculated to include output of masonry cement.

[6]Includes imported cement; stocks of domestic and imported cement at mills; terminals assigned to plants (some of which may be outside the district indicated); and cement in transit.

[7]Includes estimates for nonrespondents or facilities that provided incomplete information; data have been rounded to no more than three significant digits.

[8]Includes only those importers or terminals for which district assignations were not possible.

[9]May not add to totals shown because of independent rounding.

TABLE 4
MASONRY CEMENT PRODUCTION AND STOCKS IN THE UNITED STATES, BY DISTRICT[1]

(Thousand metric tons unless otherwise specified)

	2018			2019		
District[2]	Number of active plants	Production[3]	Yearend stocks[4]	Number of active plants	Production[3]	Yearend stocks[4]
Maine and New York	4	31	10	3	W	W
Pennsylvania	7	143	29 [5]	7	146 [5]	28 [5]
Indiana and Ohio	4	187	26	4	111	26
Michigan	3	74	32	3	74	35
Iowa, Nebraska, South Dakota	--	W	W	--	W	W
Kansas and Missouri	3	W	W	3	W	W
Florida	5	577	38	5	535 [5]	28 [5]
Georgia, Maryland, Virginia, West Virginia	5	304	29	5	324 [5]	28 [5]
South Carolina	3	186	20	3	187 [5]	19 [5]
Alabama, Kentucky, Tennessee	6	244	70	6	228 [5]	70 [5]
Arkansas and Oklahoma	4	93	18	4	130	19
Texas	6	274 [5]	18 [5]	6	270 [5]	18 [5]
Arizona and New Mexico	3	41	5	3	44	3
Colorado, Montana, Nevada, Utah, Wyoming	1	W	W	2	W	W
California	4	207	20	4	189	19
Importers[6]	--	--	3 [5]	--	--	3 [5]
Total[7]	58	2,390 [5]	345 [5]	58	2,300 [5]	328 [5]
Puerto Rico	--	--	--	--	--	--
Grand total[7]	58	2,390 [5]	345 [5]	58	2,300 [5]	328 [5]

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits. Includes masonry, portland-lime, plastic, and stucco cements.

[2]District assignation is the location of the reporting facilities. Specific districts include importers where district assignations were possible.

[3]Includes cement produced from imported clinker.

[4]Includes imported cement and stocks of domestic and imported cement at mills, and terminals assigned to plants (some of which may be outside the district indicated), and in transit.

[5]Includes estimates for nonrespondents or facilities that provided incomplete information.

[6]Includes only those importers or terminals for which district assignations were not possible.

[7]May not add to totals shown because of independent rounding.

TABLE 5
CLINKER CAPACITY AND PRODUCTION IN THE UNITED STATES IN 2019, BY DISTRICT[1]

District	Number of active plants[2]				Number of kilns[3]	Daily capacity[3, 4, 5] (thousand metric tons)	Average days of routine maintenance[6]	Apparent annual capacity[3, 7] (thousand metric tons)	Production (thousand metric tons)	Percentage of capacity utilized	Yearend stocks (thousand metric tons)
	Process used										
	Dry	Wet	Both[4]	Total							
Maine and New York	3	--	--	3	3	8.8	50.7	2,850	1,738	61.0	179
Pennsylvania	5	2	--	7	11	17.0 [8]	42.5 [8]	5,510 [8]	3,476	63.1 [8]	275 [8]
Illinois	3	--	--	3	5	5.8	43.0	1,904	1,089	57.2	142
Indiana and Ohio	4 [9]	2	--	6	11	12.9	31.0	4,289	3,226	75.2	186
Michigan	2	--	--	2	6	12.1	34.3	3,979	3,094	77.8	135
Iowa, Nebraska, South Dakota	4	--	--	4	5	11.3	29.6	3,794	2,856	75.3	291
Kansas	2	--	--	2	3	7.8	55.3	2,474	1,954	79.0	83
Missouri	5	--	--	5	5	30.0	33.4	9,814	8,362	85.2	448
Florida	7	--	--	7	10	22.7 [8]	26.8 [8]	7,550 [8]	6,178	81.9 [8]	224 [8]
Georgia, Maryland, Virginia, West Virginia	5	--	--	5	5	20.2 [8]	25.8 [8]	6,830 [8]	5,456	79.8 [8]	234 [8]
South Carolina	3	--	--	3	3	11.4 [8]	43.3 [8]	3,560 [8]	2,852	80.2 [8]	73 [8]
Alabama, Kentucky, Tennessee	8	--	--	8	8	26.5 [8]	21.1 [8]	9,100 [8]	6,602	72.6 [8]	328 [8]
Arkansas and Oklahoma	4	--	--	4	7	10.0	22.4	3,376	2,412	71.4	179
Texas, northern	5 [9]	1	--	6	8	21.2 [8]	34.4 [8]	6,990 [8]	5,411	77.4 [8]	544 [8]
Texas, southern	5	--	--	5	7	20.3	20.3	7,020	5,826	83.0	484
Arizona and New Mexico	4	--	--	4	5	9.1	27.4	3,057	2,472	80.9	138
Colorado and Wyoming	4	--	--	4	5	12.0	20.6	4,089	2,809	68.7	179
Montana, Nevada, Oregon, Utah, Washington	5	2	--	7	8	12.7	40.1	4,195	3,595	85.7	428
California	8	--	--	8	9	35.1	25.8	11,904	9,448	79.4	530
Total[10]	86 [9]	7	--	93	124	307.0 [8]	30.6 [8]	102,000 [8]	78,858	77.1 [8]	5,080 [8]
Puerto Rico	1	--	--	1	1	W	W	W	W	W	W
Grand total[10]	87 [9]	7	--	94	125	W	W	W	W	W	W

W Withheld to avoid disclosing company proprietary data. -- Zero.

[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits.

[2]Includes all plants (gray or white) that produced clinker for at least 1 day during the year, as well as idle facilities able to be restarted, fully permitted, in less than 6 months.

[3]Plants that can operate wet and dry kilns, whether or not both types were active during the year. Includes plants that converted from wet to dry technology during the year.

[4]Includes kilns active for at least 1 day during the year. For kilns idle all year, excludes those that cannot be restarted, fully permitted, in less than 6 months.

[5]Sum of reported kiln capacities for all plants in a district.

[6]Total days of routine maintenance (summed for all kilns) divided by the number of kilns.

[7]Sum of apparent annual capacities for all kilns. For each kiln, the statistic is calculated as 365 days minus days reported for routine maintenance and then multiplied by the unrounded daily capacity.

[8]Includes estimates for nonrespondents or facilities that provided incomplete information; data have been rounded to no more than three significant digits.

[9]Includes one semiwet kiln in Indiana and one semidry kiln in northern Texas.

[10]May not add to totals shown because of independent rounding.

TABLE 6
RAW MATERIALS USED TO PRODUCE CLINKER AND CEMENT IN THE UNITED STATES[1, 2]

(Thousand metric tons)

Material	2018		2019	
	Clinker	Cement[3]	Clinker	Cement[3]
Calcareous:				
Limestone (aragonite, chalk, coral, marble)	101,000	2,860	103,000	2,750
Cement rock (includes marl)	10,800	74	10,400	94
Cement kiln dust[4]	8	277	12	242
Lime[4]	29	5	38	10
Other	75	9	75	1
Aluminous:				
Clay	4,230	--	4,250	--
Shale and schist	2,280	61	2,310	64
Other[5]	967	--	846	--
Ferrous:				
Iron ore	973	--	898	--
Mill scale	766	--	737	--
Other[6]	27	--	68	--
Siliceous:				
Sand, calcium silicates	3,370	--	3,360	--
Sandstone, quartzite, soils, nonpozzolanic rocks	529	--	810	--
Fly ash	1,830	184	2,050	181
Other ash, including bottom ash	1,730	--	1,410	--
Granulated blast furnace slag[7]	50	322	52	261
Other blast furnace slag	--	--	--	--
Steel slag	276	--	347	--
Other slag	96	--	151	43
Natural rock pozzolans[8]	7	82	6	84
Other pozzolans[9]	228	3	255	4
Other:				
Gypsum and anhydrite	(10)	4,790	(10)	4,840
Miscellaneous[11]	10	353	10	465
Total[12]	129,000	9,020	131,000	9,030
Clinker, imported, raw materials equivalent[13]	--	1,630	--	2,150
Grand total[12]	129,000	10,600	131,000	11,200

-- Zero.
[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits.
[2]Excludes Puerto Rico.
[3]Includes portland, blended, and masonry cements.
[4]Data are thought to be underreported.
[5]Includes alumina, aluminum dross, bauxite, spent catalysts, and other aluminous materials.
[6]Includes iron sludges, pyrite, and other ferrous materials.
[7]Includes ground and unground material.
[8]Includes pozzolana and burned clays or shales (except where directly reported as clay or shale).
[9]Includes diatomite, silica fume, other microcrystalline silica, and other pozzolans, even if not used as such.
[10]Included with “Calcareous: Other.”
[11]Includes fluorspar and other materials not listed above.
[12]May not add to totals shown because of independent rounding.
[13]Converted as 1.7 times the weight of foreign clinker consumed.

TABLE 7
CLINKER PRODUCED AND FUEL CONSUMED BY THE U.S. CEMENT INDUSTRY, BY KILN PROCESS[1, 2]

	Production			Conventional fuels[3]				Waste fuels[3]		
Kiln process	Number of plants[4]	Quantity (thousand metric tons)	Percentage of total	Coal[5] (thousand metric tons)	Petroleum coke (thousand metric tons)	Oil[6] (thousand liters)	Natural gas[7] (thousand cubic meters)	Tires (thousand metric tons)	Solid (thousand metric tons)	Liquid (thousand liters)
2018:										
Wet	7	1,413	1.8	140	25	1,700	53,800	--	13	180,000
Dry[8]	85	75,699	98.2	4,980	1,890	30,300	1,640,000	340	1,070	714,000
Both[9]	--	--	--	--	--	--	--	--	--	--
Total[10]	92	77,112	100.0	5,120	1,920	32,000	1,690,000	340	1,080	894,000
2019:										
Wet	7	1,430	1.8	108	24	2,030	83,700	--	15	190,000
Dry[8]	85	77,428	98.2	4,700	2,020	26,600	1,890,000	367	890	605,000
Both[9]	--	--	--	--	--	--	--	--	--	--
Total[10]	92	78,858	100.0	4,810	2,040	28,700	1,970,000	367	905	798,000

-- Zero.
[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits.
[2]Excludes Puerto Rico.
[3]All fuel data have been rounded to no more than three significant digits.
[4]Excludes idle plants that, although retained as active in terms of clinker capacity, had no production during 2018–19.
[5]All reported to be bituminous.
[6]Distillate and residual fuel oils. Excludes used oils that were reported under liquid wastes.
[7]Includes landfill gas and propane.
[8]Includes one semiwet plant and one semidry plant.
[9]Plants that can operate wet and dry kilns, whether or not both types were active during the year. Includes plants that converted from wet to dry technology during the year.
[10]May not add to totals shown because of independent rounding.

TABLE 8
ELECTRICITY CONSUMED BY U.S. CEMENT PLANTS, BY PLANT PROCESS[1]

Plant process	Electricity consumed[2]							Cement produced[3] (thousand metric tons)	Average consumption (kilowatthours per ton of cement produced)
	Generated		Purchased		Total[4]				
	Number of plants	Quantity (million kilowatthours)	Number of plants	Quantity (million kilowatthours)	Number of plants	Quantity (million kilowatthours)	Percentage of total		
2018:									
Integrated plants:									
Wet	--	--	7	240	7	240	2	1,568	153
Dry[5]	3	214	85	11,400	85	11,600	98	83,709	139
Both[6]	--	--	--	--	--	--	--	--	--
Total or average[4]	3	214	92	11,600	92	11,800	100	85,277	139
Grinding plants[7]	--	--	3	99	3	99	--	989	100
Exclusions[8]	--	--	2	XX	2	XX	--	102	XX
2019:									
Integrated plants:									
Wet	--	--	7	238	7	238	2	1,672	143
Dry[5]	3	216	85	11,600	85	11,800	98	84,727	140
Both[6]	--	--	--	--	--	--	--	--	--
Total or average[4]	3	216	92	11,900	92	12,100	100	86,399	140
Grinding plants[7]	--	--	3	80	3	80	--	736	109
Exclusions[8]	--	--	2	XX	2	XX	--	98	XX

XX Not applicable. -- Zero.

[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits.

[2]Excludes Puerto Rico.

[3]Portland and masonry cement.

[4]May not add to totals shown because of independent rounding.

[5]Includes one semidry plant and one semiwet plant.

[6]Plants that can operate wet and dry kilns, whether or not both types were active during the year. Includes plants that converted from wet to dry technology during the year.

[7]Plants that did not produce clinker but ground clinker from outside sources. Excludes plants that only made masonry cement or just reground one type of portland cement into another, or which reported a substantial component of grinding of excess granulated blast furnace slag. Excludes two plants that were reported under "Dry" as noted in footnote 5.

[8]Plants at which production of portland cement was by regrinding of one type into another or which reported production only of masonry cement.

TABLE 9
CEMENT SHIPMENTS TO FINAL CUSTOMER, BY DESTINATION AND ORIGIN[1, 2]

(Thousand metric tons)

Destination and origin	Portland cement		Masonry cement	
	2018	2019	2018	2019
Destination:				
Alabama	1,239	1,341	75	78
Alaska[3]	138	144	--	--
Arizona	2,767	2,396	38	42
Arkansas	814	828	41	43
California, northern	3,923	3,665	33	28
California, southern	6,723	6,403	158	158
Colorado	2,347	2,485	5	4
Connecticut[3]	551	538	13	15
Delaware[3]	172	184	5	5
District of Columbia[3]	220	210	(4)	--
Florida	7,099	7,446	586	557
Georgia	3,133	3,283	143	148
Hawaii[3]	294	341	1	1
Idaho[3]	601	711	--	--
Illinois, excluding Chicago	1,271	1,272	5	6
Illinois, metropolitan Chicago[3]	1,595	1,400	15	14
Indiana	1,928	2,043	43	47
Iowa	1,980	1,948	(4)	5
Kansas	1,248	1,231	3	3
Kentucky	1,034	1,099	48	44
Louisiana[3]	1,699	1,915	44	42
Maine	207	221	(4)	(4)
Maryland	1,155	1,267	26	29
Massachusetts[3]	1,004	997	9	8
Michigan	2,076	2,085	46	53
Minnesota[3]	1,557	1,628	1	(4)
Mississippi[3]	641	720	33	31
Missouri	1,766	1,771	10	10
Montana	329	339	(4)	(4)
Nebraska	1,277	1,252	(4)	(4)
Nevada	1,347	1,559	3	3
New Hampshire[3]	194	196	6	5
New Jersey[3]	1,308	1,416	36	40
New Mexico	626	671	2	2
New York, eastern	454	497	7	7
New York, metropolitan[3]	1,813	1,815	42	38
New York, western[3]	705	613	9	9
North Carolina[3]	2,529	2,748	153	159
North Dakota[3]	578	583	1	1
Ohio	3,246	3,479	67	71
Oklahoma	1,785	1,785	33	33
Oregon	1,048	1,189	(4)	--
Pennsylvania, eastern	1,582	1,811	32	39
Pennsylvania, western	1,018	965	22	19
Rhode Island[3]	120	120	(4)	(4)
South Carolina	1,643	1,690	70	67
South Dakota	467	480	--	--
Tennessee	1,768	1,949	137	136
Texas, northern	7,365	7,764	135	155
Texas, southern	7,906	9,057	200	173
Utah	1,480	1,517	--	--
Vermont[3]	113	111	(4)	(4)
Virginia	1,860	1,953	56	59
Washington	1,967	1,973	(4)	--
West Virginia	432	461	7	7

See footnotes at end of table.

TABLE 9—Continued
CEMENT SHIPMENTS TO FINAL CUSTOMER, BY DESTINATION AND ORIGIN[1, 2]

(Thousand metric tons)

Destination and origin	Portland cement		Masonry cement	
	2018	2019	2018	2019
Destination:—Continued				
Wisconsin[3]	1,884	2,051	9	7
Wyoming	262	294	--	--
Total[5]	96,289	99,908	2,411	2,401
Puerto Rico	629	596	--	--
Foreign countries and (or) localities[6]	562	513	(4)	1
Grand total[5]	97,480	101,017	2,411	2,402
Origin:				
United States	84,344	86,669	2,397	2,380
Puerto Rico	642	602	--	--
Foreign countries and (or) localities[7]	12,494	13,746	15	22
Total shipments[5]	97,480	101,017	2,411	2,402

-- Zero.
[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits. Includes cement produced from imported clinker and imported cement shipped by domestic producers and importers.
[2]Data are developed from consolidated monthly surveys of shipments by companies and may differ from data in tables 1, 10–12, and 14–15, which are from annual surveys of individual plants and importers.
[3]Has no cement plants.
[4]Less than ½ unit.
[5]May not add to totals shown because of independent rounding.
[6]Includes shipments to U.S. possessions and territories.
[7]Imported cement sold to final customers in the United States as reported by domestic producers and other importers. Data do not match the imports in tables 17–20.

TABLE 10
SHIPMENTS OF PORTLAND CEMENT IN THE UNITED STATES, BY TYPE OF CARRIER[1, 2]

(Thousand metric tons)

Type of carrier	Plant to terminal		Plant to customer		Terminal to customer		Total to customers[4]
	In bulk	In bags[3]	In bulk	In bags[3]	In bulk	In bags[3]	
2018:							
Railroad	10,500	12	823	--	433	1	1,260
Truck	7,080	93	48,600	1,000	44,500	292	94,400
Barge and boat	4,350	--	452	--	6	--	458
Total[4]	22,000	104	49,900	1,000	44,900	293	96,100 [5]
2019:							
Railroad	13,200	13	944	--	631	1	1,580
Truck	7,980	661	48,500	1,000	47,100	270	96,900
Barge and boat	5,700	--	643	--	1,300	--	1,940
Total[4]	26,800	674	50,100	1,000	49,000	271	100,000 [5]

-- Zero.
[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits.
[2]Includes imported cement and cement made from imported clinker. Excludes Puerto Rico.
[3]Includes packages, bags, and supersacks.
[4]May not add to totals shown because of independent rounding.
[5]Shipments are based on an annual survey of plants and importers; may differ from totals in table 9, which are based on consolidated monthly data.

TABLE 11
PORTLAND CEMENT SHIPPED IN THE UNITED STATES, BY DISTRICT[1]

District[2]	2018			2019		
		Value[4]			Value[4]	
	Quantity[3] (thousand metric tons)	Total (thousands)	Average (per metric ton)	Quantity[3] (thousand metric tons)	Total (thousands)	Average (per metric ton)
Maine and New York	2,675	$323,969	$121.13	2,956	$353,557	$119.61
Pennsylvania[5]	3,410	359,000	105.50	3,800	392,000	103.50
Illinois	1,313	160,221	122.03	1,459	168,352	115.38
Indiana and Ohio	3,580 [5]	450,000 [5]	126.00 [5]	3,792	488,634	128.87
Michigan	4,623	639,761	138.39	4,778	650,553	136.17
Iowa, Nebraska, South Dakota	3,910 [5]	507,000 [5]	130.00 [5]	3,989	530,297	132.93
Kansas	1,727	176,976	102.49	1,680	197,213	117.41
Missouri	8,470 [5]	972,000 [5]	115.00 [5]	8,884	1,027,083	115.61
Florida	6,983	762,801	109.24	7,040 [5]	781,000 [5]	111.00 [5]
Georgia, Maryland, Virginia, West Virginia	6,016	671,585	111.63	6,410 [5]	730,000 [5]	114.00 [5]
South Carolina	2,847	356,342	125.14	3,200 [5]	400,000 [5]	125.00 [5]
Alabama, Kentucky, Tennessee	6,283	781,162	124.33	6,990 [5]	897,000 [5]	128.50 [5]
Arkansas and Oklahoma	2,372	263,456	111.08	2,361	265,936	112.64
Texas, northern	7,001	890,462	127.19	7,740 [5]	993,000 [5]	128.50 [5]
Texas, southern	6,620 [5]	793,000 [5]	120.00 [5]	7,449	893,953	120.00
Arizona and New Mexico	3,455	393,407	113.88	3,345	399,165	119.32
Colorado and Wyoming	2,646	376,946	142.44	2,797	408,075	145.92
Montana, Nevada, Utah	2,692	366,566	136.17	2,653	386,469	145.67
Alaska and Hawaii	395	63,974	161.78	439	70,822	161.28
California	11,668	1,245,703	106.76	10,961	1,202,385	109.70
Oregon and Washington	2,547	318,223	124.92	2,324	275,457	118.55
Importers[5, 6]	4,860	630,000	129.50	5,380	703,000	131.00
Total or average[5, 7]	96,100	11,500,000	119.50	100,000	12,200,000	121.50
Puerto Rico	629 [5]	W	W	568	W	W
Grand total[7]	96,700 [5]	W	W	101,000 [5]	W	W

W Withheld to avoid disclosing company proprietary data.

[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits. Includes gray and white portland cement. Includes cement made from imported clinker.

[2]The location of the reporting entities, not necessarily the location of sales (see table 9 for sales data, by State). Specific districts include shipments by importers where district assignations were possible.

[3]Tonnages are those by reporting entities in the district but may include shipments into other districts. They differ from the data in table 9, which are the actual reported sales into the specific States.

[4]Values are mill net or ex-plant (free on board) valuations of total sales to final customers, including sales from plants' external distribution terminals. The data are ex-terminal for independently reporting terminals. Data include all varieties of portland cement and both bulk and bag shipments. Unless otherwise specified, data are presented unrounded. Unrounded or not, unit value data should be viewed as value indicators, accurate to no more than the nearest $0.50 or $1.00 per metric ton.

[5]Data are rounded to three significant digits (unit values to the nearest $0.50) because they include estimates.

[6]Importers for which district assignations were not possible.

[7]May not add to totals shown because of independent rounding.

TABLE 12
MASONRY CEMENT SHIPPED IN THE UNITED STATES, BY DISTRICT[1, 2]

	2018			2019		
		Value[5]			Value[5]	
District[3]	Quantity[4] (thousand metric tons)	Total (thousands)	Average (per metric ton)	Quantity[4] (thousand metric tons)	Total (thousands)	Average (per metric ton)
Maine and New York	50	$6,715	$134.13	47	$6,418	$136.55
Pennsylvania	125	19,200 [6]	153.00 [6]	126 [6]	19,300 [6]	153.50 [6]
Illinois, Indiana, Ohio	168	29,497	175.69	159	29,449	185.21
Michigan	73	10,900 [6]	148.00 [6]	75	12,281	163.75
Iowa, Nebraska, South Dakota	W	W	W	W	W	W
Kansas and Missouri	59	11,102	188.17	53	10,073	190.06
Florida	568	81,940	144.34	537 [6]	77,900 [6]	145.00 [6]
Georgia, Maryland, Virginia, West Virginia	265	55,759	210.72	285 [6]	58,600 [6]	205.50 [6]
South Carolina	183	36,035	196.43 [6]	188 [6]	34,700 [6]	184.50 [6]
Alabama, Kentucky, Mississippi, Tennessee	287	48,800 [6]	170.00 [6]	302 [6]	51,400 [6]	170.00 [6]
Arkansas and Oklahoma	90	11,747	131.21	90	12,020	133.56
Texas	267 [6]	45,800 [6]	171.50 [6]	263	45,900	174.50
Arizona and New Mexico	42	5,075	121.55	45	5,653	125.62
Colorado, Montana, Nevada, Utah, Wyoming	W	W	W	W	W	W
Alaska and Hawaii	1	410	363.50	1	431	369.83
California, Oregon, Washington	179	23,800 [6]	132.50 [6]	187	24,296	129.93
Importers[7]	25	5,410 [6]	214.50 [6]	12	2,570 [6]	214.00 [6]
Total or average[8]	2,390 [6]	393,000 [6]	164.50 [6]	2,370 [6]	392,000 [6]	165.00 [6]
Puerto Rico	--	--	--	--	--	--
Grand total or average[8]	2,390 [6]	393,000 [6]	164.50 [6]	2,370 [6]	392,000 [6]	165.00 [6]

W Withheld to avoid disclosing company proprietary data. -- Zero.
[1]Table includes data available through May 3, 2021. Even where presented unrounded, data are thought to be accurate to no more than three significant digits. Shipments are those by cement companies to final customers and include imported cement and cement made from imported clinker. Excludes sales of masonry cement by portland cement final customers who made masonry cement from purchased portland cement.
[2]Data include true masonry, plastic, portland-lime, and stucco cements.
[3]District is the location of the reporting entities, not necessarily the location of sales (see table 9 for sales data, by State). Specific districts include shipments by importers where district assignations were possible.
[4]Tonnages are those by reporting entities in the district but may include shipments into other districts. They differ from the data in table 9, which are the actual reported sales into the specific States.
[5]Values are mill net or ex-plant valuations of total sales to final customers, including sales from plants' external distribution terminals. The data are ex-terminal for independently reporting terminals. Data include both bulk and bag shipments. Unless otherwise specified, data are presented unrounded. Unrounded or not, unit value data should be viewed as value indicators, accurate to no more than the nearest $0.50 or even $1.00 per metric ton.
[6]Data are rounded to no more than three significant digits (unit values to the nearest $0.50) because they include estimates.
[7]Importers for which district assignations were not possible.
[8]May not add to totals shown because of independent rounding.

TABLE 13
AVERAGE MILL NET VALUE OF CEMENT SOLD IN THE UNITED STATES[1, 2]

(Dollars per metric ton)

	Portland cement			Masonry	All
Year	Gray	White[3]	All	cement	cement
2018	119.00	214.00	119.50	164.50	121.00
2019	121.00	212.50	121.50	165.00	122.50

[1]Table includes data available through May 3, 2021. Values are average of sales to final customers, free on board the plant or independently reporting terminal. Values include any bagging charges, but exclude delivery charges to customers or to external terminals. Data exclude Puerto Rico.
[2]Data are rounded to the nearest $0.50 per metric ton.
[3]Data for white cement include a component of resales showing significant price markups.

TABLE 14
PORTLAND CEMENT SHIPMENTS IN 2019, BY DISTRICT AND TYPE OF CUSTOMER[1]

(Thousand metric tons)

District[2]	Ready-mixed concrete	Concrete product manufacturers	Contractors	Building material dealers	Oil well, mining, waste stabilization	Government and other[3]	Total[4]
Maine and New York	2,240	345	82	199	25	63	2,956
Pennsylvania	2,040	924	311	280	57	189	3,800 [5]
Illinois	930	67	56	14	168	224	1,459
Indiana and Ohio	2,740	471	313	86	123	59	3,792
Michigan	3,650	413	542	142	27	8	4,778
Iowa, Nebraska, South Dakota	3,040	354	368	44	107	74	3,989
Kansas	1,290	133	183	53	20	--	1,680
Missouri	6,340	719	1,360	210	150	110	8,884
Florida	4,860	1,340	314	447	17	61	7,040 [5]
Georgia, Maryland, Virginia, West Virginia	3,920	1,030	668	574	18	196	6,410 [5]
South Carolina	2,260	315	359	247	1	16	3,200 [5]
Alabama, Kentucky, Tennessee	4,970	940	548	223	14	295	6,990 [5]
Arkansas and Oklahoma	1,660	103	428	54	89	29	2,361
Texas, northern	4,770	501	1,200	109	1,040	123	7,740 [5]
Texas, southern	5,000	784	901	176	392	196	7,449
Arizona and New Mexico	2,430	566	142	110	47	54	3,345
Colorado and Wyoming	2,010	202	250	41	222	74	2,797
Montana, Nevada, Utah	1,900	217	97	67	297	76	2,653
Alaska and Hawaii	419	17	3	--	--	--	439
California	8,400	1,200	629	576	151	1	10,961
Oregon and Washington	1,850	183	101	61	32	99	2,324
Importers[6]	4,510	491	161	48	37	133	5,380 [5]
Total[4]	71,200	11,300	9,010	3,760	3,030	2,080	100,000 [5]
Puerto Rico	318	14	24	207	--	6	568
Grand total[4]	71,500	11,300 [7]	9,040 [8]	3,970	3,030 [9]	2,090 [10]	101,000 [5]

-- Zero.

[1]Table includes data available through May 3, 2021. Except for district totals, data have been rounded to three significant digits, but are likely accurate to only two significant digits. District totals are likely accurate to no more than three significant digits. Includes imported cement and cement made from imported clinker.

[2]The location of the reporting entity, not the location of sales (see table 9 for sales data, by State). Specific districts include shipments by importers where district assignations were possible.

[3]Includes shipments to miscellaneous customer types and for which customer types were not specified.

[4]May not add to totals shown because of independent rounding.

[5]Includes estimates for nonrespondents or facilities that provided incomplete information; data are rounded to no more than three significant digits.

[6]Shipments by importers where district assignations were not possible.

[7]Includes brick and block—3,450; precast and prestressed—3,870; pipe—1,090; and other or unspecified—2,920.

[8]Includes airport—142; road paving—3,880; soil cement—3,030; and other or unspecified—1,980.

[9]Includes oil well drilling—2,310; mining—448; and waste stabilization—273.

[10]Includes other or unspecified—2,020.

TABLE 15
PORTLAND CEMENT SHIPMENTS IN THE UNITED STATES, BY TYPE OF CEMENT[1, 2, 3]

(Thousand metric tons)

Type of cement[4]	2018	2019
General use and moderate heat (Types I and II)[5, 6]	70,000	75,800
High early strength (Type III)	2,820	3,010
Sulfate resistant (Type V)[5]	18,300	16,600
Block	157	123
Oil well	1,930	1,930
White[7]	867	925
Blended:[8]		
Portland, natural pozzolans	54	97
Portland, ground granulated blast furnace slag	561	550
Portland, fly ash	248	221
Portland, other pozzolans[9]	1,090	1,150
Total blended[10]	1,950	2,020
Expansive and regulated fast setting	--	--
Miscellaneous[11]	40	34
Grand total[10]	96,100	100,000

-- Zero.
[1]Table includes data available through May 3, 2021. Includes sales of imported cement. Excludes Puerto Rico.
[2]Data are rounded to no more than three significant digits.
[3]Gray portland-type cements unless otherwise specified.
[4]Sold mostly under American Society for Testing and Materials (ASTM) specifications ASTM C150, ASTM C595, and ASTM C1157.
[5]Type II/V and similar sulfate-resisting hybrids are included within Type V, as are Type HS and similar cements in ASTM C1157.
[6]Includes ASTM C1157 general use and moderate heat cements that contain no pozzolans.
[7]White or colored portland-type cements. Most are Types I or II but may include Types III and V and block cements.
[8]Cements sold under ASTM C595 and those under ASTM C1157 that contain pozzolans.
[9]Includes blends with cement kiln dust, silica fume, other pozzolans, limestone and blends containing multiple pozzolans.
[10]May not add to totals shown because of independent rounding.
[11]Includes low heat (Type IV), waterproof, and other portland-type cements.

TABLE 16
U.S. EXPORTS OF HYDRAULIC CEMENT AND CLINKER, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Country or locality	2018		2019	
	Quantity	Value[2]	Quantity	Value[2]
Aruba	1	487	1	337
Australia	1	662	2	1,109
Bahamas, The	53	14,378	56	10,023
Barbados	(3)	70	(3)	196
Bermuda	1	112	(3)	240
Canada	704 r	100,292 r	807	107,391
Cayman Islands	2	511	1	229
Chile	2	445	1	333
China	1	954	(3)	154
Colombia	(3)	48	(3)	77
Dominican Republic	1	533	1	467
Ecuador	(3)	161	(3)	54
El Salvador	(3)	19	1	192
Germany	1	526	(3)	162
Guyana	2	498	(3)	148
Jamaica	(3)	176	1	216
Japan	18	2,824	18	2,560
Korea, Republic of	12	1,958	10	1,443
Liberia	3	798	(3)	4
Marshall Islands	(3)	360	(3)	136
Mexico	78	15,401	81	15,964
Mozambique	2	306	--	--
Netherlands	(3)	119	(3)	193
New Zealand	1	588	1	596
Oman	3	413	(3)	16
Panama	1	627	1	662
Peru	(3)	178	1	146
Qatar	2	449	(3)	14
Russia	5	1,631	4	866
Saudi Arabia	(3)	95	(3)	57
Singapore	(3)	188	2	541
Sint Maarten	(3)	86	(3)	171
Spain	(3)	269	1	161
Thailand	1	122	1	203
Trinidad and Tobago	10	1,684	5	975
Turks and Caicos Islands	(3)	141	(3)	94
United Kingdom	2	573	(3)	447
Venezuela	2	264	1	261
Other [67 countries and (or) localities]	5 r	2,951 r	4	2,566
Total[4]	919 r	151,894 r	1,002	149,405
Puerto Rico:				
British Virgin Islands	18	2,378	17	2,356
Cayman Islands	--	--	2	165
Dominica	2	154	--	--
Panama	1	264	1	492
Sint Maarten	1	91	1	152
St. Kitts and Nevis	--	--	9	1,160
St. Lucia	3	239	--	--
Turks and Caicos Islands	1	153	--	--
Other [5 countries and (or) localities]	1 r	378 r	1	222
Total[4]	27	3,657	30	4,546
Grand total[4]	946 r	155,551 r	1,032	153,951

See footnotes at end of table.

TABLE 16—Continued
U.S. EXPORTS OF HYDRAULIC CEMENT AND CLINKER, BY COUNTRY OR LOCALITY[1]

[r]Revised. -- Zero.
[1]Table includes data available through September 17, 2020. Data are unrounded but are thought to be accurate to no more than three significant digits. Includes portland and masonry cements.
[2]Free alongside ship (f.a.s.) value. The value of exports at the U.S. seaport or border point of export is based on the transaction price, including inland freight, insurance, and other charges incurred in placing the merchandise alongside the carrier. The value excludes the cost of loading the carrier.
[3]Less than ½ unit.
[4]Data may not add to totals shown because of independent rounding.

Source: U.S. Census Bureau.

TABLE 17
U.S. IMPORTS FOR CONSUMPTION OF HYDRAULIC CEMENT AND CLINKER, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3]	Quantity	Customs[2]	C.i.f.[3]
Brazil	8	5,311	5,343	(4)	79	84
Bulgaria	31	2,042	2,771	--	--	--
Canada[5]	5,326	526,445 r	543,100 r	5,252	532,256	545,413
China	2,007	100,291	136,813	1,158	57,471	73,716
Colombia	64	4,707	5,642	103	7,553	7,875
Croatia	29	10,804	12,799	20	7,543	8,997
Denmark	209	22,969	29,410	169	18,830	23,048
Egypt	131	13,690	18,511	200	19,159	25,011
France	117	41,196	41,403	117	37,569	37,847
Germany	1	249	553	1	186	222
Greece	1,964	93,780	124,978	1,882	88,071	121,387
Ireland	19	1,758	1,760	18	1,809	1,811
Italy	116	5,668	8,556	4	390	541
Japan	1	688	746	1	784	850
Korea, Republic of	680	28,472	40,496	752	35,000	47,561
Mexico[5]	1,024	89,210	108,586	1,323	100,659	130,344
Morocco	12	648	970	12	648	783
Netherlands	3	3,236	3,631	3	3,003	3,356
Poland	9	7,621	8,973	6	6,414	7,525
Spain	429	27,875	35,688	260	19,949	22,587
Sweden	436	19,905	32,184	408	17,767	29,337
Taiwan	303	15,818	21,505	330	17,505	23,693
Thailand	19	2,652	3,617	18	2,355	3,360
Tunisia	(4)	2	2	26	3,987	5,079
Turkey	1,791	100,958	144,243	3,662	180,816	265,602
United Kingdom	2	1,439	1,639	1	412	525
Vietnam	--	--	--	122	5,573	6,273
Other [14 countries and (or) localities]	(5)	146 r	183 r	1	197	219
Total[5, 6]	14,731	1,127,580 r	1,334,101 r	15,849	1,165,984	1,393,047
Puerto Rico:						
Colombia	8	959	1,559	--	--	--
Mexico	12	1,410	1,830	13	1,421	2,025
Portugal	10	1,386	1,814	19	1,464	1,646
Spain	44	2,251	2,251	1	51	54
Tunisia	--	--	--	2	203	270
Turkey	301	17,069	18,438	302	17,817	19,195
Other [3 countries and (or) localities]	(4)	152 r	172 r	--	--	--
Total[6]	375	23,227	26,063	336	20,956	23,190
Grand total[5, 6]	15,106	1,150,807 r	1,360,164 r	16,185	1,186,940	1,416,237

rRevised. -- Zero.

[1]Table includes data available through July 9, 2020. Data are unrounded but are thought to be accurate to no more than three significant digits. Includes portland, masonry, and other hydraulic cements.

[2]Customs value. The price actually paid or payable for merchandise when sold for exportation to the United States, excluding U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

[3]Cost, insurance, and freight. The value represents the customs value plus insurance, freight, and other delivery charges to the first port of entry, but excludes costs of offloading, other U.S. port handling charges, and demurrage.

[4]Less than ½ unit.

[5]Data are underreported with respect to clinker from Canada and cement from Mexico owing to additional material coming in as "informal entries."

[6]Data may not add to totals shown because of independent rounding.

Source: U.S. Census Bureau.

TABLE 18

U.S. IMPORTS FOR CONSUMPTION OF HYDRAULIC CEMENT AND CLINKER, BY CUSTOMS DISTRICT AND COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Customs district and country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3]	Quantity	Customs[2]	C.i.f.[3]
Anchorage, AK:						
Canada	5	1,547	1,558	8	2,582	2,630
Korea, Republic of	96	3,986	6,327	100	4,614	6,799
Total[4]	101	5,533	7,885	108	7,196	9,429
Baltimore, MD:						
China	1	173	242	--	--	--
Croatia	--	--	--	5	1,696	2,106
Other [5 countries and (or) localities]	(5)	268	316	1	313	371
Total[4]	2	441	558	6	2,009	2,477
Boston, MA:						
Canada	29	3,489	3,622	--	--	--
Other [3 countries and (or) localities]	(5)	93	108	(5)	64	69
Total[4]	29	3,582	3,730	(5)	64	69
Buffalo, NY:						
Canada	468	46,051	47,758	509	49,362	51,655
Other [2 countries and (or) localities]	(5)	26	27	--	--	--
Total[4]	468	46,078	47,785	509	49,362	51,655
Charleston, SC:						
Egypt	2	103	147	--	--	--
Turkey	18	907	1,489	84	4,363	5,212
Other [3 countries and (or) localities]	(5)	120	146	(5)	112	122
Total[4]	21	1,130	1,782	84	4,475	5,334
Chicago, IL:						
Morocco	--	--	--	9	486	586
France	(5)	199	218	(5)	134	144
Other [7 countries and (or) localities]	(5) r	437 r	485 r	1	615	692
Total[4]	1	636	704	10	1,235	1,423
Cleveland, OH:						
Canada	725	72,318	73,769	712	70,471	72,304
Korea, Republic of	(5)	391	391	1	523	596
Morocco	5	253	505	3	162	197
Netherlands	1	1,052	1,195	1	1,112	1,252
Poland	3	1,896	2,316	(5)	129	146
Other [5 countries and (or) localities]	(5) r	126 r	178 r	(5)	75	109
Total[4]	734	76,037	78,354	717	72,472	74,604
Columbia-Snake, OR, WA:						
Canada	66	5,396	5,471	46	5,528	5,546
China	41	1,779	2,808	--	--	--
Korea, Republic of	570	23,502	32,905	546	25,014	33,674
Netherlands	(5)	20	22	--	--	--
Total[4]	677	30,697	41,205	592	30,542	39,220
Dallas-Fort Worth, TX: Poland	(5)	193	233	--	--	--
Detroit, MI:						
Canada[6]	1,433	127,005	129,635	1,349	120,615	123,814
China	2	655	694	(5)	4	5
Other [6 countries and (or) localities]	(5)	229	249	(5)	341	360
Total[4, 6]	1,435	127,889	130,578	1,349	120,960	124,179
Duluth, MN: Canada	--	--	--	3	290	305
El Paso, TX:						
China	(5)	202	204	(5)	135	136
Mexico[6]	424	39,953	50,908	428	40,089	53,608
Total[4, 6]	425	40,156	51,112	428	40,224	53,744
Great Falls, MT: Canada	218	28,001	28,455	327	44,617	45,347
Honolulu, HI: Taiwan	303	15,812	21,497	330	17,505	23,693

See footnotes at end of table.

TABLE 18—Continued
U.S. IMPORTS FOR CONSUMPTION OF HYDRAULIC CEMENT AND CLINKER, BY CUSTOMS DISTRICT AND COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Customs district and country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3]	Quantity	Customs[2]	C.i.f.[3]
Houston-Galveston, TX:						
Canada	228	11,427	15,854	15	827	1,202
China	351	14,208	23,010	45	1,943	3,068
Egypt	71	7,735	10,013	78	8,616	10,398
Greece	344	14,703	27,522	344	14,171	22,750
Italy	116	5,660	8,548	(5)	14	14
Mexico	51	2,355	3,241	296	14,038	20,069
Poland	5	4,673	5,375	5	5,509	6,517
Spain	192	8,917	12,688	(5)	49	67
Sweden	--	--	--	3	118	119
Turkey	846	41,567	60,900	2,155	102,633	150,340
Other [3 countries and (or) localities]	(5)	73	87	(5)	106	120
Total[4]	2,203	111,318	167,237	2,940	148,022	214,663
Laredo, TX:						
Mexico	180	25,427	26,295	153	21,778	22,539
Spain	87	6,368	6,369	50	4,387	4,418
Total[4]	267	31,795	32,664	203	26,165	26,957
Los Angeles, CA:						
China	12	1,333	1,753	8	336	543
Egypt	21	2,083	3,037	41	3,713	5,499
Mexico	115	6,135	8,036	116	6,390	8,434
Thailand	8	1,171	1,613	8	1,034	1,461
Turkey	40	5,067	8,090	38	4,999	8,681
Other [11 countries and (or) localities]	(5)	166	195	(5)	183	210
Total[4]	196	15,956	22,726	212	16,655	24,827
Miami, FL:						
Egypt	18	1,935	2,811	37	3,445	4,535
Mexico	12	582	870	12	528	869
Spain	120	11,417	14,789	50	5,351	7,119
Sweden	416	18,815	30,748	405	17,540	29,068
Turkey	68	7,089	9,823	233	13,704	22,635
Other [6 countries and (or) localities]	(5)	25	29	(5)	6	8
Total[4]	633	39,863	59,070	737	40,574	64,236
Milwaukee, WI:						
Canada	--	--	--	10	977	987
Morocco	7	395	465	--	--	--
Total[4]	7	395	465	10	977	987
Minneapolis, MN:						
Ireland	19	1,758	1,760	18	1,809	1,811
Turkey	39	3,592	3,595	60	5,433	5,438
Total[4]	59	5,350	5,355	78	7,242	7,248
Mobile, AL:						
Turkey	--	--	--	126	4,123	6,425
Other [2 countries and (or) localities]	(5)	59	64	(5)	101	113
Total[4]	(5)	59	64	126	4,224	6,539
New Orleans, LA:						
China	127	6,182	6,273	--	--	--
Croatia	23	8,749	10,236	15	5,794	6,813
Turkey	28	1,829	1,975	140	5,774	5,836
Other [3 countries and (or) localities]	1	166	423	(5)	47	56
Total[4]	179	16,927	18,908	155	11,615	12,705
New York City, NY:						
Canada	92	5,242	5,247	275	15,102	15,124
Denmark	22	2,599	4,280	9	1,195	1,690
Germany	(5)	13	15	(5)	41	47
Greece	735	31,082	42,764	815	36,946	51,771
Netherlands	(5)	488	548	(5)	113	126

See footnotes at end of table.

TABLE 18—Continued

U.S. IMPORTS FOR CONSUMPTION OF HYDRAULIC CEMENT AND CLINKER, BY CUSTOMS DISTRICT AND COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Customs district and country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3]	Quantity	Customs[2]	C.i.f.[3]
New York City, NY:—Continued						
Turkey	339	16,678	23,648	387	16,432	26,397
Other [7 countries and (or) localities]	(5) r	43 r	56 r	1	545	602
Total[4]	1,188	56,145	76,559	1,488	70,374	95,758
Norfolk, VA:						
Brazil	8	5,259	5,289	--	--	--
Bulgaria	31	2,042	2,771	--	--	--
China	1	855	965	(5)	164	199
Colombia	64	4,595	5,530	81	6,005	6,077
France	117	40,975	41,157	114	36,978	37,206
Greece	111	6,756	8,349	233	11,180	15,471
Turkey	10	767	1,177	--	--	--
United Kingdom	1	1,099	1,214	--	--	--
Other [5 countries and (or) localities]	(5)	117	131	(5)	73	85
Total[4]	345	62,466	66,582	428	54,400	59,038
Ogdensburg, NY:						
Canada	284	43,550	45,083	315	47,082	48,725
Other [3 countries and (or) localities]	(5)	11	11	(5)	3	3
Total[4]	284	43,561	45,094	315	47,085	48,728
Pembina, ND: Canada	169	23,466	23,744	235	30,389	30,872
Philadelphia, PA:						
China	1	158	236	(5)	39	47
Croatia	5	1,774	2,185	--	--	--
Egypt	5	548	772	14	1,274	1,913
Greece	299	12,786	12,788	184	9,396	9,405
Italy	--	--	--	4	366	516
Netherlands	1	792	884	1	1,005	1,127
Turkey	167	9,945	11,406	113	5,387	7,366
United Kingdom	(5)	287	331	(5)	277	316
Other [4 countries and (or) localities]	(5)	29 r	45 r	(5)	62	75
Total[4]	478	26,319	28,648	316	17,806	20,765
Portland, ME:						
Canada	25	2,402	2,591	30	2,641	2,837
Germany	(5)	14	15	--	--	--
Total[4]	25	2,416	2,607	30	2,641	2,837
Providence, RI:						
Canada	243	15,120	15,124	241	13,285	13,341
Turkey	146	6,415	11,608	176	7,471	12,665
Total[4]	389	21,535	26,733	417	20,756	26,006
San Diego, CA: Mexico	2	439	454	2	369	382
San Francisco, CA:						
China	1,121	56,279	75,972	842	40,909	51,179
Egypt	4	412	598	9	792	1,080
Mexico	204	11,941	15,576	231	12,718	17,444
Thailand	10	1,418	1,920	9	1,258	1,807
Turkey	8	1,026	1,382	7	627	1,191
Vietnam	--	--	--	122	5,573	6,273
Other [3 countries and (or) localities]	--	--	--	(5)	111	145
Total[4]	1,347	71,077	95,448	1,221	61,988	79,120
Savannah, GA:						
Colombia	--	--	--	23	1,548	1,798
Egypt	9	874	1,133	6	368	565
France	--	--	--	3	258	264
Greece	124	7,834	7,909	--	--	--
Poland	1	500	622	(5)	4	5
Spain	30	1,150	1,812	160	10,162	10,984

See footnotes at end of table.

TABLE 18—Continued

U.S. IMPORTS FOR CONSUMPTION OF HYDRAULIC CEMENT AND CLINKER, BY CUSTOMS DISTRICT AND COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Customs district and country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3]	Quantity	Customs[2]	C.i.f.[3]
Savannah, GA:—Continued						
Turkey	39	2,787	5,371	57	2,305	4,447
Other [6 countries and (or) localities]	(5) r	117 r	147 r	(5)	146	170
Total[4]	203	13,262	16,995	248	14,790	18,232
Seattle, WA:						
Canada[6]	1,017	92,375 r	93,183 r	1,004	101,603	102,480
China	338	17,941	24,063	263	13,923	18,514
Korea, Republic of	14	564	840	105	4,821	6,460
Thailand	(5)	63	84	(5)	63	92
Other [9 countries and (or) localities]	1	383 r	445 r	1	174	233
Total[4, 6]	1,370	111,326 r	118,615 r	1,373	120,583	127,779
St. Albans, VT: Canada	287	47,553	49,117	172	26,887	28,243
St. Louis, MO:						
Croatia	(5)	280	377	(5)	28	37
Other [2 countries and (or) localities]	(5) r	310 r	352 r	(5)	257	288
Total[4]	1	590	730	(5)	285	325
Tampa, FL:						
Canada	12	480	947	--	--	--
China	11	473	513	--	--	--
Denmark	187	20,348	25,103	160	17,636	21,358
Egypt	--	--	--	15	910	960
Greece	350	20,615	25,643	307	16,377	21,991
Mexico	37	2,378	3,206	85	4,749	7,000
Sweden	20	900	1,203	--	--	--
Tunisia	--	--	--	26	3,987	5,079
Turkey	34	2,482	2,494	77	5,160	5,199
Total[4]	651	47,676	59,110	670	48,819	61,586
U.S. Virgin Islands: Turkey	(5)	11	15	--	--	--
Wilmington, NC:						
Canada	24	1,023	1,942	--	--	--
Turkey	9	794	1,264	10	2,375	3,721
Other [3 countries and (or) localities]	(5)	73	78	(5)	11	14
Total[4]	34	1,889	3,285	10	2,386	3,735
U.S. total[4, 6]	14,731	1,127,580 r	1,334,101 r	15,849	1,165,984	1,393,047
San Juan, PR:						
Colombia	8	959	1,559	--	--	--
Mexico	12	1,410	1,830	13	1,421	2,025
Portugal	10	1,386	1,814	19	1,464	1,646
Spain	44	2,251	2,251	1	51	54
Tunisia	--	--	--	2	203	270
Turkey	301	17,069	18,438	302	17,817	19,195
Other [3 countries and (or) localities]	(5)	152 r	172 r	--	--	--
Total[4]	375	23,227	26,063	336	20,956	23,190
Grand total[4, 6]	15,106	1,150,806 r	1,360,164 r	16,185	1,186,940	1,416,237

rRevised. -- Zero.

[1]Table includes data available through July 24, 2020. Includes all varieties of hydraulic cement and clinker. Data are unrounded but are thought to be accurate to no more than three significant digits.

[2]Customs value. The price actually paid or payable for merchandise when sold for exportation to the United States, excluding U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

[3]Cost, insurance, and freight. The value represents the customs value plus insurance, freight, and other delivery charges to the first port of entry, but excludes costs of offloading, other U.S. port handling charges, and demurrage.

[4]Data may not add to totals shown because of independent rounding.

[5]Less than ½ unit.

[6]Data are underreported with respect to clinker from Canada and cement from Mexico owing to additional material coming in as "informal entries."

Source: U.S. Census Bureau.

TABLE 19
U.S. IMPORTS FOR CONSUMPTION OF GRAY PORTLAND CEMENT, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3]	Quantity	Customs[2]	C.i.f.[3]
Bulgaria	31	2,042	2,771	--	--	--
Canada	3,918	394,610 r	408,289 r	3,911	403,651	413,070
China	1,969	94,363	129,764	1,156	56,492	72,548
Colombia	64	4,595	5,530	103	7,553	7,875
Egypt	1	49	76	44	3,116	3,506
France	(4)	7	7	3	251	251
Germany	(4)	45	65	1	80	98
Greece	1,840	85,941	117,063	1,812	83,953	117,200
Italy	116	5,660	8,548	4	366	516
Korea, Republic of	679	28,053	40,072	751	34,449	46,933
Mexico[5]	689	41,911	59,091	993	55,406	80,976
Morocco	12	648	970	12	648	783
Spain	328	17,359	22,282	50	4,387	4,418
Sweden	436	19,715	31,951	408	17,658	29,188
Taiwan	303	15,812	21,497	330	17,505	23,693
Turkey	1,317	60,162	90,008	2,928	131,576	189,296
Vietnam	--	--	--	122	5,573	6,273
Other [5 countries and (or) localities]	(4) r	2 r	4 r	(4)	76	87
Total[5, 6, 7]	11,704	770,974 r	937,988 r	12,627	822,741	996,712
Puerto Rico:						
Colombia	6	442	692	--	--	--
Dominican Republic	(4)	21	21	--	--	--
Portugal	--	--	--	19	1,464	1,646
Turkey	79	6,145	7,495	80	5,996	7,356
Total[6, 7]	85	6,608	8,208	99	7,460	9,001
Grand total[5, 6, 7]	11,788	777,582 r	946,196 r	12,726	830,201	1,005,713

rRevised. -- Zero.
[1]Table includes data available through July 10, 2020. Data are unrounded but are thought to be accurate to no more than three significant digits.
[2]The price actually paid or payable for merchandise when sold for exportation to the United States, excluding U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.
[3]Cost, insurance, and freight. The value represents the customs value plus insurance, freight, and other delivery charges to the first port of entry, but excludes costs of offloading, other U.S. port handling charges, and demurrage.
[4]Less than ½ unit.
[5]Data are underreported with respect to imports into the El Paso, TX, customs district owing to additional material coming in as "informal entries."
[6]Total imports do not include gray portland cement that was misregistered by importers under the white cement tariff code; these quantities are included in table 20.
[7]Data may not add to totals shown because of independent rounding.

Source: U.S. Census Bureau.

TABLE 20
U.S. IMPORTS FOR CONSUMPTION OF WHITE CEMENT, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3, 4]	Quantity	Customs[2]	C.i.f.[3, 4]
Canada	305	39,924	40,784	335	43,793	45,317
China	27	2,196	2,808	1	92	129
Denmark	209	22,947	29,383	169	18,830	23,048
Egypt	130	13,641	18,435	157	16,043	21,504
Greece	124	7,837	7,912	--	--	--
Mexico	211	31,913	32,889	201	28,153	29,627
Spain	100	10,496	13,381	210	15,456	18,024
Thailand	19	2,652	3,617	18	2,335	3,339
Tunisia	(5)	2	2	26	3,987	5,079
Turkey	264	26,637	37,164	281	25,462	42,253
Other [12 countries and (or) localities]	(5)	28 r	32 r	1	114	122
Total[6]	1,389	158,273	186,409	1,397	154,266	188,444
Puerto Rico:						
Mexico	12	1,410	1,830	13	1,421	2,025
Portugal	10	1,386	1,814	--	--	--
Tunisia	--	--	--	2	203	270
Other [2 countries and (or) localities]	(5)	56	75	(5)	41	60
Total[6]	22	2,852	3,719	15	1,666	2,355
Grand total[6]	1,411	161,125 r	190,128 r	1,412	155,932	190,799

rRevised. -- Zero.

[1]Table includes data available through July 28, 2020. Data are unrounded but are thought to be accurate to no more than three significant digits.

[2]The price actually paid or payable for merchandise when sold for exportation to the United States, excluding U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

[3]Cost, insurance, and freight. The value represents the customs value plus insurance, freight, and other delivery charges to the first port of entry, but excludes costs of offloading, other U.S. port handling charges, and demurrage.

[4]Values of less than $100.00 (c.i.f.) per metric ton likely indicate the mistaken total or partial inclusion of data for gray portland or similar cement or clinker. This error happens when the importer records the wrong tariff number with the U.S. Customs and Border Protection. Values that exceed $200 per ton likely indicate misidentified specialty cement, not white cement.

[5]Less than ½ unit.

[6]Data may not add to totals shown because of independent rounding.

Source: U.S. Census Bureau.

TABLE 21
U.S. IMPORTS FOR CONSUMPTION OF CLINKER, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons and thousand dollars)

Country or locality	2018			2019		
		Value			Value	
	Quantity	Customs[2]	C.i.f.[3]	Quantity	Customs[2]	C.i.f.[3]
Canada[4]	679	52,845	53,161	575	44,721	44,993
China	6	1,569	1,673	(5)	35	45
France	116	39,814	39,910	112	35,566	35,679
Greece	--	--	--	70	4,117	4,187
Turkey	167	9,437	11,631	401	17,433	26,204
Other [5 countries and (or) localities]	(5)	21	23	1	71	89
Total[4, 6]	967	103,685	106,398	1,160	101,943	111,197
Puerto Rico:						
Spain	44	2,251	2,251	1	51	54
Turkey	222	10,880	10,880	221	11,780	11,780
Total[6]	266	13,131	13,131	222	11,831	11,834
Grand total[4, 6]	1,233	116,816	119,529	1,382	113,774	123,031

-- Zero.

[1]Table includes data available through July 29, 2020. Data are unrounded but are thought to be accurate to no more than three significant digits. For all types of hydraulic cement. Excludes Puerto Rico, which had no imports of clinker for the years shown.

[2]Customs value. The price actually paid or payable for merchandise when sold for exportation to the United States, excluding U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States.

[3]Cost, insurance, and freight. The value represents the customs value plus insurance, freight, and other delivery charges to the first port of entry, but excludes costs of offloading, other U.S. port handling charges, and demurrage.

[4]Data are underreported with respect to additional material coming in as "informal entries."

[5]Less than ½ unit.

[6]Data may not add to totals shown because of independent rounding.

Source: U.S. Census Bureau.

TABLE 22
HYDRAULIC CEMENT: WORLD PRODUCTION, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons)

Country or locality	2015	2016	2017	2018	2019
Afghanistan	70	101	180	110	30
Albania	1,980	1,680 r	1,930 r	1,940 r	2,000 e
Algeria	20,250	23,540 r	28,650 r	31,100 r	27,700 e
Angola	5,240	3,870 r	2,570 r	2,700 r	2,900
Argentina	12,193	10,899	11,960	11,842	11,100 e
Armenia	417	267	356	546	591
Australia[e]	9,500	9,600	9,700	10,200	10,600
Austria	4,700 r	4,800	4,900	5,200	5,300 e
Azerbaijan	2,683	2,310	2,955	3,445	3,488
Bahrain	1,050 r	1,390 r	1,490 r	1,600 r, e	1,760 e
Bangladesh[e, 2]	24,000 r	25,000 r	27,000 r	30,100 r	33,300
Barbados[e]	160	160	160	160	160
Belarus	4,638	4,503	4,490	4,519	4,728
Belgium	6,275	6,255	6,513	6,737	7,050 e
Benin	1,382	1,356	1,373 r	2,530 r	2,500 e
Bhutan	791	940	895 r	941 r	1,190 e
Bolivia	3,468	3,601	3,611	3,650 e	4,200 e
Bosnia and Herzegovina	808	841	910	995	955
Botswana	15	15	15	1 r, e	-- e
Brazil	65,283	57,557	54,004	53,553 r	54,400 e
Brunei[e]	230	250	270	290	290
Bulgaria	2,114	1,994	2,117	2,331 r	2,456
Burkina Faso	1,350 r	1,650 r	1,800 r	1,980 r, e	2,200 e
Burma[3]	989	2,520	5,480	6,500 r, e	7,700 e
Burundi[e]	100	100	45	100 r	75
Cambodia	1,700 e	2,100 e	3,400	4,900 e	7,870
Cameroon[e]	1,700 r	2,300 r	2,600 r	2,800 r	3,000
Canada	12,167	11,693	12,706 r	13,554	13,200 e
Chad	220 r	250	350 r	400 r, e	420 e
Chile	4,320 r	4,310 r	4,000 r	3,990 r, e	4,210 e
China	2,359,000	2,410,000	2,331,000	2,208,000 r	2,280,000 e
Colombia	13,153	12,495	12,299	12,452	12,900 e
Congo (Brazzaville)[e]	700	950	1,050	700 r	730
Congo (Kinshasa)	399	253	900	1,048 r	1,164
Costa Rica[e]	1,600	1,600	1,800	1,900	1,900
Côte d'Ivoire	3,100	3,600	3,500	4,000 e	4,400 e
Croatia	2,340	2,267	2,608 r	2,490 r	2,540 e
Cuba	1,518	1,493	1,431	1,590 r	1,407
Cyprus	788	1,019	1,319	1,358	1,537
Czechia	3,781	3,937	4,043	4,428 r	4,569
Denmark	3,047	3,404	3,554	3,343	3,354
Djibouti	140 r	130 r	160 r	180 r, e	200 e
Dominican Republic	5,181	5,171	5,254	5,430 r	5,600
Ecuador[e]	5,860 r	5,550 r	5,690 r	5,760 r	6,270
Egypt	53,940	55,000	68,500	81,200	47,400 e
El Salvador	990 r	880 r	900 r	1,090 r, e	1,180 e
Eritrea[e]	200	200	210	280	280
Estonia	390	399	503	527	406
Ethiopia[e, 4]	7,500	8,300	9,000	9,300	10,100
Fiji	204	219	141	143	144 e
Finland[e]	1,300	1,300	1,300	1,300	1,460
France	15,600	15,900	16,900	16,500 r	16,700 e
French Guiana	76	91	80	93 r	95 e
Gabon	200	340 r	370 r	490 e	540 e
Georgia	1,759	1,809	2,058	1,981 r	2,769
Germany	31,150	32,737	33,991	33,633	33,900 e
Ghana	3,830	4,310 r	3,940 r	4,990 r, e	5,990 e
Greece	5,289	6,540	6,246	6,580	6,470 e
Guadeloupe[e]	300	300	300	310	310

See footnotes at end of table.

TABLE 22—Continued
HYDRAULIC CEMENT: WORLD PRODUCTION, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons)

Country or locality	2015	2016	2017	2018	2019
Guatemala	3,670 r	3,360 r	3,440 r	3,520 r, e	3,560 e
Guinea	900 r	1,160 r	1,280 r	1,380 r, e	1,500 e
Guyana[e]	100	400	400	410	410
Haiti[e]	200	200	200	200	200
Honduras	1,700 e	1,840 r	2,140 r	1,960 r, e	1,840 e
Hong Kong	1,930 r	1,840 r	1,580 r	1,640 r, e	1,600 e
Hungary[e]	1,570	1,280	1,660	1,670	2,240
India	260,000	280,000 e	283,000 r, e	298,000	338,000 e
Indonesia	59,850	62,000 e	69,279	75,213	69,500 e
Iran	58,600	55,000 e	55,000 e	58,000 e	60,000 e
Iraq[e]	10,000	12,000 r	13,000 r	14,000 r	15,000
Ireland[e]	2,980	3,100	3,200	3,290	3,290
Israel	6,904	7,150	6,361	5,858 r	4,700 e
Italy	20,800	19,300	19,300	19,300 r	19,290
Jamaica	808	911	846 r	787 r	759
Japan	54,827	53,255	55,195	55,307	53,462
Jordan	4,500	4,530 r	4,680 r	4,680 r, e	5,050 e
Kazakhstan	8,729	9,204	9,398	9,913 r	9,770 e
Kenya	6,353	6,715	6,230 r	6,070 r	5,967
Korea, North	6,700	7,080	6,840	5,830 r	6,500 e
Korea, Republic of	52,044	56,747	57,400	57,500 e	50,000 e
Kosovo[e]	590	710	840	850	816
Kuwait[e]	3,100	4,000 r	3,400 r	3,300 r	3,500
Kyrgyzstan	1,496	1,302	1,505	1,931 r	2,005
Laos	3,099	3,407	3,938	4,800 r	5,370 e
Latvia[e]	1,100	1,000	1,000 r	1,000	1,000
Lebanon	5,500	5,300 r	5,200 r	4,800 r, e	4,900 e
Liberia	298	241	285	314	340
Libya	5,000	4,100 r	4,500 r	4,500 r, e	4,200 e
Lithuania	980	1,010	1,023	1,151	1,223
Luxembourg	1,080	1,100 e	1,100 e	1,100 e	1,100 e
Macedonia	672	855	901	921	896
Madagascar	150	150	200 r	210 e	230 e
Malawi	155 r	151 r	211	232	243
Malaysia	24,710	22,330	18,800	20,000 e	18,000 e
Mali	630	650 r	670 r	690 r, e	1,000 e
Martinique[e]	150	150	150	150	150
Mauritania	860	790 r	850 r	920 r, e	970 e
Mexico	39,613	40,577	41,601	48,328	43,400 e
Moldova	1,045	975	1,116	1,233 r	1,320 e
Mongolia	410	432	675	934	1,098
Morocco	14,460	14,260 r	14,850 r	15,300 r	13,700 e
Mozambique	1,585 [5]	2,446	2,350	2,400 e	2,610 e
Namibia	796	778	780 e	930 r, e	1,000 e
Nepal	3,910	5,000 e	6,000 e	9,000 e	9,860 e
Netherlands	2,260	2,930 r	2,030 r	2,390 r, e	2,350 e
New Caledonia	112	112	104	86	77
New Zealand[e]	1,200	900	360	450	940
Nicaragua	740 r	780 r	780 r	680 r, e	600 e
Niger	51	51 e	51 e	52 e	260 e
Nigeria[e]	21,000	22,000	19,000	21,000	22,600
Norway	1,640 r	1,660 r	1,880 r	1,770 r	1,760 e
Oman[e]	5,300	5,500	4,900 r	5,300 r	5,200
Pakistan	33,232	37,020	38,900	40,800 r	40,200 e
Panama	1,970 r	1,900 r	1,920 r	1,670 r, e	1,470 e
Papua New Guinea[e]	200	200	200	200	200
Paraguay[e]	1,300 r	1,300	1,500 r	1,500 r	1,500
Peru	10,410	10,094	9,980	10,049	10,574

See footnotes at end of table.

TABLE 22—Continued
HYDRAULIC CEMENT: WORLD PRODUCTION, BY COUNTRY OR LOCALITY[1]

(Thousand metric tons)

Country or locality	2015	2016	2017	2018	2019
Philippines	24,050	25,000 e	26,000 e	28,500 r, e	30,500 e
Poland	15,206	15,782	17,254	18,957	18,946
Portugal	5,620	4,100 r	3,790 r	3,960 r, e	4,050 e
Qatar	6,880	6,700 r, e	6,000 r, e	4,800 r, e	4,500 e
Reunion	250	170 e	180 e	200 e	250 e
Romania	8,356	8,038	8,442	8,951	9,932
Russia	62,104	54,935	54,721	53,678	55,900 e
Rwanda[e]	180	350	390	400	450
Saudi Arabia	61,900	55,943	47,134	42,181	42,300 e
Senegal	4,615	5,149	5,197	5,412	6,900 e
Serbia	1,654	1,801	1,908	2,093 r	2,310 e
Sierra Leone	324	320 e	324 e	325 e	350 e
Slovakia	3,466	3,518	3,782	3,913 r	4,031
Slovenia[e]	600	700	660	680	1,050
South Africa	12,992	13,000	13,170 r	12,500 r, e	12,400 e
Spain	15,000 e	15,000 e	14,500	14,600 e	17,100 e
Sri Lanka	2,287	2,695	2,819	2,841 r	3,960 e
Sudan	3,708	4,013	4,326	4,053	4,000 e
Suriname	70	20	30	30	30 e
Sweden	2,840 r	2,840 r	3,020 r	3,200 r	2,720 e
Switzerland	4,390	4,710	4,580 r, e	4,290 r	4,210
Syria	1,850	2,450 r	2,120 r	2,150 r, e	2,200 e
Taiwan	13,445	12,126	10,876	10,939	11,254
Tajikistan	1,418	1,361	3,117	3,844	4,202
Tanzania	3,135 r	4,071	4,200	4,509	6,514
Thailand	36,216	34,860 r	33,587	32,660 r	34,500 e
Togo[5]	1,460 r	1,470 r	1,370 r	1,410 r, e	1,510 e
Trinidad and Tobago	840	721	670	663 r	678
Tunisia	9,507	9,028	8,053	7,850	8,096
Turkey	71,419	75,403	80,552	72,544	57,400 e
Turkmenistan[e]	3,300	3,500	3,600	3,800	3,990
Uganda	2,331 r	2,494	2,511 r	2,200 r, e	3,890 e
Ukraine	8,511	9,023	9,003	9,241 r	9,201
United Arab Emirates[e]	20,500	16,900 r	17,400 r	16,300 r	16,400
United Kingdom	9,235	9,370	9,359	9,197 r	9,079
United States[6]	84,940	85,153	86,799	88,021 r	89,000 e
Uruguay	902 r	742 r	817	812	737
Uzbekistan	8,350 r	8,470 r	8,930 r	9,200 r, e	11,400 e
Venezuela	8,210	5,790 r	5,410 r	5,100 r, e	4,500 e
Vietnam	67,645	74,457	81,488 r	89,121 r	96,919
Yemen	2,530	1,400 r	1,920 r	1,880 r, e	1,900 e
Zambia	1,800 e	2,000 e	2,210	2,751	2,480 e
Zimbabwe	1,510	1,190 r	1,210 r	1,440 r, e	1,470 e
Total[e]	4,060,000 r	4,140,000 r	4,100,000 r	4,050,000	4,130,000

[e]Estimated. [r]Revised. -- Zero.

[1]Table includes data available through November 12, 2020. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown. Data may include clinker exports for some countries.

[2]Production is based on fiscal year, with a starting date of June 30 of the year shown.

[3]Production is based on fiscal year, with a starting date of March 31 of the year shown.

[4]Production is based on fiscal year, with a starting date of July 7 of the year shown.

[5]Cement sales from Cimentos de Moçambique SARL (Sociedade Anónima de Responsabilidade Limitada) only.

[6]Portland and masonry cements only. Includes a small (less than 0.5% per year) component of double counting where portland cement (not clinker) is consumed to make masonry cement; the precise amount of double counting cannot be determined because of the involvement of portland cement stockpiles.