

## CEMENT

(Data in thousand metric tons unless otherwise specified)

**Domestic Production and Use:** In 2024, U.S. portland and blended cement production decreased by 4% to an estimated 84 million tons, and masonry cement production also decreased by 4% to an estimated 2.2 million tons. Cement was produced at 99 plants in 34 States and in Puerto Rico. Texas, Missouri, California, and Florida were, in descending order of production, the four leading cement-producing States and accounted for approximately 43% of U.S. production. Overall, the U.S. cement industry's growth continued to be constrained by closed or idle plants, underutilized capacity at others, production disruptions from plant upgrades, and relatively inexpensive imports. In 2024, shipments of cement were an estimated 110 million tons with an estimated value of \$17 billion. In 2024, an estimated 70% to 75% of sales were to ready-mixed concrete producers, 12% to concrete product manufacturers, 8% to 10% to contractors, and 5% to 10% to other customer types.

<b><u>Salient Statistics—United States:</u></b> <sup>1</sup>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>	<b><u>2024<sup>e</sup></u></b>
Production:					
Portland and masonry cement <sup>2</sup>	89,300	91,000	91,200	<sup>e</sup> 90,000	86,000
Clinker	78,951	79,616	79,489	<sup>e</sup> 77,000	73,000
Shipments to final customers, includes exports	104,580	108,969	111,092	<sup>e</sup> 110,000	110,000
Imports for consumption:					
Hydraulic cement	15,531	19,937	24,985	24,986	24,000
Clinker	1,204	1,563	1,021	921	820
Exports, hydraulic cement and clinker	884	939	904	889	900
Consumption, apparent <sup>3</sup>	105,000	111,000	114,000	<sup>e</sup> 110,000	110,000
Price, average mill unit value, dollars per metric ton	125	127	139	<sup>e</sup> 150	160
Stocks, cement, yearend	7,180	6,280	8,020	<sup>e</sup> 8,500	7,500
Employment, mine and mill, number <sup>e</sup>	12,200	12,300	12,800	13,000	13,000
Net import reliance <sup>4</sup> as a percentage of apparent consumption	15	19	22	22	22

**Recycling:** Cement is not recycled, but significant quantities of concrete are recycled for use as a construction aggregate. Cement kilns can use waste fuels, recycled cement kiln dust, and recycled raw materials such as slags and fly ash. Various secondary materials can be incorporated as supplementary cementitious materials (SCMs) in blended cements and in the cement paste in concrete.

**Import Sources (2020–23):**<sup>5</sup> Turkey, 32%; Canada, 22%; Vietnam, 10%; Greece, 9%; and other, 27%.

<b><u>Tariff:</u></b>	<b><u>Item</u></b>	<b><u>Number</u></b>	<b><u>Normal Trade Relations</u></b> <b><u>12–31–24</u></b>
	Cement clinker	2523.10.0000	Free.
	White portland cement	2523.21.0000	Free.
	Other portland cement	2523.29.0000	Free.
	Aluminous cement	2523.30.0000	Free.
	Other hydraulic cement	2523.90.0000	Free.

**Depletion Allowance:** Not applicable. Certain raw materials for cement production have depletion allowances.

**Government Stockpile:** None.

**Events, Trends, and Issues:** The value of total construction put in place in the United States increased by 7% during the first 9 months of 2024 compared with that in the same period in 2023. Both residential and nonresidential construction spending increased; however, new privately owned housing units started through September 2024 decreased by 3% compared with those during the same period in 2023. Reported cement shipments decreased by 6% during the first 8 months of 2024 compared with those in the same period in 2023. The leading cement-consuming States continued to be Texas, Florida, and California, in descending order by tonnage.

According to the Bureau of Economic Analysis, the real gross domestic product (GDP) increased by 5% during the first 9 months of 2024 compared with the real GDP for full year 2023. The Federal Reserve lowered interest rates in 2024, and funding from the Bipartisan Infrastructure Law and the Inflation Reduction Act continued to be allocated to projects moving forward in each State expected to rebuild and modernize infrastructure and strengthen supply chains. Government funds were also awarded to support sustainability, and several cement producers were selected for decarbonization initiatives. Regulators continued to implement clean public procurement strategies and announce research investments. Apparent consumption of cement in 2024 was estimated to be unchanged from that in 2023.

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Company merger-and-acquisition activity in 2024 included the acquisition of a United States-based company's cement plant in Texas by an Ireland-based company and the completed merger of a Colombia-based cement company and a United States-based cement company. In November, a United States-based concrete and cement company reached an agreement to acquire a United States-based cement company, and a Germany-based cement company announced an agreement to acquire another United States-based cement company—each transaction was pending regulatory approval. Plans to increase clinker capacity at a cement plant in Texas and plans to expand a cement plant in Missouri progressed. In May 2024, plans to modernize and expand a cement plant in Wyoming were announced. A cement plant in Indiana was repurposed into a slag-grinding facility in June, and construction of a new slag cement facility in Texas continued. Several minor upgrades were ongoing at some other domestic plants and terminals. Announcements aligned with sustainability included the increased or enhanced use of alternative fuels and materials, carbon capture, utilization and storage projects, improved efficiency, renewable energy, and other innovations. Development of novel cement product lines progressed; two pilot plant cement facilities were planned.

In April 2024, the Connecticut Department of Transportation approved the use of portland-limestone cement (PLC), signifying its adoption by all 50 States and the District of Columbia. Blended cement accounted for 58% of total cement shipments during the first 8 months of 2024, and 97% of the blended shipments were estimated to be PLC (Type IL). In February 2024, the U.S. Environmental Protection Agency issued its “Final Reconsideration of the National Ambient Air Quality Standards for Particulate Matter (PM)”; in March 2024, a coalition of associations expressed concern regarding the lower emissions standard for PM  $\leq 2.5$  micrometers in diameter. Many plants have installed emissions-reduction equipment to comply with the 2010 National Emissions Standards for Hazardous Air Pollutants (NESHAP). Some kilns could be shut, idled, or used at reduced capacity to comply with regulations, which would constrain U.S. clinker capacity. In 2022 and 2023, cement plant closures were announced in California, Maine, and New York; in 2024, the plant in Maine transitioned to a distribution center for imported material. Also in 2024, a termination notice was issued to a cement plant in Colorado, and its operational status remained under review by the county.

### **World Production and Capacity:**

	Cement production <sup>e</sup>		Clinker capacity <sup>e</sup>	
	2023	2024	2023	2024
United States (includes Puerto Rico)	90,000	86,000	100,000	100,000
Brazil	67,000	68,000	60,000	60,000
China	2,000,000	1,900,000	2,000,000	1,900,000
Egypt	52,000	50,000	60,000	60,000
India	420,000	450,000	300,000	380,000
Indonesia	67,000	65,000	79,000	79,000
Iran	71,000	72,000	81,000	85,000
Japan	48,000	46,000	54,000	50,000
Korea, Republic of	51,000	52,000	62,000	62,000
Mexico	48,000	48,000	42,000	42,000
Russia	63,000	65,000	80,000	80,000
Saudi Arabia	49,000	50,000	75,000	75,000
Turkey	81,000	82,000	92,000	92,000
Vietnam	110,000	110,000	110,000	110,000
Other countries (rounded)	850,000	860,000	600,000	650,000
World total (rounded)	4,100,000	4,000,000	3,800,000	3,800,000

**World Resources:** See the Lime and Stone (Crushed) chapters for cement raw-material resources.

**Substitutes:** Most portland cement is used to make concrete, mortars, or stuccos, and competes in the construction sector with concrete substitutes, such as aluminum, asphalt, clay brick, fiberglass, glass, gypsum (plaster), steel, stone, and wood. Certain materials, especially fly ash and ground granulated blast furnace slag, develop good hydraulic cementitious properties by reacting with lime, such as that released by the hydration of portland cement. Where readily available (including as imports), these SCMs are increasingly being used as partial substitutes for portland cement in many concrete applications and are components of finished blended cements.

<sup>e</sup>Estimated.

<sup>1</sup>Portland cement plus masonry cement unless otherwise specified; excludes Puerto Rico unless otherwise specified.

<sup>2</sup>Includes cement made from imported clinker.

<sup>3</sup>Defined as production of cement (including from imported clinker) + imports (excluding clinker) – exports  $\pm$  adjustments for stock changes.

<sup>4</sup>Defined as imports (cement and clinker) – exports.

<sup>5</sup>Hydraulic cement and clinker; includes imports into Puerto Rico.