

## Traditional Ceramics

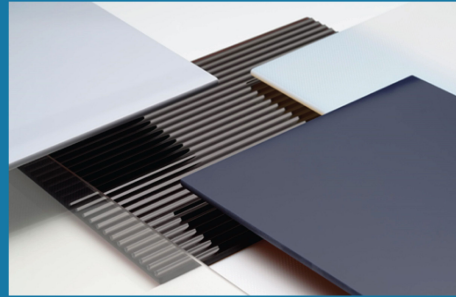


Traditional ceramics are materials made from naturally-occurring materials, such as quartz or clay. Some Traditional ceramics categories are:

1. Structural clay products such as bricks and pipes.
2. Whitewares such as stoneware and porcelain.
3. Cements, such as concrete and mortars, are used in the construction of roads, bridges, and buildings.
4. Refractory materials are used as thermal insulation in high-temperature furnaces. They resist degradation by corrosive gases, liquids, or solids at elevated temperatures.

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## Glass-Ceramics



Glass-Ceramic materials share many properties with both glasses and ceramics. Glass-Ceramics have an amorphous phase and one or more crystalline phases and are produced by a so-called "controlled crystallization" in contrast to a spontaneous crystallization, which is usually not wanted in glass manufacturing. Glass-ceramics have the fabrication advantage of glass, as well as special properties of ceramics. When used for sealing, some glass-ceramics do not require brazing but can withstand brazing temperatures up to 700 °C.

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## Abrasive Ceramics



Ceramic abrasives are those that are made of natural ceramic, which is usually mixed with other abrasive powders such as corundum - quartz and silicon carbide. Ceramic abrasives have a microcrystalline finish and are very uniform in structure. Its characteristics are hardness, friability, toughness and cutting capacity. Most common application of ceramic abrasives are:

1. Gushing: treatment for new surfaces
3. deburring, peeling, pickling, grinding, sandblasting and lapping, thereby reducing surface roughness.

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## Glazes and Enamels



Glazing can enhance the fired clay piece both on an aesthetic and a functional level. Visually, ceramic glazes can be decorative and a great source of color and texture. Practically, glazes can seal clay bodies once fired, making them water-proof and food-safe. Enameling is a process by which powdered glass is fused to a metal substrate at high heat. Enamels can be applied to glass, ceramics, and most commonly, metals. The application of enamels can add color to metals such as copper, silver, and gold. The powdered glass can be applied either wet or dry.

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