

Physical Testing

The three divisions of CMC provide a variety of physical tests of construction materials including concrete, mortar, grout, masonry units, dimension stone, and ceramic tile. The purpose of these tests varies from material evaluation, quality assurance, to failure investigation.

- **Concrete, Mortar, and Grout**—Water Absorption, Specific Gravity, Density, Hardness, Porosity, Volume of Permeable Voids, Freeze-Thaw Durability, Compressive Strength, Flexural Strength and Modulus of Rupture (MOR), Splitting Tensile Strength, Length Change Measurements for Shrinkage or Expansion, Deicing Salt-Scaling Resistance, Rapid Chloride Permeability of Concrete and Mortar.
- **Masonry Units**—Efflorescence, Absorption, Saturation Coefficient, Initial Rate of Absorption, Freeze-Thaw Durability, MOR, Compressive Strength.
- **Dimension Stones**—Absorption, Compressive Strength, MOR, Weathering Resistance, Mohs Hardness, Abrasion Resistance, Accelerated Weathering Tests (Heating-Cooling, Freezing-Thawing, Wetting-Drying Tests).
- **Ceramic Tile**—Slip Resistance, Water Absorption, Abrasive Hardness, Bond Strength, Crazeing, Breaking Strength, Flexural Strength, Freeze-Thaw Durability, Impact Test, Mohs Hardness, Moisture Expansion, Thickness, Facial Dimension, Thermal Shock, Warpage, Wedging.

CMC

Construction Materials
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Freeze-thaw durability of concrete, mortar, cast stone, brick, and stone samples are determined in an automated freeze-thaw chamber, such as the one shown in the photo.