

MATERIALS FOR SETTING AND GROUTING CERAMIC TILE

Portland Cement Mortar: A mixture of portland cement and sand, roughly in proportions of 1:6 on floors and of portland cement, sand, and hydrated lime in proportions of 1:5:1/2 to 1:7:1 for walls. Bed thickness varies from 3/4" to 1-1/4".

Ceramic tile may be set on a portland cement mortar bed while the mortar is still plastic as described in ANSI A108.1 or the tile may be set on a cured mortar bed with dry-set or latex-portland cement mortar as described in ANSI A108.5. When absorptive ceramic tile are installed on a plastic mortar bed using a neat cement bond coat, tile must be soaked before setting.

Portland cement mortars can be used to plumb and square surfaces installed by others, facilitate sloping floors to drains, can be reinforced with metal lath or mesh and backed with membrane waterproofing. This mortar is not affected by prolonged contact with water.

Dry-Set Mortar: A mixture of portland cement with sand and water retentive additives used as a bond coat for setting tile. It is used in one layer, as thin as 3/32" after tile are beat-in, has excellent water and impact resistance, is water cleanable, non-flammable, good for exterior work and does not require the soaking of tile.

Dry-set mortar is not affected by prolonged contact with water but does not form a water barrier. It is not intended to be used for leveling the work of others.

Complete installation and material specifications are contained in ANSI A108.5 and ANSI A108.1 and for conductive dry-set mortar in ANSI A108.7 and ANSI A108.2.

Latex-Portland Cement Mortar: A mixture of portland cement, sand, and special latex additive used as a bond coat for setting tile. The uses of latex-portland cement mortar are similar to those of dry-set mortar.

When used in an area that may not thoroughly dry out in use (swimming pools, gang showers etc.) cure the completed installation for a minimum of 14 days and allow the installation to thoroughly dry out before exposure to water. Early exposure inhibits full development of mortar strength and increases water sensitivity.

Complete installation and material specifications are contained in ANSI A108.5 and A108.4

Epoxy Mortar: A mortar system employing epoxy resin and epoxy hardener.

Suitable for use where chemical resistance of floors, high bond strength and high impact are important considerations.

Pot life, adhesion, water-cleanability before cura, and chemical resistance vary with manufacturer. Complete installation and material specifications are contained in ANSI A108.6 and A108.3.

Epoxy Adhesive: An adhesive system employing epoxy resin and epoxy hardener.

Formulated for thin-setting of tile on floors, walls and counters.

It is designed for economical high bond strength and ease of application and not for optimum chemical resistance. Its chemical and solvent resistance, however, tends to be better than that of organic adhesives.

There is no nationally recognized specification for use of epoxy adhesives in tile work.

Furan Mortar: A mortar system consisting of furan resin and furan hardener.

Used where chemical resistance of floors is an important consideration. Properties vary with manufacturer. There is no nationally recognized specification for use of furans in tile work.

Organic Adhesives: A prepared organic material which cures by evaporation and is ready to use with no further addition of liquid or powder.

Adhesives are applied in one thin coat using a notched trowel. Soaking of tile is not required. Bond strength varies among brands. Not generally suitable for swimming pools or exteriors. Complete installation specifications are contained in ANSI A108.4.

Commercial Portland Cement Grout: A mixture of portland cement and other ingredients to produce a water resistant, dense, uniformly colored material.

Wall type, usually white in color, is designed for conventional mortar installations. Soaking of wall tile is necessary.

Floor type, usually gray in color, is designed for use with ceramic mosaics, quarry, and paver tiles on both walls and floors. Damp curing is required for both wall and floor types.

Sand-Portland Cement Grout: An on-the-job mixture of 1 part portland cement to 1 part fine graded sand is used for joints up to 1/8" wide; 1:2 for joints up to 1/2" wide; 1:3 for joints over 1/2" wide. Up to 1/5 part lime may be added.

Used with ceramic mosaic tile, quarry and paver tiles on floors and walls. Damp curing is necessary.

Dry-Set Grout: A mixture of portland cement and water retentive additives. Dry-set grout has the same characteristics as dry-set mortar. Soaking of wall tile is not required except under very dry conditions. Damp curing may develop greater strength in portland cement grouts.

Latex-Portland Cement Grouts: A mixture of any one of the three preceding grouts with special latex additive.

ANSI A108.1, A108.4, A108.5, and A108.7 all require damp curing of all tile installations for a minimum of 72 hours. Latex additives eliminate the necessity of damp curing.

Mastic Grout: A one part grouting composition used directly from the container.

Hardens by coalescence and does not require damp curing. More flexible and stain resistant than regular cement grout.

Furan Resin Grout and Epoxy Grout are available for installations where chemical resistance is of paramount importance.

This information is excerpted from literature of the Tile Council of America, Inc.