



Protecting Exterior Installations of Tile, Stone and Adhered Veneers TDS 110

The optimum conditions for installation of direct adhered cladding are temperatures between 60° and 80°F (16° and 27°C), with 50% relative humidity and minimal wind. However, these conditions are atypical, so provisions must be made for variations in climatic and environmental conditions. Protection applies to the substrate, the installation of adhesives and grouts and post-installation (rain and temperature protection) until suitable cure has been achieved, as well as the storage and handling of the cladding material. The standard rule of thumb applies: For every 18°F (10°C) above 70°F (21°C) cementitious and epoxy materials cure twice as fast. For every 18°F (10°C) below 70°F (21°C) cementitious and epoxy materials take twice as long to cure.

Due to the slow rate of portland cement hydration and strength development at low temperatures, it is very important to protect installations from traffic for longer than normal periods. Keep all traffic off of finished work until full cure. Allow extended cure time, based on the 18° Rule (above), for installation in cooler temperatures. It is important to note that large format tile and stone will also require extra curing time in cooler temperatures beyond what is stipulated in the 18° Rule (above). Suitable protection should be included in the scope of work. Each component must reach a proper cure prior to installing the subsequent installation product.

Helpful Hints:

- Work during warm periods of the day.
- Ensure that the surface temperature is within the suggested temperature range for the LATICRETE® or LATAPOXY® product being used during the installation and cure period.
- Consult the individual LATICRETE or LATAPOXY product data sheet and How-to-Install guide for more information.
- Tent / shade and heat areas that will be subjected to the elements or freezing temperatures during installation and cure periods.

For multiple story buildings – areas to receive tile and stonework may be heated from below to aid in “warming up” cold concrete slabs and rooms. Simply placing temporary heating units in areas under rooms scheduled to receive tile and stone finishes in multiple story buildings will allow the natural rise of heat to warm up these areas.



Vent all temporary heating equipment in accord with OSHA (Occupational Safety and Health Administration) and local building code regulations.

Dry, Windy Conditions – Dry and/or windy conditions can cause premature evaporation of water necessary for hydration in cementitious materials, which can result in loss of strength. Latex additives are formulated to significantly reduce this drying effect by coating water with a latex film. However, in extreme dry, windy conditions coupled with high temperatures (>90°F [>32°C]), even latex additives do not provide adequate protection. It is recommended to provide temporary protection against rapid evaporation of moisture during hot, dry, and/or windy conditions in the initial 36 hours after installation of cement plasters/ renders and cement grouts. It would also be beneficial to damp cure with periodic water misting. Cement based adhesives are only susceptible to premature drying between the spreading of adhesive and the installation of the cladding, and requires only temporary protection from hot, dry, and/or windy conditions during the open or exposed time of the adhesive.

Wet Conditions – Certain materials used in direct adhered exterior wall assemblies are moisture sensitive. For example, the strength of cementitious adhesives can be reduced from premature exposure to water/moisture or exposure to excessively wet or damp substrates. Some materials, such as waterproofing membranes, may not cure properly or can delaminate from a continually wet or damp substrate. Waterproofing membranes such as HYDRO BAN®, MVIS™ Air & Water Barrier and MVIS WCI, as well as air barriers such as, should be protected from the elements during the installation and for at least 2 hours after it is dry to the touch at 70°F (21°C). 9235 Waterproofing Membrane should be protected for 7 days at 70°F (21°C).

A damp substrate may also contribute to the formation of efflorescence (see [TDS 159](#) for more information). This is of particular concern not only from normal rain exposure during construction but also in areas of a facade which may be exposed to rising dampness at ground level, and in areas where leaks from poor design or construction cause continual dampness in the substrate.

When specifying liquid latex or dry dispersive polymer adhesive mortar, verify with the manufacturer that the polymer formulation is not water soluble. However, it is important to note that even formulations which are not soluble when dry are vulnerable to rain or water exposure during the initial set period (typically 24 – 48 hours) for up to 7 days at 70°F. Therefore, it is essential to provide protection from any significant rain or washing within this period to avoid loss of strength and prevent fluid or latex migration staining.

Protection and corrective actions primarily require temporary enclosures or tarpaulins prior to, during, and immediately after installation to shield from rain. If prolonged exposure occurs, surfaces that appear dry may be saturated internally and require testing to determine suitability of certain overlay substrates, membranes or adhesives

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