

GENERAL CONDITIONS

All substrates to receive ceramic tile, stone, thin brick or similar hard architectural finishes installed by the thin-bed method, including where Cementitious Backer Units (CBU) are installed, must be structurally sound, clean and not deflect more than L/360 for ceramic tile and L/480 for stone (where L = span) under all distributed or concentrated live and dead loads.

All CBU must comply with American National Standards Institute, Inc. (ANSI) "Standards for Test Methods and Specifications for Cementitious Backer Units {A118.9}" – latest edition.

All CBU for walls and facades must be certified by the manufacturer to be suitable for exterior applications, especially in climates subject to freeze-thaw cycling.

Interior wall installations of CBU over Lightweight Steel Framing (LSF) must comply with ANSI "Interior Installation of Cementitious Backer Units {A108.11}" – latest edition.

Provide movement/expansion joints for ceramic tile, stone and thin brick installations as per Tile Council of America, Inc. (TCA) "Handbook for Ceramic Tile Installation {Movement Joint Design Essentials EJ171}" – latest edition.

WALLS & FACADES

- Compliance with design criteria and state and local building codes must approved and certified by a qualified structural engineer. Use more stringent design criteria when necessary to comply with state and local building code stiffness requirements for thin veneers.
- All designs, specifications and construction practices shall be in accordance with industry standards. Refer to:
 - American Iron and Steel Institute (AISI) "Specification for the Design of Cold-Formed Steel Structural Members" - latest edition [www.steel.org];
 - Canadian Sheet Steel Building Institute (CSSBI) "Lightweight Steel Framing Binder {Publication 52M}" - latest edition [www.cssbi.ca];
 - Steel Stud Manufacturers Association (SSMA) "Product Technical Information" and "ICBO Evaluation Service, Inc. Report ER-4943P" – latest editions [www.ssma.com];
 - Metal Lath/Steel Framing Association "Steel Framing Systems Manual" – 1987 edition.
- Prior to commencing work, installer must submit to Architect/Structural Engineer for approval, shop drawings showing wall/façade construction and attachment details. All attachments must be designed to prevent transfer of building or structural movement to the wall/façade.
- Construct all framing with galvanized or other rust resistant steel studs and channels; minimum requirements:
 - Stud Gauge: 16 gauge;
 - Stud Material: steel conforming to ASTM A570 – latest edition with a minimum yield point of 50 ksi;
 - Stud Spacing: not to exceed 16" (400mm) o.c.;
 - Stud Width: 6" (150mm);
 - Horizontal Bridging: Not to exceed 4' (1.2m) o.c.; 16 gauge CR channel typical**or as specified by structural engineer.**
- Studs shall be seated squarely in the channel tracks with the stud web and flange abutting the track web, plumbed or aligned, and securely attached to the flanges or web of both the upper and lower tracks by welding. Similarly connect horizontal bridging/purlins and anti-racking diagonal bracing **as determined by structural engineer**. Grind welds smooth and paint with rust inhibiting paint. Finished frame and components must be properly aligned, square and true.
- Provide adequate support of framing elements during erection to prevent racking, twisting or bowing.
- Lay out the CBU installation so all board edges are supported by metal framing (studs vertically and purlins horizontally). Cut/fit CBU and add additional framing elements as required to support board edges. Stagger boards in courses to prevent continuous vertical joints and allow 1/8-3/16" (3-5mm) between sheets.
- Fasten the CBU with 7/8" (22mm) minimum length, non-rusting, self-embedding screws for metal studs (BUILDEX® Catalog item 10-24 17/16 Wafer T3Z or equivalent). Fasten the boards every 6" (150mm) at the edges and every 8" (200mm) in the field. Stagger placement of screws at seams. Place screws no less



than 3/8" (9mm), and no more than 1" (25 mm), from board edges.

- Tape all the board joints with the alkali resistant 2" (50mm) wide reinforcing mesh provided by the CBU manufacturer imbedded in the same mortar used to install the ceramic tile, stone or thin brick (see below).
- To prevent water leakage through the wall or facade, apply LATICRETE® 9235 Waterproofing Membrane or LATICRETE Watertight Floor N' Wall Waterproofing over the CBU before installing ceramic tile, stone or thin brick (refer to Data Sheets 236.0, 649.0 and WPAF.5 for additional information).
- Install ceramic tile, stone or thin brick in **exterior** areas with:
 - LATICRETE 4237 Latex Thin-Set Mortar Additive plus LATICRETE 211 Crete Filler Powder;
 - LATICRETE 4237 Latex Thin-Set Mortar Additive + LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar;
 - LATICRETE 4237 Latex Thin-Set Mortar Additive plus LATICRETE 317 Floor N' Wall Thin-Set Mortar;
 - LATICRETE 3701 Mortar Admix plus LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar;
 - LATICRETE 3701 Mortar Admix plus LATICRETE 317 Floor N' Wall Thin-Set Mortar;
 - LATICRETE 333 Super Flexible Additive plus LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar*;
 - LATICRETE 333 Super Flexible Additive plus LATICRETE 317 Floor N' Wall Thin-Set Mortar*;
 - LATICRETE 333 Super Flexible Additive plus LATICRETE 220 Marble & Granite Mortar*;
 - LATICRETE 40 Multi-Use Acrylic plus LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar;
 - LATICRETE 40 Multi-Use Acrylic plus LATICRETE 317 Floor N' Wall Thin-Set Mortar;
 - LATICRETE 38 Acrylic Admix plus LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar;
 - LATICRETE 38 Acrylic Admix plus LATICRETE 317 Floor N' Wall Thin-Set Mortar;
 - LATICRETE 101 Rapid-Set Latex Admix plus LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar;
 - LATICRETE 101 Rapid-Set Latex Admix plus LATICRETE 317 Floor N' Wall Thin-Set Mortar;
 - LATICRETE 101 Rapid-Set Latex Admix plus LATICRETE 220 Marble & Granite Mortar;
 - LATICRETE 855 Quicker Latex Mortar Admix & LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar;
 - LATICRETE 855 Quicker Latex Mortar Admix plus LATICRETE 317 Floor N' Wall Thin-Set Mortar;
 - LATICRETE 854 Quick Latex Mortar Admix plus LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar;
 - LATICRETE 854 Quick Latex Mortar Admix plus LATICRETE 317 Floor N' Wall Thin-Set Mortar;
 - LATICRETE 254 Platinum Multipurpose Thin-Set Mortar;
 - LATICRETE 253 Gold Multipurpose Thin-Set Mortar;
 - LATICRETE 253 Gold Rapid Multipurpose Thin-Set Mortar;

* Note: for residential and light commercial applications that are not continuously submerged;

- For **interior** applications, the following may also be used:
 - LATAPOXY® 300 Epoxy Adhesive;
 - LATICRETE 252 Silver Multipurpose Thin-Set Mortar.
- Apply the mortars recommended above in the following manner:
 - Wipe CBU with a damp sponge to remove dust and to increase working/adjustability time over hot, dry surfaces.
 - Apply the mortar or epoxy adhesive using the flat side of the trowel to work the material into good contact with the CBU. Then comb on additional mortar or epoxy adhesive with the notched side of the trowel. Spread only as much mortar or epoxy adhesive as can be covered in 15–20 minutes. Use the correct size notched trowel and “back butter” the tiles if necessary to achieve the correct coverage and bedding. “Back butter” all tiles larger than 8"x 8" (200mm x 200mm) in facial area and all tiles in exterior areas. Beat the tiles into the mortar with a rubber mallet or beating block. Check your bond periodically by removing a tile and verifying the extent of coverage – insure that tiles are fully bedded with a minimum 3/32" (2.5mm) thick continuous layer of mortar or epoxy adhesive.
 - Once the tiles set firm, in **exterior** areas grout with:
 - LATICRETE Tri-Poly Fortified Sanded Grout (1500 Series) and LATICRETE 1776 Grout Admix Plus Microban®;
 - LATICRETE Tri-Poly Fortified Unsanded Grout (1600 Series) and LATICRETE 1776 Grout Admix Plus Microban®;
 - LATICRETE Tri-Poly Fortified Sanded Grout (1500 Series);





LATICRETE Tri-Poly Fortified Unsanded Grout (1600 Series).

- For **interior** applications, the following may also be used:

LATAPOXY® SP-100 Stainless Grout for Floors and Walls;
LATICRETE SpectraLock® Grout

- For full installation information, refer to individual product package instructions and Data Sheets.
- **Caution: to install water sensitive marble and agglomerates in interior areas, use LATAPOXY 300 Epoxy Adhesive.**
- **Caution: to install white or light colored stone, use white LATICRETE® 211 Crete Filler Powder, LATICRETE 272 Premium Floor N' Wall Thin-Set Mortar, LATICRETE 317 Floor N' Wall Thin-Set Mortar or LATICRETE 220 Marble & Granite Mortar (mixed with the LATICRETE Latex Additives indicated above) or white LATICRETE 254 Platinum Multipurpose Thin-Set Mortar, LATICRETE 253 Gold Multipurpose Thin-Set Mortar, LATICRETE 253 Gold Rapid Multipurpose Thin-Set Mortar or LATICRETE 252 Silver Multipurpose Thin-Set Mortar.**
- Provide protection from weather and other site conditions that could contaminate or damage CBU surfaces.

Technical Data Sheets are subject to change without notice. For latest revision, check our website @ www.laticrete.com TDS 133.doc R 03 March 2003

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