



Bonding Ceramic Tile and Stone to Steel Substrates

TDS 146

More and more frequently, unusual substrates including steel (including stainless steel), metal and aluminum are being used in tile or stone installations. Swimming pools, spas, hot tubs, elevator cabs, and cooler floors and walls frequently have a steel surface on which to bond tile. Below are methods to properly install tile to these substrates.

Mechanically fastened wire lath and plaster method:

1. Steel, metal or aluminum substrate must be rigid and meet the maximum allowable standard for deflection of L/360 for tile or L/480 for stone
2. Tack weld or mechanically fasten 3.4 # galvanized diamond metal lath over the steel surface in accord with ANSI A108.01 3.3.
3. Apply a scratch and leveling coat of 3701 Fortified Mortar; or, 3701 Mortar Admix mixed with 226 Thick Bed Mortar to encapsulate and fill the lath.
4. After the mortar hardens, HYDRO BAN® XP, HYDRO BAN®, HYDRO BAN Cementitious Waterproofing Membrane or 9235 Waterproofing Membrane may be installed where specified.
5. Tile may be installed with 254 Platinum, 254 Platinum Plus or MULTIMAX™ LITE. In areas where a more chemically resistant adhesive is necessary (or when installing water sensitive marble or agglomerate) install with LATAPOXY® 300 Adhesive or LATAPOXY BIOGREEN™ 300 Adhesive.
6. When tile has set firm, grout with SPECTRALOCK® PRO Premium Grout*, SPECTRALOCK PRO Premium Translucent Grout, SPECTRALOCK PRO Grout, PERMACOLOR® Select^, PERMACOLOR Grout. For areas subjected to food acids, harsh chemicals or extreme heat use SPECTRALOCK 2000 IG.

Or, the alternative direct bond method for installation over steel (especially stainless steel pool shells and vessels):

1. Steel or aluminum must be rigid, meet the maximum allowable standard for deflection of L/360 for tile or L/480 for natural stone, and be free of rust, dirt, paint, manufacturing oils, or other types of surface contamination.
2. Steel manufacturer / contractor must inspect steel for any signs of rust or corrosion. Clean, remove, passivate steel in accord with steel manufacturer's guidelines to ensure that rust / corrosion is completely removed prior to tiling.
3. Wash steel surface with strong detergent to ensure that all manufacturing oils are removed, rinse completely and allow to dry. Refer to steel manufacturer's guidelines for steel surface preparation when cladding with tile or stone.
4. Install tile or stone with LATAPOXY 300 Adhesive or LATAPOXY BIOGREEN 300 Adhesive by following instructions outlined in [DS 633.0](#) or [DS 023.0](#).
5. Grout tile or stone with SPECTRALOCK PRO Premium Grout, SPECTRALOCK PRO Premium Translucent Grout, or LATICRETE SPECTRALOCK Grout. For areas subjected to food acids, harsh chemicals or extreme heat use SPECTRALOCK 2000 IG.

Refer to LATICRETE Data Sheet [025.0](#) for LATICRETE 25 Year Tile & Stone System Warranty Information.

* United States Patent No.: 6,881,768 (and other Patents)

^ United States Patent No.: 6,784,229 (and other Patents)

Technical Data Sheets are subject to change without notice. For latest revision, check our website at <https://laticrete.com>
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