



Bonding Ceramic Tile and Stone to Stainless Steel Pools, Spas and Fountains TDS 171

More frequently, unconventional substrates—including stainless steel—are being used in tile and stone installations. Swimming pools, spas, hot tubs, fountains, and showers often incorporate stainless steel surfaces to which tile or stone must be bonded.

It is critical to follow the stainless-steel vessel manufacturer's instructions to ensure waterproof integrity and to properly "stretch" or condition the steel elements prior to the installation of tile or stone finishes.

The following methods outline proper procedures for installing tile or stone over stainless steel shells.

Direct Bond to Steel Surfaces;

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 surface contaminants.
2. Steel manufacturer / contractor must inspect steel for any signs of rust or corrosion. Clean the surface, remove any contaminants, and passivate the 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 it to dry. Refer to steel manufacturer's guidelines for steel surface preparation when cladding with tile or stone. LATICRETE® International, Inc. cannot be held responsible for corrosion, rust or contamination of steel elements or construction. LATICRETE products are designed for the sole purpose of adhesion and not for protection of steel elements.
4. Install tile or stone with LATAPOXY® 300 Adhesive by following instructions outlined in DS 633.0 and DS 631.5 INTL.
5. Grout tile or stone with SPECTRALOCK® PRO Premium Grout*. For areas subjected to food acids, harsh chemicals or extreme heat use SPECTRALOCK 2000 IG.

Lath and Plaster Method over Steel Shell;

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, 3701 Lite Mortar R, or, 3701 Mortar Admix mixed with 226 Thick Bed Mortar to encapsulate and fill the lath.
4. After the mortar hardens, HYDRO BAN®, HYDRO BAN 1 or 9235 Waterproofing Membrane may be installed where specified.
5. Tile may be installed with 254 PLATINUM™, 254 PLATINUM Plus, MULTIMAX™ LITE or MULTIMAX™ 1 Pre-Mixed Adhesive Mortar. In areas where a more chemically resistant adhesive is necessary (or when installing water sensitive marble or agglomerate) install with LATAPOXY 300 Adhesive.
6. When tile has set firm, grout with SPECTRALOCK PRO Premium Grout, SPECTRALOCK 1 Pre-mixed grout; PERMACOLOR® Select^ or PERMACOLOR Grout. For areas subjected to harsh chemicals or extreme heat, use SPECTRALOCK 2000 IG.

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

As required by the Tile Council of North America (TCNA), expansion joints should be incorporated into the design and finished tile or stone assembly. Proper placement, design and materials are to be determined by the project design professional. Please refer to the TCNA Handbook EJ171 for more information.

Upon completion of tile or stone installation, and after allowing cure times of 10 days for SPECTRALOCK® PRO Premium Grout*; or, 14 days for PERMACOLOR® Select^ , PERMACOLOR Grout, or SPECTRALOCK 1 Pre-mixed Grout the tiled vessel should be filled at the rate of 1" (25mm) of water per hour. This will minimize the rapid expansion of the shell, as well as lower the possible occurrence of damage caused by excessive thermal gradients between the temperature of the tile and the temperature of the water. Refer to [TDS 192](#) for more 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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