TECHNICAL REFERENCE

STRONGSEAL SA POLYFOAM ADHESION TO CONCRETE TILE

Concrete and clay tile can be adhered to StrongSeal SA underlayment using a polyurethane foam adhesive system. This type of system eliminates the need for mechanical fasteners avoiding punching potentially thousands of holes in the underlayment. The polyurethane foam adhesives will not adhere to all roof underlayments. The adhesive bond of the polyurethane foam is determined in accordance with SBCCE SSTD 11. The uplift value standard as set by typical 30-90 hot mop systems and self-adhered underlayments is 240 lbF as tested by Polyfoam Products.

Polyfoam Products tested StrongSeal SA with Polyfoam Polypro AH160 Roof Tile Adhesive. StrongSeal SA was installed to 19/32 (15 mm) inch thick plywood on 2x6 joists spaced 24” (600 mm) on center. StrongSeal SA was exposed to the sun for 2 days prior to installing the adhesive and tile. A large paddy 2” (50 mm) wide by 10” (250 mm) long starting 2” (50 mm) from the tile head down 10” (250) toward the nose of the tile centered in the overlock pan portion of the tile. The tile was installed with a 3” headlap. The loading rate was 2” per minute.

Three tiles were tested. The values for the uplift force were 325.8 lbF (1.44 kN), 351.9 lbF (351.9 kN) and 357.0 lbF (1.59 kN) with an average uplift for of 344.9 lbF (1.53 kN). The calculated lowest failure overturning moment is 350.8 ft-lbF 1.56 kN).

All three failures resulted in tile fracture illustrated excellent cohesion between StrongSeal SA and Polyfoam Polypro AH160.

The allowable overturning moment is 179.7 ft-lbF (0.79 kN) according to the Installation Manual for Moderate Climate Regions as published by the Tile Roof Institute. This result will meet basic wind speeds of 170+ mph (273 kmh) and below for roof systems up to 60 feet (18.9 m) in mean height, 1.00 or 1.15 importance factor, Exposure B or C and Hip, Gable or Monoslope design and described in Tables 5A, 5B, 5C, 5D, 6A, 6B, 6C and 6D. This test was strictly for adhesion testing of materials and does not account for the possible alteration due to roof loading, preparation, foot traffic or installation.

StrongSeal SA adhered with Polyfoam Polypro AH160 tile #1 test result showing tile fracture

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IMPORTANT: The information contained herein supersedes all previous printed versions, and is believed to be accurate and reliable. For the most up-to-date information, please visit www.CETCO.com. CETCO accepts no responsibility for the results obtained throught application of this product. CETCO reserves the right to update information without notice.

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