

TECHNICAL BULLETIN # 1027

**SUBJECT: R-TECH TOTAL WALL PLATINUM WHOLE WALL R-VALUE
(C1363 THERMAL PERFORMANCE)**

DATE: MAY 5, 2015

Insulfoam is now producing Graphite Polystyrene (GPS) products. These products use a new resin technology that has graphite included in the resin matrix. The inclusion of graphite adds to the overall capability of the foam plastic to provide higher R-Values than standard EPS. One of the products Insulfoam has developed using this technology is R-Tech Total Wall Platinum. Insulfoam Total Wall was developed as an advanced substrate for one coat and three coat stucco systems that incorporates polymeric facers on an EPS core. Total Wall Platinum is the next generation substrate for stucco systems. It consist of a GPS core laminated on both sides with a metalized breathable facers. These new breathable facers in conjunction with the GPS core allow the Total Wall to provide R-Values that will allow designers, builders and contractors a substrate for stucco systems that will meet and exceed the continuous exterior wall insulations mandated by the new energy codes.

To demonstrate the effective R-Value of stucco walls assemblies that utilize Total Wall Platinum Insulfoam contracted an independent laboratory to conduct ASTM C1363 "*Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus*". These C1363 tests were conducted on full scale 8'x8' wall assemblies that compared a base wall and a finished wall assembly. The base wall consisted of 2x4's 16" on center R-13 fiberglass between the studs and 1/2" gypsum board on the interior. The wall assembly for stucco systems was the same base wall with two layers of grade D paper, 1" Total Wall Platinum covered with a 5/16" cementitious exterior finish. These assemblies were tested with an interior temperature of 75 degrees and the exterior temperature of 25 degrees F. The entire assembly is subjected to a 15 mph constant wind on the exterior. This test, subjects the wall to the exposure conditions for well over 24hrs to derive the wall assemblies R-Value for the entire wall.

In the above C1363 testing the 2x4 wall assembly utilizing Insulfoam Total Wall Platinum as the exterior continuous insulation with a cementitious exterior finished tested at 18.71. The base wall tested at 12.52. This indicates the finish system using 1" of Total Wall Platinum with the cementitious exterior yields and effective R-Value increase of 6.2.