


## EPS NO. 1015

**SUBJECT: PROPERTIES - SHEAR AND TENSILE STRENGTH**

**DATE: SEPTEMBER 2008 (REVISED JANUARY 2019)**

R-Shield® insulation is manufactured in compliance with ASTM C578, “Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation”. This standard covers the minimum requirements for flexural strength, compressive strength, and other physical properties of expanded polystyrene foam. Some engineered systems such as Structural Insulated Panels (SIPs), insulated concrete forms (ICF’s) and exterior insulation and finish systems rely on R-Shield insulation as a key component to resist shear and/or tensile loads.

R-Shield has conducted extensive tests to determine the shear strength and tensile strength of R-Shield insulation. Shear strength of R-Shield insulation was evaluated in accordance with ASTM C273, “Standard Test Method for Shear Properties of Sandwich Core Materials”. Tensile strength was evaluated in accordance with ASTM C297, “Standard Test Method for Flat-wise Tensile Strength of Sandwich Constructions”.

PRODUCT							
		100	130	150	250	400	600
Shear Strength, min. ASTM C273	psi (kPa)	12 (83)	15.5 (107)	18 (124)	24 (166)	30 (208)	35 (242)
Tensile Strength, min. ASTM C297	psi (kPa)	20 (138)	25 (173)	30 (208)	40 (276)	50 (345)	60 (414)

**Note:** The values are based upon testing R-Shield insulation at laboratory conditions (72F/50%RH) under short term load durations as specified by the ASTM test methods.