

# ASTM CLASSIFICATION OF FOAM PLASTIC INSULATION

Material standards are created by a consensus process by manufacturers, users, and testing organizations. They are used to help define a product via physical property and to set minimum performance requirements. It is common for actual products to surpass the minimum performance published in the standards, and thus their respective data sheets may claim higher performance. When specifiers call out ASTM material standards, often the minimum performance requirements are all that are listed.

Polyisocyanurate is classified under ASTM C1289, and, by definition of material, cannot be polystyrene which falls under ASTM C578. However, both ASTM Classifications require similar performance requirements. Products can also be evaluated under outlying test methods to complete the comparison between two different material types in order to meet conformance of alternative material standards.

## REQUIRED TEST METHODS & MINIMUM VALUES BY ASTM CLASSIFICATION

TEST METHOD		ASTM C578 Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation		ASTM C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board	ENERGYSHIELD XR Meets or Exceeds
		EXTRUDED POLYSTYRENE (XPS)	EXPANDED POLYSTYRENE (EPS)	POLYISOCYANURATE (ISO)	
ASTM D1621	Compressive Strength	✓	✓	✓	✓
ASTM C518	Thermal Transmission	✓	✓	✓	✓
ASTM C272 @24 HR	Water Absorption	✓	✓		✓
ASTM C209				✓	✓
ASTM C203	Flexural Strength	✓	✓	✓	✓
ASTM E96 PROCEDURE A	Water Vapor Permeance	✓	✓	✓	✓
ASTM D2126	Dimensional Stability	✓	✓	✓	✓
ASTM D1622	Density	✓	✓		✓
ASTM C209	Tensile Strength			✓	✓

When tested by third-party accredited labs, Atlas EnergyShield XR meets or exceeds each of the minimum requirements to conform to the performance standards outlined for ASTM C578. Although polyiso cannot state it's the same material type, it can meet or exceed every physical property required for Type IV for comparative long-term performance.