



**ASTM C578, Standard
Specification for Rigid Cellular
Polystyrene Thermal
Insulation**

January 2009

Foamular Extruded Polystyrene Insulation is manufactured to comply with ASTM C578. ASTM C578 defines the types, physical properties, and dimensions of cellular polystyrene boards with or without facings or coatings made by molding (EPS) or extrusion (XPS) of expandable polystyrene. Products manufactured to this specification are intended for use as thermal insulation for temperatures from -65 to +165°F (-53.9 to +73.9 °C). This specification does not apply to laminated products manufactured with any type of rigid board facer including fiberboard, perlite board, gypsum board, or oriented strand board. See the tables in this bulletin that detail physical properties prescribed in ASTM C578, types for Foamular products, and typical specification format.

ASTM C578 Type (compressive)	Foamular Product*	ASTM C578 Type (compressive)	Foamular Product*
X (15 psi)	150 ThermaPink 18 CW15 InsulPink Z InsulPink Insulating Sheathing ProPink	VI (40 psi)	400 ThermaPink 40 404 404RB LT40
IV (25 psi)	250 ThermaPink 25 CW25 High-R CW Plus DuraPink DuraPink Plus PinkCore Insulating Sheathing LT 30 InsulDrain	VII (60 psi)	600 604 604RB
		V (100 psi)	1000

* Partial List



ASTM C578, Types and Physical Properties for Foamular® Extruded Polystyrene

This table outlines the basic physical property requirements of ASTM C578* and Foamular compliance.
For complete details on properties and other quality requirements see the actual ASTM standard.

Polystyrene Board Type	EPS	EPS	EPS	Foamular 150, XPS	EPS	Foamular 250, XPS	EPS	Foamular 400, XPS	EPS	Foamular 600, XPS	Foamular 1000, XPS
ASTM C578 Classification	Type XI	Type XI	Type VIII	Type X	Type II	Type IV	Type IX	Type VI	Type XIV	Type VII	Type V
Compressive resistance at yield or 10 % deformation, whichever occurs first (with skins intact) min, psi (kPa)	5.0 (35)	10.0 (69)	13.0 (90)	15.0 (104)	15.0 (104)	25.0 (173)	25.0 (173)	40.0 (276)	40.0 (276)	60.0 (414)	100.0 (690)
Density, min, lb/ft ³ (kg/m ³)	0.70 (12)	0.90 (15)	1.15 (18)	1.30 (21)	1.35 (22)	1.55 (25)	1.80 (29)	1.80 (29)	2.40 (38)	2.20 (35)	3.00 (48)
Thermal resistance of 1.00-in. (25.4-mm) thickness, min, F-ft ² -h/Btu (K-m ² /W) Mean temperature: 75 2°(24 1°C)	3.10 (0.55)	3.60 (0.63)	3.80 (0.67)	5.00 (0.88)	4.00 (0.70)	5.00 (0.88)	4.20 (0.74)	5.00 (0.88)	4.20 (0.74)	5.00 (0.88)	5.00 (0.88)
Flexural strength, min, psi (kPa)	10.0 (70)	25.0 (173)	30.0 (208)	40.0 (276)	35.0 (240)	50.0 (345)	50.0 (345)	60.0 (414)	60.0 (414)	75.0 (517)	100.0 (690)
Water vapor permeance of 1.00-in. (25.4-mm) thickness, max, perm (ng/Pa-s-m ²)	5.0 (287)	5.0 (287)	3.5 (201)	1.5 (86)	3.5 (201)	1.1 (63)	2.5 (143)	1.1 (63)	2.5 (143)	1.1 (63)	1.1 (63)
Water absorption by total immersion, max, volume	4.0	4.0	3.0	0.3	3.0	0.3	2.0	0.3	2.0	0.3	0.3

*ASTM C578, “Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation”; published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959



Foamular® Extruded Polystyrene Insulation Insulation Guide Specification

SECTION 072100 - THERMAL INSULATION

PART 2 - PRODUCTS

2.1 FOAM PLASTIC BOARD INSULATION

- A. Extruded Polystyrene Board Insulation:
ASTM C 578, Type [X, 15 psi minimum compressive strength, 1.30 lb/cu. ft. (21 kg/cu. m)] [IV, 25 psi minimum compressive strength, 1.60 lb/cu. ft. (26 kg/cu. m)] [VI, 40 psi minimum compressive strength, 1.80 lb/cu. ft. (29 kg/cu. m)] [VII, 60 psi minimum compressive strength, 2.20 lb/cu. ft. (35 kg/cu. m)] [V, 100 psi compressive strength, 3.00 lb/cu. ft. (48 kg/cu. m)], with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively:
 - 1. Manufacturers:
 - a. DiversiFoam Products.
 - b. Dow Chemical Company.
 - c. Owens Corning.
 - d. Pactiv, Building Products Division.



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