

Product Information Bulletin 298


DuroFoam Insulation for Roof Insulation Applications

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DuroFoam[®] insulation board is a moulded expanded polystyrene (EPS) insulation that meets or exceeds CAN/ULC-S701, **Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering**. The addition of a laminated film to the top and bottom surfaces of DuroFoam insulation board provides a more durable product that is less susceptible to handling damage. The table below provides material properties for DuroFoam insulation meeting CAN/ULC-S701, Type 1

Table 1 – DuroFoam Insulation Material Properties

Material Property ¹	Test Method	Units	Value	DuroFoam Insulation
Thermal Resistance <i>Minimum RSI (R) per 25 mm (inch)</i>	ASTM C518	m ² ·°C/W (ft ² ·hr·°F/BTU)	0.65 (3.75)	
Compressive Resistance <i>Minimum @ 10% Deformation</i>	ASTM D1621	kPa (psi)	70 (10)	
Flexural Strength <i>Minimum</i>	ASTM C203	kPa (psi)	170 (25)	
Water Vapour Permeance² <i>Maximum</i>	ASTM E96	ng/Pa·s·m ² (Perm)	30 (0.5)	
Water Absorption³ <i>Maximum</i>	ASTM D2842	% By volume	6.0	
Dimensional Stability <i>Maximum</i> 7 Days @ 70 ± 2 °C (158 ± 4 °F)	ASTM D2126	% Linear Change	1.5	
Limiting Oxygen Index <i>Minimum</i>	ASTM D2863	%	24	

The reflective facer on DuroFoam insulation contains a thin layer of foil embedded within the film. The reflective facer does not increase the nominal R-value of DuroFoam insulation (for additional information see Plasti-Fab PIB 253 - **Facts About Thermal Resistance of Reflective Insulation**). The green face of DuroFoam insulation should be left exposed to make use of the markings on this face provided for easy cutting of insulation and spacing of interior framing as required.

1. DuroFoam insulation properties are third party certified to CAN/ULC-S701 under a quality listing program administered by Intertek Testing Services. DuroFoam insulation is listed by the Canadian Construction Materials Centre under CCMC Evaluation Listing 12424-L.
2. **Maximum** vapour permeance value for type 1 EPS insulation is 300 ng/Pa·s·m² for 25-mm (5.2 perms for 1-inch) thickness. The vapour permeance value provided above for DuroFoam insulation is significantly lower as a result of laminated films. Where water vapour permeance is a design issue, contact Plasti-Fab technical services for additional information.
3. Water absorption % by volume is determined using ASTM D2842 which involves complete submersion under a head of water for 96 hours. The value provided in the table above is the **maximum** for CAN/ULC-S701, type 1 EPS insulation without facers.