

TECHNICAL BULLETIN HALO® EXTERRA® PROPERTIES CHART
No.9 - 030517 COMPARISON
Rev2 100523 CANADA

Halo rigid insulation products are made from an advanced expanded polystyrene with infused graphite - graphite expanded polystyrene (GPS), which can offer up to 30% more insulation compared to conventional expanded polystyrene (EPS).

PROPERTIES COMPARISON CHART - EPS vs GPS

Physical properties per CAN/ULC S701	EPS	GPS ¹
Classification Type (based on CAN/ULC S701, unless noted otherwise)	1	1
Thermal Resistance, RSI, at 24°C	0.65	0.88 ²
Compressive Resistance, min, kPa	70	70
Water Absorption, max. % by volume	6.0	6
Flexural Strength, min, kPa	170	170

1. Unless noted, otherwise, properties for Interra provided by 3rd party testing on 1" thick unfaced GPS. Exterra is made with Type 1 GPS.
2. At 1" nominal thickness (actual thickness = 1.06" (26.92mm))

In addition, GPS consists of properties comparable to Types 2, 3 and 4 XPS insulation materials. The table below compares Halo Exterra against common insulation products manufactured by Dow Chemical and Owens Corning.

PROPERTIES COMPARISON CHART FOR EXTERRA

Above-grade Exterior Applications (physical properties per CAN/ULC S701)

	Styrofoam™ SM ³	Foamular® 150 ³	Foamular® C-200 ³	Exterra ⁴
Classification Type	4	2	3	1
Thermal Resistance, RSI, at 75°F	0.88	0.88	0.88	0.88 ¹
Long-term Thermal Resistance, RSI, at 75°F	0.79 ²	0.79 ²	0.79 ²	0.88 ¹
Compressive Resistance, min, kPa	210	110	140	70
⁵Water Absorption, max. % by volume	0.7	0.1	0.7	1.1
⁶Water Vapor Permeance, max, ng/Pa-s-m²	90	85	45	77 ²
Flexural Strength, min, kPa	350	345	300	170
Dimensional Stability, %	1.5	1.5	1.5	1.5
Oxygen Index, %	24	24	24	24

1. Based on nominal 1" thickness (actual thickness = 1.06")
2. Based on independent testing conducted by QAI. Vapor permeance tested with laminate and 1.5" thick GPS. Vapor permeance of other products shown are based on 1" thickness. The thinner the product the higher the vapor permeance.
3. Properties provided by manufacturer's product data sheets based on 1" thickness.
4. Unless noted, otherwise, properties for Exterra provided by 3rd party testing on 1" thick unfaced GPS.
5. Refer to Technical Bulletin 3 for further comparison between XPS and EPS regarding water absorption properties.
6. Refer to Technical Bulletin 2 for further comparison between XPS and EPS regarding permeance properties.
7. Based on manufacturer's limited warranty of 90% R-value retention.

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