

TECHNICAL BULLETIN **HALO® EXTERRA® PROPERTIES CHART**
 No.9 - 030517 **COMPARISON**
 Rev1 030717 **CANADA**

Halo rigid insulation products are made from an advanced expanded polystyrene with infused graphite - graphite expanded polystyrene (GPS). Created by BASF, GPS offers 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
Compressive Resistance, min, kPa	70	70
Water Absorption, max. % by volume	6.0	1.1
Flexural Strength, min, kPa	170	170

1. Unless noted, otherwise, properties for Interra provided by BASF 3rd party testing on 1" thick unfaced GPS. Exterra is made with Type 1 GPS.

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 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 Neopor. 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 BASF 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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