

TECHNICAL BULLETIN **HALO® SUBTERRA® PROPERTIES CHART**
 No.7 - 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 18% to 25% more insulation compared to conventional expanded polystyrene (EPS).

PROPERTIES COMPARISON CHART - EPS vs GPS

physical properties per CAN/ULC S701

	EPS	GPS ¹	EPS	GPS ¹
Classification Type (based on CAN/ULC S701, unless noted otherwise)	2	2	3	3
Thermal Resistance, RSI, at 24°C	0.70	0.88	0.74	0.88
Compressive Resistance, min, kPa	110	110	140	140
Water Absorption, max. % by volume	4.0	1.1	2.0	1.1
Flexural Strength, min, kPa	240	483	300	483

1. Unless noted, otherwise, properties for Interra provided by BASF 3rd party testing on 1" thick unfaced GPS. Subterra is made with Type 2 or 3 GPS.

In addition, GPS consists of properties that meet or exceed Types 3 and 4 XPS insulation materials. The table below compares Halo Subterra against common insulation products manufactured by Dow Chemical and and Owens Corning.

PROPERTIES COMPARISON CHART FOR SUBTERRA

Below-grade Exterior or Under-Slab Applications (physical properties per CAN/ULC S701)

	Styrofoam™ Perimate ³	Styrofoam™ SM ³	Foamular® C-200 ³	Foamular® C-300 ³	Subterra 16 ⁴	Subterra 20, 25, 30 & 40 ⁴
Classification Type	4	4	3	4	2	3
Thermal Resistance, RSI, at 24°C	0.88 ¹	0.88	0.88	0.88	0.88 ¹	0.88 ¹
Long-term Thermal Resistance, RSI, at 24°C	0.79 ^{1,7}	0.79 ²	0.79 ²	0.79 ²	0.88 ¹	0.88 ¹
Compressive Resistance, min, kPa	210	210	140	210	110	140
⁶Water Absorption, max. % by volume	0.7	0.7	0.7	0.7	1.1	1.1
⁵Water Vapor Permeance, max, ng/Pa-s-m²	60	90	45	35	2.1 ²	2.1 ²
Flexural Strength, min, kPa	350	350	300	415 ²	483 ²	483 ²
Dimensional Stability, %	1.5	1.5	1.5	1.5	1.5	1.5
Oxygen Index, %	24	24	24	24	24	24

1. Based on nominal 1" thickness (actual thickness = 1.06")
2. Based on independent testing conducted by QAI, properties tested with laminate and 1" thick GPS.
3. Properties provided by manufacturer's product data sheets based on 1" thickness.
4. Unless noted, otherwise, properties for Subterra provided by BASF 3rd party testing on 1" thick unfaced GPS. Check availability with your local Halo rep.
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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