

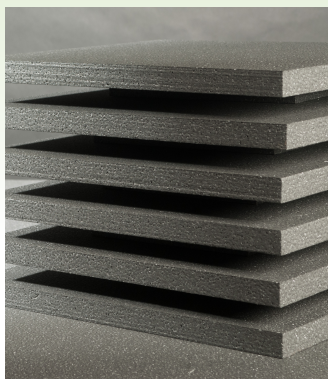
OPCORE[®] G

R-5 THERMAL INSULATION

for
NEW & EXISTING
BUILDINGS



What if your insulation became more powerful when you needed it most?



Dimensional accuracy and consistency means a superior thermal envelope.

OPCORE-G is dimensionally accurate to 1/16 of an inch. This means your product will consistently fit and thermal and impact protection is maximized.



Moisture vapor and bulk water? OPCORE-G can manage both.

OPCORE-G can keep bulk water on the outside. And, the material lets water vapor move through it at a higher rate than rigid foam boards of equivalent R-value made from other materials.



Recyclability is just the beginning of the sustainability story for OPCORE-G.

OPCORE-G is recyclable as a #6 polymer compound. Comprised of up to 98% air and containing no ozone-depleting CFC's, OPCORE-G is always at work reducing energy expended for heating and cooling interior spaces.



Find the OPCORE-G ICC-ES ESR in our website library at www.opcodirect.com.

Quality matters. OPCORE-G meets current building code requirements and is certified for quality by 3rd party laboratories.

Well, you'd save money on heating and, likely, be more comfortable.

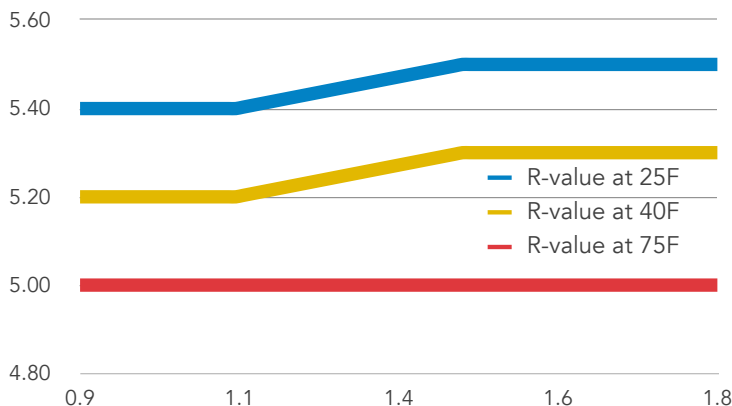
OPCORE-G powers up when it gets colder outside

By absorbing radiant energy, high purity graphite wholly contained in the polymer matrix of OPCORE-G rigid foam slows the flow of heat through the material.

As shown in the chart below, the effect of high-purity graphite on the rate of radiant energy transfer through the material is even more pronounced at lower mean temperatures.

Summer or winter, OPCORE-G Recyclable Thermal Insulation helps keep heat where it belongs.

R-value* vs Material Density

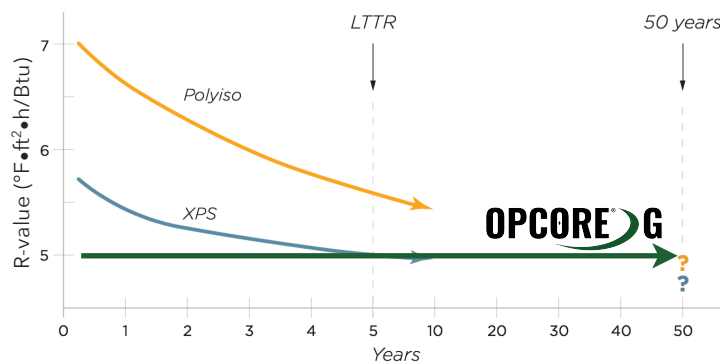


*R-value means resistance to heat flow. The higher the R-value, the greater the insulating power. The R-value properties are based on 1.06 in thickness. Material density = pounds per cubic foot.

The R-value of OPCORE-G is stable over time

OPCORE-G is made of small pockets of air surrounded by a recyclable polymer matrix. There are no chemical blowing agents inside the cells of the rigid foam. This means the R-value of the material is stable over time because the insulating gas in the cells starts as, and stays as, air.

OPCORE-G R-value of 5 is based on samples of thickness 1.06 in.



Results from multiple scientific experiments contained within published scientific studies of long-term graphite EPS R-value performance show OPCORE-G should consistently exhibit stable R-value over at least 50 years.

Physical Property	Method	Units	Material Property Values			
Density, nominal	ASTM C303	lbs / ft ²	1	1.25	1.5	2
Density, minimum	ASTM C303	lbs / ft ²	0.90	1.15	1.35	1.80
Sustainability / Environmental	Summarized conclusions from scientific experiments in the public domain or product specification.	<ul style="list-style-type: none"> Recyclable as #6 Plastic. Can reduce carbon emissions by lowering energy needed to heat or cooling buildings, or refrigerate package contents. Retains R-value over time. Does not contain chlorofluorocarbons. Can contain recycled content per specification. UL GreenGuard Gold Certified for Indoor Air Quality. Material expansion agent has zero ozone depletion potential. 				
ASTM C578 Classification ⁽¹⁾	ASTM C578	Type	I	VIII	II	IX
Compressive Resistance	ASTM D1621	at yield or 10% deformation, psi (kPa)	10 (69)	13 (90)	15 (104)	25 (173)
Thermal Resistance (R-value*), 75F ⁽²⁾	ASTM C518	°F·ft ² ·h/BTU (K·m ² /W) 75 ±2°F (23.9 ±1°C)	5.0			
Thermal Resistance (R-value*), 40F ⁽²⁾	ASTM C518	°F·ft ² ·h/BTU (K·m ² /W) 40 ±2°F (4.4 ±1°C)	5.2		5.3	
Thermal Resistance (R-value*), 25F ⁽²⁾	ASTM C518	°F·ft ² ·h/BTU (K·m ² /W) 25 ±2°F (-3.9 ±1°C)	5.4		5.5	
Flexural Strength	ASTM C203	psi (kPa)	25 (173)	30 (207)	35 (241)	50 (345)
Water Vapor Permeance ⁽³⁾	ASTM E96	For 1" (25.4 mm), perm (ng/PA·s·m ²), max	5.0	3.5	3.5	2.5
Water Absorption by Total Immersion	ASTM C272	Volume % absorbed, max	4.0	3.0	3.0	2.0
Dimensional Stability	ASTM D2126	max % linear change	< 2.0			
Oxygen Index	ASTM D2863	min, volume %	> 24.0			
Surface Burning Characteristics	ASTM E-84 or UL 723	Flame Spread / Smoke Developed	Flame Spread 5, Smoke Developed 25			
Biological Behavior			Will not support growth of mold or mildew. No harmful effects on health known.			
Chemical Resistance			Insensitive to water, the majority of acids and alkalis; sensitive to organic solvents.			
Application Limiting Temperature		° F / ° C	165 (73.9) nominal / 180 (82.2) max			

⁽¹⁾ OPCORE-G meets and/or exceeds ASTM C578-11b "Standard Specification For Preformed, Cellular Polystyrene Insulation"; published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959.

⁽²⁾ OPCORE-G rigid thermal insulation, and its use and application requirements per building code, are described in ICC-ES ESR 3463 available at www.opcodirect.com/library and from ICC-ES. Thermal resistance (R-value) is based on tested values at 1.06-inch thickness at the temperature indicated. It is recommended to multiply your installed thickness by the R-value indicated and divide the result by 1.06.

⁽³⁾ R-value means resistance to heat flow. The higher the R-value, the greater the insulating power. Ask your seller for help with sizing. The R-value properties shown are based on 1 in thickness.

⁽⁴⁾ Values quoted are maximum values for 1 inch (25mm) thick samples and are based upon most recent raw material product quality audit data. Actual water vapor permeance data decreases as thickness increases. Where water vapor permeance is a design concern, use of the product is subject to professional engineering review at the specifier's option.

The physical property data shown above are presented as typical average values as determined by industry accepted and standard test methods, except where noted, and are subject to normal manufacturing variation. ASTM specifications shown are typical for rigid, cellular polystyrene thermal insulation and are published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959.



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