

# OPCO<sup>Inc.</sup>

OPCORE<sup>®</sup>

## Thermal Insulation Cores for Structural Insulated Panels

OPCORE<sup>®</sup> G

800.229.6726

[opcodirect.com](http://opcodirect.com)





Award Winning Hudson Passive House  
Claverack, New York | Architect Dennis Wedlick  
OPCORE-G SIP Core for Wall SIPs R-50  
OPCORE-G SIP Core for Roof SIPs R-50

# Experience.

BASF  
Environmental  
Education Center  
Rensselaer, New York

OPCORE-G SIP Core  
for Wall SIPs  
R-36

OPCORE-G Rigid Foam  
Radiant Floor  
R-20





OPCO is a proud member of SIPA.

The Structural Insulated Panel Association (SIPA) is a non-profit trade association representing manufacturers, suppliers, dealer/distributors, design professionals, and builders committed to providing quality structural insulated panels for all segments of the construction industry.

[www.sips.org](http://www.sips.org)

# Quality.

ICC-ES Technical Evaluations for OPCORE and OPCORE-G Rigid Foam  
<https://icc-es.org/report-listing/esr-1464/>  
<https://icc-es.org/report-listing/esr-4522/>



+



A good infield keeps three bases covered.

We combined our SIP Core manufacturing expertise (base 1) with a quality control program (base 2) that includes auditing to ensure compliance with product performance and quality metrics defined by technical evaluations of our building products by the most widely accepted evaluation agency in the nation (base 3).

The result?  
 Just dimensionally accurate SIP Cores in your SIP press!

Physical Property	Method	Units	Material Property Values					
Density, nominal	ASTM C303	lbs / ft <sup>2</sup>	1.00	1.25	1.50	2.00	2.50	3.00
Density, minimum	ASTM C303	lbs / ft <sup>2</sup>	0.90	1.15	1.35	1.80	2.40	3.00
Sustainability / Environmental	Summarized conclusions from scientific experiments in the public domain or product specification.	<ul style="list-style-type: none"> <li>Recyclable as #6 Plastic.</li> <li>Can reduce carbon emissions by lowering energy needed to heat or cooling buildings, or refrigerate package contents.</li> <li>Retains R-value over time.</li> <li>Does not contain chlorofluorocarbons.</li> <li>UL GreenGuard Gold Certified for Indoor Air Quality.</li> <li>Material expansion agent has zero ozone depletion potential.</li> </ul>						
ASTM C578 Classification <sup>(1)</sup>	ASTM C578	Type	I	VIII	II	IX	XIV	XV
Compressive Resistance	ASTM D1621	at yield or 10% deformation, psi (kPa)	10 (69)	13 (90)	15 (104)	25 (173)	40 (276)	60 (414)
Thermal Resistance (R-value*), 75F <sup>(2)</sup>	ASTM C518	°F·ft <sup>2</sup> ·h/BTU (K·m <sup>2</sup> /W) 75 ±2°F (23.9 ±1°C)	3.85	3.92	4.17	4.35	4.50	4.60
Thermal Resistance (R-value*), 40F <sup>(2)</sup>	ASTM C518	°F·ft <sup>2</sup> ·h/BTU (K·m <sup>2</sup> /W) 40 ±2°F (4.4 ±1°C)	4.17	4.25	4.55	4.76	4.85	5.05
Thermal Resistance (R-value*), 25F <sup>(2)</sup>	ASTM C518	°F·ft <sup>2</sup> ·h/BTU (K·m <sup>2</sup> /W) 25 ±2°F (-3.9 ±1°C)	4.35	4.55	4.76	5.00	5.05	5.10
Flexural Strength	ASTM C203	psi (kPa)	25 (173)	30 (208)	35 (242)	50 (345)	60 (414)	75 (517)
Water Vapor Permeance <sup>(3)</sup>	ASTM E96	For 1" (25.4 mm), perm (ng/PA·s·m <sup>2</sup> ), max	5.0	3.5	3.5	2.5	2.5	2.5
Water Absorption by Total Immersion	ASTM C272	Volume % absorbed, max	4.0	3.0	3.0	2.0	2.0	2.0
Dimensional Stability	ASTM D2126	max % linear change	< 2.0					
Oxygen Index	ASTM D2863	min, volume %	> 24					
Surface Burning Characteristics	ASTM E-84 or UL 723	Flame Spread / Smoke Developed	Flame Spread <25, Smoke Developed <450					
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					

<sup>(1)</sup> OPCORE 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.

<sup>(2)</sup> 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.

<sup>(3)</sup> 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 higher the R-value, the greater the insulating power. 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.



ICC EVALUATION SERVICE®



205 W Harrison Avenue  
 Latrobe, PA 15650  
 Tel: 724.537.9300 / 800.229.6726  
 Order Fax: 724.537.9349  
 www.opcodirect.com

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Physical Property	Method	Units	Material Property Values			
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Density, minimum	ASTM C303	lbs / ft <sup>2</sup>	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"> <li>Recyclable as #6 Plastic.</li> <li>Can reduce carbon emissions by lowering energy needed to heat or cooling buildings, or refrigerate package contents. Retains R-value over time.</li> <li>Does not contain chlorofluorocarbons.</li> <li>Can contain recycled content per specification.</li> <li>UL GreenGuard Gold Certified for Indoor Air Quality.</li> <li>Material expansion agent has zero ozone depletion potential.</li> </ul>				
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Thermal Resistance (R-value*), 40F <sup>(2)</sup>	ASTM C518	°F·ft <sup>2</sup> ·h/BTU (K·m <sup>2</sup> /W) 40 ±2°F (4.4 ±1°C)	5.2		5.3	
Thermal Resistance (R-value*), 25F <sup>(2)</sup>	ASTM C518	°F·ft <sup>2</sup> ·h/BTU (K·m <sup>2</sup> /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 <sup>(3)</sup>	ASTM E96	For 1" (25.4 mm), perm (ng/PA·s·m <sup>2</sup> ), max	5.0	3.5	3.5	2.5
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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.			
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<sup>(2)</sup> 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](http://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.

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<sup>(4)</sup> 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.

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Our Mission is to create value for our customers  
while being stewards for the environment.



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Latrobe, PA 15650

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