



## Product Data Sheet



- Evolution™–Paper-Free ASJ
- SSL II®–ASJ
- SSL® I–ASJ
- No-Wrap

### Description

Owens Corning™ Fiberglas™ Pipe Insulations are molded of heavy density resin bonded inorganic glass fibers. The one-piece, 36" (914mm) long, hinged sections are opened, placed over the pipe, closed and secured by means specific to the type as described below.

Fiberglas™ Pipe Insulation with Evolution™ Paper-Free ASJ is jacketed with durable, paper free all-service vapor retarder jacket. The SSL II® double adhesive closure provides positive mechanical and vapor sealing of the longitudinal jacket seam. All Evolution™ Paper-Free ASJ sizes come with the SSL II® closure system.

Fiberglas™ SSL II® Pipe Insulation is jacketed with a smooth, reinforced, wrinkle resistant all-service vapor retarder jacket (ASJ). This product has the same SSL II® closure system as Evolution™ Paper-Free ASJ and is available in the most popular

pipe sizes. For the larger ASJ sizes, Fiberglas™ Pipe Insulation is furnished with a SSL® I single adhesive lap seal.

Both systems include pressure sensitive butt strip seals that complete the positive closure system.

Fiberglas™ Pipe Insulation is also available without a jacket. "No Wrap" pipe insulation intended for field installation with jacketing appropriate to the vapor control, damage or corrosion resistance requirements of the application.

### Key Features

- Evolution™ jacket is more than 3X tougher than standard ASJ. The paper free all service jacket does not support mold growth and is designed to have compatible finished job appearance with standard ASJ.
- The double adhesive lap seal and two-part butt strip seal provide effective long term vapor sealing of the longitudinal and butt joints.
- SSL II® Positive Closure is fast, neat and foolproof. There is no need for staples which promotes job site productivity.
- Short pieces of insulation can be cut without jacket loss and the section will not come apart in handling. There are no "dog-ears" in or out of the carton. Dust and moisture cannot reach the lap seal. Butt strips come in sealed bags inside the carton so they can stay clean until the moment of use.

- Fiberglas™ Pipe Insulation's low thermal conductivity contributes to lower operating costs of heating and cooling equipment.
- The flame spread rating of 25 or less and smoke developed rating of 50 or less usually means that Fiberglas™ Pipe Insulation will be granted immediate building code approval.

### Product Applications

Insulation of hot, cold, concealed and exposed piping operating at temperatures from 0°F (-18°C) to 850°F (454°C) in commercial buildings, industrial facilities and process or power plants.

The hinged sections of Fiberglas™ Pipe Insulation are opened, placed over the pipe, carefully aligned, and sealed or jacketed as required by the form of the insulation and the application.

All jacketed SSL II® Pipe Insulation is shipped with the jacket and longitudinal lap closed, the two adhesives separated by a release strip. The insulation is opened by pulling the release strip from between the two adhesive strips. The insulation is placed on the pipe, carefully aligned, and the two adhesives rubbed firmly together to close and seal. The two part butt strip seal completes the positive closure. Application may be at ambient temperatures from 25°F (-4°C) to 110°F (43°C).

Fiberglas™ "No-Wrap" Pipe Insulation is designed for field-jacketing. The pipe covering is secured by wires or bands, and vapor sealed where required.



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Outdoor applications must be protected from weather. If painting is required, use only water based latex paint.

### Standards, Codes Compliance

- ASTM C547, Mineral Fiber Pipe Insulation, Type I to 850°F (454°C)
- ASTM C1136, Flexible Low Permeance Vapor Retarders for Thermal Insulation: Types I-IV
- ASTM C795, Thermal Insulation for Use in Contact with Austenitic Stainless Steel<sup>4</sup>
- MIL-I-22344D, Insulation, Pipe, Thermal, Fibrous Glass
- Nuclear Regulatory Commission Guide 1.36, Non-Metallic Thermal Insulation<sup>4</sup>
- Doesn't contain the fire retardant decabrominated diphenyl ether (decaBDE)
- MIL-I-24244C (Ships) Insulation Material with Special Corrosion, Chloride, and Fluoride Requirements<sup>4</sup>
- U.S. Coast Guard Approval No. 164.109, Noncombustible Materials (no-wrap)
- CAN/CGSB-51.9 – Type I, Class 2<sup>5</sup>
- New York City MEA No. 344-83, 408-07-M
- NFPA 90A

### Availability

Fiberglas™ Pipe Insulations are available in thicknesses and for pipe sizes as follows<sup>1</sup>:

Insulation Thickness		Nominal Pipe Size	
in.	(mm)	in.	(mm)
½	(13)	½ - 2 ½	(15 - 65)
1	(25)	½ - 33	(15 - 825)
1 ½	(38)	½ - 33	(15 - 825)
2	(51)	½ - 33	(15 - 825)
2 ½	(64)	½ - 32	(15 - 800)
3	(76)	½ - 31	(15 - 775)
3 ½	(89)	½ - 30	(15 - 750)
4	(102)	½ - 29	(15 - 725)
4 ½	(114)	½ - 28	(15 - 700)
5	(127)	½ - 27	(15 - 675)
5 ½	(140)	6 - 26	(150 - 650)
6	(152)	6 - 25	(150 - 625)

1. Please refer to product packaging and data guide for load factors, standard products, minimum order quantity and carton sizes. Contact your customer service representative for product leadtime.

### Physical Property Data

Property	Test Method	Value
Density (size dependent)	ASTM C302	3.5 to 5.5 pcf
Operating Temperature Range <sup>2</sup>	ASTM C411	0°F to 850°F (-18°C to 454°C)
Jacket Temperature Limitation	ASTM C1136	-20°F to 150°F (-29°C to 66°C)
Jacket Permeance	ASTM E96, Proc.A	0.02 perm
Burst Strength, min	ASTM D774/D774M	55 psi
Composite Surface Burning Characteristics <sup>3</sup>	UL 723, ASTM E84 or CAN/ULC-S102	Flame spread 25 Smoke Developed 50

2. Limited to single layer applications above 650°F (343°C), but not greater than 6" (152mm) thickness.

3. The surface burning characteristics of these products have been determined in accordance with UL 723, ASTM E84 or CAN/ULC-S102. These standards should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use. Values are reported to the nearest 5 rating.

### Thermal Conductivity

Mean Temperature °F	k Btu•in/hr•ft <sup>2</sup> •°F	Mean Temperature °C	λ W/m•°C
50	0.22	10	0.032
75	0.23	25	0.034
100	0.24	50	0.037
150	0.27	100	0.043
200	0.29	125	0.047
250	0.32	150	0.051
300	0.35	175	0.056
350	0.39	200	0.062
400	0.43	225	0.068
450	0.48	250	0.075
500	0.54	275	0.082

Apparent thermal conductivity values determined in accordance with ASTM practice C1045 with data obtained by ASTM Test Method C335. Values are nominal, subject to normal testing and manufacturing tolerances.

4. Preproduction qualification testing complete and on file. Chemical analysis of each production lot required for total conformance.

5. Standard Obsolete, replaced by ASTM C547.



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### Personnel Protection Table

Thickness Required for Surface Temperatures ≤ 140 °F, inches (mm)<sup>6,7</sup>

Nominal Pipe Size	System Operating Temperatures °F (°C)												
	in.	(mm)	200°F	(93°C)	300°F	(149°C)	400°F	(204°C)	500°F	(260°C)	600°F	(316°C)	800°F
0.5	(15)	0.5	(15)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)
0.75	(20)	0.5	(15)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)
1	(25)	0.5	(15)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)
1.25	(32)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)	2.0	(51)
1.5	(40)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)	2.0	(51)
2	(50)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)	2.0	(51)
2.5	(65)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)	2.0	(51)
3	(80)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)	2.5	(64)
4	(100)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)	2.5	(64)
5	(125)	0.5	(15)	0.5	(15)	1.0	(25)	1.0	(25)	1.5	(38)	2.5	(64)
6	(150)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	1.5	(38)	2.5	(64)
7	(175)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	1.5	(38)	2.5	(64)
8	(200)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	1.5	(38)	2.5	(64)
9	(225)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	1.5	(38)	2.5	(64)
10	(250)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	1.5	(38)	2.5	(64)
12	(300)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	1.5	(38)	3.0	(76)
14	(350)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)	3.0	(76)
16	(400)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)	3.0	(76)
18	(450)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)	3.0	(76)
20	(500)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)	3.0	(76)
24	(600)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)	3.0	(76)
30	(750)	0.5	(15)	0.5	(15)	1.0	(25)	1.5	(38)	2.0	(51)	3.0	(76)

6. Calculations estimated using NAIMA 3E Plus Version 4.0 Software. Fixed Design Conditions: Steel horizontal piping, 80°F (27°C) average ambient temperature, 0 mph wind speed and outer surface jacket emittance of 0.9. For alternate design conditions, contact your Owens Corning representative.

7. Thermal conductivity values used in these calculations are subject to normal manufacturing tolerances.

### Thickness to Prevent Surface Condensation

Owens Corning™ ASJ Jacket for up to 16" NPS (400mm DN), in. (mm)<sup>8,9</sup>

Ambient Temperature °F (°C)	Relative Humidity	System Operating Temperatures		
		35°F (2°C)	45°F (7°C)	55°F (13°C)
110 (43)	70%	1 (25)	1 (25)	1 (25)
	80%	1½ (38)	1½ (38)	1½ (38)
	90%	3½ (89)	3½ (89)	3 (76)
100 (38)	70%	1 (25)	1 (25)	1 (25)
	80%	1½ (38)	1½ (38)	1 (25)
	90%	3½ (89)	3 (76)	2½ (64)
90 (32)	70%	1 (25)	1 (25)	1 (25)
	80%	1½ (38)	1 (25)	1 (25)
	90%	3½ (89)	3 (76)	2½ (64)
80 (27)	80%	1½ (38)	1 (25)	1 (25)
	90%	3 (76)	2½ (64)	2 (51)
70 (21)	80%	1 (25)	1 (25)	1 (25)
	90%	2½ (64)	2 (51)	1 (25)

8. Calculations estimated using NAIMA 3E Plus version 4.0 software. Fixed design conditions: Steel Horizontal Piping, 16" NPS, 0 mph wind speed, Outer Surface Jacket Emittance of 0.9.

9. Thermal conductivity values used in these calculations are subject to normal manufacturing tolerances.



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### Certifications and Sustainable Features of Fiberglas™ Pipe Insulation

- Certified by Scientific Certification Systems to contain a minimum of 57% recycled glass content
- Certified to meet indoor air quality standards under the stringent GREENGUARD Indoor Air Quality Certification Program<sup>SM</sup>, and the GREENGUARD Gold Certification.

### Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at <http://sustainability.owenscorning.com>.



No-Wrap Pipe Insulation is not yet GREENGUARD® Certified.

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GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit [ul.com/gg](http://ul.com/gg).



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