



Product Data Sheet



Description

SOFTR® Duct Wrap is a blanket of glass fiber insulation factory-laminated to FRK vapor retarder facing. A 2" (50mm) stapling and taping flange is provided on one edge. This product is designed to meet existing performance standards such as NFPA 90A and 90B and other mechanical and energy codes.

Key Features

- Condensation control.
- Enhanced comfort control.
- Easy to clean surface.
- Flexible and easy to install.

Product Applications

SOFTR® Duct Wrap FRK is used for external insulation of commercial and residential heating, air conditioning and dual-temperature ducts operating at temperatures from 40°F (4°C) to 250°F (121°C). This insulation, when applied in accordance with installation instructions, will provide the "installed R-value" as published for the product and printed on the facing, assuring specified in-place thermal performance and condensation control.

Table 1: Availability and Installed R-Values

Standard roll width: 48" (1.2m), 60" (1.5m)
Installed R (RSI) values: When installed in accordance with recommended installation procedures, SOFTR® Duct Wrap FRK will provide installed R (RSI) values as follows:

Nominal Thickness		Out-of-Package R (RSI) Value ¹		Installed Thickness ²		Installed R (RSI) Value ^{1,2}	
in.	mm			in.	mm		
Type 75 – 0.75 pcf (12 kg/m³)							
1½	(38)	5.1	(0.90)	1½	(29)	4.2	(0.74)
2.0	(50)	6.8	(1.17)	1½	(38)	5.6	(0.98)
2.2	(56)	7.4	(1.30)	1¾	(42)	6.0	(1.06)
3	(76)	10.0	(1.76)	2¼	(57)	8.3	(1.46)
Type 100 – 1.00 pcf (16 kg/m³)							
1½	(38)	5.6	(0.99)	1½	(29)	4.5	(0.79)
2	(51)	7.4	(1.30)	1½	(38)	6.0	(1.06)
Type 150 – 1.50 pcf (24 kg/m³)							
1½	(38)	6.0	(1.06)	1½	(29)	4.8	(0.85)
2	(51)	8.0	(1.41)	1½	(38)	6.4	(1.13)

1. hr•ft²•°F/Btu (m²•°C/W) at 75°F (24°C) mean temperature.
2. Assumes 25% compression of insulation.

Table 2: Specification Compliance

ASTM C 1290, Flexible Fibrous Glass Blanket Insulation Used to Externally Insulate HVAC Ducts, Type III

ASTM C 1136, Flexible Low Permeance Vapor Retarders for Thermal Insulation, Type II (facing only)

ASTM C 553³ Mineral Fiber Thermal Insulation: Type I – Fiberglas™ Duct Wrap Type 75; Type II – SOFTR® Duct Wrap FRK Types 100 and 150. (Operating temperatures to 250°F (121°C) and thermal values to 150°F (66°C) mean.

3. Preferred specification is ASTM C 1290.

Table 3: Physical Property Data

Property	Test Method	Value		
Operating Temperature	ASTM C 411	up to 250°F (121°C)		
Insulation Jacket Temperature Limit	ASTM C 1136	up to 150°F (66°C)		
Jacket Puncture Resistance	ASTM C 1136	25 units (0.7 joules)		
Water Vapor Permeance	ASTM E 96	0.02 perms		
Water Vapor Sorption	ASTM C 1104	<3% by weight at 120°F (49°C), 95% R.H.		
Fungi Resistance	ASTM C 1338	Meets requirements		
Thermal Conductivity	ASTM C 518			
<u>Out-of-Package k-Value</u> k Btu•in/hr•ft ² •°F (λ at 24°C Mean, W/m•°C)		Type 75 0.30 (0.043)	Type 100 0.27 (0.039)	Type 150 0.25 (0.036)
<u>Installed (Compressed) k-Value</u> k Btu•in/hr•ft ² •°F (λ at 24°C Mean, W/m•°C)		Type 75 0.27 (0.039)	Type 100 0.25 (0.036)	Type 150 0.23 (0.033)
Surface Burning Characteristics⁴	ASTM E 84			
Flame Spread			25	
Smoke Developed			50	

4. The surface burning characteristics of these products have been determined in accordance with ASTM E 84. This standard 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.



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Limitations

SOFTR® Duct Wrap FRK is not recommended for use on duct systems subject to continuous service at temperatures in excess of 250°F (121°C). It should not be used in conditions where condensation might occur on the facing nor exposed to weathering or mechanical abuse without proper protection. It should not be used on the inside of ducts.

Installation

Before applying SOFTR® Duct Wrap FRK, ducts should be clean, dry and tightly sealed at all joints and seams. Install in accordance with instructions so that compression is controlled.

The installed R-value is based on installation of product over sealed sheet metal ductwork with the average installed thickness at 75% of nominal thickness, and thermal conductivity (k) at the installed compressed density. See Thermal Conductivity in the Physical Property Data table.

Cut SOFTR® Duct Wrap to "stretch-out" dimensions per Table 4. Then cut 2" (50mm) of insulation from the cut end and remove from the facing to form an overlapping staple/tape flap, see Figure No. 1.

Always install duct wrap with the facing toward the outside. Tightly butt the insulation seams together, see Figure No. 1. The 2" (50mm) formed tape flap must completely overlap the facing and insulation at other end of the piece of duct wrap. Rectangular or square ducts are to be

installed so that the insulation is not excessively compressed at duct corners. The side seams shall be stapled approximately 6" (150mm) on center with outward clinching staples, or held in place with three or four evenly spaced 8" long tape tabs.

Adjacent sections of duct wrap shall be tightly butted with the factory 2" (50mm) tape flap edge overlapping the adjoining duct wrap section. In the event that the factory tape flap has been removed, reinstall the 2" (50mm) tape flap as described above.

When a vapor retarder is required, seal all seams and joints with pressure-sensitive tape matching the facing (either plain foil, FRK backing stock, or aluminize mylar), or with glass fabric and mastic. Cloth duct tape of any color and finish using reclaimed rubber adhesives (example: gray duct tape) is not recommended for use on SoftR® Duct Wrap.

When a vapor retarder is not required, the side seam must be taped as shown in Figure No. 1 to assure the blanket edges are held together to maintain thermal performance and to give a finished appearance.

Where rectangular ducts are 24" (600mm) in width or greater, duct wrap shall be additionally secured to the bottom of the duct with mechanical fasteners such as pins and speed clip washers, spaced on 18" (425mm) centers (maximum) to prevent sagging of insulation.

When installing SOFTR® Duct Wrap FRK, it is not recommended the use of adhesives to adhere the duct wrap to sheet metal ductwork. When adhesives are used, the insulation is compressed into the adhesive when being installed. The adhesive will not allow the insulation to expand to the desired thickness, therefore affecting the stated R-value and possibly contributing to condensation issues. Additionally, the adhesive could affect the Flame Spread and Smoke Developed Indices of the duct wrap and void all fire ratings.

Where a vapor retarder is required, seal all tears, punctures and other penetrations of the duct wrap facing using one of the above methods to provide a vapor-tight system.

Certifications and Sustainable Features of SOFTR® Duct Wrap FRK

- Certified by SCS Global Services to contain a minimum of 53% recycled glass content, 31% pre-consumer and 22% post-consumer.
- Certified to meet indoor air quality standards under the GREENGUARD Indoor Air Quality Certification Program, and is GREENGUARD Gold certified.
- These products' Environmental Product Declaration (EPD) has been certified by UL Environment.

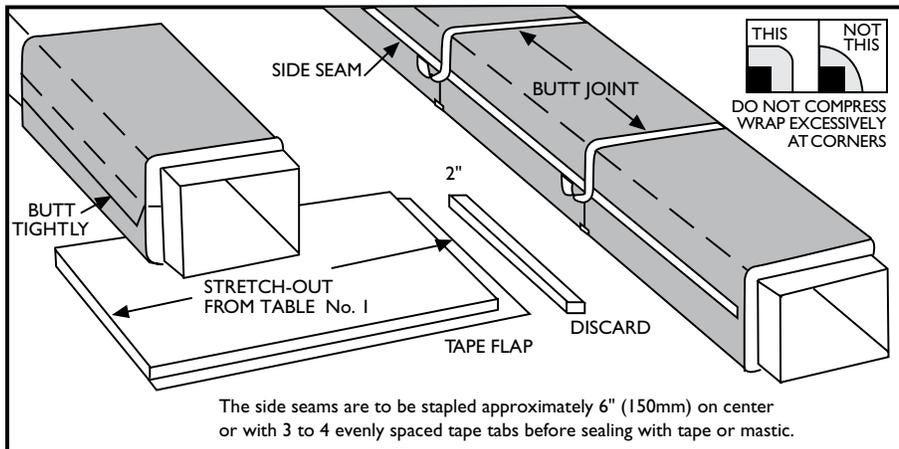
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Table 4: Material Requirements to Achieve Installed R-Value

Out-Of Package Thickness in.	Installed Thickness in.	Stretch-Out Dimensions	
		Round and Oval Ducts P+in.	Square and Rectangular Ducts P+in.
1-1/2	1-1/8	P+9-1/2	P+8
2.0	1-1/2	P+12	P+10
2-3/16	1-5/8	P+13	P+11
3	2-1/4	P+17	P+14-1/2

P = measured duct perimeter

Figure No. 1



- SOFTR® Duct Wrap FRK has received the Cradle to Cradle Products Innovation Institute's Bronze Level Material Health Certificate.

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>.



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