



## Product Information

# Heating and Air Conditioning

## Fiberglas® All-Service Duct Wrap

### Description

Fiberglas® All-Service Duct Wrap insulation is a blanket of glass fibers, factory-laminated to a Foil-Scrim-Kraft (FSK) vapor retarder facing or other designated foil.

Fiberglas® All-Service Duct Wrap insulation is used to insulate commercial and residential heating, air conditioning and dual-temperature ducts operating at temperatures from 4°C to 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, thus assuring specified in-place thermal performance and condensation control.

### Features/Benefits

#### ■ Assured Thermal Performance

When installed in accordance with instructions, so that compression is controlled, Fiberglas® All-Service Duct Wrap provides specified thermal performance. Operating costs are controlled due to reduction of heat loss or gain through sheet metal duct walls.

#### ■ Enhanced Comfort Control

Fiberglas® All-Service Duct Wrap helps heating and cooling systems to deliver conditioned air to occupied spaces at or near design temperatures. By conserving heating and cooling energy, HVAC systems may operate under reduced load.

#### ■ Flexible, Easy Installation

Fiberglas® All-Service Duct Wrap is easily cut to fit flat, curved or irregular duct surfaces for a neat, thermally effective insulation blanket. Because it's easier to install than rigid boards, installation costs are lowered.

### Physical Property Data

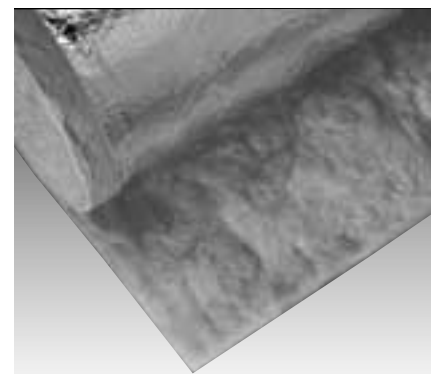
Property	Test Method	Specification										
Operating Temperature Range	ASTM C 411	-4°C to +121°C										
Corrosiveness	ASTM C 665	Chemically Inert										
Mold Growth	ASTM C 665	No Growth										
Moisture Absorption	ASTM C 1104	<3% by weight at 49°C; 90% R.H.										
Vapor Permeance	ASTM E 96	0.02 Perm Maximum										
Puncture Resistance	ASTM D 781	25 Beach Units Minimum										
Thermal Conductivity (k) At 24°C Mean	W/m•K	<table border="1"> <thead> <tr> <th>Type 200</th> <th>Type 240</th> <th>Type 320</th> <th>Type 400</th> <th>Type 480</th> </tr> </thead> <tbody> <tr> <td>0.037</td> <td>0.036</td> <td>0.034</td> <td>0.033</td> <td>0.032</td> </tr> </tbody> </table>	Type 200	Type 240	Type 320	Type 400	Type 480	0.037	0.036	0.034	0.033	0.032
Type 200	Type 240	Type 320	Type 400	Type 480								
0.037	0.036	0.034	0.033	0.032								
Flammability Characteristics	B.S. 476	Part 4 – Non-Combustible Part 6 – Fire Propagation Part 7 – Surface Spread of Flame Part 12 – Ignitability  Class “O” Fire Rating to the Building Regulations Section E15										
Combustibility Characteristics	China National Standard	GB 5464-85: PASSED Non-Combustible										
Surface Burning Characteristics	ASTM E84	Flame Spread 25 Smoke Developed 50										

\* Mean temperature is the average of two temperatures: the air inside the duct and that of the ambient air outside it.

### Sound Absorption Coefficients For Unfaced Fiberglas® Insulation

Insulation Thickness	Sound Absorption Coefficients at Frequencies (Hz)						
	125	250	500	1000	2000	4000	NRC
<b>Flexible</b>							
25 mm	0.38	0.34	0.68	0.82	0.87	0.96	0.68
50 mm	0.44	0.66	1.07	1.06	0.99	1.06	0.95
<b>Semi-Rigid</b>							
25 mm	0.33	0.28	0.62	0.88	0.96	1.04	0.69
50 mm	0.38	0.63	1.10	1.07	1.05	1.05	0.96

No. 7 Modified: Insulation placed against 24-gauge sheet metal over a 406.4 mm air space. This mounting configuration is typical of a sheet metal enclosure with insulation on one side.



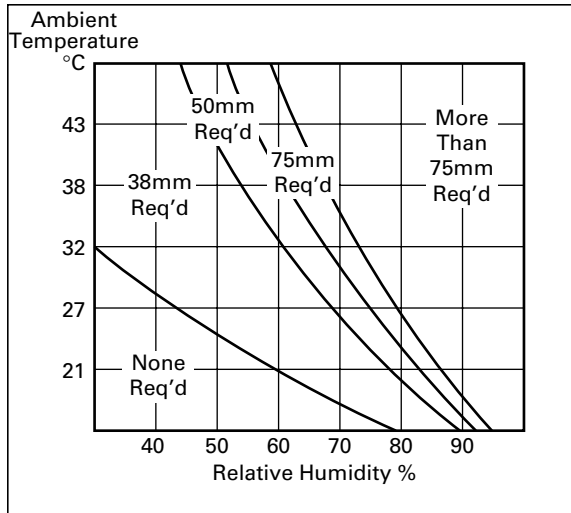


# Fiberglas® All-Service Duct Wrap Heating and Air Conditioning

## Condensation Control

To determine thickness to prevent condensation at various ambient temperature and humidity levels, based on installed thickness 75% of nominal (out-of-package) thickness, 13°C air duct internal temperature:

1. Select maximum expected relative humidity (RH) on the lower scale.
2. Move up vertically until that line intersects the expected maximum ambient air temperature.
3. Select the thickness indicated by the intersection point.



This chart is based on indoor conditions so far as wind and other factors are concerned.

## Recommended Thickness

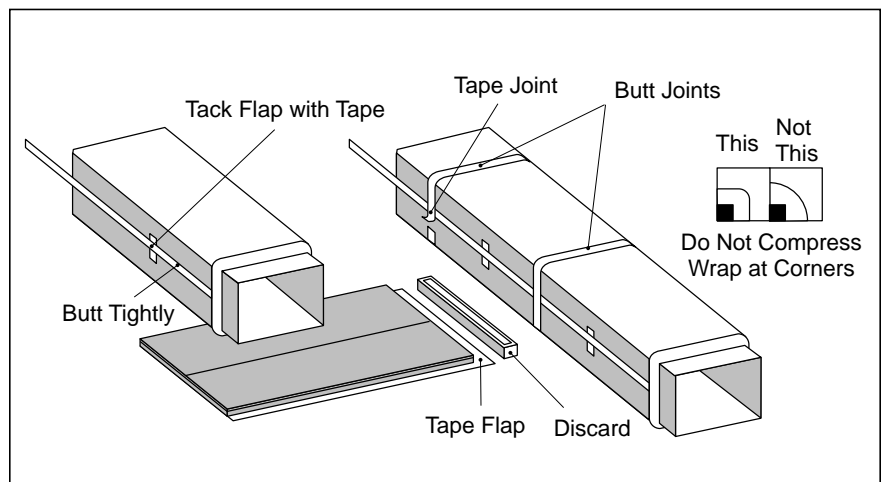
Owens Corning recommends a minimum thickness of 50mm for protection against excessive heat loss or gain. Selection of insulation thickness and application of insulation are the responsibility of the engineer and contractor. Thickness also affects condensation control as indicated on preceding page.

## Limitations

All-Service Duct Wrap insulation is not recommended for use on duct systems subject to continuous service at temperatures in excess of 121°C. It should not be exposed to weathering or mechanical abuse without proper protection. It should not be used on the inside of ducts.

## How to Install All-Service Duct Wrap to Achieve Maximum Performance and R-Value

1. Measure the perimeter (P) of the sheet metal duct. That's the circumference of round or oval ductwork, or twice the height plus twice the width of square or rectangular ducts.
2. Cut Fiberglas® All-Service Duct Wrap to the length required as shown in the table – perimeter P plus add-on dimensions = “stretch-out.” The dimension also depends on the nominal thickness of the duct wrap. That's the way to ensure average installed thickness no less than that listed in the table – which in turn ensures that installed All-Service Duct Wrap R-Values will be met.
3. Wrap and tape as shown, with tape matching the facing.



## Stretch-Out Dimensions

Nominal Thickness (As Manufactured)	Average Installed Thickness	Round or Oval Ducts	Square Ducts	Rectangular Ducts
25 mm	19 mm	P + 178 mm	P + 152 mm	P + 127 mm
40 mm	30 mm	P + 251 mm	P + 211 mm	P + 186 mm
50 mm	38 mm	P + 305 mm	P + 254 mm	P + 203 mm
75 mm	56 mm	P + 428 mm	P + 365 mm	P + 288 mm

**Availability and Installed R-Values**

Product Type	Density kg/m <sup>3</sup>	Nominal Thickness	Out-Of-Package Thermal Conductivity W/m <sup>2</sup> K	Out-Of-Package R-Value	Installed Thickness mm	Estimated Installed R-Value
<b>Type 200</b>	20	25 mm	0.037	0.7	19	0.5
		40mm	0.037	1.1	30	0.8
		50mm	0.037	1.4	38	1.1
<b>Type 240</b>	24	25 mm	0.036	0.7	19	0.6
		40mm	0.036	1.1	30	0.9
		50mm	0.036	1.4	38	1.1
<b>Type 320</b>	32	25 mm	0.034	0.7	19	0.6
		40mm	0.034	1.2	30	0.9
		50mm	0.034	1.5	38	1.2

R-Value = Thickness/Thermal Conductivity

Standard Roll Width: 1200mm

Installed R-Values: When installed in accordance with recommended installation procedures, All-Service Duct Wrap insulation will provide installed R-Values.

Installed Performance: During normal installation of Duct Wraps, there is compression of the Duct Wrap at the corners of metal ducts. This compression results in a 25% loss in average thickness. Although the compression results in increased density and thermal conductivity, this improvement does not compensate for the loss of true thermal performance (R-Value). The values in this chart are estimates after installation.

**Standard Available Products  
(Nominal Manufacturing Specifications)**

Product Type Duct Wrap	Density kg/m <sup>3</sup>	Nominal Thickness mm	Width m
<b>Type 200</b>	20	25	1.2
		40	
		50	
<b>Type 240</b>	24	25	1.2
		40	
		50	
<b>Type 320</b>	32	25	1.2
		40	
		50	
<b>Type 400</b>	40	25	1.2
		40	
		50	
<b>Type 480</b>	48	25	1.2
		40	
		50	

Check for availability of other dimensions and densities



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