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Knauf Friendly Feel Duct Wrap

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Description

Knauf Friendly Feel Duct Wrap with KwikStretch Markings is a thermal and acoustical insulation made from highly resilient, inorganic glass fibers bonded by a thermosetting resin. It is available unfaced, with a multi-purpose foil-scrim kraft (FSK) jacket, a white or black metalized polypropylene-scrim-kraft (PSK) jacket, or with white or grey vinyl vapor retarders. Vapor retarders have a 2" (51 mm) stapling flange on one edge, and the factory-applied facing assures uniform quality. KwikStretch Markings on the staple flange (FSK and PSK only) allow for easy and accurated job site measurement.



Application

Knauf Friendly Feel Duct Wrap with KwikStretch Markings is used as an external insulation on commercial or residential heating or air conditioning ducts. It is suitable for the exterior of rectangular or round sheet metal ducts and spaces, or surfaces where temperature and condensation must be controlled.

Features

- Low "k" factor significantly reduces heat gain or loss when applied with proper compression.
- Flexible.
- Lightweight.
- KwikStretch Markings on the FSK and PSK staple flanges.
- Excellent acoustical properties.
- Tough and resilient.

Benefits

- Energy conservation, which lowers operating costs.
- System efficiency increases; energy usage/costs decrease.
- Conforms easily to flat or irregular surfaces.
- Rolls allow for faster installation, lower labor costs.
- Easier, faster measurement of stretch-out lengths.
- Reduces sound transmission through the duct wall.
- Assured condensation control when used with FSK or PSK facings, proper installation, and sealed joints, seams and penetrations.
- Resists damage in shipment, and during and after installation.

Specification Compliance

In U.S.:

- ASTM C 553; Type I, II, III
- ASTM C 795
- ASTM C 1136; Type II* (FSK facing only)
- ASTM C 1290
- GREENGUARD Environmental Institute™ (Except Vinyl Faced)
- California Title 24 (installed at 25% compression)
- HH-I-558C; Form B, Type I, Class 7
- MIL-I-24244C
- NFPA 90A and 90B
- NRC Reg. Guide 1.36
- *Replaces HH-B-100B.

In Canada:

Website Options

Language

[English \(United States\)](#)
[français \(Canada\)](#)

Links To Other Country Sites

Search

Latest News

International

www.knaufinsulation.com
www.knauf.com

- CAN/ULC S102-M88
- CAN/CGSB 51.5M; Type II (FSK facing)
- CAN/CGSB 51.11-92

Technical Data

Surface Burning Characteristics

- UL/ULC Classified (except PSK and Vinyl).
- Unfaced or composite (insulation, facing and adhesive) does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, CAN/ULC S102-M88, NFPA 255, and UL 723.

Temperature Range (ASTM C 411)

- Faced, can be used on ducts operating up to 250°F (121°C).
- Unfaced, up to 350°F (177°C).

Water Vapor Permeance (ASTM E 96, Procedure A)

- FSK and White PSK facings have a maximum water vapor permeance of .02 perms.
- Black PSK facing has a maximum water vapor permeance of .09 perms.
- Vinyl facing has a maximum water vapor permeance of 1.3 perms.

Water Vapor Sorption (ASTM C 1104)

- Less than 5% by weight when tested for 96 hours at 120°F (49°C) and 95% relative humidity.

Corrosiveness (ASTM C 665)

- Will not accelerate corrosion of a steel panel when compared to sterile cotton.

Mold Growth (ASTM C 1338)

- No growth.

Puncture Resistance (TAPPI Test T803) (Beach Units)

- FSK and PSK: 25

Application and Specification Guidelines

Storage

- Protect stored insulation from water damage, construction damage, and other abuse.
- If stored outside, proper protection from weather conditions should be provided.

Preparation

- Install Knauf Friendly Feel Duct Wrap with KwikStretch Markings over clean, dry sheet metal ducts. All sheet metal joints and seams must be sealed to prevent air leakage from the duct.

Application

- Install Knauf Friendly Feel Duct Wrap with KwikStretch Markings with facing to the outside to obtain specified R-value using a maximum of 25% compression.
- Butt all insulation joints firmly together. Longitudinal seam of the vapor retarder must be overlapped a minimum of 2" (51 mm). A 2" (51 mm) tab is provided for the circumferential seam, and it must be overlapped.
- Where vapor retarder performance is necessary, all penetrations, joints, seams, and damage to the facing should be enclosed/sealed with an FSK, PSK, vinyl or foil tape, or staples, tape or mastic prior to system startup.
- Pressure-sensitive tapes should be a minimum 3" (76 mm) wide and should be applied with moving pressure using an appropriate sealing tool. Staples should be outward cinch and placed 6" (152 mm) on center.
- Closure systems should have a 25 Flame Spread and 50 Smoke Developed per UL 723.
- For rectangular ducts over 24" (610 mm) wide, secure the insulation to the bottom side of the duct with mechanical fasteners spaced on 18" (457 mm) centers to reduce sag. Care should be taken to avoid overcompressing the insulation with the retaining washer.
- Unfaced Duct Wrap should be overlapped a minimum of 2" (51 mm) and fastened with 4" (102 mm) to 6" (152 mm) nails or skewers placed 4" (102 mm) apart, or secured with a wire or banding system. Care must be taken to avoid damaging the duct wrap.

Installation Procedures

- Use the table below to determine stretch-outs required for the nominal insulation thickness to limit average compression of the insulation to 25% or less. Use KwikStretch Markings on the FSK or PSK staple flange to speed measurement of duct wrap.



Knauf Friendly Feel Duct Wrap Insulation products* are certified for indoor air quality as a low emitting product by The GREENGUARD Environmental Institute™, to both the GREENGUARD Certification Program™ and the more stringent GREENGUARD For Children and Schools™ standard.
<http://www.greenguard.org/>

*except Knauf Friendly Feel Duct Wrap with vinyl vapor retarders.

Notes

The chemical and physical properties of Knauf Friendly Feel Duct Wrap with KwikStretch® Markings represent typical average values determined in accordance with accepted test methods. The data is subject to normal manufacturing variations. The data is supplied as a technical service and is subject to change without notice. References to numerical flame spread ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with your Knauf regional office to assure information is current.

INSERTION LOSS (DB/LF), 1/3 OCTAVE BANDS
 (SOUND AND VIBRATION DESIGN AND ANALYSIS, NEBB '94)

Duct Dimensions	Sheet Metal	Nominal Wrap Thickness	Nominal Wrap Density	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
12" x 12" (305 mm x 305 mm)	24 GA	1.5" (38 mm)	.75 PCF (12 kg/m ³)	.6	.6	.6	.7	7.4	14.2	20.9
24" x 12" (610 mm x 305 mm)	24 GA	1.5" (38 mm)	.75 PCF (12 kg/m ³)	.6	.6	.6	.7	7.4	14.2	20.9
48" x 12" (1219 mm x 305 mm)	22 GA	1.5" (38 mm)	.75 PCF (12 kg/m ³)	.5	.5	.5	.6	7.4	14.1	20.9
24" x 24" (610 mm x 610 mm)	22 GA	1.5" (38 mm)	.75 PCF (12 kg/m ³)	.5	.5	.5	.6	7.4	14.1	20.9
24" x 12" (610 mm x 305 mm)	26 GA	1.5" (38 mm)	.75 PCF (12 kg/m ³)	.8	.8	.8	.8	7.5	14.2	21.0
24" x 8" (610 mm x 203 mm)	26 GA	2" (51 mm)	.75 PCF (12 kg/m ³)	1.0	1.0	1.0	3.6	10.4	17.1	23.9

R-VALUES (ASTM C 518) @ 75°F MEAN TEMPERATURE

Density	Thickness	Out-of-Package R-Value	Installed R-Value (@ 25% Compression)
.75 PCF	1 1/2"	5.1	4.2
.75 PCF	2"	6.8	5.6
.75 PCF	2 3/16"	7.4	6.0
.75 PCF	2 1/2"	8.5	7.0
.75 PCF	3"	10.2	8.4
1.0 PCF	1 1/2"	5.6	4.5
1.0 PCF	2"	7.4	6.0
1.5 PCF	1 1/2"	6.1	4.8
1.5 PCF	2"	8.2	6.4

THERMAL EFFICIENCY (ASTM C 177)

Mean Temperature	Mean Temperature (SI)	.75 PCF k	.75 PCF k (SI)	1.0 PCF k	1.0 PCF k (SI)	1.5 PCF k	1.5 PCF k (SI)
50°F	10°C	.28	.040	.26	.037	.23	.033
75°F	24°C	.29	.042	.27	.039	.24	.035
100°F	38°C	.31	.045	.29	.042	.26	.037
125°F	52°C	.33	.048	.31	.045	.28	.040
150°F	66°C	.36	.052	.34	.049	.31	.045
175°F	80°C	.39	.056	.37	.053	.33	.048
200°F	93°C	.43	.063	.40	.058	.36	.052

FORMS AVAILABLE

Density	Thickness	Width	Length	Facing
.75 PCF (12 kg/m ³)	1 1/2" (38 mm)	48" (1219 mm)	100' (30.48 m)	FSK, Vinyl, Unfaced
.75 PCF (12 kg/m ³)	2" (51 mm)	48" (1219 mm)	75' (22.86 m)	FSK, Vinyl, Unfaced
.75 PCF (12 kg/m ³)	2 3/16" (56 mm)	48" (1219 mm)	75' (22.86 m)	FSK, Vinyl, Unfaced
.75 PCF	2 1/2"	48"	75'	FSK, Vinyl, Unfaced

(12 kg/m ³)	(64 mm)	(1219 mm)	(22.86 m)	
.75 PCF (12 kg/m ³)	3" (76 mm)	48" (1219 mm)	50' (15.24 m)	FSK, Vinyl, Unfaced
1.0 PCF (16 kg/m ³)	1 1/2" (38 mm)	48" (1219 mm)	100' (30.48 m)	FSK, Vinyl, Unfaced
1.0 PCF (16 kg/m ³)	2" (51 mm)	48" (1219 mm)	75' (22.86 m)	FSK, Vinyl, Unfaced
1.5 PCF (24 kg/m ³)	1 1/2" (38 mm)	48" (1219 mm)	40' (12.19 m)	FSK, Unfaced
1.5 PCF (24 kg/m ³)	2" (51 mm)	48" (1219 mm)	40' (12.19 m)	FSK, Unfaced

STRETCH-OUTS

Labeled Thickness	Installed (25% Compression) Thickness	Round	Square	Rectangular
1 1/2" (38 mm)	1 1/8" (29 mm)	P+9 1/2" (241 mm)	P+8" (203 mm)	P+7" (178 mm)
2" (51 mm)	1 1/2" (38 mm)	P+12" (305 mm)	P+10" (254 mm)	P+8" (203 mm)
2 3/16" (56 mm)	1 5/8" (42 mm)	P+13" (330 mm)	P+11" (279 mm)	P+8 1/2" (216 mm)
2 1/2" (64 mm)	1 7/8" (48 mm)	P+14 1/2" (368 mm)	P+12 1/2" (318 mm)	P+9 1/2" (241 mm)
3" (76 mm)	2 1/4" (57 mm)	P+17" (432 mm)	P+14 1/2" (368 mm)	P+11 1/2" (292 mm)

P=Duct Perimeter