DATA SHEET

Earthwool® Pipe & Tank Insulation

with ECOSE® Technology

DESCRIPTION

Earthwool Pipe and Tank Insulation with ECOSE Technology is a semi-rigid fiberglass board in roll form faced with a factory applied FSK or ASJ+ vapor retarder or a glass mat facing. The fiberglass is adhered perpendicular to the jacketing, for flexibility, compression strength, and easy installation.

APPLICATION

- Tanks, vessels and large-diameter pipes
- Any curved or irregular surfaces that require finished characteristics of rigid fiberglass insulation

SPECIFICATION COMPLIANCE

- ASTM C1136
  - ASJ+: Type I, II, III, IV, VII, X
  - FSK: Type II, IV, X
- ASTM C1393, Category 1
- ASTM C795, MIL-I-24244, NRC Reg. Guide 1.36. (Certification to be specified at time of order)

INDOOR AIR QUALITY

- UL Environment
  - GREENGUARD Certified
  - GREENGUARD Gold Certified
  - Validated to be Formaldehyde-Free
- Does not contain polybrominated diphenyl ethers (PBDE) such as: Penta–BDE, Octa–BDE or Deca–BDE
- EUCEB Certified

CONTRACTOR: _____

JOB: _____

DATE: _____

DOING MORE FOR THE WORLD WE LIVE IN.

Knauf Insulation products with ECOSE® Technology are made using our patented, bio-based binder - a smarter alternative to the phenol/formaldehyde (PF) binder traditionally used in fiberglass products. The bio-based binder holds our product together and gives the product its unique appearance.

All of our products are formaldehyde-free and made from sustainable resources, such as recycled glass and sand. And we're proud to be putting glass bottles back to work rather than into landfills. Our products are made with a minimum of 50% recycled glass—totaling an average of 26 million bottles each month.

with ECOSE® TECHNOLOGY

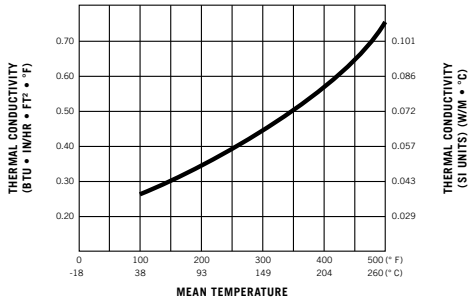
TECHNICAL DATA		
Property (Unit)	**Test**	**Performance**
Corrosiveness	ASTM C665	Does not accelerate corrosion of steel
Corrosion	ASTM C1617	Pass
Compressive Strength	ASTM C165	Not less than 120 PSF (5.75 kPa) at 10% deformation
Water Vapor Permeance	ASTM E96, Procedure A	FSK and ASJ+ facings: 0.02 perms
Maximum Service Temperature	ASTM C411	850° F (454° C)
Mold Growth	ASTM C1338	Pass
Linear Shrinkage	ASTM C356	Negligible
Bursting Strength	ASTM D774	FSK facing: 40 PSI, ASJ+ facing: 100 PSI
Surface Burning Characteristics (flame spread/smoke developed)	ASTM E84, CAN/ULC S102, NFPA 90A and 90B, UL 723	25/50

STRETCH-OUTS

Nominal Iron Pipe Size	Iron Pipe Outside Diameter	Thickness					
		1" (25 mm)	1½" (38 mm)	2" (51 mm)	2½" (64 mm)	3" (76 mm)	4" (102 mm)
10" (254 mm)	10¾" (273 mm)	40⅛" (1,019 mm)	43¼" (1,099 mm)	46⅜" (1,178 mm)	49½" (1,257 mm)	52⅝" (1,337 mm)	59" (1,499 mm)
12" (305 mm)	12¾" (324 mm)	46⅜" (1,178 mm)	49½" (1,257 mm)	52¾" (1,340 mm)	55¾" (1,416 mm)	59" (1,499 mm)	65¼" (1,657 mm)
14" (356 mm)	14" (356 mm)	50⅜" (1,280 mm)	53½" (1,359 mm)	56⅝" (1,438 mm)	59¾" (1,518 mm)	62⅞" (1,597 mm)	69¼" (1,759 mm)
16" (406 mm)	16" (406 mm)	56⅝" (1,438 mm)	59¾" (1,518 mm)	62⅞" (1,597 mm)	66" (1,676 mm)	69⅛" (1,756 mm)	75½" (1,918 mm)
18" (457 mm)	18" (457 mm)	62⅞" (1,597 mm)	66" (1,676 mm)	69⅛" (1,756 mm)	72¼" (1,835 mm)	75½" (1,918 mm)	81¾" (2,076 mm)
20" (508 mm)	20" (508 mm)	69⅛" (1,756 mm)	72⅜" (1,838 mm)	75½" (1,918 mm)	78½" (1,994 mm)	81¾" (2,076 mm)	88" (2,235 mm)
22" (559 mm)	22" (559 mm)	75½" (1,918 mm)	78⅝" (1,997 mm)	81¾" (2,076 mm)	85" (2,159 mm)	88" (2,235 mm)	94¼" (2,394 mm)
24" (610 mm)	24" (610 mm)	81¾" (2,076 mm)	84⅞" (2,156 mm)	88" (2,235 mm)	91¼" (2,318 mm)	94⅜" (2,397 mm)	100½" (2,553 mm)
26" (660 mm)	26" (660 mm)	88" (2,235 mm)	91⅛" (2,315 mm)	94⅜" (2,397 mm)	97½" (2,477 mm)	100⅝" (2,556 mm)	107" (2,718 mm)
28" (711 mm)	28" (711 mm)	94⅜" (2,397 mm)	97½" (2,477 mm)	100⅝" (2,556 mm)	103¾" (2,635 mm)	106⅞" (2,715 mm)	113" (2,870 mm)
30" (762 mm)	30" (762 mm)	100⅝" (2,556 mm)	103¾" (2,635 mm)	106⅞" (2,715 mm)	110" (2,794 mm)	113⅛" (2,873 mm)	119½" (3,035 mm)
32" (813 mm)	32" (813 mm)	106⅞" (2,715 mm)	110" (2,794 mm)	113⅛" (2,873 mm)	116¼" (2,953 mm)	119½" (3,035 mm)	125¾" (3,194 mm)
34" (864 mm)	34" (864 mm)	113⅛" (2,873 mm)	116¼" (2,953 mm)	119½" (3,035 mm)	122½" (3,112 mm)	125¾" (3,194 mm)	132" (3,353 mm)
36" (914 mm)	36" (914 mm)	119½" (3,035 mm)	122⅝" (3,115 mm)	125¾" (3,194 mm)	129" (3,277 mm)	132" (3,353 mm)	138¼" (3,512 mm)
38" (965 mm)	38" (965 mm)	125¾" (3,194 mm)	128⅞" (3,273 mm)	132" (3,353 mm)	135" (3,429 mm)	138¼" (3,512 mm)	144½" (3,670 mm)
40" (1,016 mm)	40" (1,016 mm)	132" (3,353 mm)	135⅛" (3,432 mm)	138¼" (3,512 mm)	141½" (3,594 mm)	144⅝" (3,673 mm)	151" (3,835 mm)
42" (1,067 mm)	42" (1,067 mm)	138¼" (3,512 mm)	141½" (3,594 mm)	144⅝" (3,673 mm)	147¾" (3,753 mm)	150⅞" (3,832 mm)	157" (3,988 mm)

*Additional 2" (51 mm) to 4 (102 mm) should be added for staple flap.

THERMAL CONDUCTIVITY | ASTM C177



Mean Temperature	k	k (Si)
100° F (38° C)	0.26	0.037
200° F (93° C)	0.35	0.050
300° F (149° C)	0.45	0.065
400° F (204° C)	0.57	0.082
500° F (260° C)	0.75	0.108

FORMS AVAILABLE

Thickness	Width	Length†
1" (25 mm)	36" (914 mm)	48' (14.63 m)
1½" (38 mm)		32' (9.75 m)
2" (51 mm)		24' (7.32 m)
3" (76 mm)		16' (4.88 m)
4" (102 mm)		12' (3.66 m)

†Cut-to-length sizes also available.

APPLICATION AND SPECIFICATION GUIDELINES

Precautions

- ASJ+ and FSK jackets should not be used if outer-surface temperature exceeds 150° F (66° C).
- During initial heat-up to operating temperatures above 350° F (177° C), a slight odor and some smoke may be given off as a portion of the bonding material used in the insulation begins to undergo a controlled decomposition.
- If natural convection is not adequate in confined areas, forced ventilation should be provided in order to protect against any harmful fumes and vapors that might be generated.
- Care must also be taken when using sealants, solvents or flammable adhesive during installation.

Storage

- Protect stored insulation from water damage or other abuse.
- Protect from welding sparks and open flame.
- Cartons are not designed for outside storage.

Preparation

- Apply product on clean, dry surfaces.

INSTALLATION GUIDELINES

- Refer to the Stretch-Out Chart to find the appropriate length to cut for the specific pipe size. Be sure to add an additional 2" (51 mm) to 4" (102 mm) for your staple flap.
- Cut your stretch-out length and wrap the material around the iron pipe to ensure the proper fit.
- Staple the lap on 3" (76 mm) centers with outward clinching staples.
- Butt edges shall be firmly secured, and butt strips matching the jacket shall be applied at each joint.

FIBERGLASS AND MOLD

Fiberglass insulation will not sustain mold growth. However, mold can grow on almost any material when it becomes wet and contaminated. Carefully inspect any insulation that has been exposed to water. If it shows any sign of mold, it must be discarded. If the material is wet but shows no evidence of mold, it should be dried rapidly and thoroughly. If it shows signs of facing degradation from wetting, it should be replaced.

CERTIFICATIONS

Check with your Knauf Insulation Territory Manager to ensure information is current.

The chemical and physical properties of this product represent 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.

This product is covered by one or more U.S. and/or other patents.
See patent www.knaufnorthamerica.com/patents

Visit **knaufnorthamerica.com** to learn more.

KNAUF INSULATION, INC.
One Knauf Drive
Shelbyville, IN 46176

Technical Support
(317) 398-4434 ext. 8727
info.us@knaufinsulation.com

09-21