

APPLICATION SPECIFICATIONS

BALDWIN-EHRET-HILL Gen-Foam

- I. Scope of Specification**
- a. This specification covers the Gen-Foam application procedure for low temperature insulation.
- II. Materials**
- a. Insulation for pipes, tanks and vessels shall be Gen-Foam. Gen-Foam is a rigid polyethylene foam formed as a mass of closed cells containing entrapped inert gas. It is available in pipe half sections in 36" lengths. (A companion product "Gondol", a product for forming in place, is available for use on valves and fittings.) Block available in standard sizes and thicknesses.
- b. Compressive strength of the polyethylene rigid foam insulation shall not be less than 10 psi at 70°F.
- c. Materials shall be furnished either as pipe half sections in 36" lengths or as block form.
- d. Any necessary material shall be within the following:
1. Gen-Foam
 2. Vapor barrier
 3. Vapor barrier glue
 4. Flashing compound
 5. Standard steel bands and wash
 6. Washers and nuts

III. Application

- a. **Piping**
- All piping shall have been tested prior to application of insulation and shall be free of defects, and be wiped clean of dirt and foreign matter, and shall be thoroughly dry.
- Pipe insulation shall be fitted snugly to the pipe, staggered joints. All joints shall be securely sealed with a suitable plastic under. Secure the insulation firmly in place with other suitable under.

STANDARD SIZES

Gen-Foam is made in 36" half sections to fit standard iron pipe sizes from 1/2" to 16" in diameter. Standard wall thicknesses of 1/4", 1/2", 3/4", 1", 1 1/2", 2", 2 1/2". Also in copper tubing sizes 1/2" and above.

For proper design recommendations and application instructions on Gen-Foam block, insulation and Glue, (Gen-Foam Glue), contact nearest B.E.H. Sales Office or local B.E.H. representative.



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BALDWIN-EHRET-HILL, INC., TRANTON, N. J.

DATA SHEET

Product:

Baldwin-Ehret-Hill Gen Foam Pipe and Block Insulation

Description:

Baldwin-Ehret-Hill Gen Foam is a rigid polyethylene foam formed as a mass of closed cells containing entrapped inert gas. It is available in pipe half sections in 36" lengths. (A companion product "Gondol", a product for forming in place, is available for use on valves and fittings.) Block available in standard sizes and thicknesses.

Uses:

For insulating low temperature pipe lines where preformed sectional covering is required. Especially suited for process piping in chemical and petroleum plants.

Features:

Low "K" factor - low permeability - non-capillary - dimensionally stable. High compressive, flexural and tensile strength. Flame retardant - self extinguishing. Lightweight - pleasant to handle - non-irritating, non-abrasive, non-toxic. Tough - resists bramage in shipping and handling. Resistant to thermal and mechanical shock. Excellent resistance to chemicals and fumes. Will not rot nor sustain vermin or fungus. May be installed without special tools - may be applied with common joint mastic. Offers savings in materials, labor and accessories.

Technical Data:

Temperature range --
For continuous service..... Minus absolute zero (-460°F) to plus 250°F
For intermittent service or steam cond..... Plus 250°F

Density ... 3 pounds per cubic foot

Block	IPS	Dimensional Thickness
1/2"	...	3/4", 1 1/4", 1 1/2", 2", 2 1/2"
3/4"	...	3/4", 1 1/4", 1 1/2", 2", 2 1/2"
1"	1-1/4"	3/4", 1", 1 1/2", 2", 2 1/2"
1 1/2"	2", 2 1/2", 3"	3/4", 1", 1 1/2", 2", 2 1/2"
4"	4-1/2", 5", 6"	3/4", 1", 1 1/2", 2", 2 1/2"
7", 8", 9", 10"	...	1", 1 1/2", 2", 2 1/2"
11", 13", 14"	...	1", 1 1/2", 2"
16", 18"	...	1 1/2", 2"
20", 22", 24"	...	2"

* Actual thickness
+ Having an O. D. of 2.88"
18" IPS and above is
furnished in four segments

Thermal Conductivity --

Mean Temp.	K
0°F	0.12
70°F	0.170
150°F	0.25

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DATA SHEET

Technical Data:

Continued.....

Alkalinity..... p H-8.0 Capillarity.....0
Compressive Set..... 5 psi.....0.19% @ 75°F
Coefficient of Expansion 0.000015 in./in./°F at 32°F
Compressive Strength..... 50 psi @ 75°F. Improves with age.
Combustibility .. Self-extinguishing Flexural Strength .. 103 psi
Tensile Strength .. 69 psi

Chemical Resistance --

Low density foams are swollen to some extent by polar organic solvents such as ketones and chlorinated hydrocarbons, but do not dissolve. While subject to attack by immersion in strong alkali or mineral acids, they resist attack by dilute acids and bases. They are not adversely effected by hydrocarbons such as gasoline and mineral spirits and will usually withstand the vapors found in most industrial atmospheres. In case of unusual conditions, tests are recommended.

Packaging:

Corrugated board fiber boxes.

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THERMAL CONDUCTIVITY

K-FACTOR

Comparison of Published Data

<u>MATERIAL</u>	<u>MEAN TEMP., DEGREE FAHR.</u>		
	<u>0°</u>	<u>70°</u>	<u>150°</u>
B-E-H GEM-FOAM	.12	.17	.25
Styrene Foam	.22	.27	...
Cellular Glass	.35	.39	.44
Cork Board 7# Density	.24	.265	.29
Glass Fiber	...	.24	.27

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BALDWIN-EHRET-HILL, INC., TRENTON, N. J.

BALDWIN-EHRET-HILL GEM-FOAM PIPE INSULATION

SUGGESTED THICKNESSES

Suggested thicknesses for 70° Ambient and 80% Relative Humidity and allows a maximum heat gain of 7.5 BTU per square foot.

---- TEMPERATURE DEGREES FAHR. ----

Pipe Size	32° to Amb.	+10° to 31°	-25° to +9°	-26° to -50°
3/4"	----	--	-----	1-1/2"
1"	3/4"	1"	1"	1-1/2"
1-1/4"	3/4"	1"	1-1/2"	1-1/2"
1-1/2"	3/4"	1"	1-1/2"	1-1/2"
2"	3/4"	1"	1-1/2"	1-1/2"
3"	3/4"	1"	1-1/2"	1-1/2"
4"	3/4"	1"	1-1/2"	2"
6"	3/4"	1"	1-1/2"	2"
8"	Not Mfg.	1"	1-1/2"	2"
10"	Not Mfg.	1"	1-1/2"	2"
12"	Not Mfg.	1"	1-1/2"	2"

Above thicknesses are calculated to prevent surface condensation at 0 wind velocity.

Double layer construction is recommended for all temperatures below -50° F.

For lower temperature recommendations write Baldwin-Ehret-Hill Company.

231745



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APPLICATION SPECIFICATIONS

FOR BALDWIN-EHRET-HILL GEM-FOAM PIPE INSULATION

1. All piping shall be insulated with Gem-Foam pipe insulation as furnished by Baldwin-Ehret-Hill Company, in thickness recommended. (See Section D-5, Page 11)
2. B-E-H Rigid Foam shall be applied in recommended thickness to clean, dry surface of pipe after pipe has been tested. Insulation shall be applied with joints staggered and with both longitudinal and circumferential joints sealed with a high grade asphalt cutback or a non-drying mastic.
3. Pipe insulation shall be secured with suitable $3/8"$ or $1/2"$ wide bands, or 16 gauge wire, on 9" centers.
4. All flanges, valves and fittings shall be insulated with covers fabricated from B-E-H Rigid Foam to a thickness equal to that of the insulation of the adjoining pipe and securely fastened in place.
5. Finish
All pipe insulation and flange, valve and fitting covers shall be finished with asphalt impregnated paper or glass fabric and asphaltic cutback.
6. Hangers
When in contact with the pipe, clamp hangers shall be insulated separately in the same manner as fittings. The insulation shall be applied upward along the hanger rod to a distance not less than 6" and sealed (cold piping). On pipe hangers which fit around the insulation, a curved sheet metal shield shall be placed between the underside of the insulation and the hanger to limit the bearing stress on the insulation to 40 psi.
7. Outdoor Applications
Finish shall be glass fabric and asphaltic cutback or metal lagging.

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