

THERMCO[®] FOAM

Manufactured by
Thermal Corporation of America
Route #3, Highway 34 West
Mt. Pleasant, IA 52641
Telephone: 319-385-1535 fax: 319-385-1540

SPECIFICATIONS: Plastic foamed in place insulation.

PRODUCT DESCRIPTION: A two component system consisting of an aqueous resin (Polymethylene Carbamide) which when properly combined with a nucleating foaming catalyst, and air forms Thermco[®] plastic foam. It is cold setting and forms a low density, white, resilient foam. The set time of the foam may be adjusted from 10 to 60 seconds for various applications. Final drying will require 2-10 days.

INSTALLATIONS: Thermco[®] plastic foam may be applied in drywall, frame, brick, or block construction cavities. Thermco[®] can be injected into wall cavity through a hole as small as 5/8 inch. Block walls may be pressure filled with the product.

Thermco[®] may be installed per a scaffolding lift basis not to exceed a height greater than 14' for 8" concrete block and 14' for 12" concrete block per application. The product shall be applied with the liquid ratios at the mixing gun being within the manufacturer's specified range. A 6" cube of the fresh foam shall weigh between 143 grams and 195 grams. After installation of the material, allow 2 weeks for curing before painting the walls. The installation of Thermco[®] plastic foam insulation shall be contracted only by a firm, which is certified and/or approved by the manufacturer.

LIMITATIONS:

1. Overhead applications are not recommended.
2. Do not apply the foam into a cavity that will ultimately leave the foam exposed.
3. Do not apply the product into a cavity that does not allow for normal vapor migration.
4. Thermco must be installed as per manufacturer's guidelines regarding mixing ratios, density and temperature.

PRODUCTION DESCRIPTION: Thermal/acoustical insulation for application in new construction and existing construction, walls, pipechases, hollow core-fill (prestressed concrete) concrete block fill, modular units, wall panels.

PRODUCT USES: Apartments, office buildings, manufacturing and commercial facilities. Can be used for other remedial work in occupied building and new construction. All applications are to be performed by a licensed, certified Thermco[®] dealer with an up-to-date dealer qualification certificate.

MATERIALS: Thermco[®] plastic foam is a two component liquid process. The resin is a Polymethylene Carbamide compound. The catalyst is a modified poly amnio reactant. Both materials form a cold setting, low density, resilient foam. Setting takes place 10 to 60 seconds after material leaves applicator gun. Material will not expand after it leaves applicator gun.

PHYSICAL CHARACTERISTICS: A microscopic sized cell agglomeration interspersed with microscopic capillaries, which are irregular and discontinuous. It has 60% closed and 40% open cells structure which accounts for its optimal thermal and acoustical insulation values. Standard density: 0.7 lb./ft.³, dry (can vary from 0.6 lb./ft.³ to 1.0 lb./ft.³) standard wet density is between 2.5 and 3.4 lb./ft. Normal linear shrinkage during drying out period: 1.8% - (HUD MD-74). Rapid or forced drying may cause excessive shrinkage; slow drying will minimize shrinkage. The foam will support only light loads at standard densities. It is a resilient material with high vibration resistance.

SOUND ABSORPTION: Based on independent laboratory tests, an STC of 53.7 is provided in an apartment partition composed of 5/8" gypsum board. 3-5/8" metal studs with foam in cavity and 5/8" gypsum board. 2" thickness provides 83-92% sound absorption.

PHYSICAL PROPERTIES

PROPERTY	VALUE	TEST METHOD	Typical 8" Block Cores Empty		Cores Filled w/ Thermco®		Density of Block lbs./cu. ft.
			R	U	R	U	
(1) Thermal Conductivity (1" Thickness) at 75° F mean At 50° F mean (3 1/2" Thickness) at 75° F mean	.232 (4.5 R) .219 (4.7 R) .066 (15.3 R)	ASTM-C-177	3.55	0.28	14.29	0.07	60
(2) Fire Safety Flame Spread Smoke Developed	5* 50-100	ASTM-E-84-84a	2.49	0.40	8.21	0.12	105
(3) Density, lbs./ft. ³	.70	ASTM-D-1622	2.21	0.45	6.04	0.17	125
(4) Shrinkage-normal, present	1.86	HUD-MB-74	2.09	0.49	5.71	0.18	140
(5) Moisture Absorption % moisture absorption on a volume basis Caloric value, BTU/lb.	1.90 7671	ASTM-D-2015	Typical 12" Block Cores Empty		Cores Filled with Thermco®		Density of Block Lbs./cu.ft.
(6) Fire Wall Rating	4 hr.	ASTM-E-119-88	R	U	R	U	
(7) Corrosion Aluminum, Copper Steel, Galvanized Steel	Less than 1g Pitting		3.92	0.26	20.01	0.05	60
			3.42	0.31	16.11	0.06	80
*R means resistance to heat flow, the higher the R value, the greater the insulating power.			2.73	0.37	11.42	0.09	105
**This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.			2.39	0.42	8.21	0.12	125
			2.22	0.41	7.14	0.14	140

SUGGESTED ARCHITECTURAL SPECIFICATIONS FOR THERMCO® PLASTIC FOAM INSULATION

Cavity Fill:

- 1.01 The foamed-in-place insulation is to be placed in cores of the walls per manufacturer's specifications. The scaffolding per-lift basis is not to exceed a height of 14' for 8" block or 14' for 12" block per application. The material shall be applied in such a manner, which will assure complete cavity fill. The product shall be applied with the liquid ratios at the mixing gun being within the manufacturer's specified range. A cubic foot of the fresh foam shall weigh between 2.5 lbs. and 3.4 lbs. After installation of material, allow 2 weeks for curing of the material before painting the walls.
- 1.02 The installation of Thermco® plastic foam insulation shall be contracted only by a firm, which is certified and/or approved by the manufacturer of the insulation.
- 1.03 After the foam is installed and cured the walls shall be protected from excessive moisture.

Limitations: All applications should be accomplished prior to the expiration date marked on the material as supplied by the manufacturer. This material is not intended for use with temperatures exceeding 190°F for prolonged periods of time. The foam will not support a compressive load and should not be used for flotation or overhead applications.