

## Product

- Therma-Phen® is a closed cell, fire and moisture resistant rigid thermal insulation manufactured in accordance with ASTM C1126 type III.
- Produced in large block form by Fujian Tenlead Advanced Material Co., LTD and imported exclusively by Thermal Pipe Shields.
- Distributed nationwide to fabrication shops to be used as the raw material to CNC cut 36" long sections of pipe insulation, curved radius segments, elbows or flat boards.
- Low thermal conductivity provides superior insulating performance for mechanical systems operating between -290°F and 257°F.

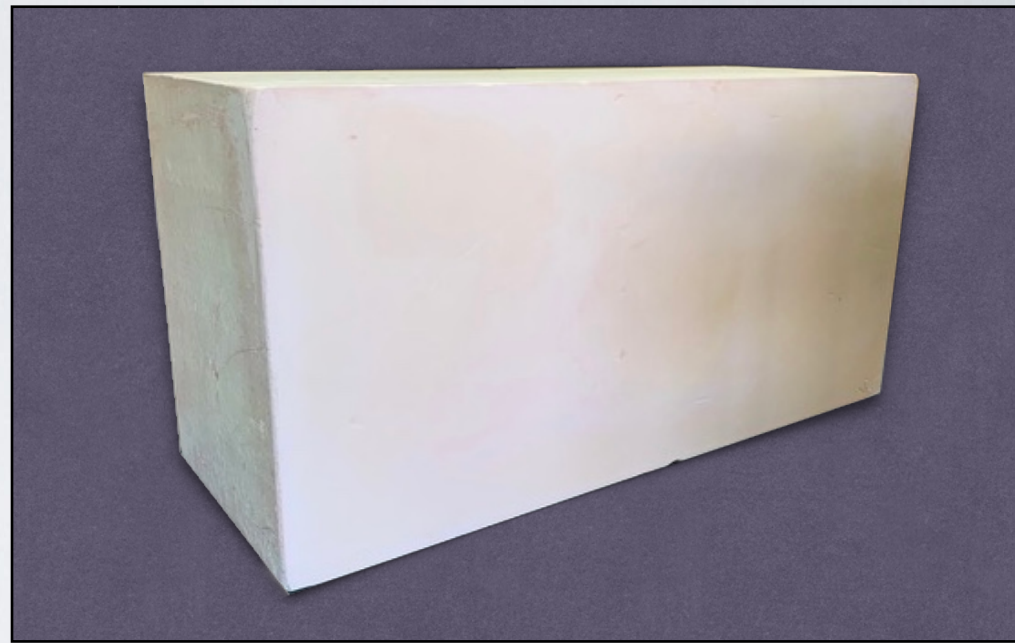
## Features

- Therma-Phen® is a cost-effective choice with enhanced fire resistance compared to other foam insulations such as XPS, EPS, PIR, PUF and improved thermal protection compared to glass fiber, elastomeric foam and cellular glass.
- Bun dimensions: 37.5" x 33.5" x 80"
- 36 buns per 40' HC shipping container
- 2.5 PCF nominal density
- High compressive strength: 32+ psi
- Meets 25/50 flame spread and smoke developed in accordance with ASTM E84 (up to 2" wall thickness).
- Low thermal conductivity
- Fabricates easily into a variety of shapes with standard CNC fabrication equipment.

## Benefits

- High compressive strength thermoset phenolic foam does not crush easily compared to low compressive strength products such as mineral fiber pipe insulations.
- Therma-Phen® is less dusty, light weight and fabricates easily on the jobsite.
- When properly designed and installed with adequate thickness, phenolic foam wrapped with a vapor retarder can prevent exterior vapor flow and the resultant moisture condensation on cold service piping.

# Therma-Phen® Phenolic Foam Block



## Applications

- Therma-Phen® pipe cover is commonly used on domestic hot and cold water, steam condensate, chilled water and glycol refrigeration piping systems in commercial buildings, food & beverage processing, and pharmaceutical facilities.
- Provides excellent thermal resistance compared to other types of commonly used pipe insulations such as glass fiber, elastomeric foam and cellular glass foam.
- Therma-Phen® provides over 90% more insulating power per inch of thickness compared to cellular glass. This allows for a thinner footprint and lower installed cost.
- Therma-Phen® has lower vapor permeability and >50 times higher compressive strength than glass fiber to prevent in situ damage of the factory laminated vapor retarder.
- The rigidity, compressive strength and closed cell nature of phenolic foam work together to keep the insulation dry.

## Safety

- Therma-Phen® does not contain asbestos
- CFC/HCFC free with zero ozone depletion potential (ODP)
- Thermoset plastic is resistant to many common chemicals
- Non-fibrous or itchy, odorless and low dust
- Insulating hot piping will prevent personnel burn injuries in buildings and industrial plants.
- High compressive strength meets the requirements of MSS SP-58 to pass through structural hanger without a separate high strength insert. (Curved metal shield required)
- Supports the secondary vapor retarder and cladding to provide continuous protection against moisture infiltration, loss of insulation performance and the resultant potential for corrosion under insulation (CUI).

Specification Compliance		
ASTM C1126, Type III (foam core)	Grade I	Therma-Phen® Foam Block
ASTM D1622 - Density (min)	2 pcf (32 kg/m³)	2.5 pcf (41 kg/m³)
ASTM D1621 - Compressive Strength @ 10% deformation (min)	18 psi (124 kPa)	> 32 psi (226 kPa)
ASTM C518- Thermal Conductivity (max) BTU · in/h · ft² · °F (W/m · K) @ 75°F (24°C)	0.18 (0.026)	0.166 (0.024)
ASTM D6226- Closed Cell Content	≥ 90%	≥ 90%
ASTM C209 - Water Absorption (max)	3.0%	< 3.0%
ASTM E96 - Water Vapor Permeance (max perm-inch)	5.0	< 5.0
ASTM D2126 - Dimensional Stability (max % linear change)	2.0	< 2.0
ASTM E84 - Flame Spread / Smoke Developed (max)	25/50	< 25/50

## Thermal Resistance (R-Value per inch of thickness)

