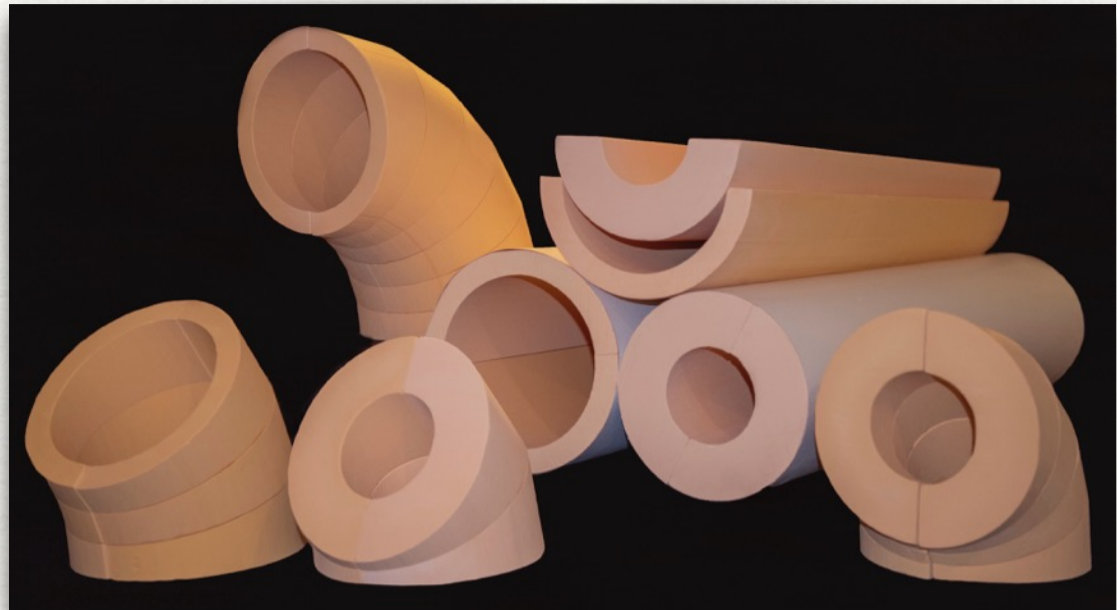


## Product

- TPS Phenolic Foam P/C (Pipe Covering) is a closed cell, fire and moisture resistant rigid thermal pipe insulation manufactured in accordance with ASTM C1126 type III.
- Produced in large block form, then fabricated into pipe sections by Fujian Tenlead Advanced Material Co., LTD and imported exclusively by Thermal Pipe Shields.
- Available in 36" long sections in both iron pipe and copper tubing sizes with or without factory laminated vapor retarders.
- Low thermal conductivity provides superior insulating performance for mechanical piping systems operating between -292°F and 248°F.



## Features

- TPS Phenolic Foam P/C is a cost-effective choice with excellent thermal protection and enhanced fire resistance compared to other insulations such as XPS, PIR or cellular glass.
- Thermoset phenolic does not soften like EPS or XPS when subjected to higher temperatures.
- Meets ASTM E84 25/50 flame spread/smoke developed requirements for use within commercial building return air plenums.
- Closed cell foam insulation with laminated vapor retarder provides excellent moisture resistance in below ambient systems in high humidity environments.
- Available in fabricated mitered fittings including 90 and 45 degree elbows and tees.

## Benefits

- High compressive strength thermoset phenolic foam does not crush easily compared to low compressive strength products such as mineral fiber pipe insulations.
- Phenolic foam is less dusty, light weight and fabricates easily on the jobsite.
- Factory applied All Service Jacket (ASJ+) includes a self sealing lap (SSL) for easy closure of the longitudinal joints.
- 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.

## Applications

- TPS Phenolic Foam P/C 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.
- TPS Phenolic Foam P/C provides over 90% more insulating power per inch of thickness compared to cellular glass. This allows for a thinner footprint and lower installed cost.
- Phenolic foam 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

- TPS Phenolic Foam 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 1	Grade 2	TPS Phenolic Foam P/C
ASTM D1622 - Density (min)	2 pcf (32 kg/m <sup>3</sup> )	3.75 pcf (60 kg/m <sup>3</sup> )	2.8 pcf (45 kg/m <sup>3</sup> )
ASTM D1621 - Compressive Strength @ 10% deformation (min)	18 psi (124 kPa)	30 psi (207 kPa)	> 45 psi (310 kPa)
ASTM C518- Thermal Conductivity (max) BTU·in/h·ft <sup>2</sup> ·°F (W/m·K) @ 75°F (24°C)	0.18 (0.026)	0.22 (0.032)	0.152 (0.022)
ASTM D6226- Closed Cell Content	≥ 90%	≥ 90%	≥ 90%
ASTM C209 - Water Absorption (max)	3.0%	3.0%	< 3.0%
ASTM E96 - Water Vapor Permeance (max perm-inch)	5.0	5.0	< 5.0
ASTM D2126 - Dimensional Stability (max % linear change)	2.0	2.0	< 2.0
ASTM E84 - Flame Spread / Smoke Developed (max)	25/50	25/50	< 25/50

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

