

Product

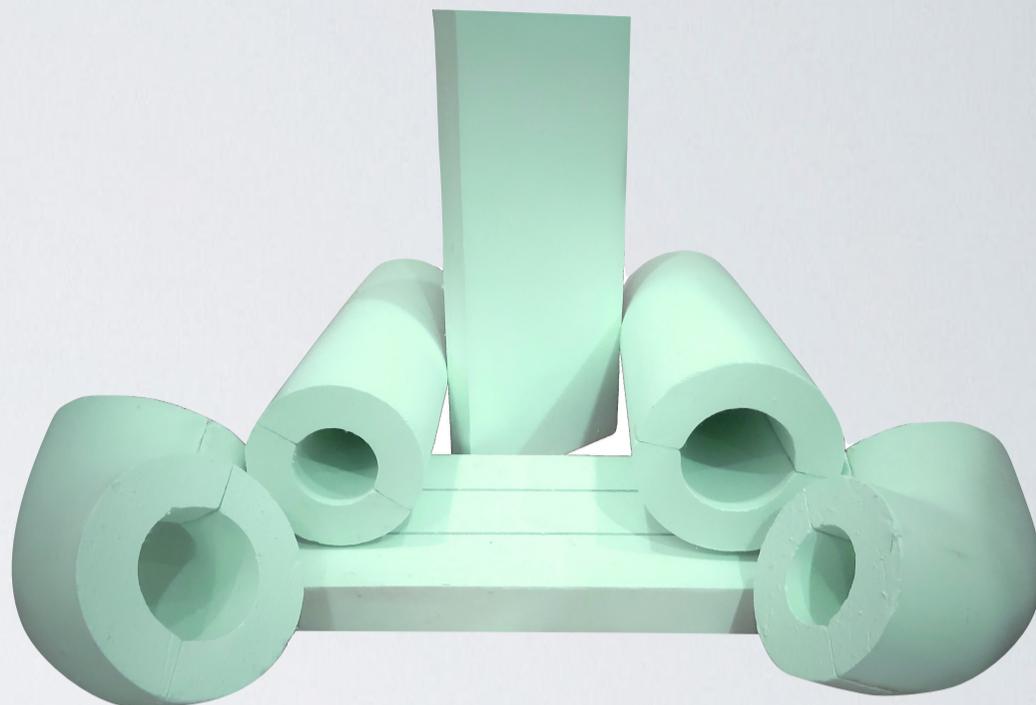
- TPS EP-12[®] is a high-temperature and durably hydrophobic expanded perlite pipe and block insulation manufactured by United Perlite Corporation, imported exclusively by Thermal Pipe Shields and sold through their nationwide network of distribution partners.
- Third party verified to meet or exceed all physical property requirements in accordance with ASTM C610.
- Engineered to protect industrial piping and equipment operating continuously at temperatures up to 1200°F (650°C).
- Contains integral inorganic silicate chemistry to inhibit corrosion under insulation (CUI).

Features

- TPS EP-12[®] is produced with hydraulic pressing equipment creating a consistent, physically robust product much less prone to breakage in transit.
- The unique nature of perlite ore mined in the Philippines allows for very high compressive and flexural strength along with excellent abrasion resistance and reduced friability.
- Produced in 24" lengths and the widest available assortment of IPS pipe sizes from 1/2 up to 60" diameter in accordance with ASTM C585.
- Continues to resist water absorption even after a 600°F (315°C) heat soak per ASTM C1763.
- Lower material cost compared to cellular glass.
- Significantly lower installed cost compared to multiple layers of thin aerogel blanket.

Benefits

- High compressive strength supports the metal jacketing and stands up to physical abuse or foot traffic during construction and operations.
- Superior water shedding ability, yet vapor permeable provides excellent protection to keep the insulation dry even in hot, humid environments such as the U.S. Gulf Coast.
- Integral inorganic silicate chemistry actively inhibits the corrosion mechanism by forming an on demand passivation layer and a pH buffering effect in the presence of absorbed water due to a failure in the weather barrier.
- Proven performance to prevent ESCC on austenitic stainless steel piping and vessels.



Applications

- Expanded perlite insulation has a 50+ year history of use for low-high temperature industrial process piping, pressure vessels, storage tanks and equipment.
- Major companies specify expanded perlite insulation for oil refineries, chemical, power generation, food processing, pharmaceutical, cold storage and LNG plants, due to its well documented ability to inhibit CUI and prevent ESCC.
- Many engineers and maintenance planners specify expanded perlite insulation in areas of the plant where there is a significant risk of CUI in cyclical service, high humidity, in corrosive environments such as near bodies of salt water or down wind from steam condensate towers.
- TPS EP-12[®] creates organic competition in the North American market to provide contractors a stronger, readily available expanded perlite that meets/exceeds the specs.

Safety

- TPS EP-12[®] does not contain asbestos, mercury or lead.
 - Tinted green to visually identify as asbestos free
- Expanded perlite does not contain crystalline silica which is subject to new OSHA exposure limits.
- No formaldehyde binders to oxidize at high temperatures.
- Provides consistent thermal performance at high temperatures to protect plant workers from burn injuries.
- Non-combustible insulation when tested in accordance with ASTM E136. Perlite withstands direct flame impingement.
- 0 flame spread and 0 smoke developed per ASTM E84.
- TPS EP-12[®] maintains its thickness, hydrophobicity and insulating performance throughout its long service life to protect plant assets against CUI/ESCC, provide stable process control and prevent burn injuries caused by inadvertent contact with high temperature systems.



TPS EP-12[®] Expanded Perlite

ASTM C585- Pipe Sizes Standard 2' lengths

1/2-6	Sectional Pipe Cover
7-10	Preformed Quads
11-18	Preformed Hexes
10-60	Curved Radius Block (CRB)
Flat Block	Plain or V-Scored

Size configurations specifically engineered to fit into a single carton size, decrease weight of pieces and worker fatigue, and maximize packed container volumes to reduce shipping costs and footprint required in construction lay down yards.

Specification Compliance

ASTM C610 Material Standard	Meets or Exceeds All Test Methods
ASTM C302/C303 Dry Density	<14 lbs. per cu. ft. (224 kg/m ³)
ASTM C165 Compressive Strength	>95 psi @ 5% strain (655 kPa)
ASTM C203 Flexural Strength	>75 psi (517 kPa)
ASTM C356 Linear Shrinkage	<1.0% after 24 hr. soaking heat @ 1200°F (650°C)
ASTM C447 Max Service Temp	1200°F (650°C)
ASTM C421 Abrasion Resistance	Weight Loss by Tumbling <10% after 10 minutes
ASTM C692/C871/C795 Corrosion Tests (Stainless)	Passes
ASTM C1617 Mass Loss Corrosion (Ferrous)	Passes <DI Water Control
ASTM E136 Non-Combustible	Passes
ASTM E84 Surface Burning Properties	Flame Spread - 0 Smoke Developed - 0

Thermal Conductivity

