UNIVERSAL CONSTRUCTION FOAM

PRODUCT CATALOG 2015

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MOBILE FOAM PRODUCTS

Architectural Shapes • Interior Crown Molding • Concrete Forms & Block Outs
Dock & Marine Flotation • Concrete Block Insulation • Stadium Seating
EPS Sheets • Geo Foam • Geotech Insulated Drainage Panels
Insulating Concrete Forms • Metal Deck Flute Fillers • Structural Insulated Panels
Tapered EPS Insulation • TerraFlex Elasticized Polystyrene

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EXPANDED POLYSTYRENE (EPS) & STYROFOAM™ BRAND FOAM PRODUCTS

EXPANDED POLYSTYRENE (EPS) & STYROFOAM™ BRAND FOAM PRODUCTS
EPS geofoam is a lightweight, rigid foam material that has been used around the world as lightweight fill to solve a myriad of construction issues. EPS geofoam is approximately 100 times lighter than most soil and at least 20 to 30 times lighter than other lightweight fill alternatives. This difference in unit weight compared to other materials, and its high compression strength makes EPS geofoam an attractive fill material. Common uses included bridge and road work, retaining wall construction, and elevating floors.

### EPS geofoam properties:

- **Minimum Density**: Lb/ft³ (kg/m³)
- **Compressive Resistance**
  - @10% deformation, min.: Psi (kPa)
  - @5% deformation, min.: psi (kPa)
  - @1% deformation, min.: psi (kPa)
- **Elastic Modulus, min.**: psi (kPa)
- **Flexural Strength, min.**: psi (kPa)
- **Water Absorption by total immersion, min.**: volume%
- **Oxygen Index, min.**: volume%
- **Buoyancy Force**: Lb/ft³ (kg/m³)

### EPS geofoam types:

- EPS12 TYPE XXI
- EPS19 TYPE VII
- EPS22 TYPE II
- EPS29 TYPE IX
- EPS39 TYPE XIV
- EPS46

### EPS geofoam strengths:

- **EPS12 TYPE XXI**
  - Minimum Density: 0.70 (11.2)
  - Compressive Resistance @10% deformation: 5.8 (840)
  - Elastic Modulus: 2.2 (320)
  - Flexural Strength: 10.0 (1500)
  - Water Absorption: 4.0
  - Oxygen Index: 24.0
  - Buoyancy Force: 61.7 (990)

- **EPS19 TYPE VII**
  - Minimum Density: 0.90 (14.4)
  - Compressive Resistance @10% deformation: 5.8 (840)
  - Elastic Modulus: 3.6 (520)
  - Flexural Strength: 25.0 (400)
  - Water Absorption: 4.0
  - Oxygen Index: 24.0
  - Buoyancy Force: 61.5 (990)

- **EPS22 TYPE II**
  - Minimum Density: 1.15 (18.4)
  - Compressive Resistance @10% deformation: 16.0 (2300)
  - Elastic Modulus: 5.8 (840)
  - Flexural Strength: 30.0 (400)
  - Water Absorption: 3.0
  - Oxygen Index: 24.0
  - Buoyancy Force: 61.3 (990)

- **EPS29 TYPE IX**
  - Minimum Density: 1.35 (21.6)
  - Compressive Resistance @10% deformation: 19.6 (2820)
  - Elastic Modulus: 8.0 (1150)
  - Flexural Strength: 40.0 (600)
  - Water Absorption: 2.0
  - Oxygen Index: 24.0
  - Buoyancy Force: 61.0 (990)

- **EPS39 TYPE XIV**
  - Minimum Density: 1.80 (28.8)
  - Compressive Resistance @10% deformation: 29.0 (4180)
  - Elastic Modulus: 10.9 (1670)
  - Flexural Strength: 60.6 (1070)
  - Water Absorption: 2.0
  - Oxygen Index: 24.0
  - Buoyancy Force: 60.0 (960)

- **EPS46**
  - Minimum Density: 2.40 (38.4)
  - Compressive Resistance @10% deformation: 40.0 (5760)
  - Elastic Modulus: 18.6 (3100)
  - Flexural Strength: 75.0 (12000)
  - Water Absorption: 2.0
  - Oxygen Index: 24.0
  - Buoyancy Force: 59.5 (990)
Green roofs are a part of almost every new multi-family residential building and a growing number of commercial building projects in urban areas. Whether the project calls for a few planters on the roof or extensive planting, EPS Geofoam is the fast and lightweight solution. The material can be delivered precut and ready to install. It can easily be raised to the roof where it is quickly placed by hand, reducing the need for heavy equipment. It’s light weight and structural properties make EPS Geofoam the perfect material for rooftop projects.
Expanded polystyrene (EPS) is an economical alternative for wood and steel forms when creating curves or intricate patterns. It is commonly used for building columns and other architectural shapes. It can also be used for building and tunnel facades. Parapet caps and other shapes that require greater detail are easily formed with EPS, so, the primary form can be kept rectangular.
AUDITORIUM & THEATER SEATING

EPS Geofoam can be used in conjunction with our proprietary steel Leave-In-Place Riser form system to create tiered seating in movie theaters, classrooms, auditoriums and churches. The advantages of using Geofoam and the LIP riser forms are speed and ease of construction. EPS Geofoam also provides sound deadening benefits for the owner, making it a better alternative to steel framing, particularly in theater construction.
CONCRETE BLOCKOUTS

Custom cut EPS block-outs are an economical and efficient way to create voids in concrete structures and forms. With compression strengths up to 18psi @1% deformation EPS Geofoam can carry substantial wet concrete loads with little to no deflection. Block outs are delivered to the jobsite precut and ready to install.
ARCHITECTURAL SHAPES

EPS can be wire cut into an infinite number of architectural shapes. Mostly used for exterior applications, the material can be coated with synthetic stucco coatings (known as EIFS), cementitious coatings or a variety of other coatings depending on the project requirements. There are also very dense EPS crown moldings available for interior uses, which are paint ready.
A common use of expanded polystyrene is the construction of signage. It’s lightweight, durability, and overall strength makes it an ideal material for many different sign applications. EPS can be wire cut or shaped with a CNC router then coated with a variety of different coatings.
EPS insulation is available in different compression strengths to meet almost any requirements. It is ideal for under slab insulation, perimeter insulation, as well as roofs and walls. To meet the 2012 Energy Code, EPS blocks are inserted in CMU block to add insulation to foundation walls. EPS insulation panels can be cut to any thickness up to 48” wide x 192” long. They are used between studs, joist and rafters, and are delivered precut to fit the application.

### EPS Insulation Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Type XI</th>
<th>Type I</th>
<th>Type VIII</th>
<th>Type II</th>
<th>Type IX</th>
<th>Type XIV</th>
<th>Type XV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Density</td>
<td>0.75</td>
<td>1.00</td>
<td>1.25</td>
<td>1.50</td>
<td>2.00</td>
<td>2.50</td>
<td>3.00</td>
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<tr>
<td>Density min.</td>
<td>0.70</td>
<td>0.90</td>
<td>1.15</td>
<td>1.35</td>
<td>1.80</td>
<td>2.40</td>
<td>3.00</td>
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<tr>
<td>Smoke Developed</td>
<td>&lt;450</td>
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<td>&lt;450</td>
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<td>Max. Service Temperature</td>
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<tr>
<td>Thermal Resistance per 1.0 thickness</td>
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</tr>
<tr>
<td>25°F</td>
<td>3.5</td>
<td>4.2</td>
<td>4.4</td>
<td>4.6</td>
<td>4.8</td>
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<td>40°F</td>
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<td>4.2</td>
<td>4.0</td>
<td>4.6</td>
<td>4.6</td>
<td>4.7</td>
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<tr>
<td>75°F</td>
<td>3.1</td>
<td>3.6</td>
<td>3.8</td>
<td>4.0</td>
<td>4.2</td>
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<td>Compressive</td>
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<tr>
<td>Flexural Strength, min.</td>
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<tr>
<td>Water Vapor Permeance’ of 1.0 in. thickness, max., perm</td>
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<tr>
<td>Water Absorption’ by total immersion, max., volume %</td>
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</tr>
</tbody>
</table>

**Additional Information:**
- **Flame Spread:** ASTM E84
- **Smoke Developed:** ASTM E84
- **Max. Service Temperature:** Long Term Intermittent
- **Thermal Resistance:** 25°F, 40°F, 75°F
- **Compressive:** psi (kPa)
- **Flexural Strength, min.:** psi (kPa)
- **Water Vapor Permeance’ of 1.0 in. thickness, max., perm:**
- **Water Absorption’ by total immersion, max., volume %:**
Due to its physical characteristics, EPS (expanded polystyrene) is excellent for flotation. It is used in conjunction with wood decking for floating docks and swim platforms. EPS floats encapsulated in a plastic shell are widely used for commercial docks. EPS is also encapsulated in concrete for much larger projects such as breakwaters. There are floating docks using EPS blocks on private lakes that have been in service for over 30 years.
STYROFOAM™ BRAND FOAM

STYROFOAM™ Brand Square Edge Insulation Extruded Polystyrene is a Type IV product with square edges on four sides to help ensure energy efficiency and minimize on-site cutting and waste. It offers superior water resistance, long-term thermal performance and high compressive strength in a wide range of residential and commercial construction applications.

STYROFOAM™ Brand HIGHLOAD 40 Insulation has a minimum compressive strength of 40 psi (275 kPa). The Type VI extruded polystyrene foam insulation resists compressive creep and fatigue, delivering long-term compressive strength and thermal performance in high-load applications.

STYROFOAM™ Brand HIGHLOAD 60 Insulation has a minimum compressive strength of 60 psi (415 kPa). The Type VII extruded polystyrene foam insulation resists compressive creep and fatigue, delivering long-term compressive strength and thermal performance in high-load applications.

STYROFOAM™ Brand HIGHLOAD 100 Insulation has a minimum compressive strength of 100 psi (690 kPa). The Type V extruded polystyrene foam insulation resists compressive creep and fatigue, delivering long-term compressive strength and thermal performance in high-load applications.

STYROFOAM™ Brand DECKMATE™ Plus Insulation is a Type IV extruded polystyrene foam product designed for use on conventional roofs beneath mechanically fastened, fully adhered or ballasted sheet membranes. It can be used on built-up, modified bituminous and metal roofs, and installed directly on a steel deck without the use of a thermal barrier such as gypsum board.

STYROFOAM™ Brand PLAZAMATE™ Insulation with 1/2” x 1/4” drainage channels on the bottom long edge, is a Type VII extruded polystyrene foam insulation designed for installation above waterproofing or roofing membranes in plaza roof decks. The Type VII insulation helps extend the life of plaza or roof by providing protection from ultraviolet deterioration. It helps the roof membrane maintain a steady temperature, minimizing the harmful effects of freeze-thaw cycles, weathering and physical damage during and after construction.

* ABOVE INFORMATION PROVIDED FROM THE DOW CHEMICAL WEBSITE

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EPS Geofoam is a cellular plastic material that is strong but has very low density (1% of traditional earth materials). It is manufactured in block form and meets ASTM D6817, “Standard Specification for Rigid, Cellular Polystyrene Geofoam”. EPS Geofoam is available in a range of densities to provide control of structural integrity and cost effectiveness. The information given is deemed to be timely, accurate, and reliable for the use of EPS Geofoam. Each project using EPS Geofoam should be designed by a professional engineer. The engineer of project specifications should be consulted to determine the ASTM D6817 Type required for your project loading conditions.

### EPS Geofoam Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>EPS12 Type XI</th>
<th>EPS15 Type I</th>
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<th>EPS29 Type IX</th>
<th>EPS39 Type XIV</th>
<th>EPS46</th>
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</thead>
<tbody>
<tr>
<td>Minimum Density¹</td>
<td></td>
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</tr>
<tr>
<td>lb/ft³ (kg/m³)</td>
<td>0.70 (11.2)</td>
<td>0.90 (14.4)</td>
<td>1.15 (18.4)</td>
<td>1.35 (21.6)</td>
<td>1.80 (28.8)</td>
<td>2.40 (38.4)</td>
<td>2.85</td>
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<td>Compressive Resistance¹</td>
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<td></td>
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</tr>
<tr>
<td>@10% deformation, min. psi psf (kPa)</td>
<td>5.8 (40)</td>
<td>10.2 (70)</td>
<td>16.0 (110)</td>
<td>19.6 (135)</td>
<td>29.0 (200)</td>
<td>41.8 (276)</td>
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<td>Compressive Resistance¹</td>
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<tr>
<td>@5% deformation, min. psi psf (kPa)</td>
<td>5.1 (35)</td>
<td>8.0 (55)</td>
<td>13.1 (90)</td>
<td>16.7 (115)</td>
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<td>Compressive Resistance¹</td>
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<td>@1% deformation, min. psi psf (kPa)</td>
<td>2.2 (15)</td>
<td>3.6 (25)</td>
<td>5.8 (40)</td>
<td>7.3 (50)</td>
<td>10.9 (75)</td>
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<tr>
<td>Elastic Modulus¹</td>
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<tr>
<td>psi (kPa)</td>
<td>220 (1500)</td>
<td>360 (2500)</td>
<td>580 (4000)</td>
<td>730 (5000)</td>
<td>1090 (7500)</td>
<td>1500 (10300)</td>
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<tr>
<td>Flexural Strength¹</td>
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<tr>
<td>psi (kPa)</td>
<td>10.0 (69)</td>
<td>25.0 (172)</td>
<td>30.0 (207)</td>
<td>40.0 (276)</td>
<td>50.0 (345)</td>
<td>60.0 (414)</td>
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<td>Water Absorption¹</td>
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<td>by total immersion, max. volume %</td>
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<td>4.0</td>
<td>3.0</td>
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<td>2.0</td>
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<td>Oxygen Index¹</td>
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<td>volume %</td>
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<td>24.0</td>
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<tr>
<td>Buoyancy Force</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>lb/ft³ (kg/m³)</td>
<td>61.7 (990)</td>
<td>61.5 (980)</td>
<td>61.3 (980)</td>
<td>61.1 (980)</td>
<td>60.6 (970)</td>
<td>60.0 (960)</td>
<td>59.5</td>
</tr>
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</table>

¹ See ASTM D6817 Standard for test methods and complete information.