1. **Overview:**
   Expanded Polystyrene (EPS) foam is produced by expanding polystyrene beads and molding these beads into the desired shape and dimension. R-pour EPS insulation consist of shredded EPS foam. EPS foam is processed through grinding equipment to break the material down into pieces that range in size from individual bead size (1/8”) up to 3/8” chunks. This shredded product is commonly used as an insulation product to fill the cavity spaces in concrete block walls.

2. **Product Properties:**
   The product attributes of EPS are described in the attached “R-Control EPS” document. Certain physical and thermal properties of EPS differ based on the different densities of material as specified in the EPS Properties section of the attached “R-Control EPS” document. R-Pour material consist of a combination of these densities. Accordingly, actual density of R-Pour material is derived from the EPS foam being shredded and will be a combination of densities.

3. **Block Fill Requirements:**
   The following represents the number of concrete blocks per 5 cubic bag of polystyrene beads:

<table>
<thead>
<tr>
<th></th>
<th>Compacted Block / Bag</th>
<th>Loose Block / Bag</th>
</tr>
</thead>
<tbody>
<tr>
<td>8” Regular</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>8” Thermal</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>8” Thermal 1 Stuffer</td>
<td>37</td>
<td>40</td>
</tr>
<tr>
<td>10” Regular</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>12” Regular</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>12” Thermal</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>12” Thermal 1 Stuffer</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>12” Thermal 2 Stuffer</td>
<td>18</td>
<td>23</td>
</tr>
</tbody>
</table>
R-Control EPS (expanded polystyrene) rigid board insulation is for all types of R-Control construction. R-Control EPS is manufactured in conformance with the following standard.

- ASTM C 578 (Thermal Insulation)
- ASTM D 6817 (Geofoam)
- ASTM E 2430 (EIFS boards)

Environmental Advantages
R-Control EPS Insulation...
- Inert, non-nutritive, highly stable
- Contains no CFC, HCFC, or HFC
- Contains no formaldehyde
- Can be recycled

Strength and Thermal Performance
Cost effective thermal design is among the highest priorities in construction. R-Control EPS insulation products are available in a range of densities necessary to provide both thermal resistance (R-value), structural integrity, and cost effectiveness. Other rigid insulation products fail to provide this design flexibility due to limited density availability, and therefore R-Control EPS provides optimum value when compared to other rigid insulations of the same R-value design.

Exposure to Water and Water Vapor
The mechanical properties of EPS are unaffected by moisture. Exposure to water or water vapor does not cause swelling. If condensation occurs within a system due to design and end-use conditions, thermal efficiency will decrease. Upon drying, full efficiency is restored.

Adhesives, Coatings and Chemicals
Solvents which attack EPS include esters, ketones, ethers, aromatic and aliphatic hydrocarbons and their emulsions, among others. If EPS is to be placed in contact with materials (or their vapors) of unknown composition, pretest for compatibility at maximum exposure temperature.

Resistance to Termites
Foam plastic insulations have been shown to become termite infested under certain exposure conditions. In response, R-Control Building Systems developed Perform Guard® EPS which provides resistance to termites. Please review literature on PerformGuard® for complete information.

EPS provides no nutrient value to plants, animals, and microorganisms. Therefore, bacteria and fungi do not multiply; EPS will not decompose and is highly resistant to mildew.

Weathering
Long-term exposure to sunlight causes yellowing and a slight embrittlement of the surface due to ultraviolet light. This has little effect on mechanical properties. If stored outdoors, cover EPS with light-colored, polyethylene film or tarpaulins.

Temperature Exposure/ Flame Retardance
The maximum recommended use temperature for R-Control EPS is 165°F (75°C).

Although flame retardants used in the manufacture of EPS provide an important margin of safety, all EPS products must be considered combustible. Tests have demonstrated that the products of combustion for EPS are carbon monoxide and carbon dioxide, and at concentrations far less than those given off by equal volumes of wood products. The heat of combustion for R-Control EPS is less than 18,000 Btu/lb.

Thermal Barrier
The term "thermal barrier" refers to a fire resistant covering or coating which separates EPS from the building interior. Commonly used thermal barriers, all subject to building code approval, include gypsum board, gypsum or cement plasters, perlite board, spray-applied cellulose, mineral fiber or gypsum coatings, and select plywoods.
Quality Assurance
All R-Control EPS products are made to the exacting standards of our industry-leading Quality Control Program, monitored by Underwriters Laboratories Inc.® and recognized by national code and regulatory bodies.

Warranty
R-Control Building Systems offers a product warranty ensuring thermal performance. For complete details, please contact your R-Control Building Systems supplier.

Industry Affiliations:
EPSMA, NAHB, NRCA,
AIA, SIPA, ICFA, SPRI

Availability
R-Control Building Systems is North America's largest provider of Expanded Polystyrene (EPS) Insulation Products and Systems with licensed facilities located throughout North America and the world. Please contact your R-Control Building Systems supplier for design consultation, availability and pricing.

R-Control Building Systems
(800) 255-0176 General Information
(800) 255-3908 Technical Information
www.r-control.com

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<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>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Density</td>
<td>lb/ft³ (kg/m³)</td>
<td>0.75 (12)</td>
<td>1.00 (16)</td>
<td>1.25 (20)</td>
<td>1.50 (24)</td>
<td>2.00 (32)</td>
</tr>
<tr>
<td>Density</td>
<td>lb/ft³ (kg/m³)</td>
<td>0.70 (12)</td>
<td>0.90 (15)</td>
<td>1.15 (18)</td>
<td>1.35 (22)</td>
<td>1.80 (29)</td>
</tr>
<tr>
<td>Design Thermal Resistance per 1.0 in. thickness</td>
<td>75°F °F·ft²·h/Btu (°K·m²/W)</td>
<td>3.22 (0.57)</td>
<td>3.85 (0.68)</td>
<td>3.92 (0.69)</td>
<td>4.17 (0.73)</td>
<td>4.35 (0.77)</td>
</tr>
<tr>
<td></td>
<td>40°F °F·ft²·h/Btu (°K·m²/W)</td>
<td>3.43 (0.60)</td>
<td>4.17 (0.73)</td>
<td>4.25 (0.75)</td>
<td>4.55 (0.80)</td>
<td>4.76 (0.84)</td>
</tr>
<tr>
<td>Thermal Resistance</td>
<td>75°F °F·ft²·h/Btu (°K·m²/W)</td>
<td>3.10 (0.55)</td>
<td>3.60 (0.63)</td>
<td>3.80 (0.67)</td>
<td>4.00 (0.70)</td>
<td>4.20 (0.74)</td>
</tr>
<tr>
<td></td>
<td>40°F °F·ft²·h/Btu (°K·m²/W)</td>
<td>3.30 (0.58)</td>
<td>4.00 (0.70)</td>
<td>4.20 (0.74)</td>
<td>4.40 (0.77)</td>
<td>4.60 (0.81)</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>@ 10% deformation, min. psi (kPa)</td>
<td>50 (35)</td>
<td>100 (69)</td>
<td>130 (90)</td>
<td>150 (104)</td>
<td>250 (173)</td>
</tr>
<tr>
<td></td>
<td>Flexural Strength</td>
<td>psi (kPa)</td>
<td>100 (69)</td>
<td>250 (173)</td>
<td>300 (208)</td>
<td>350 (242)</td>
</tr>
<tr>
<td></td>
<td>Water Vapor Permeance</td>
<td>of 1.0 in. thickness, max., perm.</td>
<td>5.0</td>
<td>5.0</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Water Absorption</td>
<td>by total immersion, max., volume %</td>
<td>24.0</td>
<td>24.0</td>
<td>24.0</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td>Oxygen Index</td>
<td>min., volume %</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

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See ASTM C 578 Standard Specification for complete information
See ASTM D 6817 Standard Specification for EPS Geofoam properties
See UL Certificate AFM-1 available from R-Control Building Systems
Contact R-Control Building Systems for information

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