Ryolex is our brand of expanded perlites we refer to as macroparticles. These coarser particles are produced by heating crushed perlite between 1600° and 1800°F, causing the particles to expand 4 to 20 times due to the vaporizing of water in the rock. This expansion accounts for Ryolex’s light weight and other exceptional physical properties.

Once exposed to rapid, controlled heating, the expanded perlite takes on a foam-like structure of microscopic glass bubbles that contain a multi-cellular core. These clusters of glass bubbles have the unique quality of being naturally insulating and yielding superior dynamic thermal performance.

Ryolex is ideal for loose-fill insulation, as it easily pours into odd-shaped spaces and can reduce heat transmissions of masonry walls by 50% or more. Its many insulation applications include:
• Loose-fill masonry
• Cinderblock walls
• Under slab
• Chimney lining
• Ceiling tiles
• Cryogenic
• High temperature

Standard Chemical Analysis

<table>
<thead>
<tr>
<th>Element</th>
<th>% of Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiO₂ (Silicon Dioxide)</td>
<td>73%</td>
</tr>
<tr>
<td>Al₂O₃ (Aluminum Oxide)</td>
<td>17%</td>
</tr>
<tr>
<td>K₂O (Potassium Oxide)</td>
<td>5%</td>
</tr>
<tr>
<td>Na₂O (Sodium Oxide)</td>
<td>3%</td>
</tr>
<tr>
<td>CaO (Calcium Oxide)</td>
<td>1%</td>
</tr>
</tbody>
</table>

Trace Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>% of Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese</td>
<td>&lt;0.3%</td>
</tr>
<tr>
<td>Sulfur</td>
<td>&lt;0.2%</td>
</tr>
<tr>
<td>Titanium</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Barium</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Gallium</td>
<td>&lt;0.05%</td>
</tr>
<tr>
<td>Boron</td>
<td>&lt;0.01%</td>
</tr>
<tr>
<td>Chromium</td>
<td>&lt;0.005%</td>
</tr>
<tr>
<td>Zirconium</td>
<td>&lt;0.003%</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>&lt;0.002%</td>
</tr>
<tr>
<td>Nickel</td>
<td>&lt;0.002%</td>
</tr>
<tr>
<td>Copper</td>
<td>&lt;0.0015%</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt;0.001%*</td>
</tr>
<tr>
<td>Arsenic</td>
<td>&lt;0.001%*</td>
</tr>
<tr>
<td>Chlorine</td>
<td>&lt;0.0005%</td>
</tr>
</tbody>
</table>

All analyses are shown in elemental form even though the actual forms present are mixed glassy silicates. Free Silica may be present in small amounts, characteristic of the particular ore body.

* By Food Chemicals Codex Method

Structure

Physical Properties

Hygroscopic Moisture 0%
Surface pH 6.5 - 7.5
Color White
Fusion Point (°F) 2300
Fusion Point (°C) 1260

Benefits

• Significant energy savings when used in concrete masonry
• Increases R-Value
• Decreases U-Value
• Non-Carcinogenic
• Efficient, low-density insulator
• Non-toxic
• Non-combustible
• All-natural mineral

Uses

Industrial Perlites for Insulation

Overview