Insulating Glass-Sealant PIB-1
Black Primary Seal for Dual-Seal Horizontal Assembly

Description
Insulating Glass-Sealant PIB-1 is a black polyisobutylene based sealant that exhibits excellent long-term stability and remains permanently flexible, even at low temperatures. Like all Insulating Glass-Sealant PIB sealants, PIB-1 exhibits low argon permeability and inherently low moisture vapor transmission along with excellent adhesion to aluminum, stainless steel and tin-plated steel spacer substrates.

Basic Use
Insulating Glass-Sealant PIB-1 is specifically formulated to be used as a primary sealant in insulating glass units which are produced via horizontal or stacked methods. PIB-1 compression properties have been optimized to provide sufficient wet-out after pressing while minimizing over-compression issues in a bottom-of-the-stack unit. PIB-1 exhibits reduced flow versus other PIB offerings when submitted to a set pressure.

PIB-1 has very low moisture vapor transmission rates (MVTR) and gas permeability rates. Properly constructed dual-seal units incorporating PIB-1 will retain argon insulating gas and maintain a dry interior unit airspace for decades. Insulating glass units produced with PIB-1 routinely pass ASTM E2188, E2189, E2190 (HIGS) standards.

PIB-1 is designed for use on manual extrusion equipment. PIB-1 may be used with most commercially available urethane, silicone, polysulfide, or butyl hot melt insulating glass secondary sealants.

Health & Safety
Prior to working with this or any product consult product label and Safety Data Sheet (SDS) for necessary health and safety precautions.

Features Beneﬁts
Superior compression resistance Allows for stacking of window units during build without increased risk of failure
Low moisture vapor transmission rate (MVTR) Increased unit life expectancy
Excellent resistance to weathering Does not degrade upon exposure to environmental conditions
Low gas permeability Increased argon gas retention beyond industry standards
Excellent adhesion to glass, stainless, aluminum, tin-plated steel, and many plastics Can be used with all commercially accepted metal spacer systems and most plastic spacer systems
Ultra low volatile content No chemical fogging. No discoloration of low-e coatings
High cohesive strength Reduced offset shear failures resulting in less rework and better in-plant unit handling

Packaging
Insulating Glass-Sealant PIB-1 is available in the following standard packages:
• 15lb (6.8kg) slug

Storage and Shelf Life
Store material in original unopened packaging at temperatures between 4°C to 38°C (40°F to 100°F). Shelf life is 24 months when stored as recommended.
WARRANTY: Royal warrants its products to conform to Royal’s specifications at the time of sale when tested according to Royal standards. If a product is proven to be defective when tested according to Royal standards, Royal will, at its option, refund the purchase price or replace or repair the defective product. THIS LIMITED WARRANTY IS THE BUYER’S SOLE AND EXCLUSIVE REMEDY AGAINST ROYAL AND IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. In no event shall Royal be liable for any special, incidental, consequential, or punitive damages arising out of any claims whether based on negligence, contract, warranty, strict liability or otherwise.

**Limitations**
- ADCOTHERM® PIB-1 is not intended for use as a structural sealant.
- ADCOTHERM® PIB-1 is not intended for use on fully-automated, high-volume extruders.
- ADCOTHERM® PIB-1 is not resistant to attack by solvents, oils, and plasticizers. When constructing IG with silicone secondary sealants, care must be taken to insure that the glazing environment (including setting blocks, compression gaskets, glazing sealants, and weatherproofing sealants) is free from solvents, oils and plasticizers. These chemicals can migrate through silicone secondary sealants and attack the primary sealant resulting in premature IG unit failure.
- The surfaces to be bonded must be dry, clean and free from dust and grease. Glass surfaces should be thoroughly cleaned by hand or machine with non-film forming, low residue detergent and rinsed thoroughly with clean hot water.

**Glazing Compatibility**
It is recommended that glazing materials be tested for compatibility and that all units be glazed in accordance with GANA (Glass Association of North America) and IGMA (Insulating Glass Manufacturers Alliance) recommendations. Contact with any solvent, oil, or plasticizer-containing glazing materials should be avoided.

**Performance Standards**
Insulating glass units incorporating PIB-8HSNB routinely meet the following specifications:
- ASTM E 774
- ASTM E 2188, E2189, E2190 (HIGS)
- CGSB 12.8
- EN 1279 (Part 1-3)

**Application Instruction**
See Insulating Glass-Sealant PIB Application Guidelines

**Technical Data**

<table>
<thead>
<tr>
<th>Property</th>
<th>Typical Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture Vapor Transmission</td>
<td>0.2 g/m²/24 hr</td>
<td>ASTM F1249 2mm thickness</td>
</tr>
<tr>
<td>Argon Diffusion</td>
<td>0.02 L/m²/24h/760mm</td>
<td>ASTM D3985 3mm thickness</td>
</tr>
<tr>
<td>Press Flow Extrusion Viscosity</td>
<td>26 seconds</td>
<td>ASTM D2452 110°C (230°F), 8.6mm orifice</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>-45°C to 80°C (-50°F to 176°F)</td>
<td></td>
</tr>
</tbody>
</table>

**Physical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cone Penetration</td>
<td>45 dmm</td>
<td>ASTM D217, 150g added load</td>
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<tr>
<td>Solids Content</td>
<td>100%</td>
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</tr>
<tr>
<td>Specific Gravity</td>
<td>1.16</td>
<td>ASTM D71</td>
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<tr>
<td>Weight per gallon</td>
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</table>

**Application Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suggested Application Temperature</td>
<td>110°C to 140°C (230°F to 285°F)</td>
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</tbody>
</table>

**NOTE:** The foregoing information is published as general information only. The listed properties and performance characteristics are approximate values and are not to be interpreted as manufacturing specifications.