

Enclosure Units

PORON® & BISCO® Foams Provide Effective Seals for Industrial Enclosure Units

THE CHALLENGE



The function of a seal for an industrial enclosure unit is to safeguard electronic components against dust, moisture, and wind driven rain.

These enclosures provide long-term protection for the sensitive electronics that they contain, and can be found inside buildings as well as outdoors.

1. Gaskets and seals must pass rugged weather-ability requirements and perform over a broad temperature range.
2. Gaskets and seals must resist compression set which would compromise the electrical components inside the unit.
3. Enclosures with gaskets and seals may be required to comply with UL Enclosure Ratings (UL JMST2 & UL JMLU2 – Component gaskets and seals).

Each enclosure unit is designed differently, requiring gasketing and sealing materials of different firmness and thickness combinations. A seal must conform well to the mated surface while also maintaining a low closure force in order to prevent bowing.

Several tests help in determining the usefulness of the gasket in the final assembly. These tests on the gasket include - Compression Set, Compression Force Deflection, UL JMST2 and UL JMLU2 (component gaskets and seals), and UL94 for flammability.

ROGERS MATERIAL SOLUTIONS

The following PORON® and BISCO® materials are commonly used as gaskets and seals in enclosure units.

1. PORON Urethanes 4701-30, 40, 41, and 50 grades
2. BISCO Silicones HT-800 and BF-1000 grades

These formulations are available in various firmness and thickness combinations. Common thicknesses used in these applications are: 0.188" (4.78mm), 0.250" (6.35mm), 0.375" (9.53mm), 0.500" (12.7mm).

SOLUTION FEATURES AND BENEFITS

1. Excellent compression set resistance guarantees long-term sealing performance
2. Multiple thickness and firmness combinations to accommodate different design configurations
3. Temperature performance between -40°C to 90°C (Urethane) & -55°C to 200°C (Silicone)
4. Urethane materials conform to UL JMST2 (component gasket and seals) & Silicone materials conform to UL JMLU2 (component gasket and seals).
5. PORON materials and several BISCO materials meet UL 50E (periodic recompression) rating.

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