

Kryoflex Hermetic Sealing

Overview

Kryoflex® polycrystalline ceramic a multiple-phase derivative of ceramic oxide crystalline silicates. It is a proprietary, patented substance developed by the Hermetic Solutions Group as a direct replacement for conventional compression glass and metalized alumina ceramics.

Technical Description

Chemically active Kryoflex provides, by means of oxygen pinned valence bonding, a direct union during the fusion processing of a ceramic-to-metal entity. This unchanging chemical and mechanical bond is enhanced by Kryoflex's randomly organized crystalline structure, which allows this unique material to relieve stresses within itself.

Electrical properties of Kryoflex include resistivity of up to 1.5×10^{19} ohms/cm, with easily maintained resistance values exceeding 50,000 megohms — even in micro-miniature designs. Stand-off voltage capability is such that breakdown will always occur in the air media surrounding the terminal ... never through the dielectric.

Kryoflex technology — available only from the Hermetic Solutions Group — allows you to choose connectors, feedthrus, and electronic packaging literally custom-built to withstand extremes of temperature, pressure, harsh environments, and hazardous chemicals that destroy lesser materials.

The Kryoflex family of materials has adjustable coefficients of linear expansion, allowing application to a huge variety of shell and conductor materials. No formers are added, so this material remains useful as an insulator from - 400°F to +1,400°F with no loss of hermetic integrity.

Because Kryoflex seals directly to pins of copper and its alloys, the Hermetic Solutions Group's connectors and feedthrus have up to 70 times the current-carrying capacity of competing products. When used with aluminum, Kryoflex permits hermetically-sealed connectors to be both robust and lightweight, while using copper conductors. (For applications requiring greater strength, Kryoflex works well with titanium, stainless steel or Inconel® shells along with platinum, platinum-clad titanium, or Inconel pins.)



HERMETIC SOLUTIONS GROUP

Enabling Technology

A wide variety of standard and custom hermetically sealed products are available from the Hermetic Solutions Group for a number of applications

Medical Components

Hermetically sealed ceramic-to-metal terminals and connectors used in electronic life-support devices, hearing restoration components, vital organ synthetic drug secretion devices and bone growth stimulators, all manufactured for implant into the human body.

Energy Products

Hermetically sealed connectors and feedthru terminals for deep-well oil exploration and other applications where electronics must operate under extreme temperature and pressure, while maintaining both hermetic seal and superior electrical performance

Space & Aerospace Products

High-end hermetically sealed connectors and related products – both standard and custom – including Sub-D, Micro-D, Jr.-D connectors and feedthrus.

Electronic Packaging

A wide variety of custom turnkey housing assemblies made from aluminum, titanium, titanium/CuMo, Fe/Ni alloys, stainless steel and more.

For relentlessly reliable hermetic sealing technology, depend on Kryoflex ... depend on the Hermetic Solutions Group



Hi-Rel Alloys Division

6934 Kinsmen Ct
Niagara Falls, Ontario
Canada, L2H 0Y5
289-296-4078

Litron Division

207 Bowles Road
Agawam, MA 01001
866-548-7661

Hi-Rel Lids Division

Fuller Road
Harleston, Norfolk
IP20 9EA UK
+44(0)1379-853944

PA&E Division

434 Olds Station Road
Wenatchee, WA 98801
855-285-5200

Hi-Rel Products Division

16 Plains Road
Essex, CT 06426
860-767-9031

Sinclair Manufacturing Division

PO Box 398, 12 South Worcester St.
Chartley, MA 02712
508-222-7440

www.hermeticsolutions.com