

Molded In-Place Cover Seals

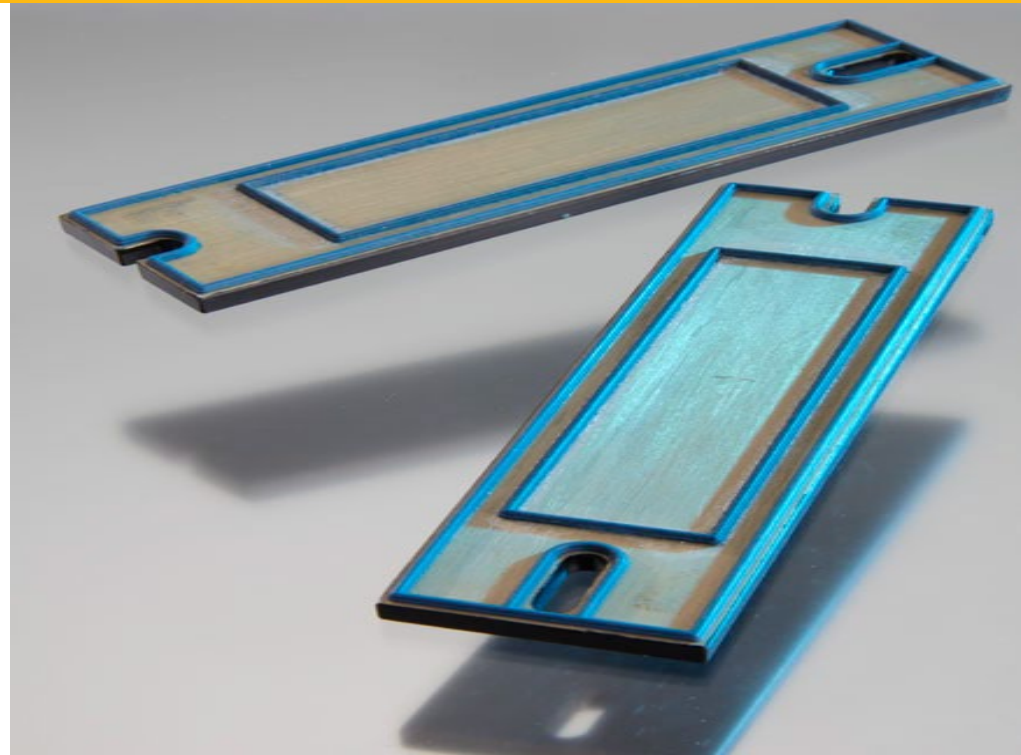
MOLDED-IN-PLACE COVER SEALS

Parker Chomerics conductive elastomer seals have been chosen for airborne, shipboard and groundbased electronics equipment to meet high levels of shielding and environmental sealing requirements. In hundreds of applications, Parker Chomerics has molded our conductive elastomers onto covers machined by Parker Chomerics or provided by our customers to create a permanent seal/cover assembly with significant shielding, installation and maintainability benefits.

Parker Chomerics has in-house CNC machining capability, for fast, economical turn-around of prototypes, and developmental modifications of structural components, as well as full production capacity for components and seal assemblies. Incorporating our corrosion-resistant, silver-plated or nickel-plated aluminum filled silicones and fluorosilicones, these assemblies are particularly suited for environmentally demanding military/aerospace applications.

START WITH SUPERIOR MATERIALS

Our corrosion-resistant CHO-SEAL® 1285 and 1298 silver/aluminum and CHO-SEAL 6502 and 6503 nickel/aluminum gasket materials provide 90dB of shielding effectiveness at 1 GHz, excellent salt-spray resistance (MIL-STD 810), EMP survivability and a - 55° to 200°C use temperature range. Enclosure shielding and environmental sealing performance are improved in a number of ways when conductive elastomer gaskets are molded directly to a flange surface instead of being



adhesively bonded or mechanically attached.

A Molded-In-Place gasket permits the optimum seal profile to be formed, achieving more gasket deflection with limited closure force when compared to flat, bonded gaskets. Eliminating the adhesive reduces interface resistance and maximizes shielding effectiveness. It also improves environmental sealing by eliminating the uncontrollable variations in adhesive thickness that may turn theoretically good designs into field failures.

Design and Cost Advantages

Molded-In-Place seal/cover assemblies also offer the following advantages over extruded or die-cut gaskets:

- **Gasket Volume** — typically less seal material is needed compared to die-cut gaskets, thereby reducing costs in many applications.
- **Cross Section Design** — compression/deflection requirements can be met with fewer fasteners, resulting in improved maintainability.
- **Fastener Sealing** — allows fasteners to be designed inboard or outboard of the gasket more easily, reducing both EMI and moisture leakage into the enclosure through fastener holes.
- **Production Savings** — the gasket, cover and compression stops become a single part, reducing the number of purchased items, inventory and documentation.
- **Installation Savings** — inconsistent and expensive adhesive bonding operations are eliminated.
- **Field Reliability and Maintainability** — damaged gaskets or covers become a 1-part replacement with little potential for error. Also, conductive gaskets will not be replaced mistakenly with ordinary non-conductive gaskets during routine maintenance.

Contact Information

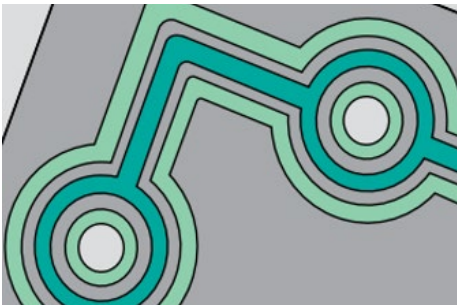
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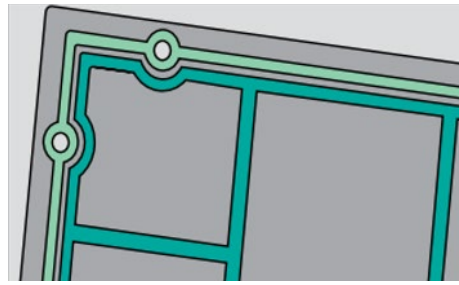
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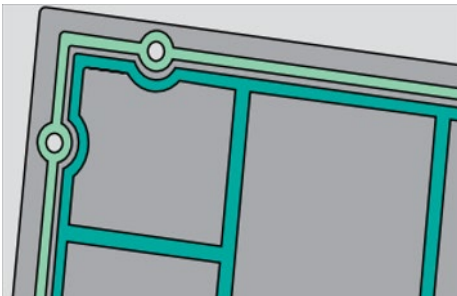
parker.com/chomerics



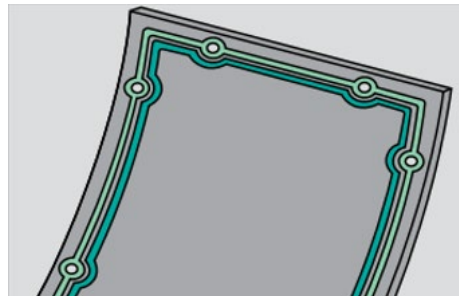
This gasket design provides the ultimate protection in harsh environments. A non-conductive elastomer is molded around the bolt holes, and both inboard and outboard of the conductive elastomer.



For large, complex gaskets with numerous "T" joints, an extruded gasket can be difficult to manufacture and requires adhesive bonding at every junction. A Molded-In-Place assembly provides a "seamless" gasket regardless of the configuration required.



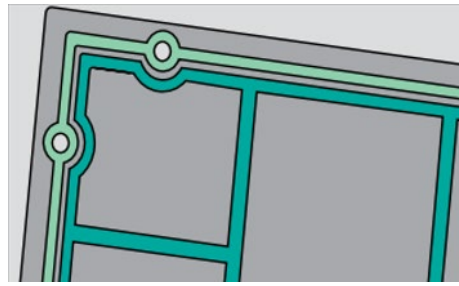
Molding a non-conductive elastomer to the outboard edge and around bolt holes further protects the inboard conductive elastomer and the enclosure in corrosive environments.



Enclosure covers with simple and compound curve configurations can also be supplied with Molded-In-Place elastomer gaskets.



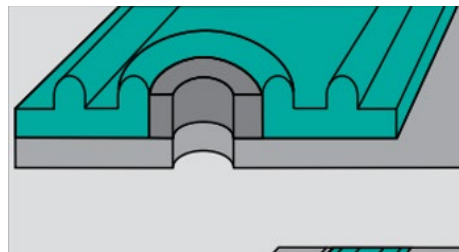
Installing conventional gaskets on enclosure covers with less than 90° bends is extremely difficult. Molding a gasket to this configuration is not only easier, but the elastomer cross section can be designed to provide maximum shielding with a lower closure force.



For electronic enclosures that require various compartments to be shielded from each other, a Molded-In-Place cover assembly provides maximum shielding effectiveness and simple installation.

Table 2: Typical Non-Conductive Environmental Sealing Molded Elastomers

Silicone Per A-A-59588 (ZZ-R-765) Class 2A and 2B	Fluorosilicone Per AMS-R-25988 Type 2, Class 1
Grade	Grade
40	40
50	50
60	60
70	70
80	80



Molding-In-Place enables compression stops to be built directly into the gasket, protecting it from over-compression. Additionally, cover assembly shielding and environmental sealing performance can be improved even further by molding the gasket into a flange or cover groove.

Ordering Information

Parker Chomerics can Mold-In-Place any of the CHO-SEAL conductive elastomers. Refer to Parker Chomerics Conductive Elastomer EMI Gaskets Molded and Extruded Materials Selector Guide for details. Select the material that meets the performance criteria for your application. If you would like Parker Chomerics to supply your total gasket/cover assembly, send a drawing of the enclosure configuration to our Applications Engineering Department, along with your request for a quotation. If you would like us to mold CHO-SEAL elastomers to an existing cover, send a drawing or actual cover sample for evaluation. Note: Covers supplied for molding may require modification for tooling interface, and must be unpainted and unplated.

Size Limitations

Parker Chomerics can produce Molded-In-Place gasket/panel assemblies in any overall dimension larger than 3/4 x 3/4 in. (19 x 19 mm). Minimum recommended gasket profile cross section is 0.062 in. (1.6 mm), with a minimum thickness of 0.020 in. (0.5 mm) for flat gaskets. Smaller cross sections and thicknesses, although not recommended, can be accommodated.