SEAL-CONNECT®
Boot Materials & Design

CONNECTOR COMPONENTS

The injection-molded, machined connector is often coupled with an elastomeric connector boot. Historically these boots have been responsible for a large number of leakage failures. Recent innovations in materials and design along with proper installation and maintenance give users more confidence in critical service applications.

As a world leader in elastomeric material formulation and production for high-performance sealing systems, we have drawn on this core competence to produce our first nonconductive grades of high-temperature elastomers for Seal-Connect® boots. R&D in this area continues with new formulations for the varying needs of our customers. To date a nonconductive Fluorocarbon elastomer (FKM) based on the Viton® GF1 Polymer and another based on the Fluorel® 26502 Polymer are available. Other compounds can be selected or formulated very quickly for prototyping applications due to our extended experience in chemical compatibility.

In rubber molding, as with Arlon® injection molding, we have simplified mold-design and share-tooling costs to enable economic prototyping and production. Extended resources in rubber-molding capabilities include dozens of presses, in-house or outsourced tooling design and construction, and rubber-injection partnering for extremely high-volume components.

Single-pin connector boots are designed to accommodate two variations depending on customer requirements. To mate with popular existing connectors, a boot with a smooth radius is provided. However, to ensure positive locking and more reliable sealing, an improved “teardrop”-shaped boot seal is recommended. These boot designs are easier to install and have enough retention to remain in place even when low viscosity greases are used inside the boot assembly. Smaller diameter sealing surfaces typically use a smaller radius that provides the same positive lock of the boot to the connector.

The boot assemblies, as shown above, can be constructed simply of a contact and boot or with the addition of a Teflon® sleeve. Again, many designers use Teflon to ensure high-temperature insulation resistance properties while others delete the sleeve to rely solely on the insulation resistance provided by the elastomeric boot material. Unless otherwise specified, new designs utilize three-piece construction to guarantee adequate high-temperature insulation resistance.

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