Dynamic Sealing Solutions for Electric Vehicles

Rotary Shaft Seals

Parker Engineered Polymer Systems Division (EPS) has over 100 years of seal design experience and over 100 standard rotary seal designs. Our seals are a proven solution to virtually any sealing challenge, and our rotary solutions provide the most complete coverage in the industry of shaft seals for rotating applications.

Oil seals, designed to retain oil, grease and other viscous fluids, are well suited for electric vehicle applications. Our seal designs accommodate factors such as high eccentricity, high pressure, high speeds, extreme temperatures, wiping and scraping and dry running. Rotary shaft seals can be found throughout the drivetrain and AC systems of electric vehicles.

Contact Information:

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Capabilities:

- Sealing profiles with directional and bi-directional hydrodynamic features
- Non-linear Finite Element Analysis
- Standard and custom profiles available
- Wide variety of materials available
- IATF certified
- Application engineering
- Project management
- In-house tooling
- Injection, compression and transfer molding
- Precision CNC machining
- Fabrication, assembly and secondary operations

ENGINEERING YOUR SUCCESS.

Expert Engineered Materials

When it comes to high performance materials, Parker's expertise with standard and custom urethanes, elastomers and PTFE is unmatched.

Material	Material Benefits
Nitrile (NBR)	The NBR material has very good resistance to oil and gasoline. Superior resistance to petroleum based hydraulic fluids. Good resistance to hydrocarbon solvents. Very good resistance to alkalis and solvents.
Carboxylated Nitrile (XNBR)	The XNBR material is generally tougher and more resistant to tear and abrasion than standard NBR.
Hydrogenated Nitrile (HNBR)	The HNBR material offers improved abrasion resistance, chemical resistance, higher operating temperature and better ozone resistance than standard NBR.
Low Temp Nitrile (NBR)	Low temperature nitrile lip material allows for lower minimum operating temperatures while providing good chemical and abrasion resistance.
Fluoroelastomer (FKM)	FKM material offers outstanding resistance to high heat. Excellent resistance to oil, gasoline, petroleum hydraulic fluids and hydrocarbon solvents. Very good impermeability to gases and vapors. Very good resistance to flame, weather, oxygen, ozone and sunlight.
Ethylene Propylene (EPDM)	Excellent heat, ozone and sunlight resistance. Very good low temperature flexibility, good resistance to alkalis, acids (such as acetic) and oxygenated solvents (such as MEK). Provides improved resistance to water and steam in applications where NBR and FKM exhibit poor service life. Good replacement for FKM where solvents are a problem.
Silicone (VMQ)	Generally recommended for high temperature, low friction applications. Silicone is resistant to weather, ozone, water, bases and alcohols.
Neoprene (CR)	Very good resistance to weather, ozone and natural aging as well as good flame resistance while maintaining moderate resistance to oil and gasoline. Good abrasion, flex and cracking resistance is available with the Neoprene material.
Polyacrylate (ACM)	Most often recommended for higher operating temperatures or applications where extreme pressure (EP) lubricants are used. This material also offers additional resistance over standard Nitrile to ozone and weather attack.
Ethylene Acrylic (AEM)	Generally recommended for lower temperature transmission applications. Good dry running capabilities. Good compatibility to ATF fluids.

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