

Sealing Solutions for Motorsport



Motorsport Applications

High Performance Sealing Solutions

In motorsport, components are pushed to their limits. High speeds, extreme temperatures, aggressive fluids, rapid thermal cycling and demanding pressure conditions all place significant demands on sealing performance.

Reliability matters, but so do efficiency, weight, packaging and response. The right sealing solution needs to be considered as part of the wider application rather than simply selected as an individual component.

We work with engineers across a wide range of motorsport and specialist vehicle programmes, including formula racing, endurance, touring cars, rally, historic motorsport and specialist vehicle development.



POWERTRAINS

High-performance rotary, PTFE and elastomeric sealing solutions for engines and transmissions, designed to withstand high speeds, temperatures and demanding fluids while minimising friction and wear.



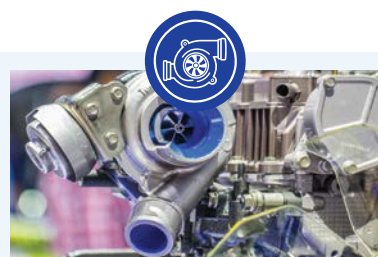
BRAKING & CLUTCHES

Elastomeric and engineered sealing solutions for braking and clutch systems, with materials selected for compatibility with specialist fluids and demanding operating conditions.



SUSPENSION & HYDRAULICS

Low-friction rod and piston sealing solutions for dampers, steering and hydraulic systems, engineered to manage pressure, dynamic movement and wear while maintaining reliable and responsive performance.



AIR MANAGEMENT

Sealing solutions for air induction, turbocharger, and exhaust applications, with materials selected to withstand heat, pressure, and aggressive operating environments.



THERMAL & FLUID MANAGEMENT

Sealing solutions for fuel and cooling systems, with materials selected for chemical compatibility, temperature resistance and reliable performance across changing pressure and thermal conditions.



ELECTRIFICATION & ELECTRONICS

Dielectric and conductive silicone materials and Push-In-Place (PIP) gasket solutions for batteries, electrical components, and housings, alongside sealing solutions for electric and hybrid drivetrains.

Engineering & Design

Engineering Support from Concept to Track

Rather than simply supplying a component, we work alongside customer engineering teams to understand the application, hardware and operating environment before identifying or developing the most appropriate sealing solution.

Application Engineering

Our engineers consider:

- Pressure
- Speed
- Temperature
- Chemical and fluid compatibility
- Installation and packaging constraints
- Service life
- Friction
- Wear
- Opportunities for optimisation

Design Engineering

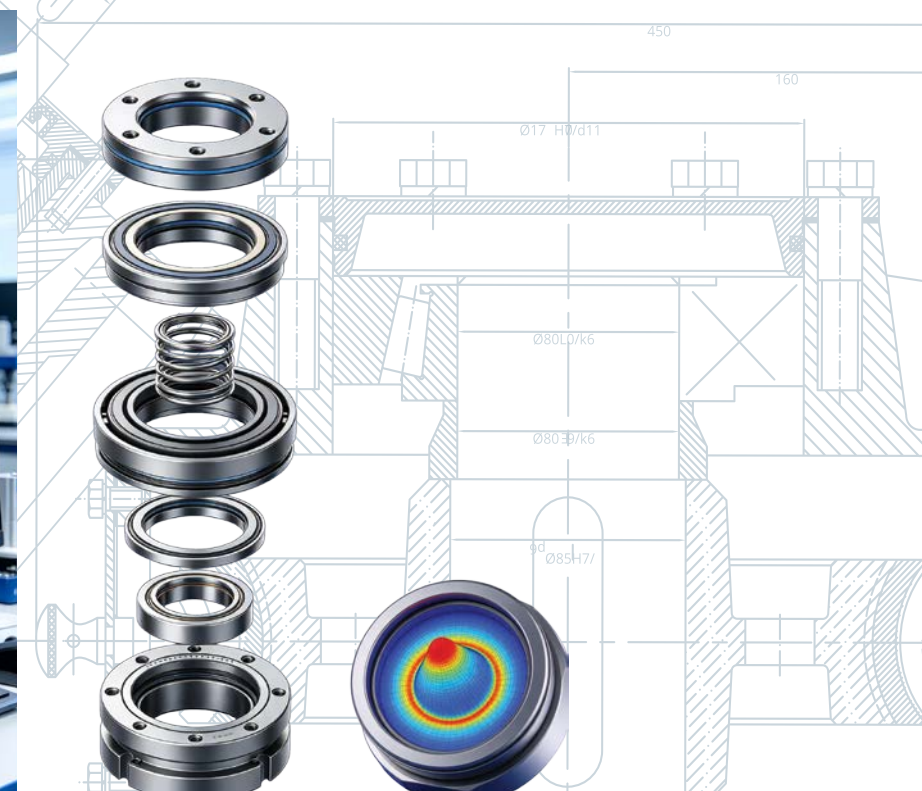
Capabilities include:

- Custom seal design
- Seal and hardware optimisation
- Rotary, linear & static sealing solutions
- Complex sealing assemblies
- Integration with customer mating hardware

Digital Engineering

We use advanced engineering tools to help develop and evaluate sealing solutions, including:

- 3D CAD modelling
- Finite Element Analysis (FEA)
- Simulation of seal performance
- Design validation
- 3D printing
- Rapid prototyping
- Functional prototype parts



Products & Materials

Sealing Technology for Motorsport

The performance of a sealing system depends on more than the seal itself. Geometry, hardware, operating conditions, and material selection all influence performance. We combine a broad product portfolio with extensive materials knowledge to identify the right sealing solution for each application.

Motorsport Product Range



O-Rings

Standard, metric and bespoke sizes available across a wide range of elastomer materials. Surface treatments can also be provided to reduce friction, assist installation or aid identification.



Precision & PIP Gaskets

Custom gasket solutions for engines, transmissions, pumps, cooling systems, housings and specialist applications. Push-In-Place designs can provide reliable retention in challenging assembly conditions. Seal geometry can be optimised using groove fill, compression, squeeze/stretch calculations and FEA.



Custom Mouldings

Bespoke rubber seals and mouldings developed around specific geometries, packaging constraints and operating requirements.



Metal Seals

O-section, C-section and other metal seal profiles for extreme pressure and high-temperature applications where conventional polymer seals would not be suitable.



PTFE Seals

Low-friction, chemically resistant sealing solutions for rod, piston and rotary applications, with bespoke profiles and spring-energised designs available.



Rotary Seals

From conventional elastomeric rotary shaft seals to high-speed PTFE solutions. PTFE inlays and full PTFE lip designs can help reduce friction and heat generation while optimising seal and shaft life.



Materials Expertise

Correct material selection is fundamental to sealing performance. We consider temperature, media compatibility, pressure, speed, movement, and wear to identify the most suitable material for each application.

Material options include:

NBR / HNBR • EPDM • FKM • FFKM • Silicone / Fluorosilicone • PTFE • PEEK

Additional specialist materials and compounds are available to meet specific application requirements.



Development, Testing & Supply

From Concept to Performance

Motorsport development programmes move quickly. Designs evolve, testing identifies new requirements and components can be needed within short development windows.

We combine engineering, prototyping, testing, and flexible supply capabilities to support our customers throughout the development process.

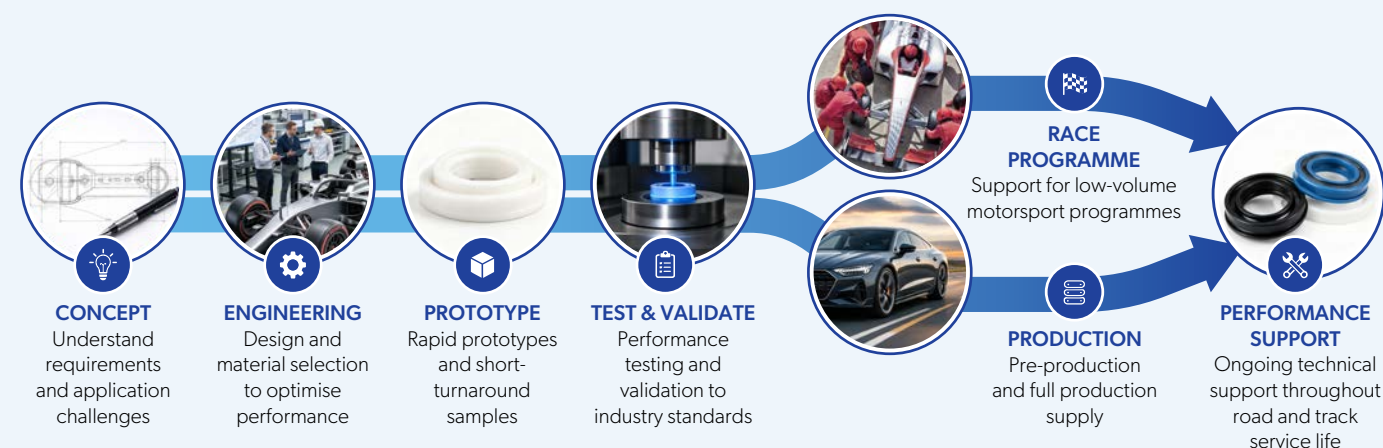
Responsive Development Support

- Rapid engineering reviews
- Prototype manufacture
- 3D printing
- Short-turnaround samples
- Design modifications
- Material recommendations
- Technical consultation

Testing & Validation

Our capabilities include:

- Material development and testing
- Component endurance testing
- Repeatability & Reproducibility (R&R) studies
- CPK & PPK studies
- Process FMEA
- PPAP completion



Why Ceetak

A Technical Partner for Motorsport

Successful sealing starts with understanding the application.

With more than 50 years of sealing experience, we combine application engineering, design capability, materials expertise, quality assurance and flexible supply.

Working collaboratively with customer engineering teams, we solve sealing challenges ranging from standard components and modified solutions to completely bespoke designs.



Engineering Expertise

Experienced design, application, and materials engineers supporting complex sealing requirements.



Application-Led Solutions

Developed around the complete operating environment and individual application requirements.



Design & Development

CAD, FEA, simulation, 3D printing and rapid prototyping to support development and reduce design risk.



Materials Knowledge

Extensive experience across elastomers, PTFE, and engineered plastics.



Quality Assurance

Engineering and quality processes supporting validation and production requirements.



Flexible Supply

From low-quantity custom components and motorsport programmes through to production supply.



Responsive Technical Support

Engineering input throughout development and across the product lifecycle.

Talk to Us About Your Next Motorsport Application

Whether you're developing an engine, transmission, braking system, suspension system, electric drivetrain, battery system or specialist vehicle, our engineering team can help identify and develop an appropriate sealing solution.



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