Technetics Elastomer Solutions for Demanding Aerospace Environments

Technetics’ aerospace elastomer solutions business designs and manufactures precision elastomer seals and components for airframe and engine applications. Our mission is to deliver well-engineered products that meet and exceed our customer’s expectations for performance, quality, reliability, and delivery.

As today’s airframe and engine manufacturers expand traditional boundaries of performance, the challenges of thermal management, aerodynamic efficiency, endurance, and weight reduction become ever more critical. Technetics’ aerospace elastomer solutions are at the forefront in blending innovative designs with practical solutions to meet these challenges for top aerospace companies.
Thermal Performance

Placed under extreme temperatures and pressures, seal integrity is of the utmost importance in engine applications. Technetics engineers advanced materials and innovative designs to withstand these demanding applications and achieve consistent, reliable performance, flight after flight.

PIPE CLIPS
Reduce the risk of chafing or damage to the surface of the component being clamped. The liner also absorbs vibration and accommodates size variations related to thermal expansion and contraction.

BLEED AIR SEALS
Cope with thermally degrading environments around the engine, with temperatures as high as +300°C / +572°F.

PIPE CLIPS

FILLER SEALS
Aid the flow of air through the engine to improve fuel efficiency and aerodynamic performance.

HYDRAULIC LINE BLOCKS & GROMMETS
Provide protection against vibration, minor movement and fluids.

FIRE SEALS
Designed to localize the spread of fire in the engine and pylon environment. Fire seals use a combination of thermally resistant materials to create a composite material that will outlast the thermal demands of engine applications.

THRUST REVERSER SEAL
Built to withstand extreme temperatures and demonstrate superior wear resistance characteristics due to an elaborate combination of elastomer and fabrics.

CUSTOM MOLDINGS
Suit a wide range of customer requirements, such as where 3D structures transition or a custom sealing solution is required to ensure there is no ingress of contaminants or leakage of media.

BELLOWS & DUCTING
Suit various environments and a wide range of movement from cabin air to de-icing systems. Fabric layers can be designed into the construction to improve durability characteristics.
Aerodynamic Efficiency

Technetics provides a wide range of sealing profiles to satisfy aerodynamic requirements on various locations of the wing, fuselage and tail that eliminate leakage and improve overall performance of the aircraft.

理想的密封解决方案

适合静态应用中的压缩密封和动态应用中的较大位移。这些密封可以设计以满足特定应用的需求，以实现最佳性能和安装方便。

Tadpole and Omega seals are designed for ease of installation with built-in retention methods.

Technetics combines materials to create products, such as pylon seals, to prevent ingress of contaminants and seal variable surface gaps.

Y Seals

The multiple elements of the design allow for sealing of a live wing during different flight configurations. These seals are typically used for ailerons and flap track fairings.

Blade Seals

Designed to ensure continuation where control surfaces meet. These seals act to minimize steps and gaps.

Technetics provides aerodynamic seals, such as panel seals, as part of the wing design. These seals ensure minimal leakage to help improve fuel efficiency.

Panel Seals

Technetics provides aerodynamic seals, such as panel seals, as part of the wing design. These seals ensure minimal leakage to help improve fuel efficiency.

Pylon Seals

Technetics combines materials to create products, such as pylon seals, to prevent ingress of contaminants and seal variable surface gaps.

Y Seals

The multiple elements of the design allow for sealing of a live wing during different flight configurations. These seals are typically used for ailerons and flap track fairings.

Blade Seals

Designed to ensure continuation where control surfaces meet. These seals act to minimize steps and gaps.

Technetics provides a wide range of sealing profiles to satisfy aerodynamic requirements on various locations of the wing, fuselage and tail that eliminate leakage and improve overall performance of the aircraft.
Endurance

The demands on aircraft are now constant, often operating 24 hours a day, making it critical that they are built with exceptional endurance in mind. Technetics combines materials and designs solutions to meet these challenging environments.

INFLATABLE SEALS

Used in locations where surfaces move in relation to one another. Can also cope with varying and large sealing gaps. Unlike conventional elastomer gaskets, they require a lower seating force. These can seal and unseal in seconds, which makes them a favorable choice for applications such as canopy and door seals.

WINDOW & HATCH SEALS

Manufactured and designed to offer long lasting static sealing performance against a range of temperatures and fluids. Technetics materials achieve the desired product service life.

BONDED SEALS

Bonding the elastomer seal to another component on the aircraft assembly allows customers to simplify their design and reduce the number of components that need to be assembled. The rubber to metal bonding process also ensures products are bonded securely together.

BELLOWS & DUCTING

Technetics’ product range suits various environments and a wide range of movement. From cabin air to de-icing systems. Fabric layers can be designed into the construction to improve durability characteristics.

CUSTOM MOLDINGS & CASTINGS

Technetics’ product range suits a wide range of customer requirements, such as where 3D structures transition and a custom sealing solution is required to ensure there is no ingress of contaminants or leakage of media.

GASKETS & DIAPHRAGMS

Technetics utilizes its wide selection of elastomer, PTFE and foam materials to design and manufacture gaskets and diaphragms to meet custom sealing requirements.

The demands on aircraft are now constant, often operating 24 hours a day, making it critical that they are built with exceptional endurance in mind. Technetics combines materials and designs solutions to meet these challenging environments.
Benefits of Working with Technetics Aerospace Elastomer Solutions

PEDIGREE
With decades of experience in supplying custom elastomer solutions to the aerospace industry, Technetics works with customers on the next generation of sealing applications as well as supporting legacy requirements where obsolescence is a challenge. Technetics products log thousands of flight hours each year on various platforms from the Eurofighter Typhoon to the Airbus A350. Technetics maintains AS9100 quality approval as well as a growing number of customer approvals.

MATERIALS TECHNOLOGY
Technetics’ aerospace elastomer solutions maintain a wide range of compounds within its catalogue to meet customer’s demanding environments. Our elastomer selection includes material grades such as VMQ silicone, FVMQ Fluorosilicone, FKM, EPDM and NBR. Technetics combines these elastomers with fabrics, metallic and composite inserts, and coatings to provide solutions that meet challenging applications where performance characteristics such as thermal resistance, low friction and wear resistance are paramount.

DESIGN ENGINEERING
Our commitment to research and development ensures a continuing pipeline of next-generation technical and design solutions. Our engineering staff works closely with customers to develop well-engineered solutions to address complex design challenges. This results in products that fully meet our customer’s design and application goals, and go beyond their expectations for reliability and consistency.

Experience – Key to our approach is the collective experience of our engineering team, which enables Technetics to provide expert advice during the material selection and design of elastomer solutions for airframe and engine applications. This experience enables Technetics to work with our customers to reduce development costs and shorten development lead times.

3D Modelling & FEA – SolidWorks and CATIA are essential tools for Technetics to design and develop sealing concepts. These tools facilitate efficient communication with our customers and supply chain partners.

Qualification & Testing – On site test capability combined with external testing partners allow Technetics to complete various tests which are used to validate materials and sealing performance. Testing capabilities include material testing, fluid susceptibility, load deflection, dynamic wear and friction testing, and fire testing.

Technetics provides a range of engineered products for demanding aerospace applications

Technetics products can be found on aircraft in virtually every segment of the aerospace market. Technetics provides products for both fixed-wing and rotary-wing aircraft supporting a growing list of commercial and military platforms, as well as unmanned aerial vehicles and spacecraft. Although each of our customers has some distinct differences, there are certain expectations common to all aerospace customers:

• Relentless commitment to product safety and reliability
• Rigorous conformance to technical and quality requirements
• Product expertise with regard to material, design, and performance criteria
• Perfect on-time delivery
• High sense of urgency to customer needs
• Creative problem solving to complex design challenges

In addition to aerospace elastomer solutions, Technetics Group operates businesses that design, manufacture, and test other high performance aerospace components such as those shown below.

For more information about these and other complementary products please visit our website: technetics.com/aerospace
For more information on how Technetics supports the aerospace elastomer industry, visit technetics.com/aerospace