Omniseal Solutions
SAINT-GOBAIN

NUCLEAR FISSION:
PRECISION SEALING & ENGINEERED COMPONENTS

Beyond the boundaries of
POSSIBLE

SAINT-GOBAIN

WHO WE ARE

Omniseal Solutions™ is a global engineering leader with over 65 years of historical legacy, relentlessly dedicated to the design and manufacture of precision sealing and material solutions that protect critical applications in the most demanding environments and passionately driven to push "Beyond the Boundaries of Possible".

This pioneering spirit has led us to be specialists who engineer many precision solutions such as high pressure, high temperature metal sealing solutions used for nuclear reactor equipment and power plants.

With a global shift to reduce carbon emissions to net zero, Omniseal Solutions™ and Saint-Gobain have dedicated their expertise and resources in order to be a part of the global solution. We believe nuclear energy will play a critical role in reducing the environmental impact of current energy production, and we are collaborating with key partners to make this a reality.

How can we go beyond the boundaries of possible in the nuclear industry? Over several decades, our business has not only expanded our strengths in innovation and design engineering, but has also grown beyond sealing solutions from original polymers to metal seals and high strength composites.

Our business acquisitions of Hycomp, ASE and HTMS - technical leaders in carbon composite and metal sealing solutions - ensure our commitment to global customers as a precision solutions provider. This strategic investment enhances our material expertise and manufacturing capabilities in order to successfully support challenging and critical applications for global and local customers:

- Higher temperatures to cryogenic, Higher pressures, Sealing control & leakage rate
- Compression & Transfer Molding, Injection Molding, Secondary Machining, Assembly
- Advanced Simulation & Data Engineering, In-house Testing

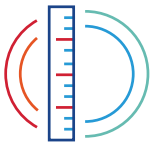
By partnering with our business, you will gain the technology advantage of both polymer and metal worlds. This is how we are engineering the world of tomorrow that is more sustainable.

HOW WE WORK

Through co-development and a collaborative spirit, your specific challenges can be solved!

- **Broad range of solutions** that are key for our customers.
- Differentiation and co-development thanks to
  - our knowledge in **material science**
  - our **innovative skills**
  - our competencies in **application engineering**
  - our **manufacturing footprint** around the globe
- We focus on **innovation for extreme conditions**
- We can support with strong technical compentencies in **Design Development, Testing and Virtual Testing (numerical simulation)** to co-develop the next generation of sealing and material solutions required to solve the rising challenges ahead

Material Expertise



Prototyping Speed

Customer Intimacy

Manufacturing Specialists

Collaborative Design Partners

TECHNOLOGY ADVANTAGE

Omniseal® Metals: Our metal seals are used in small modular reactors (SMRs), specifically in applications where high temperatures and pressures are present. Metal seals are made of materials such as stainless steel and nickel alloys, which are high strength, offer excellent resistance to corrosion, and can withstand harsh conditions present in nuclear environments.

Omniseal® Polymers: Our spring-energized seals and lip seals have a proven historical pedigree, protecting critical space and aviation missions for over 60 years.

Rulon® Fluoropolymers: We are the only source of authentic Rulon® materials since its creation in the early 1950s for industrial use. Benefits include low coefficient of friction, high wear life, and excellent abrasion resistance.

Hycomp™ Composites: Our materials include H310®, H320® and Wearcomp® solutions. Made from high temperature thermoset polymers and long carbon or glass fibers, they are valued for their lighter weight, high strength, and mechanical properties.

Meldin® Polyimides & Thermoplastics: Our polyimide material is very versatile. Since it can be softened and then cooled into a hard piece, it can be made into bearings, wear components, piston rings, vanes, thrust washers, seals, rods, sheets and tubes. This unique process is reversible and can be repeated a number of times.

Unlike thermosets, our thermoplastics are insoluble after curing. This material is designed to perform without external lubrication, offering various options that allow customers to extend part life.

HIGH PERFORMANCE PRECISION SEALING SOLUTIONS & ADVANCED MATERIALS

Our business has a wide range of solutions and materials that include polymers, metals and composites , which have been engineered to solve many technical challenges.

- Engineered to provide a solution for challenging and extreme customer applications.
- Requires in-depth understanding of application parameters to ensure cutomer's performance requirements and stringent standards.

Meldin® Polyimides

> Self-lubricating and dimensionally stable at high temperatures

> "Powder to Precision Parts": Complete control of quality assurance

Omniseal® Metal Seals

> Capable of operating in cryogenic temperatures (-270°C) up to very high temperatures (900°C)

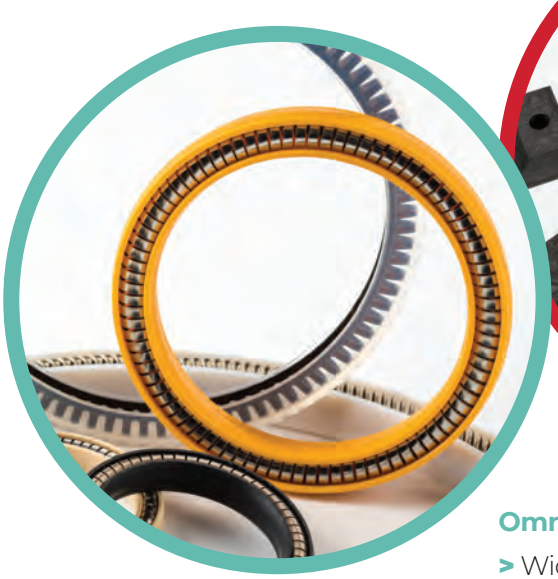
> Suitable for ultra-high vacuum up to 10,000 BAR

Hycomp™ Composites

> Blend of thermoset polymer and long carbon or glass fibers

> High temperature and wear resistance

> High mechanical strength wear



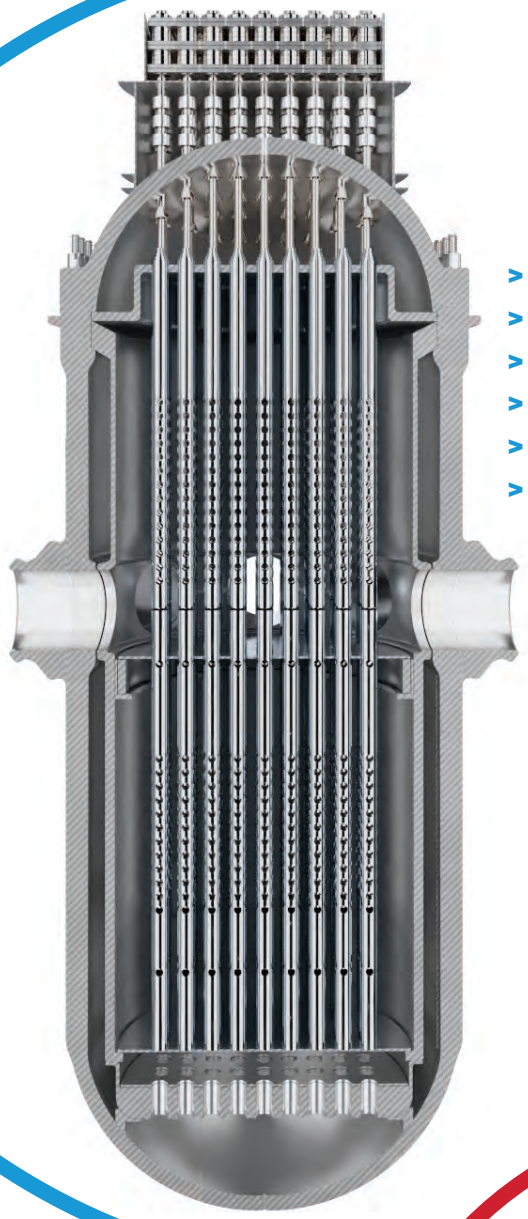
Omniseal® Spring-Energized Seals

> Wide temperature resistance & chemically inert

> Unlimited shelf-life & improved performance compared to conventional seals

PRECISION SEALING SOLUTIONS FOR REACTORS OF THE FUTURE

Our solutions are used in a variety of critical applications and extreme environments. The following are several applications where our solutions are widely used; however, there are more applications that we support. Contact our team to see if we can help with your nuclear application.



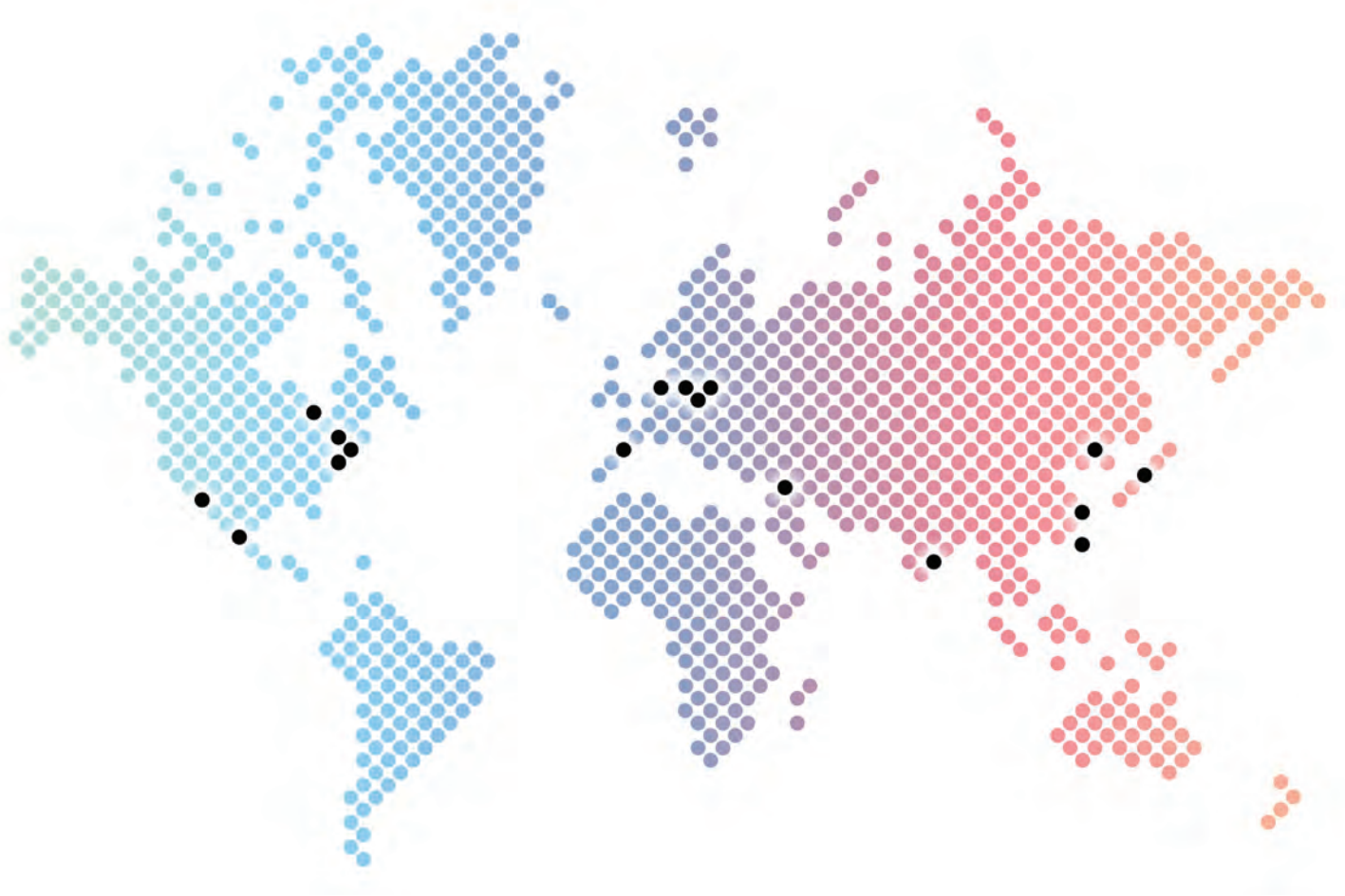
- Pressure Reactor Vessels
- Monitoring Systems
- Control Rods
- Pressurizers
- Heat-Exchangers
- Primary Loop Pipes and Fittings

- Primary Pumps
- Cooling Pumps

- Engineered Valves
- Actuators

- Hydraulic Snubbers
- Snubber Fittings

ONE GLOBAL TEAM... A DEDICATED CUSTOMER FOCUS



GLOBAL & LOCAL PRESENCE

With 17 manufacturing facilities in 10 different countries, Omniseal Solutions™ is a diverse group that is committed to being customer centric.

Contact our nuclear and science research team of experts for more information.

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