PRECISION SEALING SOLUTIONS
A world leading manufacturer of precision engineered high temperature metallic seals and retaining rings for aircraft engines, gas and steam turbines, vehicle turbochargers, control valves and many other challenging industrial environments.

Since the 1930s Cross Manufacturing has specialised in the design and manufacture of heat resisting wrought alloy products, combining technology with innovation to achieve world-class quality and precision.

This dedication to quality and excellence is recognised throughout the world.
Precision Sealing Solutions

» Piston, Sealing and Retaining Rings

Manufactured from wire or rod using a forging process that produces high strength and high integrity products.

- An environmentally efficient process facilitating the production of the highest quality components.
- Designs include in-springing and out-springing rings and ring packs (with or without cockle springs), triangular sections and bimaining designs.
- Regular production encompasses diameters approaching 2000mm and applications in temperatures of 1000°C.
- A complete package for design and manufacture can be provided, including the detailed design of customised grooves and housings.

» Brush Seals for Gas and Steam Turbines

Brush seals are a proven technology in the aerospace and power generation industries.

- Delivering significant efficiency improvements over traditional labyrinth seals.
- Cross is a leading innovator, designer and manufacturer of brush seals for new equipment and for performance enhancing projects on existing equipment.
- Cross brush seals have been in service for thousands of hours, each delivering sustained performance improvements. Round, segmented, straight and inside-out seals are all in production.
- Flexible manufacturing allows a wide range of cross sections and wire sizes to be used.

» Turbocharger Main Shaft Seals

Cross is the leading manufacturer of specialist sealing rings and retaining rings.

- Supplying virtually all of the world’s passenger car and truck turbocharger OEMs.
- Cross has produced in excess of 750 million high precision parts since the 1980s.
- Manufacturing techniques have been developed to provide high performance, cost effective sealing using a range of materials.
- Cross shaft sealing rings are used worldwide, and offer efficient sealing solutions for new and developing applications.

» Turbocharger Variable Geometry and Actuator Shaft Seals

Cross specialises in rings made from wrought materials, delivering optimum performance.

- Excellent resistance to heat relaxation.
- Custom-designed production equipment and sophisticated process control techniques ensure consistent high quality.
- Sealing solutions in a range of applications, including actuators and turbocharger variable-geometry mechanisms.
- Materials including high speed and stainless steel, nickel and cobalt alloys deliver lasting performance under arduous conditions.
- Ring diameters from 6mm up to 200mm are in regular production, in both in-springing and out-springing designs.

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Research Development & Testing
Cross has extensive facilities where products are tested and evaluated over extended periods in simulated operating conditions.

FACILITIES INCLUDE:
- High temperature fretting rig
- Transverse vibration junkers rig
- Hot high speed transient dynamic seal rig
- Ambient high speed dynamic seal rig
- Multiple static leakage rigs

Cross welcomes the opportunity to work in partnership with customers on research, development and test projects to achieve increased performance and greater efficiency at the leading edge of thermal and metallurgical technologies.

Pipe Joint Sealing Rings
Cross pipe joint sealing rings are designed for sealing gases at high temperatures and pressures.
- The easy push fit assembly accommodates up to 3° misalignment.
- Design allows for unrestricted rotational and axial movement.

Special Products
Cross specialises in the production of rolled section components for high temperature and corrosive applications. Other special products include aerospace grade spring lock washers and reusable thread lock rings. Enquiries for the production of specialised components are welcomed.
- Products are manufactured from heat resisting materials to suit demanding applications.
- They satisfy quality and performance standards demanded by high technology industries.

Today Cross works in partnership with the world’s leading manufacturers in the aerospace, power generation, automotive and associated industries, delivering elegant solutions to the demands of high performance engineering disciplines.
PRECISION SEALING SOLUTIONS

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