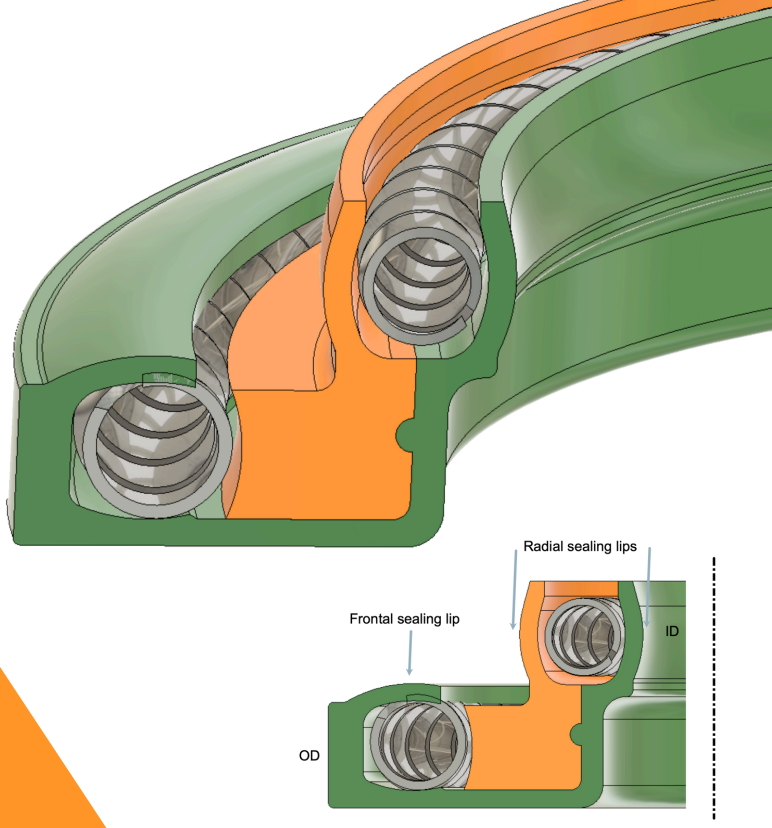
fluorten®
PTFE & TECHNOPOLYMERS MANUFACTURING




# CRYO SEAL

**PATENTED MODULAR DESIGN BY FLUORTEN**
**Zero leakage**

*Nowadays, standard seals designs are challenged to almost impossible tasks. With LNG and H2 becoming more and more popular as clean fuel, it is necessary to eliminate the leakage of methane. In addition to protecting the environment, a leak-free valve is also a serious safety feature when operating highly flammable gas like H2.*

## Technology

Fluorten developed a special, **patented gasket for cryogenics**, which incorporates radial and frontal sealing elements in a modular design, aiming to reduce leakage, and dangerous emissions.

## Materials

Radial and frontal components can be made with different materials:

- **Victrex CT™ 200** (Cryo-PEEK) is the perfect polymer for both radial and frontal part thanks to its elasticity at -269 °C (-452.2 °F);
- **PCTFE** and **modified PTFE;**
- further **low-porosity materials**.

## Benefits

**Standard radial seals** work only on diameters. Compared to radial-axial seals, they undergo relevant changes when working at low temperatures: diameters shrinkage, lowered elasticity and higher hardness.

**Radial-axial seals** offer several advantages instead:

- **no shrinkage**: frontal sealing capability stays the same, if diameters change due to temperature variation;
- **double barrier**: if the OD of the radial seal is not enough, the frontal seal works as additional barrier;
- **zero leakage** as shown by tests with helium (leakage is 10 times lower than in standard radial seals);
- **excellent performance** compared to standard seals;
- **any sealing system** can take advantage of this design.

## Applications

- Seals for cryogenics (from -269 °C to +280 °C / -452.2 °F to +536 °F).
- Media: LNG, H2 and others.

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