

Zurcon[®] Glyd Ring[®] D

RELIABLE SEALING IN HIGH-PRESSURE HYDRAULIC APPLICATIONS



Cool Under Pressure

An innovative new seal design from a completely new material provides a solution for hydraulic sealing applications that are subject to increasingly higher pressures.

Machines, equipment and motors fitted with hydraulic cylinders are becoming more powerful, and that means the hydraulics are subject to higher pressures and temperatures.

Trelleborg Sealing Solutions has responded by creating a unique seal in a material specially engineered for it: the Zurcon® Glyd Ring® D.

Manufactured from Zurcon® Z13 polyurethane material, the Glyd Ring® D in Zurcon® Z13 offers an excellent combination of wear, extrusion and hydrolysis resistance, giving unrivalled durability. With its innovative profile, Glyd Ring® D is able to operate at high pressure without any risk of blow-by effect.



CORE INDUSTRIAL APPLICATIONS

Solving mobile hydraulic sealing challenges

Delivering a superb combination of elasticity and tensile strength without compromising on sliding friction properties, the new Glyd Ring® D in Zurcon® Z13 is the recommended element for double-acting piston seals in various applications such as:

- Hydraulic cylinders
- Mobile hydraulics
- Construction machinery
- Truck cranes
- Earth moving equipment
- Fork lifts

Ultimate Reliability and Long Life

Zurcon® Glyd Ring® D from Trelleborg Sealing Solutions gives the perfect combination of sealing performance and service life, through optimized contact pressure and minimized heat generated from friction. To achieve this, adequate friction is ensured with an innovative design that incorporates two special grooves in the D-shaped profile of the seal to sustain an oil film for adequate lubrication of the seal against its counter surface.

Two lubrication grooves create a closed oil reservoir under pressure

- Reduces friction
- Minimizes wear

Two-step sealing area maximizes sealing performance

Rounded profile provides extra space in the groove to avoid extrusion and risk of blow-by effects



Elastomer O-Ring gives sufficient initial tension on the cylinder bore

- Excellent sealing performance
- Fills space in groove to prevent twisting even under extreme conditions

FEATURES

- Optimized contact pressure
- Innovative design
- Advanced grade of polyurethane material Zurcon®
- High abrasion resistance
- Excellent extrusion characteristics
- Minimum friction
- Superb elasticity and tensile strength
- Single sealing element with O-Ring energizer

BENEFITS

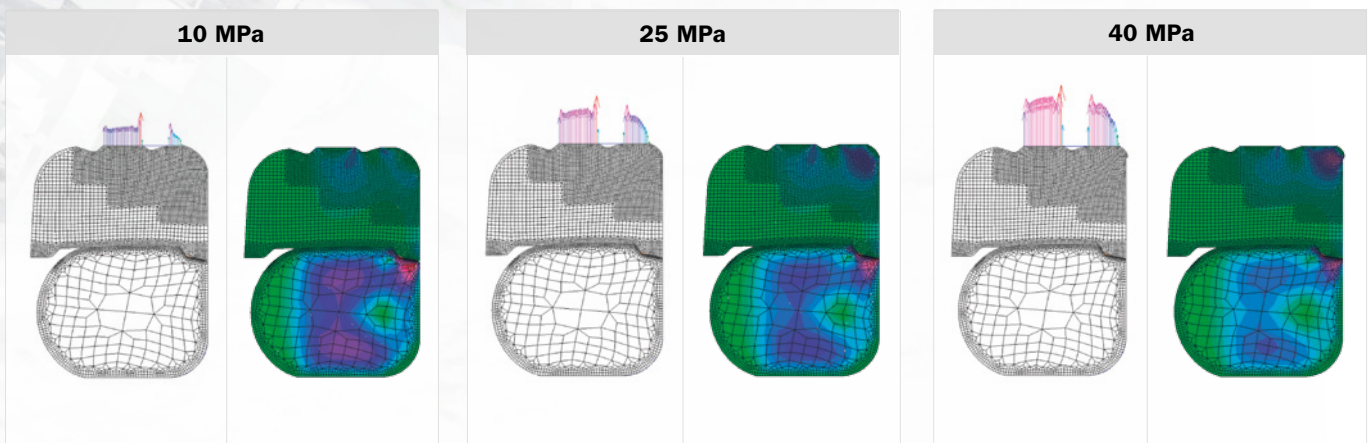
- Excellent sealing performance
- Prevents blow-by effects
- Compatible with the latest hydraulic fluids
- Extended service life
- Operates at sustained pressures up to 40 MPa / 5,800 psi with peak up to 55 MPa / 7,975 psi
- High radial gaps possible
- Simple groove design, one piece piston if required

EXCELLENT SEAL PERFORMANCE AND OUTSTANDING EXTRUSION RESISTANCE

With increasing system pressure, the O-Ring and seal body of the Zurcon® Glyd Ring® D transmit pressure along the sealing surface to assure sealing efficiency at all pressure levels. When the pressure rises, the contact force against the mating surface increases, ensuring sealability.

When Zurcon® Glyd Ring® D is pressure loaded, the seal body rotates, improving the contact pressure on the sealing edges. When the system pressure changes direction, the seal goes back to its original position, avoiding any risk of blow-by effect. Under higher pressure the lubricated groove closes in oil providing lower friction during movement.

Static contact force and Equivalent stress:



COMPLETELY NEW MATERIAL: ZURCON® Z13

Zurcon® Glyd Ring® D is manufactured from Zurcon® Z13 polyurethane material. The compound is specially developed to cope with pressures up to 50 MPa / 7,250 psi at both sides of the seal and at temperatures up to +120 °C / +248 °F.

The seal therefore gives long life, even under demanding conditions. Offering superb mechanical and elastic properties, the seal loses none of its resilience and can be used in cylinders with lower quality inner walls.

- Superior resilience
- Good friction properties
- Operating temperatures up to +120 °C / +248 °F
- Compatible with hydraulic, mineral, synthetic and water-based fluids (i.e. HEES, HEPG, HEPR, HFA, HFC, HFDU)
- 60 Shore D hardness
- Outstanding wear resistance
- Tolerant against lower quality mating surfaces
- Excellent extrusion properties
- Hydrolysis resistant

Zurcon® Z13 Technical Data

PHYSICAL PROPERTIES

Type	Standard	Unit	Material Specification
Hardness	DIN 53 505	Shore D	60 +/- 2
Modulus 100 %	DIN 53 504	N/mm ²	> 25
Temperature Range*		°C °F	-30 °C to +110 °C -22 °F to +230 °F
Tensile Strength	DIN 53 504	N/mm ²	> 50
Elongation at Break	DIN 53 504	%	> 350

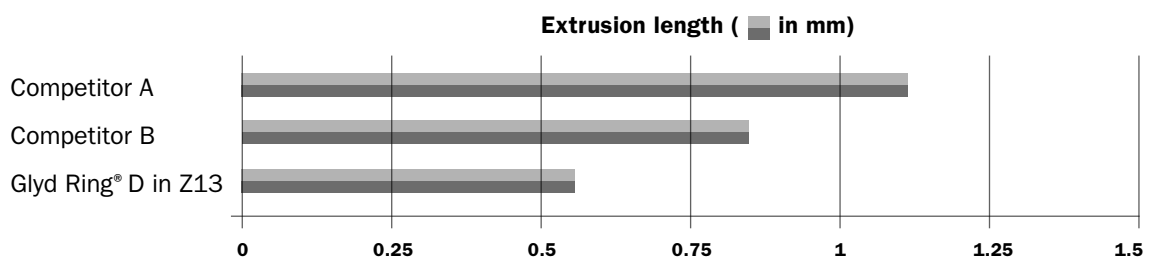
* Depending on O-Ring material

CHEMICAL COMPATIBILITY

The new Zurcon® Z13 compound, developed for the highest hydrolysis resistance

Fluid Type	DIN / ISO code	Temperature		Results
Mineral Oils	HLP/HVLP/HLPD	+110 °C	+230 °F	Excellent
Synthetic fluids	HEES	+80 °C to +100 °C	+176 °F to +212 °F	Excellent
	HEPG (PAG)	+60 °C	+140 °F	Good
	HEPR (PAO)	+100 °C	+212 °F	Excellent
Water-based fluids	HFA	+50 °C to +60 °C	+122 °F to +140 °F	Good
	HFC	+60 °C	+140 °F	Excellent
Synthetic water-free fluids	HFDU	+100 °C	+212 °F	Excellent

Outstanding Extrusion Resistance



Static: 24 hours at 60 MPa / 8,700 psi and +100 °C / +212 °F

Contact your local marketing company for further information:

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Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative engineered solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has local presence in over 40 countries around the world.