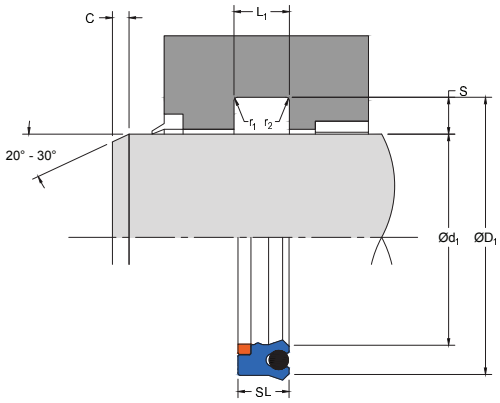

652

ROD SEAL

Polyurethane with AE Ring and Rubber Energiser for Heavy-Duty Applications

DESIGN

The Hallite 652 is a rod seal designed designed to provide a dry sealing solution specifically for heavy-duty longwall mining applications using water-based fluids. The design is also suitable for standard hydraulic oil applications.

The seal is manufactured in a polyurethane shell energised by a high quality O-ring, or in some cases a profiled NBR energiser as used in the Hallite 621 twin lip rod seal. The Hallite 652 also incorporates an acetal anti-extrusion ring to withstand side loads and extreme pressure peaks even with the extrusion gaps, which are the result of using remote plastic bearing strips like the Hallite 506 or 708.

The Hallite 652's seal shell is moulded in Hythane® 181, Hallite's high-performance polyurethane, for easy installation.

FEATURES

- Extremely well proven in longwall mining applications
- Extremely well proven in HFA water-based fluids
- High pressure and shock load capability
- Responsive sealing
- Easy to install

MATERIALS

As standard, this product comes in the following materiala. Contact your local Hallite technical team if you would like to find out if this profile can be made in a custom material to suit your application. For further material details, please refer to the Hallite Material Table.

MATERIAL OPTIONS	Name	Shell Type	Shell Colour
Standard	Hythane® 181-NBR-POM 0011	TPU-EU	Blue

TECHNICAL DETAILS

OPERATING CONDITIONS	METRIC	INCH
Maximum Speed	1.0 m/sec	3.0 ft/sec
Temperature Range Hydraulic Oils	-45°C +110°C	-50°F +230°F
Temperature Range Water-Based Fluids	-0°C +60°C	32°F +140°F
Maximum Pressure	700 bar	10000 psi

NOTE

Data given are maximum values and can apply depending on specific application. Maximum ratings of temperature, pressure, or operating speeds are dependent on fluid medium, surface, gap value, and other variables such as dynamic or static service. Maximum values are not intended for use together at the same time, e.g. max temperature and max pressure. Please contact your Hallite technical representative for application support.

MAXIMUM EXTRUSION GAP					
Pressure bar	160	250	400	500	700
Maximum Gap mm	1.00	0.80	0.60	0.40	0.25
Pressure psi	2400	3750	6000	7500	10000
Maximum Gap in	0.040	0.032	0.024	0.016	0.010

NOTE

Figures show the maximum permissible gap all on one side, using minimum rod Ø and maximum clearance Ø. Refer to Housing Design section.

SURFACE ROUGHNESS	µmRa	µmRz	µmRt	µinRa	µinRz	µinRt
Dynamic Sealing Face $Ød_1$	0.1 - 0.4	1.6 max	4 max	4 - 16	63 max	157 max
Static Sealing Face $ØD_1$	1.6 max	6.3 max	10 max	63 max	250 max	394 max
Static Housing Faces L_1	3.2 max	10 max	16 max	125 max	394 max	630 max

CHAMFERS & RADII						
Groove Section <S mm	4.00	5.00	7.50	10.00	12.50	15.00
Min Chamfer C mm	3.00	3.50	5.00	6.50	7.00	8.00
Max Fillet Rad r_1 mm	0.20	0.40	0.80	0.80	2.30	1.60
Max Fillet Rad r_2 mm	0.40	0.80	1.20	1.60	1.60	2.40

TOLERANCES	$Ød_1$	$ØD_1$	L_1
mm	f9	Js11	+0.25 -0