

Rod seals

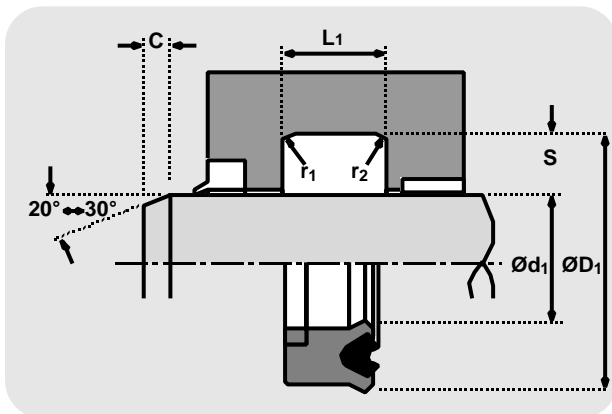
# Hallite



# 652

TECHNICAL DETAILS		METRIC	INCH				
<b>OPERATING CONDITIONS</b>							
MAXIMUM SPEED		1.0 m/sec	3.0 ft/sec				
TEMPERATURE RANGE		-45°C + 110°C	-50°F + 230°F				
MAXIMUM PRESSURE		700 bar	10,000 p.s.i.				
<b>MAXIMUM EXTRUSION GAP</b>							
PRESSURE bar		160	250	400	500	700	
MAXIMUM GAP mm		1.0	0.8	0.6	0.4	0.25	
PRESSURE p.s.i.		2400	3750	6000	7500	10,000	
<b>SURFACE ROUGHNESS</b>							
DYNAMIC SEALING FACE $\varnothing d_1$		$\mu\text{mRa}$ 0.1 ↔ 0.4	$\mu\text{mRt}$ 4 max	$\mu\text{inCLA}$ 4 ↔ 16	$\mu\text{inRMS}$ 5 ↔ 18		
STATIC SEALING FACE $\varnothing D_1$		1.6 max	10 max	63 max	70 max		
STATIC HOUSING FACES $L_1$		3.2 max	16 max	125 max	140 max		
<b>CHAMFERS &amp; RADII</b>							
GROOVE SECTION S mm		4.0	5.0	7.5	10.0	12.5	15.0
MIN CHAMFER C mm		3.0	3.5	5.0	6.5	7.0	8.0
MAX FILLET RAD $r_1$ mm		0.2	0.4	0.8	0.8	1.2	1.6
MAX FILLET RAD $r_2$ mm		0.4	0.8	1.2	1.2	1.6	2.4
<b>TOLERANCES</b>							
		$\varnothing d_1$	$\varnothing D_1$	$L_1$ mm			
		f9	Js11	+0.25 -0			

Figures show the maximum permissible gap all on one side using minimum rod  $\varnothing$  and maximum clearance  $\varnothing$ .



## DESIGN

The Hallite 652 is a high pressure rod seal designed specifically for longwall mining applications. The seal design comprises three elements; a unique profiled NBR energiser\*, a polyurethane shell and a polyacetal anti-extrusion ring. The shell is manufactured in Hythane 181 to provide flexibility for installation and responsiveness to the sealing lip. The rubber energiser ensures complete lip actuation under all pressure conditions and cushions the seal against shock loadings. The anti-extrusion ring enables the seal to withstand side loads and extreme pressure peaks during operation, even with the extrusion gaps which are the result of using remote plastic bearing strips such as Hallite 506.

\*In some cases an O ring energiser is used

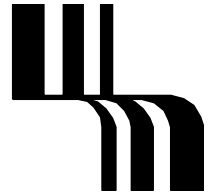
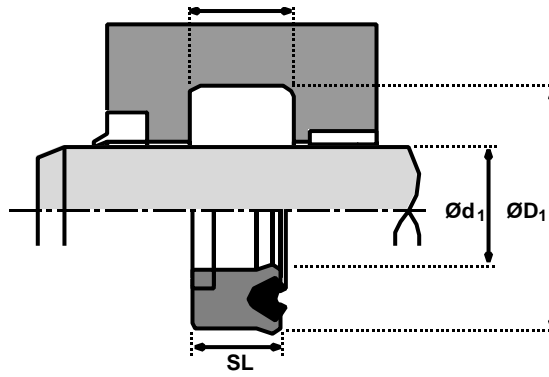
## FEATURES

- HIGH PRESSURE/SHOCK LOAD CAPABILITY
- POLYACETAL ANTI-EXTRUSION RING.
- RESPONSIVE SEALING

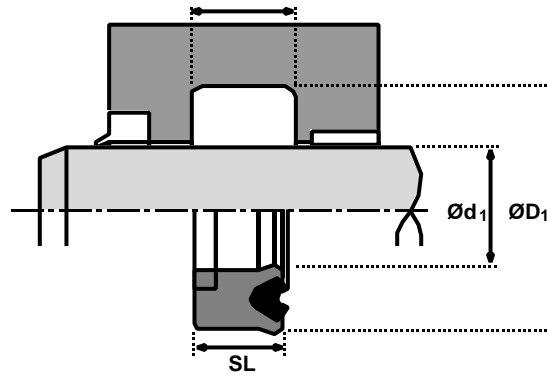
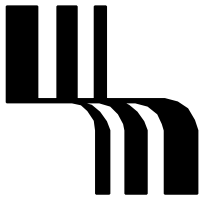
Rod seals

# Hallite 652

metric



Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.25-0	PART No.	Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.25-0	PART No.
40	-0.025 -0.087	52	+0.095 -0.095	8.7	9.6	4326311	177	-0.043 -0.143	192	+0.145 -0.145	14.5	16	4445711
50	-0.025 -0.087	62	+0.095 -0.095	8.7	9.6	4326411	195	-0.050 -0.165	210	+0.145 -0.145	14.5	16	4459311
56	-0.030 -0.104	71	+0.095 -0.095	11.4	12.5	4557110	195	-0.050 -0.165	215	+0.145 -0.145	14.5	16	4550511
60	-0.030 -0.104	69.8	+0.095 -0.095	11.4	12.5	4534910	200	-0.050 -0.165	220	+0.145 -0.145	14.5	16	4387611
60	-0.030 -0.104	72	+0.095 -0.095	8.7	9.6	4344211	210	-0.050 -0.165	230	+0.145 -0.145	14.5	16	4472911
60	-0.030 -0.104	75	+0.095 -0.095	11.9	13	4451211	220	-0.050 -0.165	240	+0.145 -0.145	14.5	16	4544510
63	-0.030 -0.104	75	+0.095 -0.095	8.7	9.6	4326511	225	-0.050 -0.165	240	+0.145 -0.145	14.5	16	4445811
70	-0.030 -0.104	82	+0.110 -0.110	8.7	9.6	4344311	225	-0.050 -0.165	250	+0.145 -0.145	18	20	4537511
75	-0.030 -0.104	95	+0.110 -0.110	12.5	14	4547810	230	-0.050 -0.165	249.3	+0.160 -0.160	14.5	16	4439411
80	-0.030 -0.104	95	+0.110 -0.110	14.5	16	4446511	230	-0.050 -0.165	250	+0.160 -0.160	14.5	16	4707210
90	-0.036 -0.123	105	+0.110 -0.110	14.5	16	4428011	230	-0.050 -0.165	255	+0.160 -0.160	22.8	25	4555511
100	-0.036 -0.123	115	+0.110 -0.110	11	12	4528010	240	-0.050 -0.165	260	+0.160 -0.160	14.5	16	4496511
100	-0.036 -0.123	115	+0.110 -0.110	14.5	16	4397611	245	-0.050 -0.165	270	+0.160 -0.160	18	20	4546711
105	-0.036 -0.123	120	+0.110 -0.110	11.8	13	4406711	250	-0.056 -0.186	270	+0.160 -0.160		16	4728810
110	-0.036 -0.123	125	+0.125 -0.125	14.5	16	4445611	255	-0.056 -0.186	275	+0.160 -0.160	14.5	16	4578611
115	-0.036 -0.123	130	+0.125 -0.125	14.5	16	4455411	260	-0.056 -0.186	275	+0.160 -0.160	16.4	18	4499011
125	-0.043 -0.143	140	+0.125 -0.125	14.5	16	4446911	265	-0.056 -0.186	255	+0.160 -0.160	14.5	16	4722110
135	-0.043 -0.143	155	+0.125 -0.125	13.6	15	4475410	265	-0.056 -0.186	285	+0.160 -0.160		16	4722110
150	-0.043 -0.143	165	+0.125 -0.125	14.5	16	4389111	260	-0.056 -0.186	280	+0.160 -0.160	16.4	18	4499011
160	-0.043 -0.143	175	+0.125 -0.125	11.7	12.8	4484010	280	-0.056 -0.186	300	+0.160 -0.160	14.5	16	4713910
160	-0.043 -0.143	175	+0.125 -0.125	14.5	16	4405011	285	-0.056 -0.186	310	+0.160 -0.160	18	20	4537611
160	-0.043 -0.143	177	+0.125 -0.125	12.3	13.5	4483110	290	-0.056 -0.186	310	+0.160 -0.160	16.4	18	4475111
165	-0.043 -0.143	182	+0.145 -0.145	14.5	16	4537411	295	-0.056 -0.186	315	+0.160 -0.160	16.4	18	4598211



Rod seals  
**Hallite**  
**652**  
 metric

$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL Js11	SL	$L_1$ +0.25-0	PART No.
300	-0.056 -0.186	320	+0.180 -0.180	14.5	16	4525110
305	-0.056 -0.186	325	+0.180 -0.180		18	4473011
305	-0.056 -0.186	330	+0.180 -0.180	18	20	4546811
305	-0.056 -0.186	335	+0.180 -0.180	16.5	18	4721910
320	-0.062 -0.202	340	+0.180 -0.180	14.5	16	4544410
320	-0.062 -0.202	340	+0.180 -0.180	16.4	18	4707310
325	-0.062 -0.202	355	+0.180 -0.180	18	20	4555711

$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL Js11	SL	$L_1$ +0.25-0	PART No.
335	-0.062 -0.202	355	+0.180 -0.180	16.4	18	4496611
340	-0.062 -0.202	365	+0.180 -0.180	18	20	4732810
350	-0.062 -0.202	375	+0.180 -0.180	18	20	4718010
355	-0.062 -0.202	380	+0.180 -0.180	18	20	4578411
370	-0.062 -0.202	395	+0.180 -0.180	18	20	4579710
390	-0.062 -0.202	415	+0.180 -0.180	18	20	4730010

\* Indicates products fitted with an O ring energiser.

# Notes

