

Piston seals

# Hallite



## TECHNICAL DETAILS

METRIC

INCH

### OPERATING CONDITIONS

MAXIMUM SPEED  
TEMPERATURE RANGE  
MAXIMUM PRESSURE

0.5 m/sec  
-30°C + 100°C  
500 bar

1.5 ft/sec  
-22°F + 212°F  
7500 p.s.i.

### MAXIMUM EXTRUSION GAP

PRESSURE bar  
MAXIMUM GAP mm  
PRESSURE p.s.i.  
MAXIMUM GAP in

Figures show the maximum permissible gap all on one side using the minimum clearance  $\emptyset$  and maximum bore  $\emptyset$

160	250	400	500
0.35	0.3	0.2	0.1
2400	3750	6000	7500
0.016	0.012	0.008	0.004

### SURFACE ROUGHNESS

DYNAMIC SEALING FACE  $\emptyset D_1$   
STATIC SEALING FACE  $\emptyset d_1$   
STATIC HOUSING FACES  $L_1$

$\mu\text{mRa}$	$\mu\text{mRt}$	$\mu\text{inCLA}$	$\mu\text{inRMS}$
0.1 $\leftrightarrow$ 0.4	4 max	4 $\leftrightarrow$ 16	5 $\leftrightarrow$ 18
1.6 max	10 max	63 max	70 max
3.2 max	16 max	125 max	140 max

### CHAMFERS & RADII

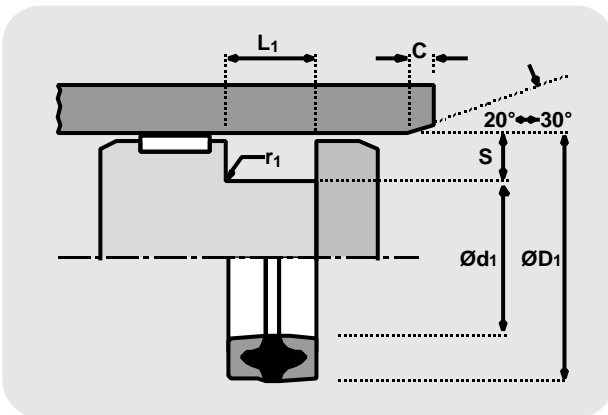
GROOVE SECTION S mm  
MIN CHAMFER C mm  
MAX FILLET RAD  $r_1$  mm  
GROOVE SECTION S in  
MIN CHAMFER C in  
MAX FILLET RAD  $r_1$  in

5.0	7.5	8.0	10.0	12.5
2.4	4.0	5.0	5.0	6.5
0.4	0.8	0.8	1.2	1.6
0.250	0.312	0.375	0.500	0.625
0.125	0.156	0.187	0.217	0.250
0.016	0.016	0.032	0.032	0.046

### TOLERANCES

mm  
in

$\emptyset D_1$	$\emptyset d_1$	$L_1$
H11	js11	+0.25 +0
H11	js11	+0.030 +0.020



## FEATURES

- WELL PROVEN DESIGN
- TOLERANT TO CONTAMINATION
- WIDE RANGE OF NON STANDARD SIZES

## DESIGN

A medium to heavy duty double acting seal, the Hallite 56 has shown itself over many years to be an effective and robust piston seal in a wide variety of applications. Designed for split pistons it offers the benefits in terms of sealing efficiency and low friction gained from rubber/fabric and a specific proportion of rubber in contact with the cylinder surface.

The centre of the seal is rubber which is bonded to two 'U' section bases of rubberised fabric, and is compressed by the housing to obtain an effective low pressure seal. When the pressure increases the rubber energises the 'U' section and deforms it to the housing, increasing the sealing area and improving the seal.

Rubberised fabric is used to protect the rubber because it has strength and durability which combines with its ability to retain lubricant, to help keep friction low and reduce wear.

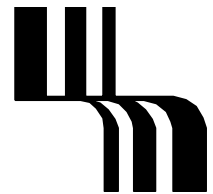
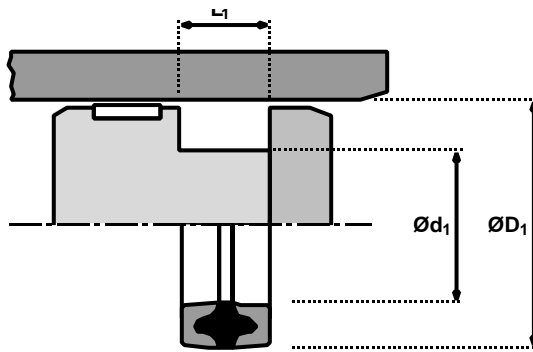
The proportions of the range have been determined to give a satisfactory performance when used with the recommended operating conditions. Many other sizes are available outside this range.

Piston seals

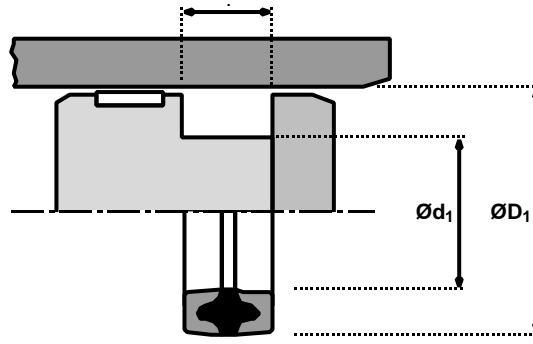
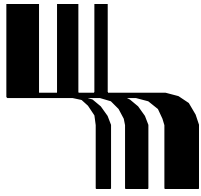
# Hallite

## 56

metric



ØD <sub>1</sub>	TOL H11	Ød <sub>1</sub>	TOL js11	L <sub>1</sub> + 0.25 - 0	PART No.	ØD <sub>1</sub>	TOL H11	Ød <sub>1</sub>	TOL js11	L <sub>1</sub> + 0.25 - 0	PART No.
30	+0.13 +0.00	20	+0.07 -0.07	12.5	0200540	170	+0.25 +0.00	150	+0.13 -0.13	25.0	0303340
40	+0.16 +0.00	25	+0.07 -0.07	19.0	0472840	180	+0.25 +0.00	160	+0.13 -0.13	25.0	1283140
50	+0.16 +0.00	35	+0.08 -0.08	19.0	0474640	190	+0.29 +0.00	160	+0.13 -0.13	38.0	0838440
55	+0.19 +0.00	40	+0.08 -0.08	19.0	0475040	200	+0.29 +0.00	170	+0.13 -0.13	38.0	0087140
60	+0.19 +0.00	40	+0.08 -0.08	25.0	0282040	220	+0.29 +0.00	190	+0.15 -0.15	38.0	0087340
60	+0.19 +0.00	45	+0.08 -0.08	19.0	0979440	230	+0.29 +0.00	200	+0.15 -0.15	38.0	2010040
63	+0.19 +0.00	43	+0.08 -0.08	25.0	0646740	240	+0.29 +0.00	210	+0.15 -0.15	38.0	0094340
65	+0.19 +0.00	50	+0.08 -0.08	19.0	0383840	250	+0.29 +0.00	220	+0.15 -0.15	38.0	1056340
70	+0.19 +0.00	50	+0.08 -0.08	25.0	0294640	260	+0.32 +0.00	230	+0.15 -0.15	38.0	0094540
75	+0.19 +0.00	55	+0.10 -0.10	25.0	0818640	300	+0.32 +0.00	270	+0.16 -0.16	38.0	0094840
80	+0.19 +0.00	60	+0.10 -0.10	25.0	0294940	310	+0.32 +0.00	280	+0.16 -0.16	38.0	0094940
85	+0.22 +0.00	65	+0.10 -0.10	25.0	0388640	330	+0.36 +0.00	300	+0.16 -0.16	38.0	0095040
90	+0.22 +0.00	70	+0.10 -0.10	25.0	0296040	360	+0.36 +0.00	320	+0.18 -0.18	45.0	1054040
100	+0.22 +0.00	80	+0.10 -0.10	25.0	0295140	400	+0.36 +0.00	360	+0.18 -0.18	45.0	1054340
110	+0.22 +0.00	90	+0.11 -0.11	25.0	0712440	420	+0.40 +0.00	380	+0.20 -0.20	45.0	0095140
120	+0.22 +0.00	100	+0.11 -0.11	25.0	0296140	460	+0.40 +0.00	420	+0.20 -0.20	45.0	0095340
125	+0.25 +0.00	100	+0.11 -0.11	19.0	1007440	480	+0.40 +0.00	440	+0.20 -0.20	45.0	0095440
125	+0.25 +0.00	100	+0.11 -0.11	32.0	0418640	500	+0.40 +0.00	460	+0.20 -0.20	45.0	0134740
140	+0.25 +0.00	120	+0.11 -0.11	25.0	0250540	540	+0.44 +0.00	500	+0.20 -0.20	45.0	2018240
150	+0.25 +0.00	120	+0.11 -0.11	38.0	1289540	580	+0.44 +0.00	540	+0.22 -0.22	50.0	2020940
160	+0.25 +0.00	135	+0.13 -0.13	32.0	0080440						



Piston seals  
**Hallite**  
**56**  
 inch

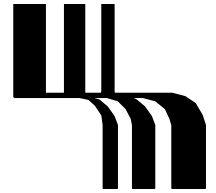
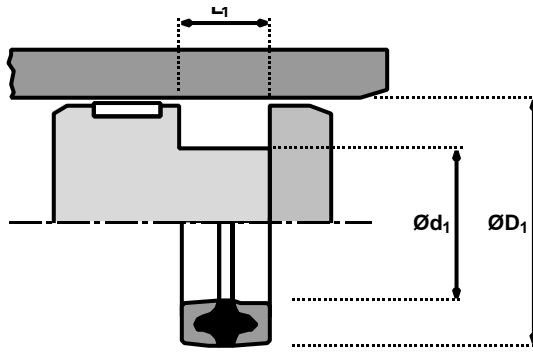
ØD <sub>1</sub>	TOL H11	Ød <sub>1</sub>	TOL js11	L <sub>1</sub> + 0.030 + 0.020	PART No.
1.000	+0.005 +0.000	0.625	+0.002 -0.002	0.469	1247640
1.250	+0.006 +0.000	0.750	+0.003 -0.003	0.625	0403740
1.500	+0.006 +0.000	1.000	+0.003 -0.003	0.625	0422440
1.750	+0.006 +0.000	1.125	+0.003 -0.003	0.750	0778240
2.000	+0.007 +0.000	1.375	+0.003 -0.003	0.750	0778440
2.250	+0.007 +0.000	1.625	+0.003 -0.003	0.750	1432640
2.375	+0.007 +0.000	1.750	+0.003 -0.003	0.750	0939840
2.500	+0.007 +0.000	1.875	+0.003 -0.003	0.750	0867240
2.750	+0.007 +0.000	2.000	+0.004 -0.004	0.937	1369140
2.875	+0.007 +0.000	2.125	+0.004 -0.004	0.937	0779640
3.000	+0.007 +0.000	2.250	+0.004 -0.004	0.937	1098440
3.250	+0.009 +0.000	2.500	+0.004 -0.004	0.937	0782440
3.375	+0.009 +0.000	2.625	+0.004 -0.004	0.937	0773840
3.500	+0.009 +0.000	2.750	+0.004 -0.004	0.937	0437840
3.750	+0.009 +0.000	3.000	+0.004 -0.004	0.937	0410540
4.000	+0.009 +0.000	3.250	+0.004 -0.004	0.716	6504740
4.000	+0.009 +0.000	3.250	+0.004 -0.004	0.937	1407740
4.250	+0.009 +0.000	3.500	+0.004 -0.004	0.937	1128840
4.500	+0.009 +0.000	3.500	+0.004 -0.004	1.250	0448840
4.625	+0.009 +0.000	3.625	+0.004 -0.004	1.250	0449040
4.750	+0.010 +0.000	3.750	+0.004 -0.004	1.250	1007040
5.000	+0.010 +0.000	4.000	+0.004 -0.004	1.250	0443040
5.250	+0.010 +0.000	4.250	+0.004 -0.004	1.250	0892240

ØD <sub>1</sub>	TOL H11	Ød <sub>1</sub>	TOL js11	L <sub>1</sub> + 0.030 + 0.020	PART No.
5.500	+0.010 +0.000	4.500	+0.004 -0.004	1.250	0133240
6.000	+0.010 +0.000	5.000	+0.005 -0.005	1.250	1367040
6.500	+0.010 +0.000	5.500	+0.005 -0.005	1.250	1164140
7.000	+0.010 +0.000	6.000	+0.005 -0.005	1.250	1188840
7.250	+0.011 +0.000	6.500	+0.005 -0.005	1.625	0424140
7.500	+0.011 +0.000	6.250	+0.005 -0.005	1.625	1255240
7.750	+0.011 +0.000	6.500	+0.005 -0.005	1.625	1192740
8.000	+0.011 +0.000	6.750	+0.005 -0.005	1.625	0426540
8.000	+0.011 +0.000	7.000	+0.005 -0.005	1.000	0224340
8.250	+0.011 +0.000	7.000	+0.005 -0.005	1.625	1219240
8.500	+0.011 +0.000	7.250	+0.005 -0.005	1.625	1286440
8.750	+0.011 +0.000	7.500	+0.005 -0.005	1.625	0418140
9.000	+0.011 +0.000	7.750	+0.006 -0.006	1.625	1266640
9.250	+0.011 +0.000	8.000	+0.006 -0.006	1.625	0455740
9.500	+0.011 +0.000	8.250	+0.006 -0.006	1.625	1332240
9.750	+0.011 +0.000	8.500	+0.006 -0.006	1.625	1332340
10.000	+0.013 +0.000	8.750	+0.006 -0.006	1.625	0436140
10.250	+0.013 +0.000	9.000	+0.006 -0.006	1.625	0437540
10.500	+0.013 +0.000	9.250	+0.006 -0.006	1.625	1331940
10.750	+0.013 +0.000	9.500	+0.006 -0.006	1.625	1320440
11.000	+0.013 +0.000	9.750	+0.006 -0.006	1.625	0433940
11.250	+0.013 +0.000	10.250	+0.006 -0.006	1.625	1331640
12.000	+0.013 +0.000	10.750	+0.006 -0.006	1.625	1331440

Piston seals

# Hallite 56

inch



$\text{ØD}_1$	TOL H11	$\text{Ød}_1$	TOL js11	$L_1$ + 0.030 + 0.020	PART No.
12.500	+0.013 +0.000	11.250	+0.006 -0.006	1.625	0436340
13.000	+0.013 +0.000	11.750	+0.006 -0.006	1.625	0436540
14.500	+0.013 +0.000	13.000	+0.006 -0.006	1.500	0270940
15.000	+0.013 +0.000	13.750	+0.007 -0.007	1.500	0787040
16.000	+0.016 +0.000	14.750	+0.007 -0.007	1.800	2117440

$\text{ØD}_1$	TOL H11	$\text{Ød}_1$	TOL js11	$L_1$ + 0.030 + 0.020	PART No.
17.000	+0.016 +0.000	15.000	+0.007 -0.007	2.250	1345340
18.000	+0.016 +0.000	16.000	+0.008 -0.008	2.062	2002040
19.500	+0.016 +0.000	18.000	+0.008 -0.008	2.500	2108240
20.000	+0.017 +0.000	18.500	+0.009 -0.009	1.750	2111240