

Design

The Hallite 770 seal is a double acting compact, low friction seal for light to medium duty hydraulic cylinders. It has been designed to fit standard inch O ring housings. It comprises a tough self lubricated elastomeric face which is pre-loaded by a rectangular cross-section expander. It can be used on SG iron pistons or on a piston where there is an adequate remote bearing (see Hallite 506 and 533 bearings).

The standard material is only suitable for hydraulic mineral oil applications. Other material options are available for water based (HFA and HFB) fluids and synthetic esters (HEES). In certain sizes a Hythane face material option is available, particularly for intermittent single acting applications.

For full details and availability please contact your local Hallite Sales office.

Features

- Low breakout and operating friction level
- Excellent wear resistance
- Ideal for use with Hallite 506 or 533 GFN wear rings
- More tolerant to contamination
- Rapid recovery after assembly
- Operates on a wide range of surface finishes

Material

Standard material

Lubricated polyester elastomer (Cream 55D)

Material options:

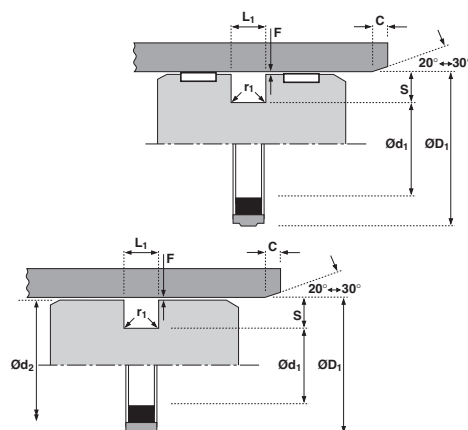
Polyester elastomer (Red 55D)

Hydrolysis stabilised polyester elastomer (Grey 55D)

Hydrolysis stabilised polyester elastomer (Red 72D)

Hythane® 181
limited sizes available

Technical details shown are for standard Cream 55D lubricated polyester elastomer



Technical details

Operating conditions

Maximum Speed
Temperature Range
Maximum Pressure

Metric

1.0 m/sec
-40°C +110°C
350 bar

Inch

3.0 ft/sec
-40°F +230°F
5000 p.s.i.

Maximum extrusion gap

Pressure bar
Pressure p.s.i.
Maximum Gap in

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

100	160	250	350
1500	2400	3750	5000
0.030	0.025	0.020	0.010

Surface roughness

Dynamic Sealing Face ØD₁
Static Sealing Face Ød₁
Static Housing Faces L₁

µmRa	µmRt	µinCLA	µinRMS
0.1 < > 0.4	4 max	4 < > 16	5 < > 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 in
Max Fillet Rad r₁ in

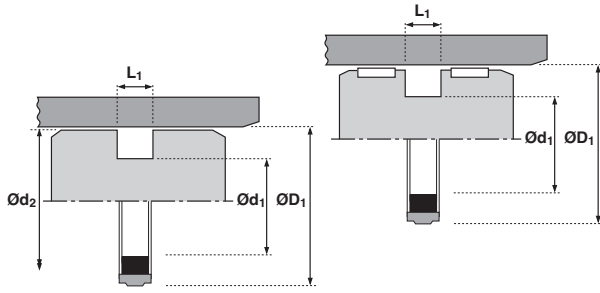
0.125	0.187	0.250
0.100	0.150	0.200
0.016	0.016	0.016

Tolerances

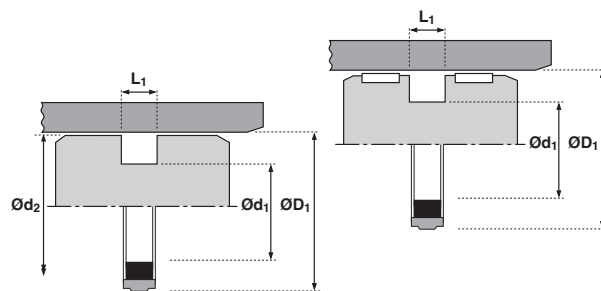
in

ØD ₁	Ød ₁	Ød ₂	L ₁
+0.002 -0	+0 -0.002	+0 -0.001	+0.005 -0





ØD ₁	TOL	Ød ₁	TOL	Ød ₂	TOL	L ₁	TOL	PART No.
0.750	+0.002 -0.000	0.508	+0.000 -0.002	0.747	+0.000 -0.001	0.187	+0.005 -0.000	481771_
0.875	+0.002 -0.000	0.633	+0.000 -0.002	0.872	+0.000 -0.001	0.187	+0.005 -0.000	481781_
1.000	+0.002 -0.000	0.758	+0.000 -0.002	0.997	+0.000 -0.001	0.187	+0.005 -0.000	481791_
1.125	+0.002 -0.000	0.883	+0.000 -0.002	1.122	+0.000 -0.001	0.187	+0.005 -0.000	481801_
1.250	+0.002 -0.000	1.008	+0.000 -0.002	1.247	+0.000 -0.001	0.187	+0.005 -0.000	455441_
1.375	+0.002 -0.000	1.133	+0.000 -0.002	1.372	+0.000 -0.001	0.187	+0.005 -0.000	471691_
1.500	+0.002 -0.000	1.258	+0.000 -0.002	1.497	+0.000 -0.001	0.187	+0.005 -0.000	471701_
1.625	+0.002 -0.000	1.383	+0.000 -0.002	1.622	+0.000 -0.001	0.187	+0.005 -0.000	471711_
1.750	+0.002 -0.000	1.508	+0.000 -0.002	1.747	+0.000 -0.001	0.187	+0.005 -0.000	471721_
2.000	+0.002 -0.000	1.630	+0.000 -0.002	1.997	+0.000 -0.001	0.281	+0.005 -0.000	455351_
2.125	+0.002 -0.000	1.755	+0.000 -0.002	2.122	+0.000 -0.001	0.281	+0.005 -0.000	471731_
2.250	+0.002 -0.000	1.880	+0.000 -0.002	2.247	+0.000 -0.001	0.281	+0.005 -0.000	471741_
2.500	+0.002 -0.000	2.130	+0.000 -0.002	2.497	+0.000 -0.001	0.281	+0.005 -0.000	449001_
2.750	+0.002 -0.000	2.380	+0.000 -0.002	2.747	+0.000 -0.001	0.281	+0.005 -0.000	481751_
2.875	+0.002 -0.000	2.505	+0.000 -0.002	2.872	+0.000 -0.001	0.281	+0.005 -0.000	481761_
3.000	+0.002 -0.000	2.630	+0.000 -0.002	2.997	+0.000 -0.001	0.281	+0.005 -0.000	434941_
3.250	+0.002 -0.000	2.880	+0.000 -0.002	3.247	+0.000 -0.001	0.281	+0.005 -0.000	434951_
3.500	+0.002 -0.000	3.130	+0.000 -0.002	3.497	+0.000 -0.001	0.281	+0.005 -0.000	434961_
3.750	+0.002 -0.000	3.380	+0.000 -0.002	3.747	+0.000 -0.001	0.281	+0.005 -0.000	434971_
4.000	+0.002 -0.000	3.630	+0.000 -0.002	3.997	+0.000 -0.001	0.281	+0.005 -0.000	434981_
4.250	+0.002 -0.000	3.880	+0.000 -0.002	4.247	+0.000 -0.001	0.281	+0.005 -0.000	434991_
4.500	+0.002 -0.000	4.130	+0.000 -0.002	4.497	+0.000 -0.001	0.281	+0.005 -0.000	435001_
4.750	+0.002 -0.000	4.380	+0.000 -0.002	4.747	+0.000 -0.001	0.281	+0.005 -0.000	435011_



ØD ₁	TOL	Ød ₁	TOL	Ød ₂	TOL	L ₁	TOL	PART No.
5.000	+0.004 -0.000	4.630	+0.000 -0.002	4.997	+0.000 -0.001	0.281	+0.005 -0.000	435021_
5.250	+0.004 -0.000	4.778	+0.000 -0.002	5.247	+0.000 -0.001	0.375	+0.005 -0.000	435032_
5.500	+0.004 -0.000	5.028	+0.000 -0.002	5.497	+0.000 -0.001	0.375	+0.005 -0.000	435042_
6.000	+0.004 -0.000	5.528	+0.000 -0.002	5.997	+0.000 -0.001	0.375	+0.005 -0.000	435052_
6.250	+0.004 -0.000	5.778	+0.000 -0.002	6.247	+0.000 -0.001	0.375	+0.005 -0.000	435062_
6.500	+0.004 -0.000	6.028	+0.000 -0.002	6.497	+0.000 -0.001	0.375	+0.005 -0.000	435072_
7.000	+0.004 -0.000	6.528	+0.000 -0.002	6.997	+0.000 -0.001	0.375	+0.005 -0.000	435082_
8.000	+0.004 -0.000	7.528	+0.000 -0.002	7.997	+0.000 -0.001	0.375	+0.005 -0.000	435112_

