

Design

The Hallite 13 is a vee pack rod seal for heavy duty applications offering excellent performance and long life even under difficult operating conditions such as pressure surges, vibration and some misalignment. The seal assembly consists a male and female adaptor and 5 vee rings.

The male adaptor is usually manufactured from polyacetal but some of the larger sizes use rubberised fabric. It has grooves across one face to ensure equal pressure to the sealing edges of the vee ring.

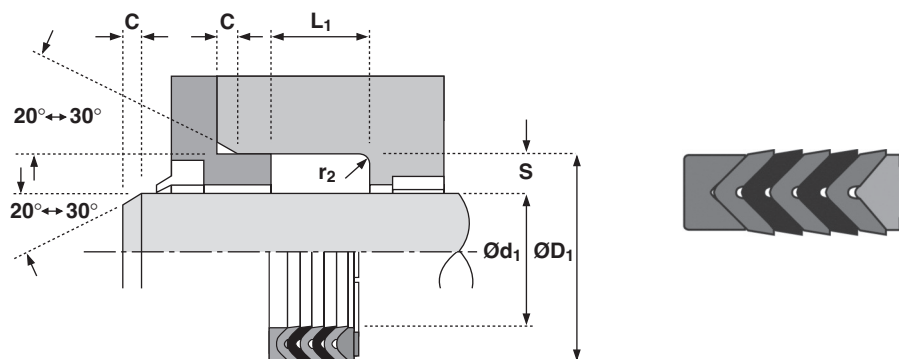
All sizes have vee rings manufactured from rubberised fabric because this has strength and durability and permits an oil film to lubricate the other parts of the seal. Some sizes are supplied with rubber vee rings between the rubberised fabric vee rings. The number and type of vee rings used are:

	up to 89mmØ	90-139mmØ	Above 139mmØ
Ruberised Fabric Vee Rings	3	4	5
Rubber Vee Rings	2	1	

The female adaptor uses a hard rubberised fabric to support the vee rings and protect them from extrusion damage. At high pressures the lips of the adaptor act as a secondary seal.

Features

- Precision moulded vee rings
- Pressure distribution adaptors
- Reliable sealing



Technical details

Operating conditions

Maximum Speed	0.5 m/sec
Temperature Range	-30°C + 100°C
Maximum Pressure	700 bar

Inch

1.5 ft/sec
-22°F + 212°F
10,000 p.s.i.

Maximum extrusion gap

Pressure bar	160	250	400	700
Maximum Gap mm	0.4	0.3	0.2	0.1
Pressure p.s.i.	2400	3750	6000	10,000

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	µmRt	µinCLA	µinRMS
Dynamic Sealing Face Ød ₁	0.1 < > 0.4	4 max	4 < > 16	5 < > 18
Static Sealing Face ØD ₁	1.6 max	10 max	63 max	70 max
Static Housing Faces L ₁	3.2 max	16 max	125 max	140 max

Chamfers & Radii

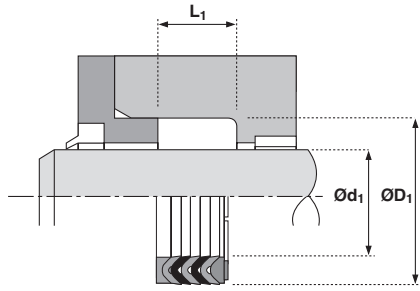
Groove Section ≤ S mm	6.0	7.5	10.0	12.5	15.0	20.0
Min Chamfer C mm	3.0	4.0	5.0	6.5	7.5	10.0
Max Fillet Rad r ₁ mm	0.4	0.4	1.2	1.6	1.6	1.6

Tolerances

Ød ₁	ØD ₁	L ₁ mm
f9	H11	+0.2 -0



vee pack sets



Ød1	TOL f9	ØD1	TOL H11	L1 +0.20-0	PART No.
20	-0.020 -0.072	32	+0.13 +0.00	22.50	4204950
25	-0.020 -0.072	40	+0.16 +0.00	22.50	4205050
30	-0.020 -0.072	45	+0.16 +0.00	22.50	4205150
35	-0.025 -0.087	50	+0.16 +0.00	22.50	4205250
40	-0.025 -0.087	55	+0.19 +0.00	22.50	4205350
45	-0.025 -0.087	65	+0.19 +0.00	27.50	4205450
50	-0.025 -0.087	70	+0.19 +0.00	30.00	4205550
55	-0.030 -0.104	75	+0.19 +0.00	30.00	4205650
60	-0.030 -0.104	80	+0.19 +0.00	37.00	4205750
65	-0.030 -0.104	85	+0.22 +0.00	40.00	4205850
70	-0.030 -0.104	90	+0.22 +0.00	40.00	4205950
75	-0.030 -0.104	95	+0.22 +0.00	40.00	4206050
80	-0.030 -0.104	100	+0.22 +0.00	40.00	4206150
90	-0.036 -0.123	110	+0.22 +0.00	40.00	4206250
100	-0.036 -0.123	120	+0.22 +0.00	40.00	4199150

Ød1	TOL f9	ØD1	TOL H11	L1 +0.20-0	PART No.
110	-0.036 -0.123	130	+0.25 +0.00	40.00	4206350
115	-0.036 -0.123	140	+0.25 +0.00	46.00	4206450
125	-0.043 -0.143	150	+0.25 +0.00	46.00	4206550
140	-0.043 -0.143	165	+0.25 +0.00	46.00	4206650
150	-0.043 -0.143	180	+0.25 +0.00	60.00	4206750
160	-0.043 -0.143	190	+0.29 +0.00	60.00	4206850
180	-0.043 -0.143	210	+0.29 +0.00	60.00	4206950
195	-0.050 -0.165	225	+0.29 +0.00	62.50	6582150
200	-0.050 -0.165	230	+0.29 +0.00	60.00	4207050
220	-0.050 -0.165	250	+0.29 +0.00	62.50	6582350
245	-0.050 -0.165	275	+0.32 +0.00	62.50	6582450
270	-0.056 -0.186	300	+0.32 +0.00	62.50	6582550
290	-0.056 -0.186	320	+0.36 +0.00	64.00	6582650
320	-0.062 -0.212	360	+0.36 +0.00	78.00	6582750
380	-0.062 -0.212	420	+0.40 +0.00	80.00	6584050