

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.

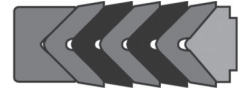
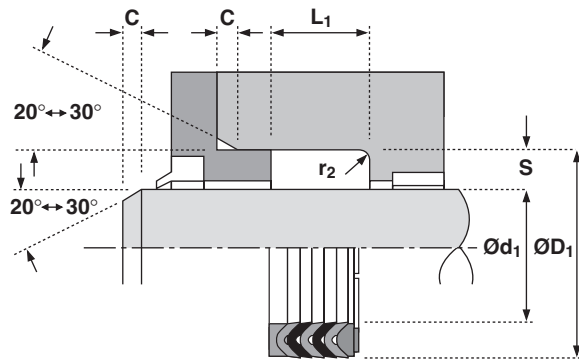
All sizes have vee rings manufactured from rubberised fabric because this has strength and durability and permits an oil film to lubricate the other parts of the seal. Some sizes are supplied with rubber vee rings between the rubberised fabric vee rings. The number and type of vee rings used are:

	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

	160	250	400	700
Pressure bar				
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

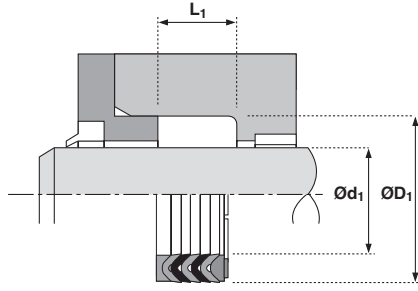
Chamfers & Radii

	6.0	7.5	10.0	12.5	15.0	20.0
Groove Section ≤ S mm						
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





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

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

vee pack sets - metric

13

**Seal & Design
Able Division**

5533 Steeles Avenue West Unit 11
Toronto, Ontario M9L 1S7
Ph: (416) 741-0750
Gasket@AbleSealAndDesign.com

**Seal & Design
Corporate Headquarters**

4015 Casilio Parkway
Clarence, NY 14031
Ph: (716) 759-2222
Info@SealAndDesign.com
www.SealAndDesign.com

**Seal & Design
Higbee Division**

6741 Thompson Rd N
Syracuse, NY 13221
Ph: (315) 432-8021
Sales@Higbee-Inc.com