

## Design

The Hallite 621 is a top of the range high pressure rod seal. The design of the seal incorporates a unique profiled NBR energiser to ensure complete lip actuation under all pressure conditions and to cushion the seal against shock loadings.

The shell is moulded in Hallite's high performance polyurethane Hythane® 181, ensuring flexibility for installation and performance at low temperatures.

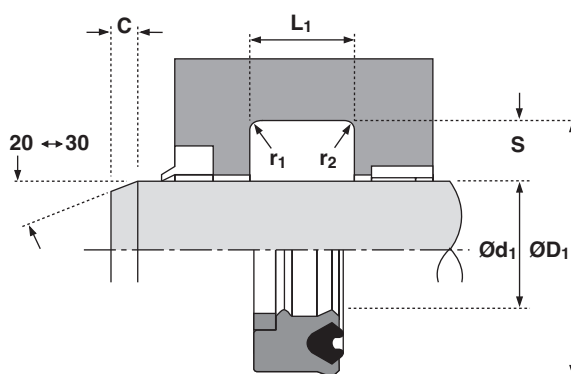
The Hallite 621 also benefits from Hallite's twin lip profile for dry rod sealing.

**NB:** Part numbers suffixed by "†" are designed to suit popular Asian housings.

Part numbers suffixed by "‡" indicate housing sizes to meet ISO 5597.

## Features

- High pressure/shock load capability
- Twin-lip design offering lower friction improved sealing primary lip protection increased seal stability
- Polyacetal anti-extrusion ring



## Technical details

### Operating conditions

Maximum Speed	1.0 m/sec
Temperature Range	-45°C +110°C
Maximum Pressure	700 bar

### Inch

3.0 ft/sec
-50°F +230°F
10,000 p.s.i.

### Maximum extrusion gap

	160	250	400	500	700
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
Maximum Gap in	0.040	0.032	0.024	0.016	0.010

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 <sub>1</sub>	0.1 <> 0.4	4 max	4 <> 16	5 <> 18
Static Sealing Face ØD <sub>1</sub>	1.6 max	10 max	63 max	70 max
Static Housing Faces L <sub>1</sub>	3.2 max	16 max	125 max	140 max

### Chamfers & Radii

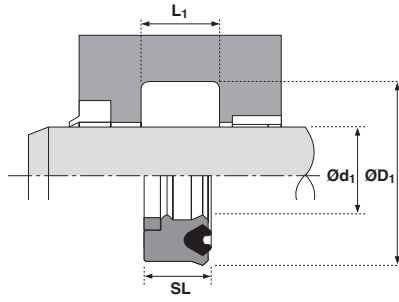
	4.0	5.0	7.5	10.0	12.5	15.0
Groove Section ≤ S mm	4.0	5.0	7.5	10.0	12.5	15.0
Min Chamfer C mm	3.0	3.5	5.0	6.5	7.0	8.0
Max Fillet Rad r <sub>1</sub> mm	0.2	0.4	0.8	0.8	1.2	1.6
Max Fillet Rad r <sub>2</sub> mm	0.4	0.8	1.2	1.2	1.6	2.4
Groove Section ≤ S in	0.125	0.187	0.250	0.312	0.375	0.500
Min Chamfer C in	0.093	0.093	0.125	0.156	0.187	0.217
Max Fillet Rad r <sub>1</sub> in	0.008	0.008	0.016	0.016	0.032	0.032
Max Fillet Rad r <sub>2</sub> in	0.016	0.016	0.032	0.032	0.047	0.047

### Tolerances

Ød <sub>1</sub>	ØD <sub>1</sub>	L <sub>1</sub> mm	L <sub>1</sub> in
f9	Js11	+0.25 -0	+0.010 -0

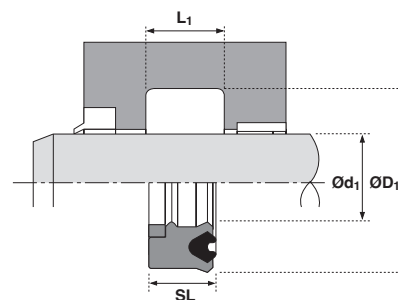


rod seals



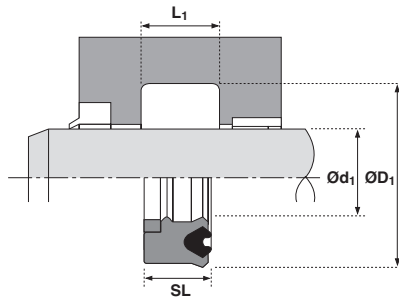
Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.25-0	PART No.
30	-0.020 -0.072	40	+0.08 -0.08	7.3	8.0	4577110
30	-0.020 -0.072	40	+0.08 -0.08	10.0	11.0	4831310
30	-0.020 -0.072	45	+0.08 -0.08	10.0	11.0	4831410
35	-0.025 -0.087	50	+0.08 -0.08	9.5	10.5	4335310
36	-0.025 -0.087	46	+0.08 -0.08	7.3	8.0	4317010‡
40	-0.025 -0.087	50	+0.08 -0.08	7.3	8.0	4317110‡
40	-0.025 -0.087	50	+0.08 -0.08	10.0	11.0	4755010
45	-0.025 -0.087	55	+0.08 -0.08	10.0	11.0	4831510
45	-0.025 -0.087	55	+0.10 -0.10	7.3	8.0	4317210‡
45	-0.025 -0.087	60	+0.10 -0.10	11.4	12.5	4295510‡
50	-0.025 -0.087	60	+0.10 -0.10	7.3	8.0	4317310‡
50	-0.025 -0.087	60	+0.10 -0.10	10.0	11.0	4802310†
50	-0.025 -0.087	65	+0.10 -0.10	10.0	11.0	4752910
50	-0.025 -0.087	65	+0.10 -0.10	11.4	12.5	4293410‡
55	-0.025 -0.087	65	+0.10 -0.10	10.0	11.0	4831210
55	-0.030 -0.104	70	+0.10 -0.10	9.0	10.0	4810210†
55	-0.030 -0.104	70	+0.10 -0.10	11.4	12.5	4403610
56	-0.030 -0.104	71	+0.10 -0.10	11.4	12.5	4317410‡
60	-0.030 -0.104	73	+0.10 -0.10	13.0	14.0	4526010†
60	-0.030 -0.104	75	+0.10 -0.10	11.4	12.5	4298410
63	-0.030 -0.104	78	+0.10 -0.10	11.4	12.5	4317510‡
63	-0.030 -0.104	83	+0.11 -0.11	11.8	13.0	4520510†
65	-0.030 -0.104	75	+0.10 -0.10	10.0	11.0	4755110

Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.25-0	PART No.
65	-0.030 -0.104	80	+0.10 -0.10	10.0	11.0	4761810
65	-0.030 -0.104	80	+0.10 -0.10	11.4	12.5	4783710
65	-0.030 -0.104	80	+0.10 -0.10	13.0	14.0	4810310
70	-0.030 -0.104	83	+0.11 -0.11	13.0	14.0	4810410†
70	-0.030 -0.104	85	+0.11 -0.11	11.4	12.5	4317610‡
75	-0.030 -0.104	88	+0.11 -0.11	13.0	14.0	4526110†
75	-0.030 -0.104	90	+0.11 -0.11	12.0	13.0	4810510
75	-0.030 -0.104	90	+0.11 -0.11	13.0	14.0	4784710
75	-0.030 -0.104	95	+0.11 -0.11	11.4	12.5	4810610
75	-0.030 -0.104	95	+0.11 -0.11	14.6	16.0	4801510†
80	-0.030 -0.104	93	+0.11 -0.11	13.0	14.0	4810710†
80	-0.030 -0.104	95	+0.11 -0.11	11.4	12.5	4317710‡
80	-0.030 -0.104	95	+0.11 -0.11	13.0	14.0	4540610†
85	-0.036 -0.123	100	+0.11 -0.11	11.8	13.0	4766410
85	-0.036 -0.123	100	+0.11 -0.11	13.0	14.0	4540710†
85	-0.036 -0.123	105	+0.11 -0.11	14.6	16.0	4810810†
90	-0.036 -0.123	105	+0.11 -0.11	11.4	12.5	4317810‡
90	-0.036 -0.123	105	+0.11 -0.11	13.0	14.0	4526310†
90	-0.036 -0.123	110	+0.11 -0.11	14.6	16.0	4810910†
95	-0.036 -0.123	110	+0.11 -0.11	12.0	13.0	4811010†
95	-0.036 -0.123	110	+0.11 -0.11	13.0	14.0	4540810†
95	-0.036 -0.123	115	+0.11 -0.11	14.6	16.0	4811110†
100	-0.036 -0.123	115	+0.11 -0.11	13.0	14.0	4540910†



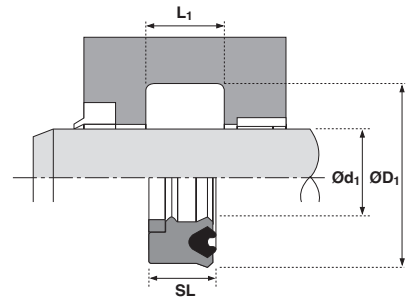
$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL Js11	SL	$L_1$ +0.25-0	PART No.
100	-0.036 -0.123	120	+0.11 -0.11	14.6	16.0	4317910‡
105	-0.036 -0.123	120	+0.11 -0.11	12.0	13.0	4811210†
105	-0.036 -0.123	120	+0.11 -0.11	13.0	14.0	4811310†
105	-0.036 -0.123	125	+0.13 -0.13	14.6	16.0	4811410†
110	-0.036 -0.123	125	+0.13 -0.13	13.0	14.0	4811510†
110	-0.036 -0.123	130	+0.13 -0.13	13.0	14.0	4541010†
110	-0.036 -0.123	130	+0.13 -0.13	14.6	16.0	4318010‡
115	-0.036 -0.123	135	+0.13 -0.13	14.6	16.0	4783810
120	-0.036 -0.123	135	+0.13 -0.13	14.6	16.0	4318110
120	-0.036 -0.123	140	+0.13 -0.13	13.0	14.0	4541110†
120	-0.036 -0.123	140	+0.13 -0.13	14.6	16.0	4783910†
125	-0.043 -0.143	145	+0.13 -0.13	14.6	16.0	4318210‡

$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL Js11	SL	$L_1$ +0.25-0	PART No.
130	-0.043 -0.143	145	+0.13 -0.13	13.0	14.0	4811610†
130	-0.043 -0.143	150	+0.13 -0.13	14.6	16.0	4709810†
140	-0.043 -0.143	155	+0.13 -0.13	13.0	14.0	4811710†
140	-0.043 -0.143	160	+0.13 -0.13	13.0	14.0	4541210†
140	-0.043 -0.143	160	+0.13 -0.13	14.6	16.0	4318310‡
150	-0.043 -0.143	170	+0.13 -0.13	14.6	16.0	4784010
160	-0.043 -0.143	180	+0.13 -0.13	14.6	16.0	4454810
160	-0.043 -0.143	185	+0.15 -0.15	14.5	16.0	4723410
180	-0.043 -0.143	200	+0.15 -0.15	14.6	16.0	4454910
200	-0.050 -0.165	220	+0.15 -0.15	14.6	16.0	4455110
215	-0.050 -0.165	235	+0.15 -0.15	14.6	16.0	4705610



Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.010 -0	PART No.
1.250	-0.0010 -0.0034	1.625	+0.003 -0.003	0.250	0.275	4794110
1.250	-0.0010 -0.0034	1.625	+0.003 -0.003	0.313	0.344	4809910
1.375	-0.0010 -0.0034	1.875	+0.003 -0.003	0.375	0.413	4707710
1.500	-0.0010 -0.0034	1.875	+0.003 -0.003	0.250	0.275	4484410
1.500	-0.0010 -0.0034	1.875	+0.003 -0.003	0.312	0.344	4484510
1.500	-0.0010 -0.0034	2.000	+0.004 -0.004	0.375	0.413	4484910
1.750	-0.0010 -0.0034	2.125	+0.004 -0.004	0.250	0.275	4484610
1.750	-0.0010 -0.0034	2.125	+0.004 -0.004	0.375	0.413	4484710
1.750	-0.0010 -0.0034	2.250	+0.004 -0.004	0.375	0.413	4485010
2.000	-0.0012 -0.0041	2.375	+0.004 -0.004	0.375	0.413	4484810
2.000	-0.0012 -0.0041	2.500	+0.004 -0.004	0.375	0.413	4485110
2.125	-0.0012 -0.0041	2.625	+0.004 -0.004	0.375	0.413	4592510
2.250	-0.0012 -0.0041	2.750	+0.004 -0.004	0.375	0.413	4485210
2.375	-0.0012 -0.0041	2.875	+0.004 -0.004	0.375	0.413	4485310
2.500	-0.0012 -0.0041	3.000	+0.004 -0.004	0.375	0.413	4485410
2.500	-0.0012 -0.0041	3.125	+0.004 -0.004	0.500	0.550	4794310
2.750	-0.0012 -0.0041	3.250	+0.004 -0.004	0.375	0.413	4485510
3.000	-0.0012 -0.0041	3.500	+0.004 -0.004	0.375	0.413	4485610
3.000	-0.0012 -0.0041	3.625	+0.004 -0.004	0.500	0.550	4486810
3.000	-0.0012 -0.0041	3.750	+0.004 -0.004	0.625	0.688	4489310
3.250	-0.0014 -0.0048	3.750	+0.004 -0.004	0.375	0.413	4485710
3.250	-0.0014 -0.0048	4.000	+0.004 -0.004	0.625	0.688	4790710
3.500	-0.0014 -0.0048	4.000	+0.004 -0.004	0.375	0.413	4485810

Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.010 -0	PART No.
3.500	-0.0014 -0.0048	4.125	+0.004 -0.004	0.500	0.550	4486910
3.500	-0.0014 -0.0048	4.250	+0.004 -0.004	0.625	0.688	4573610
3.750	-0.0014 -0.0048	4.125	+0.004 -0.004	0.375	0.413	4709310
3.750	-0.0014 -0.0048	4.250	+0.004 -0.004	0.375	0.413	4790810
4.000	-0.0014 -0.0048	4.500	+0.004 -0.004	0.375	0.413	4486010
4.000	-0.0014 -0.0048	4.500	+0.004 -0.004	0.562	0.619	4486110
4.000	-0.0014 -0.0048	4.625	+0.004 -0.004	0.375	0.413	4778610
4.000	-0.0014 -0.0048	4.625	+0.004 -0.004	0.500	0.550	4792610
4.000	-0.0014 -0.0048	4.625	+0.004 -0.004	0.562	0.619	4487010
4.000	-0.0014 -0.0048	4.750	+0.005 -0.005	0.625	0.688	4483310
4.250	-0.0014 -0.0048	5.000	+0.005 -0.005	0.625	0.688	4790910
4.500	-0.0014 -0.0048	5.000	+0.005 -0.005	0.375	0.413	4486210
4.500	-0.0014 -0.0048	5.000	+0.005 -0.005	0.562	0.619	4486310
4.500	-0.0014 -0.0048	5.125	+0.005 -0.005	0.375	0.413	4791010
4.500	-0.0014 -0.0048	5.125	+0.005 -0.005	0.625	0.688	4486410
4.500	-0.0014 -0.0048	5.250	+0.005 -0.005	0.625	0.688	4483410
4.750	-0.0017 -0.0056	5.500	+0.005 -0.005	0.375	0.413	4791210
4.750	-0.0017 -0.0056	5.500	+0.005 -0.005	0.625	0.688	4791110
5.000	-0.0017 -0.0056	5.500	+0.005 -0.005	0.562	0.619	4486510
5.000	-0.0017 -0.0056	5.625	+0.005 -0.005	0.625	0.688	4487110
5.000	-0.0017 -0.0056	5.750	+0.005 -0.005	0.625	0.688	4483510
5.250	-0.0017 -0.0056	6.000	+0.005 -0.005	0.625	0.688	4791310
5.500	-0.0017 -0.0056	6.000	+0.005 -0.005	0.562	0.619	4486610



Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.010 -0	PART No.
5.500	-0.0017 -0.0056	6.125	+0.005 -0.005	0.375	0.413	4791410
5.750	-0.0017 -0.0056	6.500	+0.005 -0.005	0.625	0.688	4791510
6.000	-0.0017 -0.0056	6.500	+0.005 -0.005	0.562	0.619	4486710
6.000	-0.0017 -0.0056	6.750	+0.005 -0.005	0.625	0.688	4487210
6.250	-0.0017 -0.0056	7.000	+0.005 -0.005	0.625	0.688	4791610
6.500	-0.0017 -0.0056	7.250	+0.005 -0.005	0.500	0.550	4791710
6.750	-0.0017 -0.0056	7.250	+0.005 -0.005	0.562	0.619	4791810
7.000	-0.0017 -0.0056	7.500	+0.005 -0.005	0.500	0.550	4791910
7.000	-0.0017 -0.0056	7.625	+0.005 -0.005	0.562	0.619	4792310
7.000	-0.0017 -0.0056	7.750	+0.006 -0.006	0.562	0.619	4792710
7.000	-0.0017 -0.0056	7.750	+0.006 -0.006	0.625	0.688	4588210
8.000	-0.0020 -0.0065	8.500	+0.006 -0.006	0.562	0.619	4792110
8.000	-0.0020 -0.0065	8.750	+0.006 -0.006	0.625	0.688	4573210

Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL Js11	SL	L <sub>1</sub> +0.010 -0	PART No.
8.500	-0.0020 -0.0065	9.250	+0.006 -0.006	0.625	0.688	4745010
9.000	-0.0020 -0.0065	9.750	+0.006 -0.006	0.625	0.688	4808810
9.000	-0.0020 -0.0065	10.000	+0.006 -0.006	0.750	0.825	4809810
10.000	-0.0022 -0.0073	10.500	+0.006 -0.006	0.562	0.619	4792210
10.000	-0.0022 -0.0073	10.750	+0.006 -0.006	0.625	0.688	4808910
10.000	-0.0022 -0.0073	11.000	+0.006 -0.006	0.750	0.825	4809410
10.500	-0.0022 -0.0073	11.125	+0.006 -0.006	0.562	0.619	4792410
11.000	-0.0022 -0.0073	11.750	+0.006 -0.006	0.625	0.688	4809210
12.000	-0.0022 -0.0073	12.750	+0.006 -0.006	0.625	0.688	4809310
12.000	-0.0022 -0.0073	13.000	+0.006 -0.006	0.750	0.825	4809510
13.000	-0.0025 -0.0080	13.625	+0.007 -0.007	0.562	0.619	4792510
14.000	-0.0025 -0.0080	15.000	+0.007 -0.007	0.750	0.825	4809610
15.000	-0.0025 -0.0080	16.000	+0.008 -0.008	0.750	0.825	4809710

