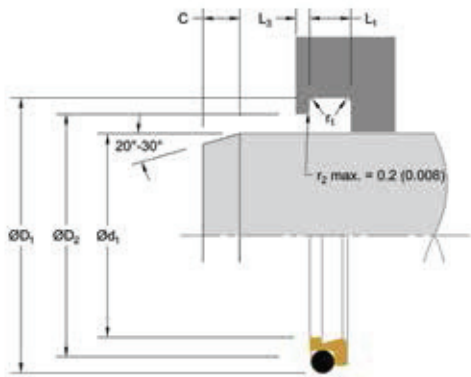




E2W

WIPER/EXCLUDER

Double-Acting

TECHNICAL DETAILS

The Hallite E2W is a double-acting, o-ring energized, rod wiper/excluder designed to include two different unique wiping lip geometries. The two lips combine to scrape debris from the rod and contain residual oil on rod extension, as well as allowing oil to pump back into the cylinder. The o-ring energizer provides the force necessary to maintain the engagement of the wiping lips against the sliding surface and allow the wiper to adjust for deflection.

Typically made from exclusive Hallite Armorlene® materials, this seal is capable of high-speed applications and eliminates any potential for stick-slip. High-performance Armorlene® materials, like HLX, provide outstanding wear and scraping capability as well as large range of temperature and media compatibility.

The Hallite E2W works well paired with rod seals that support the requisite dynamic pressure pump-back, like the Hallite R16 rod seal. When paired, they produce a sealing system capable of handling higher speeds, large range of fluid compatibilities, and temperature range of service. For other rod seal arrangements with E2W, it is necessary to make sure the rod seal will provide proper pressure pump-back, or alternatively vent the system. Hallite recommends proper guidance be used with this seal in heavy-duty applications (see Hallite Bearings section). This seal is available in a variety of Hallite's high-performance Armorlene® and Hythane® materials to suit a wide range of demanding applications.

*See Hallite 87, 506 or 533 bearing data sheets.



FEATURES

- Low friction and elimination of stick-slip action
- Self-adjustment for side movement of rod
- High-performance PTFE material as standard offering
- Balanced design keeps contamination out of cylinder while also minimizing oil film on rod

Part Number Structure

E2WMR00500NHLX _

E2W	M	R	00500	N	HLX	—
PROFILE DESIGNATION	UNIT OF MEASUREMENT M = Metric E = Inch	APPLICATION Refer to Installation Recommendations and use designator for desired application	ROD DIAMETER Metric = mm X 10 Inch = inches X 1000	ENERGIZER MATERIAL Refer to Energizer Table for desired energizer material	PTFE MATERIAL Refer to Material Table for desired PTFE (face) material	SPECIAL FEATURE Blank = Std profile



OPERATING CONDITIONS

	metric	inch
Maximum Speed	Up to 15.0m/sec	Up to 50.0ft/sec
Temperature Range*	-45 to 200°C	-49 to 392°F

*Dependent upon energizer used (NBR, FKM, etc.).

NOTE

Data given are maximum values and can apply depending on specific application. Maximum ratings of temperature, pressure, or operating speeds are dependent on fluid medium, surface, gap value, and other variables such as dynamic or static service. Maximum values are not intended for use together at the same time, e.g. max temperature and max pressure. Please contact your Hallite technical representative for application support.

SURFACE FINISH RECOMMENDATIONS

	metric			inch			RMR*
SURFACE ROUGHNESS	μMRA	μMRZ	μMRT	μINRA	μINRZ	μINRT	
Dynamic Sealing Face Ød₁	0.05 - 0.2	1.3 max	2 max	2 - 8	52 max	78 max	60% - 90%
Static Sealing Face ØD₁ and ØD₂	1.6 max	7 max	10 max	63 max	276 max	394 max	
Static Housing Faces L₁	3.2 max	10 max	16 max	125 max	394 max	630 max	

*RMR is measured at a depth of 25% of the Rz value based upon a reference level (zero line) at 5% material/bearing area.

ENERGIZER TABLE

ENERGIZER MATERIAL (SHORE A)	ENERGIZER TYPE	ENERGIZER DESIGNATION	ENERGIZER OPERATING TEMPERATURE°C	ENERGIZER OPERATING TEMPERATURE°F
NBR - 70A	O-Ring	N	-30 to 100°C	-22 to 212°F
NBR - 70A Low temp.	O-Ring	L	-45 to 80°C	-49 to 176°F
FKM - 75A	O-Ring	F	-10 to 200°C	14 to 392°F
EPDM - 70A	O-Ring	E	-45 to 145°C	-49 to 293°F
HNBR - 70A	O-Ring	H	-25 to 150°C	-13 to 302°F
NBR - 90A	O-Ring	Q	-30 to 100°C	-22 to 212°F
HNBR - 90A	O-Ring	U	-25 to 150°C	-13 to 302°F
No Energizer*	None	X	-	-

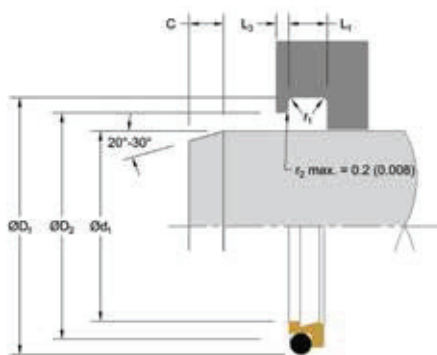
*Seal ratings are based upon capabilities of its matched material components. Hallite cannot rate seal performance when the seal is mixed with other manufacturers' energizers/components.

MATERIALS

MATERIAL FEATURES AND APPLICATIONS	FILLER	MATERIAL DESIGNATOR	COLOR	TEMPERATURE RANGE°C	TEMPERATURE RANGE°F
ARMORLENE® HLX - Standard material for hydraulic applications - High compressive strength - Excellent extrusion resistance - Extended wear resistance	Special Bronze Compound	HLX	Gold	-73 to 288°C	-100 to 550°F
ARMORLENE® HCF - Excellent in lubricating and non-lubricating hydraulic fluids (includes water) w/o zinc content - Not recommended for gas sealing applications - Not recommended for electrical conductive fluids	Carbon Fiber Filled	HCF	Gray/Black	-73 to 260°C	-100 to 500°F
ARMORLENE® 702 - Excellent in lubricating and non-lubricating hydraulic fluids - Good low-friction properties - Excellent extrusion resistance - Good chemical resistance	Glass Molybdenum Disulfide	702	Gray	-73 to 260°C	-100 to 500°F
ARMORLENE® 711 - Excellent in all lubricating fluids and pneumatic applications - High chemical resistance - Excellent extrusion resistance - Excellent wear properties	25% Carbon/Graphite	711	Black	-73 to 288°C	-100 to 550°F
ARMORLENE® 700 - Excellent in all hydraulic fluids - Recommended for use with soft mating surfaces - Low friction and no stick-slip	Unfilled	700	White	-184 to 204°C	-300 to 400°F
748 - UHMWPE - Excellent impact resistance - Good dielectrical properties - Excellent abrasion resistance - Low coefficient of friction	Standard	748	Translucent	-184 to 82°C	-300 to 180°F
HU5 - POLYURETHANE, 55D - Positive position load holding - Excellent extrusion resistance - Excellent wear resistance - Available up to 2540mm (100 inches) diameter	Standard	HU5	Yellow	-20 to 115°C	-4 to 240°F
HU9 - POLYURETHANE, 95A - Positive position load holding - Excellent extrusion resistance - Excellent wear resistance - Available up to 2540mm (100 inches) diameter	Standard	HU9	Red	-20 to 115°C	-4 to 240°F

For other material options consult the Master Materials Index at the front of the catalog. If you do not find the material that you require, please contact your local Hallite sales office.

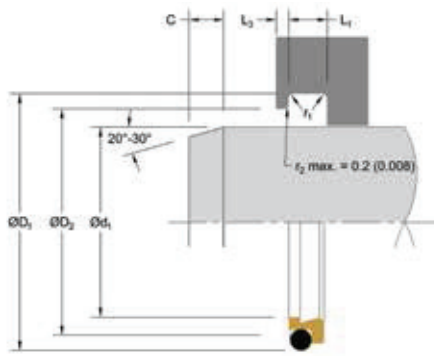




INSTALLATION RECOMMENDATIONS

metric								
ROD DIAMETER Ød ₁ f8/h9		GROOVE DIAMETER	GROOVE WIDTH	BORE DIAMETER	STEP WIDTH	RADIUS	CHAMFER	O-RING CROSS SECTION
DIAMETER RANGE*		D ₁ H9	L ₁ + 0.2	D ₂ H11	L ₃ Min	r ₁	C	O-Ring
Standard Duty Application - R	Light Duty Application - L							
4.0 - 11.9	12.0 - 64.9	d ₁ + 4.8	3.7	d ₁ + 1.5	2.0	0.5	2.0	1.78
12.0 - 64.9	65.0 - 250.9	d ₁ + 6.8	5.0	d ₁ + 1.5	2.0	0.5	3.0	2.62
65.0 - 250.9	251.0 - 420.9	d ₁ + 8.8	6.0	d ₁ + 1.5	3.0	0.8	4.0	3.53
251.0 - 420.9	421.0 - 650.9	d ₁ + 12.2	8.4	d ₁ + 2.0	4.0	1.0	6.0	5.33
421.0 - 650.9	651.0 - 999.9	d ₁ + 16.0	11.0	d ₁ + 2.0	4.0	1.5	8.0	6.99
651.0 - 999.9	≥ 1000.0	d ₁ + 20.0	14.0	d ₁ + 2.5	5.0	1.5	8.0	8.40

*For diameters >400 mm Hallite recommends using the E5W.



E2W

WIPER/EXCLUDER

Double-Acting

PART NUMBER RANGE (METRIC)*

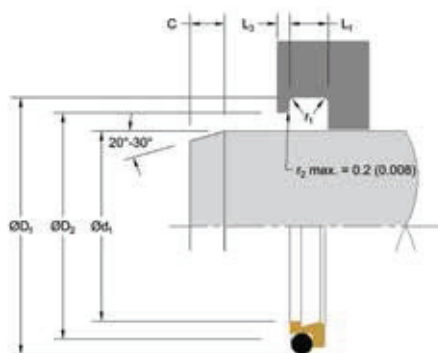
metric					PART NUMBER
Ød ₁	ØD ₁	L ₁	ØD ₂	STEP WIDTH	
Tol. f8/h9	Tol. H9	Tol. +0.2	Tol. H11	L ₃ Min	
4.0	8.8	3.7	5.5	2.0	E2VMR00040****+
5.0	9.8	3.7	6.5	2.0	E2VMR00050****+
6.0	10.8	3.7	7.5	2.0	E2VMR00060****+
8.0	12.8	3.7	9.5	2.0	E2VMR00080****+
10.0	14.8	3.7	11.5	2.0	E2VMR00100****+
12.0	18.8	5.0	13.5	2.0	E2VMR00120****+
14.0	20.8	5.0	15.5	2.0	E2VMR00140****+
15.0	21.8	5.0	16.5	2.0	E2VMR00150****
16.0	20.8	3.7	17.5	2.0	E2WML00160****
16.0	22.8	5.0	17.5	2.0	E2VMR00160****+
18.0	22.8	3.7	19.5	2.0	E2WML00180****
18.0	24.8	5.0	19.5	2.0	E2VMR00180****+
20.0	26.8	5.0	21.5	2.0	E2VMR00200****+
22.0	28.8	5.0	23.5	2.0	E2VMR00220****+
25.0	31.8	5.0	26.5	2.0	E2VMR00250****+
28.0	34.8	5.0	29.5	2.0	E2VMR00280****+
30.0	34.8	3.7	31.5	2.0	E2WML00300****
30.0	36.8	5.0	31.5	2.0	E2VMR00300****
32.0	38.8	5.0	33.5	2.0	E2VMR00320****+
35.0	41.8	5.0	36.5	2.0	E2VMR00350****
36.0	42.8	5.0	37.5	2.0	E2VMR00360****+
37.0	43.8	5.0	38.5	2.0	E2VMR00370****
40.0	46.8	5.0	41.5	2.0	E2VMR00400****+
42.0	48.8	5.0	43.5	2.0	E2VMR00420****
45.0	51.8	5.0	46.5	2.0	E2VMR00450****+
49.0	55.8	5.0	50.5	2.0	E2VMR00490****
50.0	56.8	5.0	51.5	2.0	E2VMR00500****+
50.8	57.6	5.0	52.3	2.0	E2VMR00508****

metric					PART NUMBER
Ød ₁	ØD ₁	L ₁	ØD ₂	STEP WIDTH	
Tol. f8/h9	Tol. H9	Tol. +0.2	Tol. H11	L ₃ Min	
54.0	60.8	5.0	55.5	2.0	E2VMR00540****
55.0	61.8	5.0	56.5	2.0	E2VMR00550****
56.0	62.8	5.0	57.5	2.0	E2VMR00560****+
60.0	66.8	5.0	61.5	2.0	E2VMR00600****
63.0	69.8	5.0	64.5	2.0	E2VMR00630****+
65.0	73.8	6.0	66.5	3.0	E2VMR00650****
70.0	78.8	6.0	71.5	3.0	E2VMR00700****
75.0	83.8	6.0	76.5	3.0	E2VMR00750****
80.0	88.8	6.0	81.5	3.0	E2VMR00800****
85.0	93.8	6.0	86.5	3.0	E2VMR00850****
90.0	98.8	6.0	91.5	3.0	E2VMR00900****
95.0	103.8	6.0	96.5	3.0	E2VMR00950****
100.0	108.8	6.0	101.5	3.0	E2VMR01000****
105.0	113.8	6.0	106.5	3.0	E2VMR01050****
110.0	118.8	6.0	111.5	3.0	E2VMR01100****
115.0	123.8	6.0	116.5	3.0	E2VMR01150****
120.0	128.8	6.0	121.5	3.0	E2VMR01200****
125.0	133.8	6.0	126.5	3.0	E2VMR01250****
130.0	138.8	6.0	131.5	3.0	E2VMR01300****
135.0	143.8	6.0	136.5	3.0	E2VMR01350****
137.0	145.8	6.0	138.5	3.0	E2VMR01370****
140.0	148.8	6.0	141.5	3.0	E2VMR01400****
145.0	153.8	6.0	146.5	3.0	E2VMR01450****
150.0	158.8	6.0	151.5	3.0	E2VMR01500****
160.0	168.8	6.0	161.5	3.0	E2VMR01600****
170.0	178.8	6.0	171.5	3.0	E2VMR01700****
180.0	188.8	6.0	181.5	3.0	E2VMR01800****
190.0	198.8	6.0	191.5	3.0	E2VMR01900****

+ Fits ISO 6195 Type D grooves.



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PART NUMBER RANGE (METRIC)*

metric					PART NUMBER
Ød ₁	ØD ₁	L ₁	ØD ₂	STEP WIDTH	
Tol. f8/h9	Tol. H9	Tol. +0.2	Tol. H11	L ₃ Min	
200.0	208.8	6.0	201.5	3.0	E2WMR02000****
210.0	218.8	6.0	211.5	3.0	E2WMR02100****
220.0	228.8	6.0	221.5	3.0	E2WMR02200****
230.0	238.8	6.0	231.5	3.0	E2WMR02300****
240.0	248.8	6.0	241.5	3.0	E2WMR02400****
250.0	258.8	6.0	251.5	3.0	E2WMR02500****
260.0	272.2	8.4	262.0	4.0	E2WMR02600****
280.0	292.2	8.4	282.0	4.0	E2WMR02800****
300.0	312.2	8.4	302.0	4.0	E2WMR03000****
320.0	332.2	8.4	322.0	4.0	E2WMR03200****
350.0	362.2	8.4	352.0	4.0	E2WMR03500****
360.0	372.2	8.4	362.0	4.0	E2WMR03600****
370.0	382.2	8.4	372.0	4.0	E2WMR03700****

metric					PART NUMBER
Ød ₁	ØD ₁	L ₁	ØD ₂	STEP WIDTH	
Tol. f8/h9	Tol. H9	Tol. +0.2	Tol. H11	L ₃ Min	
400.0	412.2	8.4	402.0	4.0	E2WMR04000****
440.0	456.0	11.0	442.0	4.0	E2WMR04400****
480.0	496.0	11.0	482.0	4.0	E2WMR04800****
600.0	616.0	11.0	602.0	4.0	E2WMR06000****
630.0	646.0	11.0	632.0	4.0	E2WMR06300****
680.0	700.0	14.0	682.5	5.0	E2WMR06800****
700.0	720.0	14.0	702.5	5.0	E2WMR07000****
770.0	790.0	14.0	772.5	5.0	E2WMR07700****
828.0	848.0	14.0	830.5	5.0	E2WMR08280****
880.0	900.0	14.0	882.5	5.0	E2WMR08800****
900.0	920.0	14.0	902.5	5.0	E2WMR09000****
1030.0	1050.0	14.0	1032.5	5.0	E2WML10300****
1180.0	1200.0	14.0	1182.5	5.0	E2WML11800****

+ Fits ISO 6195 Type D grooves. *Please contact Hallite for custom sizes, material selection, or seal design.