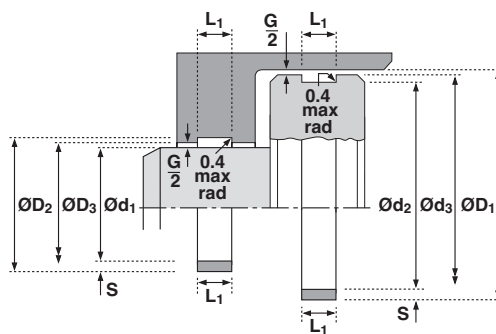


Design

Hallite 506 bearing strip is available in three forms: cut rings, spiral lengths and flat coils. Hallite 506 provides an extremely effective, hard wearing and easy to use bearing material.

Manufactured to very tight tolerances and providing bearing solutions for reciprocating, oscillating and slow rotary movement applications, Hallite 506 bearing strip is used in many of today's most arduous hydraulic applications around the world. Commonly fitted in reciprocating cylinders as rod and piston bearings, Hallite 506 is capable of withstanding extreme side-loads preventing metal to metal contact. The material's design incorporates micro indentations on the bearing strip's surface to trap fluid and provide built-in lubrication to the bearing. The 506 bearing strip is manufactured by a patented process, using a woven fabric reinforced polyester resin material and is proven to be compatible with a wide range of fluids, including mineral oils, water based fluids and phosphate esters, to produce a rectangular section strip which is available in a wide range of inch and metric sizes including cross sections specified in ISO 10766.

* Please note that for reciprocating applications, the compressive stress at yield should be used for design calculations. For rotary shafts use the limiting P.V. values. It is suggested that a 2:1 factor of safety is applied.



Technical details

Operating Conditions

Temperature Range
Limiting PV Values Lubricated*

Metric		Inch	
Temperature Range	-40°C +120°C	-40°F +250°F	
Limiting PV Values Lubricated*	Speed m/sec 0.1 1.0 5.0	Pressure MN/m ² 10.0 6.0 0.8	Speed ft/sec 0.3 3.0 16.0
			Pressure p.s.i. 1500 900 120

Typical Physical Properties

Specific Gravity
Compression Stress at Failure
Compression Stress at Yield*
Compression Stress at Yield*
Coefficient of Thermal Conductivity
Coefficient of Thermal Expansion

Specific Gravity	1.27	1.27
Compression Stress at Failure	(Temp 23°C) 450 MN/m ²	(Temp 73°F) 65,000 p.s.i.
Compression Stress at Yield*	(Temp 23°C) 115 MN/m ²	(Temp 73°F) 16,500 p.s.i.
Compression Stress at Yield*	(Temp 80°C) 58 MN/m ²	(Temp 176°F) 8,500 p.s.i.
Coefficient of Thermal Conductivity	0.27 W/mK	0.16 Btu/hft °F
Coefficient of Thermal Expansion	Length 9 X 10 ⁻⁵ per °C	Thickness 7.3 X 10 ⁻⁵ per °F
Coefficient of Dynamic Friction on steel surface (0.2 µm Ra) / (8 µin CLA)	Dry 0.50	Lubricated 0.06

Surface Roughness

Dynamic Sealing Face Ød1, ØD1
Static Sealing Face Ød2, ØD2, L1

µm Ra	µm Rt	µin CLA	µin RMS
0.4	4 max	16	18
3.2 max	16 max	125 max	140 max

Bearing Strip Tolerances

L1	S	L1	S
-0.1 to -0.6	-0.02 to -0.08	-0.005 to -0.025	-0.001 to -0.003

Width of Bearing Split - W

Ød1 / ØD1	W	Ød1 / ØD1	W
Up to 50	3.00 - 1.50	Up to 2"	0.12 - 0.06
Up to 120	5.00 - 3.50	Up to 5"	0.19 - 0.14
Up to 250	9.00 - 7.25	Up to 10"	0.35 - 0.29
Up to 550	17.00 - 15.00	Up to 22"	0.67 - 0.59

Housing Details & Tolerances

Rod	Ød1	f9	ØD1	f9
	ØD2 = Ød1 + 2S	up to: Ø80 H10 above: Ø80 H9	ØD2 = Ød1 + 2S	up to: Ø3in H10 above: Ø3in H9
	ØD3 = Ød1 + G	G min / max + 0.2 - 0 mm	ØD3 = Ød1 + G	G min / max + 0.008 - 0 in
	L1		L1	
Piston	ØD1	H11	ØD1	H11
	Ød2 = ØD1 - 2S	f9	Ød2 = ØD1 - 2S	f9
	Ød3 = ØD1 - G	G min / max + 0.2 - 0 mm	Ød3 = ØD1 - G	G min / max + 0.008 - 0 in
	L1		L1	

