



# 683

## ROD SEAL

Single Lip  
Polyurethane

### DESIGN

The Hallite 683 is an asymmetric, single lip U-ring rod seal designed to provide a dry sealing solution in light and medium-duty applications. The heel of the seal is angled, with support ribs to reduce shaft contact and provide pressure relief, allowing pairing with double lipped wipers. The ribs help in reducing friction by supporting localised lubrication and thus reduce localised temperature at the sealing lips, contributing to longer seal life.

The seal is a single lip modification of the well-established Hallite 605 profile and is ideal for applications that require a double-lipped wiper, such as the Hallite 839, Hallite 844, Hallite 846, or Hallite 864. The Hallite 683 is also offered in other high quality Hythane® materials to best fit the needs of the application.



### FEATURES

- Low Friction
- Prevents pressure build up between seal and double-lipped wiper
- Robust design
- Excellent wear resistance
- Performs well over wide temperature range and is extremely effective in low temperatures
- Easy to install

### MATERIALS

This product comes in a number of material options to extend operating conditions. Contact your local Hallite technical team to decide which is best for your application. Use the part designator in the table below as the last digit of the part number to specify material choice when ordering. For further material details, please refer to the Hallite Material Table.

MATERIAL OPTIONS	Name	Type	Colour	Part Designator
Standard	Hythane® 445	TPU	Dark Grey	0



## TECHNICAL DETAILS

OPERATING CONDITIONS	METRIC	INCH
Maximum Speed	1.0 m/sec	3.0 ft/sec
Temperature Range	-45°C +110°C	-50°F +230°F
Maximum Pressure	400 bar	6000 psi
Maximum Pressure with Backup Ring	700 bar	10000 psi

## 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.

## NOTE

**Pressure Rating:** Can be extended with use of backup ring. Seek technical advice from local Hallite office.

MAXIMUM EXTRUSION GAP			
Pressure bar	160	250	400
Maximum Gap mm	0.60	0.50	0.40
Pressure psi	2400	3750	6000
Maximum Gap in	0.024	0.020	0.016

## NOTE

Figures show the maximum permissible gap all on one side using minimum rod  $\varnothing$  and maximum clearance  $\varnothing$ . Refer to Housing Design section.

SURFACE ROUGHNESS	$\mu\text{mRa}$	$\mu\text{mRz}$	$\mu\text{mRt}$	$\mu\text{inRa}$	$\mu\text{inRz}$	$\mu\text{inRt}$
Dynamic Sealing Face $\varnothing d_1$	0.1 - 0.4	1.6 max	4 max	4 - 16	63 max	157 max
Static Sealing Face $\varnothing D_1$	1.6 max	6.3 max	10 max	63 max	250 max	394 max
Static Housing Faces $L_1$	3.2 max	10 max	16 max	125 max	394 max	630 max

CHAMFERS & RADII				
Groove Section $<S$ mm	4.00	5.00	7.50	10.00
Min Chamfer $C$ mm	3.00	3.50	5.00	6.50
Max Fillet Rad $r_1$ mm	0.20	0.40	0.80	0.80
Max Fillet Rad $r_2$ mm	0.40	0.80	1.20	1.20

TOLERANCES	$\varnothing d_1$	$\varnothing D_1$	$L_1$
mm	f9	JS11	+0.25 -0