Packing Division

LC Profile Seal

Product Bulletin

NO. 5205B-1 USA

LC Profile Seal Offers Improved Sealability

Advantages of a One-Piece Seal

Parker's LC Profile Seal offers several advantages over more traditional two-piece seal geometry. The problem with traditional two-piece seals occurs at installation and in service, during rapid fluctuations in pressure where expander rings can become partially dislodged resulting in leakage. The LC Seal's unique one-piece construction eliminates problems associated with seals containing rubber expander rings used to load the seal lips to maintain leak-free operation.

Better Compression Force

Notice that the LC Profile has a 'back beveled' lip. This supports the sealing lip from both sides causing the compressive force to be directed to a narrower sealing line. Other seals have lips that roll toward the unsupported side when installed resulting in lower compressive force, distributed over a wider sealing line (See Figure 1). Design enhancements in the LC Profile geometry concentrate compressive force to reduce leakage and improve overall sealability.

Fits Standard Groove Dimensions

The LC Profile's computer-aided design goemetry has been engineered to provide reliable sealing from the smallest 1/8" cross-section to the larger 1/2" crosssection. This seal is designed to retrofit into the same seal grooves utilized by a wide range of popular seals having the same seal height and cross-section.

Figure 1



Parker Hannifin Corporation **Packing Division** Salt Lake City, UT 84119 Phone: 801-972-3000 Fax: 801-972-6663



Computer Aided Testing

Computer-aided testing via FEA (Finite Element Analysis) was performed to optimize the seal design. FEA testing provided conclusive evidence that the LC Profile has a higher sealing force and better contamination resistance than traditional sealing designs. Color contours show the radial stress developed in the LC Profile. indicative of high sealing force at the sealing interface. (See Figure 2)

Contact Parker

The LC Profile was designed for use with rubber elastomers, including Parker's most advanced seal materials. However it can be manufactured in different materials upon request. Contact our technical service representatives for more information and current tooling availability. For additional technical and performance data ask for Test Number LT903, LC Profile Test.

Figure 2



Copyright © 1999, Parker Hannifin Corporation, Cleveland, OH. All Rights Reserved



Build With The Best! ISO-9001 Certified www.comoso.com



Part Number	ID	OD	C/S
LC18702000	2	2-3/8	3/16
LC18702500	2-1/2	2-7/8	3/16
LC25002750	2-3/4	3-1/4	1/4
LC25003500	3-1/2	4	1/4
LC31203125	3-1/8	3-3/4	5/16
LC37503500	3-1/2	4-1/4	3/8
LC37503750	3-3/4	4-1/2	3/8
LC37504500	4-1/2	5-1/4	3/8
LC37504750	4-3/4	5-1/2	3/8
LC37505500	5-1/2	6-1/4	3/8

Test Results for N4263A90

Fluid Compatibility

N4263A90 is recommended for general purpose sealing of petroleum based oils and fluids, silicone greases and oils, di-ester based lubricants, ethylene glycol base fluids and water. It is not recommended for service with halogenated hydrocarbons, nitrohydrocarbons, phosphate ester hydraulic fluids, ketones, strong acids, ozone, and automotive brake fluids.

Original Physical Properties	Parker N4263A90	ASTM STANDARD
Hardness, Shore A, pts.	92	D 2240-86
Tensile Strength, PSI	3500	D 412-87
Elongation, %	133	D 412-87
Modulus, @ 100%	3000	D 412-87
Specific Gravity	1.28	D 297-81
Compression Set (%),		
70 Hours @ 212° F (100° C)	15	D 395-85
Compression Set (%),		
70 Hours @ 257° F (125° C)	23	D 395-85

Testing for 70 hours

Testing for 168 hours/1 week

Media	Hardness Change, pts	Ultimate Tensile Change, %	Elongation Change, %	Volume Change, %	Weight Change, %
Fuel A @ Room Temp.	0	+8	-17	+1	0
Fuel B @ Room Temp.	-10	-23	0	+14	+9
Fuel C @ Room Temp.	-16	-44	-5	+36	+23
Methanol @ Room Temp.	-18	-53	-8	+16	+10
ASTM #1 Oil @ 212° F	0	+11	-12	0	-1
ASTM #1 Oil @ 257° F	0	+3	-20	-1	-1
ASTM #1 Oil @ 302° F	+1	+13	-30	-1	-1
ASTM #3 Oil @ 212° F	-5	-2	0	+14	+9
ASTM #3 Oil @ 257° F	-3	-8	-10	+12	+9
ASTM #3 Oil @ 302° F	-5	+5	-5	+13	+10
JP-4 Jet Fuel @ Room Temp.	-1	-6	+5	+4	+3
Jet A Fuel @ Room Temp.	-1	0	+10	+4	+3
MIL-H-5606; @ 212° F	-5	-7	0	+9	+6
MIL-H-5606 @ 257° F	0	-13	-25	+8	+6
Jet Oil II @ 212° F	-5	-7	-5	+10	+8
Stauffer 7700 @ 212° F	-8	-5	0	+14	+10
Skydrol @ 212° F	-21	-73	-45	+127	+105
Hy-Tran Oil @ 212° F	-2	+2	-5	+5	+4
Ethylene Glycol @ 212° F	0	-12	-10	+5	+4
Distilled Water @ 212° F	-10	-17	-8	+15	+12
Distilled Water @ 212° F	-3	-17	-5	+10	+8
Oven Air Age @ 212° F	+2	+16	-33	-	-2
Oven Air Age @ 257° F	+1	-8	-45	-	-2
Oven Air Age @ 302° F	+1	-12	-70	-	-2

Warning ! – Failure, improper selection or improper use of the products and/or systems described herein or related items can cause death, personal injury or property damage. This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through his own analysis and testing is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

