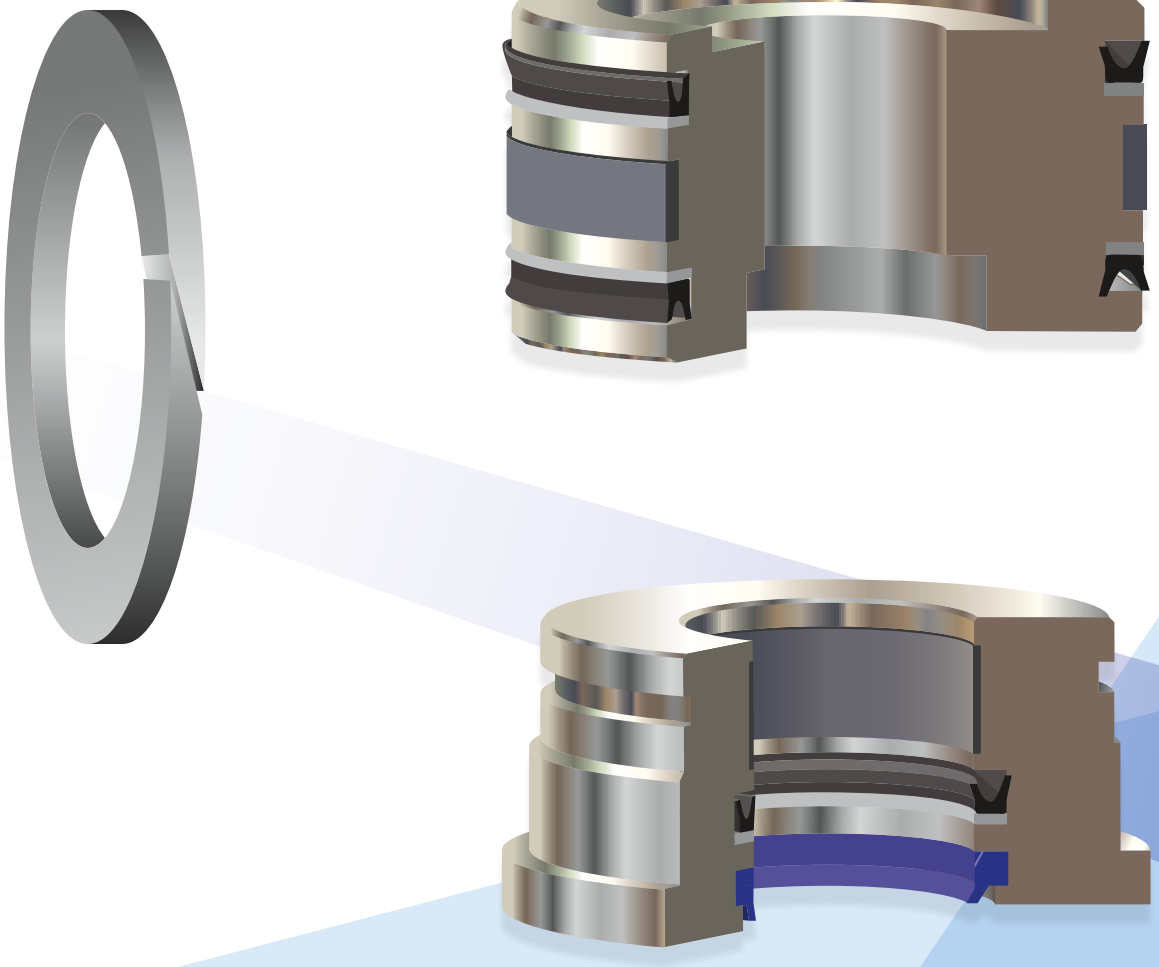
ESC
ENGINEERED SEALS & COMPONENTS, LLC.

SERIES 757 SPLIT GLASS FILLED NYLON MODULAR BACK-UPS

For Loaded U-Cups & Standard U-Seals

KEY FEATURES OF SERIES 757 SPLIT BACK-UPS:

- Easy to assemble
- Increase Pressure and Temp. Range
- Maximum Extrusion Resistance
- Designed for Rod or Piston Applications



SERIES 757 ESC-LON BACK-UP RINGS

Series 757 Profile

757 Series Back-up. Low Profile Modular Back-Up for Loaded U-Cup Seals and Urethane U-Cups.

Series 757 Split Back-up rings provide added extrusion resistance over other materials. The specially formulated Glass filled Nylon, PA940, was designed to be used in conjunction with Urethane Loaded U-Cups , Rubber U-Cups, Rubber O-Rings and Un-Loaded Urethane U-Cups. This series will dramatically increase the pressure rating of the mating seal choice.

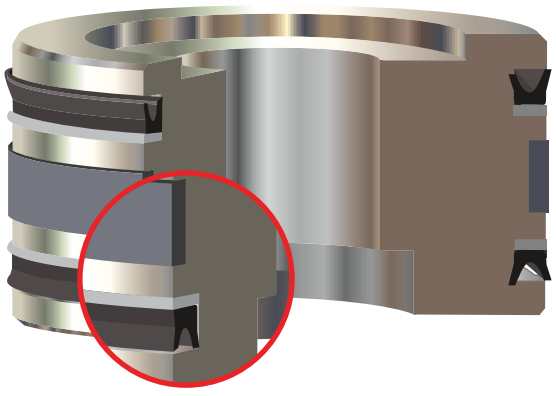
757 Series are perfect for adding life to a system where the seal is being nibbled from a large extrusion gap. Series 757 are manufactured split to enhance the assembly process.

Standard Materials	Temperature	Max. Pressure Range**
PA940	-65°F to +275°F (-54°C to +135°C)	7,000 psi (482 bar)

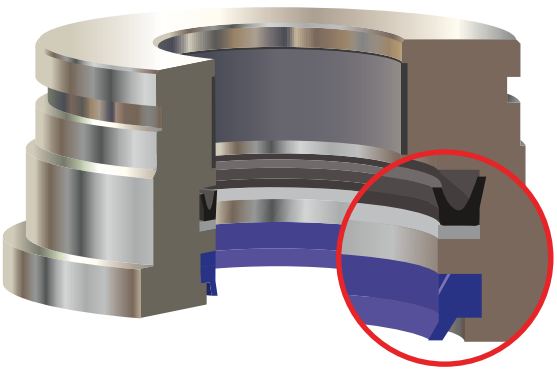
Alternate Materials: For applications that may require an alternate material, please contact ESC.

** 4,900 psi (337 bar) with tight-tolerance wear rings (.123/.125 c/s) Series 200 Ultra-Precision Wear Rings.
3,500 psi (241 bar) with stand-tolerance wear rings (.120/.125 c/s).

Assumes industry standard clearances, could be more or less depending upon extrusion gap.



757 installed in Piston Gland



757 installed in Rod Gland

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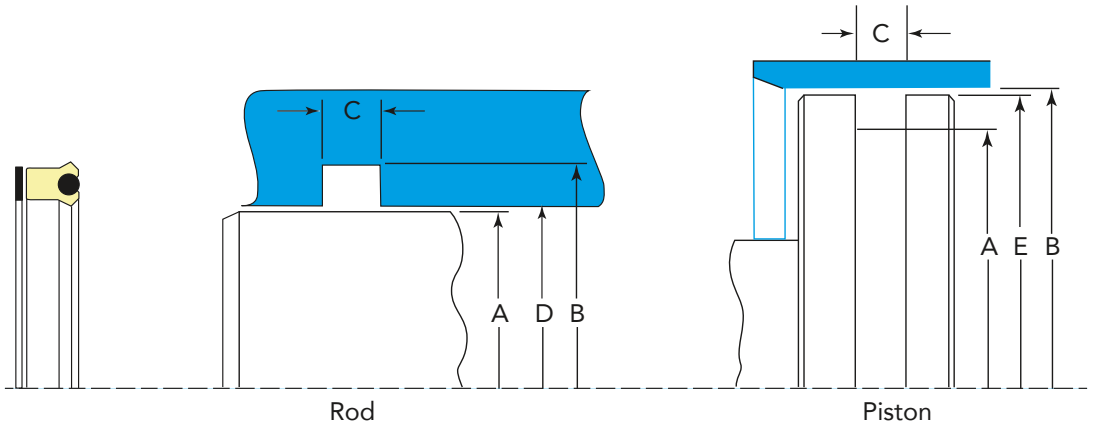
SERIES 757
BACK-UP RING GROOVE WIDTH DESIGN GUIDE

How to Determine the Gland Width when using 757 Series Back-up Ring



Series 757 Back-up Rings allow you to extend the pressure rating of a seal that fits into a common gland at a very low cost.

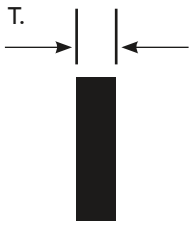
This Series Back-ups are designed to be used in either a Piston or Rod application.

By using Glass filled Nylon, PA940, much larger diametrical clearance may be used. Although Compound PA940 is standard, many other compound choices are also available.

To use the Series 757 Back-up ring, the width of the gland or groove must be extended to a accommodate the height if the back-up ring.

Utilizing the glands axical length you have already calculated per the manufacturer's specification, add the value shown in Table 757 for Width T. Add this dimension to the calculated gland width you will be using.

C = Previous gland width + T. Width



Series 757 Profile

For non-standard cross sections the added gland width can be determined by adding the Width T. of the back-up being used, to the to the width of the groove that was calculated.

SERIES 757
ESC-Ion BACK-UP RING SIZES

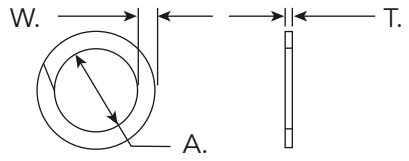


Table 757

Part Number SERIES	ID		OD	C/S		Width		STANDARD COMPOUND
	A	TOL	REF	W	TOL	T	TOL	
757-314	.746	± .005	1.110	.182	± .001	.065	.005	PA940
757-216	1.128	± .005	1.373	.1225	± .0025	.065	.005	PA940
757-320	1.136	± .005	1.500	.182	± .001	.065	.005	PA940
757-322	1.246	± .005	1.610	.182	± .001	.065	.005	PA940
757-324	1.371	± .005	1.735	.182	± .001	.065	.005	PA940
757-325	1.496	± .004	1.860	.182	± .001	.065	.005	PA940
757-326	1.621	± .005	1.985	.182	± .001	.065	.005	PA940
757-327	1.746	± .005	2.110	.182	± .001	.065	.005	PA940
757-328	1.871	± .005	2.235	.182	± .001	.065	.005	PA940
757-329	2.000	± .005	2.375	.1875	± .0015	.060	.005	PA940
575-405	2.000	± .005	2.488	.244	± .001	.070	.005	PA940
757-330	2.125	± .005	2.490	.1825	± .0015	.065	.005	PA940
757-407	2.245	± .005	2.737	.246	± .001	.070	.005	PA940
757-331	2.255	± .005	2.620	.1825	± .0015	.065	.005	PA940
757-2.37X.125	2.370	± .005	2.615	.1225	± .0025	.065	.005	PA940
757-408	2.370	± .005	2.858	.244	± .001	.070	.005	PA940
757-332	2.375	± .005	2.752	.1885	± .0015	.060	.005	PA940
757-2.50X.125	2.495	± .005	2.740	.1225	± .0025	.065	.005	PA940
757-333	2.500	± .005	2.866	.183	± .002	.060	.005	PA940
757-409	2.505	± .005	2.998	.2465	± .0015	.070	.005	PA940
757-2.62X3.00X.085	2.625	± .005	2.987	.181	± .001	.085	.005	PA940
757-334	2.625	± .005	3.002	.1885	± .0015	.060	.005	PA940
757-411	2.750	± .005	3.238	.244	± .001	.070	.005	PA940
757-412	2.870	± .005	3.358	.244	± .001	.070	.005	PA940
757-413	2.995	± .005	3.483	.244	± .001	.070	.005	PA940
757-338	3.125	± .005	3.502	.1885	± .0015	.060	.005	PA940
757-3.18X3.75	3.180	± .005	3.730	.275	± .002	.070	.005	PA940
757-415	3.244	± .006	3.732	.244	± .001	.070	.005	PA940
757-417	3.494	± .005	3.982	.244	± .001	.070	.005	PA940
757-418-1/2	3.687	± .005	4.177	.245	± .002	.070	.005	PA940
757-419	3.745	± .005	4.237	.246	± .001	.070	.005	PA940
757-421	3.994	± .006	4.482	.244	± .001	.070	.005	PA940
757-4X5	4.000	± .006	4.990	.495	± .002	.125	.005	PA940
575-423-1	4.255	± .005	4.743	.244	± .001	.070	.005	PA940
757-425	4.494	± .006	4.982	.244	± .001	.070	.005	PA940
757-427	4.773	± .006	5.261	.244	± .001	.070	.005	PA940
757-429	4.995	± .006	5.483	.244	± .001	.070	.005	PA940
757-433	5.505	± .006	5.993	.244	± .001	.120	.005	PA940
757-5.75X.185	5.750	± .006	6.117	.1835	± .0015	.130	.005	PA940
757-6X7	6.000	± .010	6.990	.495	± .002	.125	.005	PA940

All sizes are split for easy assembly.
Consult factory if your application needs a solid back-up.
Consult factory for "Series 757 Glass Filled Nylon" Back-Ups NOT LISTED

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SERIES 757 STANDARD COMPOUND

ESC-Ion Compound PA940

Nylon 6 Glass Fiber Reinforced (40%), Heat Stabilized

Property	Test Method	Units	Value
Tensile Strength	ASTM D638	PSI	24,500
Tensile Elongation	ASTM D638	%	2.5
Tensile Modulus	ASTM D638	PSI	1,900,000
Flexural Strength	ASTM D790	PSI	38,000
Flexural Modulus	ASTM D790	PSI	1,600,000
Compressive Strength	ASTM D695	PSI	24,000
Impact Strength			
Notched 1/8"	ASTM D256	J/m (ft-lb/in)	133 (2.5)
Unnotched 1/8"	ASTM D256	J/m (ft-lb/in)	1270 (24)
Hardness, Rockwell	ASTM D785	R	120
Specific Gravity	ASTM D792		1.46
Water Absorption 24 hrs. @ 73 F (23 C)	ASTM D570	%	1
Coefficient of Friction (Dynamic)			0.45
Coefficient of Friction (Static)			.43
Deflection Temperature			
@264 psi (1.8 Mpa)	ASTM D648	C (F)	204 (400)
@66 psi (0.45Mpa)	ASTM D648	C (F)	210 (410)
Coefficient of Linear			
Thermal Expansion	ASTM D696	in/in/F	0.000015
Shelf Life			10 years
Service Temperature Range		Degrees F	-40F to + 275F
Color			BLACK

* Estimated by the Laboratory

The information provided in this data sheet corresponds to our knowledge on the subject at the date of this publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such materials used in combination with any other material, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specifications limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to do to determine the suitability of a specific compound for your particular purpose. Since Engineered Seals, LLC cannot anticipate all variation in actual end-use conditions ESC makes no warranties and assumes no liability in connection with any use of this information. Caution: Do not use this product in medical application involving permanent implantation in the human body.

We highly recommend testing in your specific application, this is a guide only.

WARRANTY AND REMEDY

Important Notice:

We reserve the right to make changes without notice in our products and in the information content of this brochure / catalog. The statements and information in the brochure / catalog are intended to serve as a guide only. They are not warranties or binding descriptions of the products.

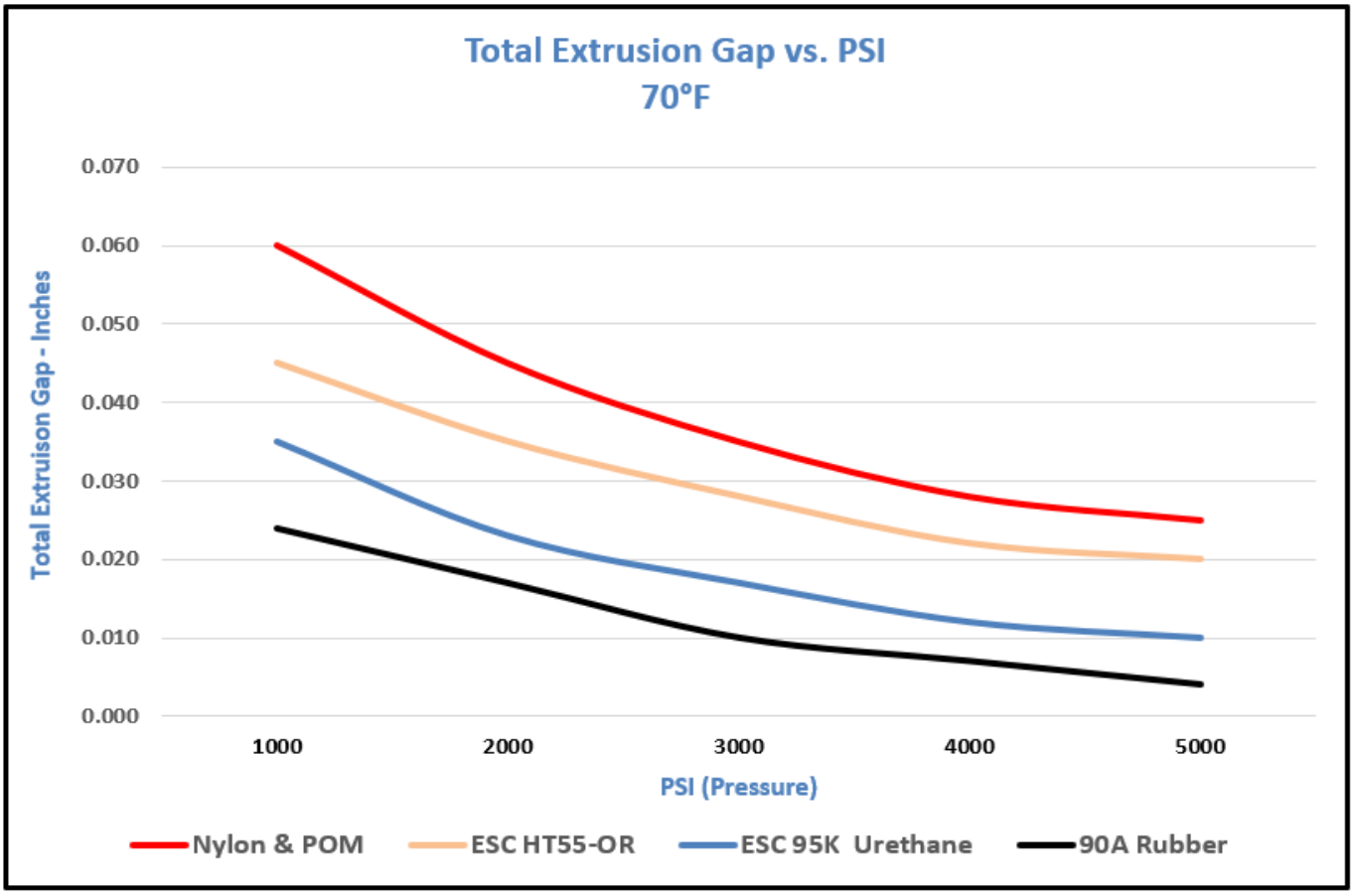
Requests for more information are welcome. In particular, we will be glad to provide samples for your to inspect and test in your assemblies and plant before you make a final decision for you application.

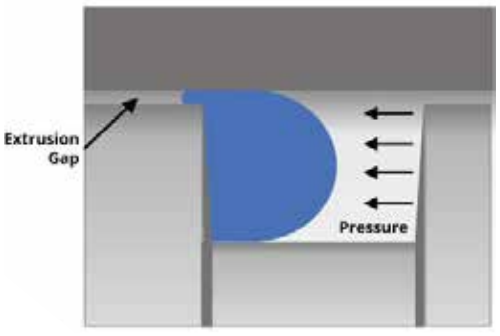
Notice of Exclusive Warranty and Remedy

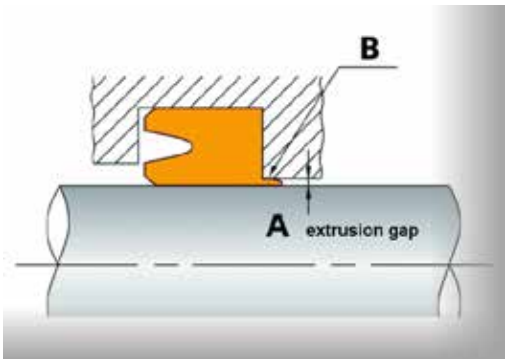
Briefly, our exclusive warranty is against defects in materials and workmanship at the time of shipment. It is in lieu of all other warranties. There is no implied warranty of merchantability or fitness for a particular purpose. The exclusive remedy is replacement of defective products, or at our option, refund of their purchase price. All damages exceeding the purchase price are excluded, weather consequential or otherwise and regardless of cause. The terms and conditions on our printed quotation contain a much more complete statement of our Exclusive Warranty and Remedy

ESC BACK-UP RING EXTRUSION DESIGN GUIDE

Extrusion Resistance at +70F







Whatever the seal type there is always a need for a back-up ring. The chart above helps you determine the compound you should use.

Dissimilar materials work the best.

Above data was acquired in a test lab. No side loads, shock loads, or dynamic motions were applied. Your results may be different. This information is to be used as a guideline only. It is always good practice to test in your specific conditions and applications.

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