



WESTERN POLYRUB INDIA PVT LTD

WESPO AIRSEALS

INFLATABLE SEALS

PRODUCT CATLOUGE

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INTRODUCTION

Western inflator-seals are an inflatable silicone or other polymer seal with or without fabric that can be inflated to accommodate a variable sealing gap. We manufacture inflatable seals in a relaxed/deflated attitude but when air pressure is applied, the seal either expands or rises up to meet the sealing face. When the pressure is released, the seal returns to its relaxed position. West Polyrub Products Pvt. Ltd. seals are made from high strength FDA approved silicone and are supplied in transparent & red colored by the food industry or in other polymer as per customer specification.

WHAT IS INFLATABLE SEAL?

An inflatable seal is a type of rubber seal that inflates and deflates based on the presence of an inflation source. This allows the seal to accommodate a variable sealing gap. When pressure is applied internally to the seal, it inflates to conform to uneven surfaces and provides a reliable barrier from moisture, damp and other contaminants

HOW IT WORKS

An inflatable seal can be molded into a concave, flat or convoluted configuration. Once an inflatable medium is placed between the seal and the force, the seal expands and rounds out to create a firm barrier between a mounting and striking surface. The inflatable seal is uniquely designed to return to its original state once the source of inflation has been removed.

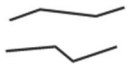
WHY USE WESTERN POLYRUB INFLATABLE SEAL?

Over past 5 decades, Western Polyrub has mastered the art of engineering customized inflatable seals to meet all customer specifications. Having an in-house tool room enables us to maintain standard cross sections in stock at all times. Our design team can custom engineer various designs for fabrication of clamps, offer a variety of air connectors, suggest the use of certain material for better seal performance, etc. Western Polyrub can also manufacture fabric strengthened fully molded inflatable seals to withstand aggressive temperature and pressure requirements.



ADVANTAGES

An inflatable seal provides a leak-proof seal when preventing gases or liquids from escaping while it also provides clearance when required. It also provides a simplified design of the structure and hardware while it reduces the need for close machining or fabricating tolerances. Inflatable seals offer a large number of advantages over traditional seals:



Seals uneven surfaces



Seals gaps with wide tolerances



Overcomes issues arising from compression set



Better operational seal life



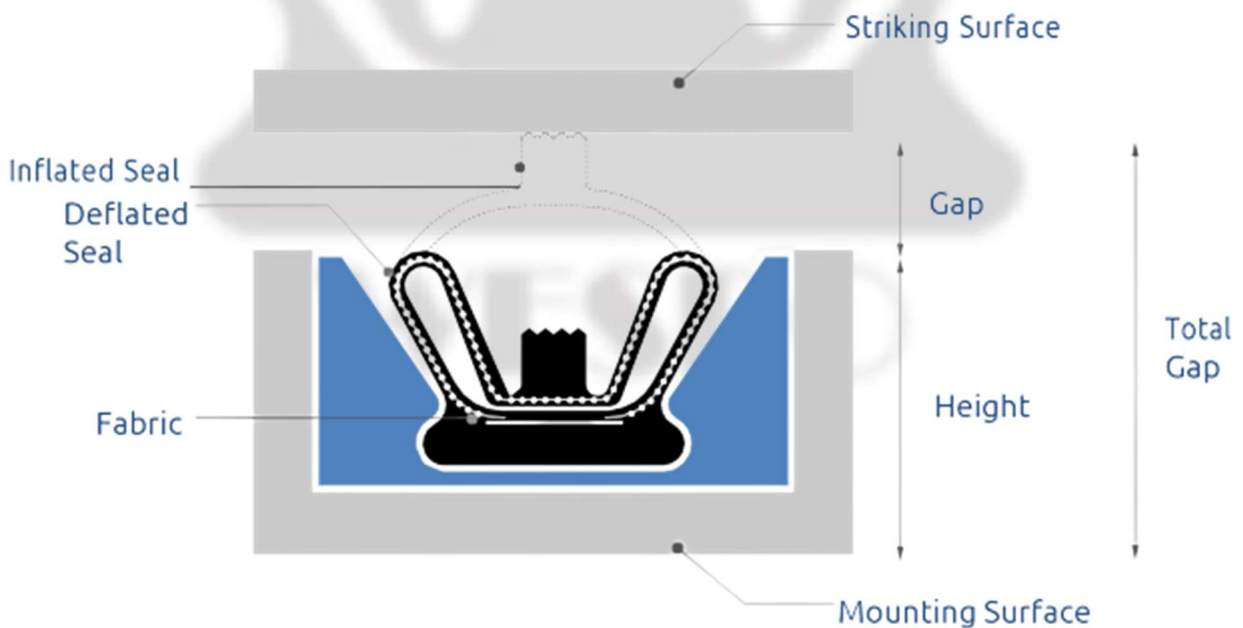
Ideal for critical applications



Effective sealing in pressurized environment

TECHNICAL SPECIFICATIONS

Parts of Inflatable Seal



Seal inflation gap

Inflation gap is the empty space between striking surface & deflated seal, this gap must be as minimum as possible depending upon the seal profile. On an average ideal gap is between 4-5 mm. Very small gaps may cause problems during installation, as the groove and seal tolerances will affect the fitment. Very high gaps would cause increased wear and tear in seal material, thereby decreasing the seal life in the longer run.

Optimum inflation pressure

For most non-reinforced inflatable seals, the optimum Inflation pressure is up to 2 bar (28 PSI). Fabric reinforced inflatable seals on the other hand, can withstand pressures up to 12 bar (170 PSI). In special conditions, the inflatable seal could demand higher inflation pressures. In such cases, the operational life of the seal could get hampered. Further, the replacement and downtime costs will also increase over time. More than 90 percent of all inflatable seal applications can effectively seal with pressures up to 2 bar.

The Diagram shown below demonstrates a typical sealing application and the information required in order to determine the optimum seal pressure, and hence making the right profile choice.

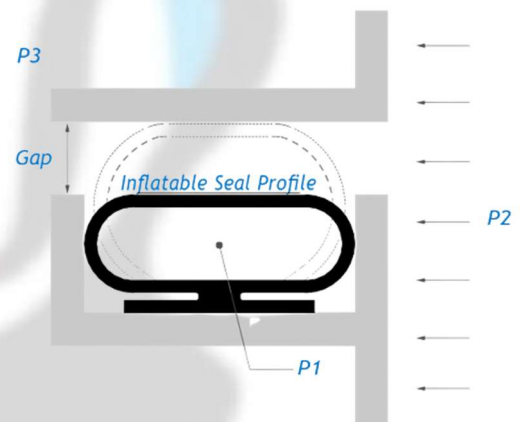
Here,

Gap = Clearance between deflated seal and sealing surface

P1 = Inflation pressure

P2 = Pressure inside equipment P3 = Outside (atmosphere)

Differential Pressure = $P2 - P3$



Temperature

The temperature range depends on the seal material used. Approximately, the limits lie between -60°C and +300°C (-76°F and +482°F).

Working conditions

Seal material is selected on basis of the working condition or say the medium in which it has to be operated. The table below enlists the types of material & its specifications.

Material list

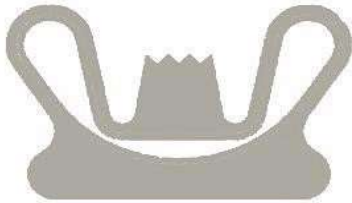
● EXCELLENT ● VERY GOOD ● GOOD ● FAIR ● POOR

COMMON NAME	EPDM OR EP RUBBER	NEOPRENE	NBR OR BUNA-N	HNBR	NATURAL RUBBER	SILICONE	FLOUROSILICONE	FKM (VITON®)	PTFE	TPE
CHEMICAL NAME	Ethylene Propylene	Chloroprene	Acrylonitrile Butadiene	Hydrogenated Nitrile Rubber	Natural Isoprene	Silicone	Flourosilicone	Flouroelastomer	Polytetra flouroethylene	Thermoplastic Elastomer
ASTM DESIGNATION [D1418]	EP	CR	NBR	HNBR	NR	VMQ	FVMQ	FKM	PTFE	TPE
PHYSICAL PROPERTIES										
Tensile Strength (MPa)	15.2	14	13	22	22	10	8	10	31	7
Elongation	450%	400%	350%	300%	750%	580%	225%	300%	450%	450%
Hardness Range (Sh A)	50-80	50-80	50-80	50-90	40-80	30-80	40-80	70-85	50-60 Sh D	50-80
Low Temperature (°C)	-50	-25	-50	-30	-55	-50	-63	-15	-80	-15
High Temperature (°C)	150	110	120	150	90	230	175	230	260	135
Density (g/cm ³)	1.2	1.3	1.3	1.4	1.1	1.2	1.5	1.8	2.16	1
Compression Set (ASTM D 395 2B)	50% (22h @ 125°C)	35% (24h @ 100°C)	36% (24h @ 100°C)	20% (24h @ 100°C)	20% (24h @ 70°C)	39% (22h @ 175°C)	22% (22h @ 177°C)	15% (70h @ 200°C)	NA	18% (22h @ 70°C)
Tear Resistance	●	●	●	●	●	●	●	●	●	●
Abrasion Resistance	●	●	●	●	●	●	●	●	●	●
Resilience (Cold)	●	●	●	●	●	●	●	●	●	●
Heat Resistance	●	●	●	●	●	●	●	●	●	●
Radiation Resistance	●	●	●	●	●	●	●	●	●	●
Impermeability to gases	●	●	●	●	●	●	●	●	●	●
ACID RESISTANCE										
Mild Dilute	●	●	●	●	●	●	●	●	●	●
Strong Concentrate	●	●	●	●	●	●	●	●	●	●
SOLVENT RESISTANCE										
Aliphatic Hydrocarbons	●	●	●	●	●	●	●	●	●	●
Aromatic Hydrocarbons	●	●	●	●	●	●	●	●	●	●
Oxygenated (Ketones, etc.)	●	●	●	●	●	●	●	●	●	●
RESISTANCE TO										
Swelling in Lubricating Oil	●	●	●	●	●	●	●	●	●	●
Oil and Gasoline	●	●	●	●	●	●	●	●	●	●
Animal Oils	●	●	●	●	●	●	●	●	●	●
Water Absorption	●	●	●	●	●	●	●	●	●	●
Oxidation	●	●	●	●	●	●	●	●	●	●
Ozone	●	●	●	●	●	●	●	●	●	●
Sunlight Aging	●	●	●	●	●	●	●	●	●	●
Heat Aging	●	●	●	●	●	●	●	●	●	●
Flame	●	●	●	●	●	●	●	●	●	●
Vegetable Oils	●	●	●	●	●	●	●	●	●	●
Chlorinated Hydrocarbons	●	●	●	●	●	●	●	●	●	●



CATEGORIZATION OF INFLATABLE SEALS

BY CONSTRUCTION



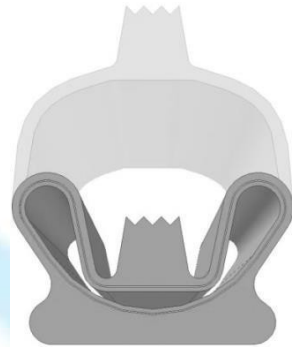
NON – REINFORCED INFLATABLE SEAL

WHAT IS AN NON-REINFORCED INFLATABLE SEAL

Western Polyrub Inflatable door seal is a reinforced elastomeric tube or without reinforced (depend on pressure) custom moulded in a round concave, convoluted or flat configuration. it is designed to round out with the introduction of an inflation medium to form a tight barrier between a mounting and striking surface.

HOW DOES A NON-REINFORCED INFLATABLE SEAL WORK?

When You Feel Air as Per Pressure (Check Pressure Data). The Seal Quickly Expands to The Striking Surface, affecting A Positive Seal. When The Inflation Medium Is Removed, The Seal Retracts Naturally to Pre-inflated Configuration.



REINFORCED INFLATABLE SEAL

Western Polyrub airseal Fully moulded fabric reinforced Inflatable Seal Reduces Risk of Failure by Improving the Strength of Rubber and Size and Ensuring the Entire Seal Performs Consistently Satisfactorily and smoothly.

This Translates to Reliable Inflation Across the Entire Strike Surface. Fabric Reinforced Rubber Seals Are Effective Where Moderate-To High-pressure Is Applied (we make seal up to 25bar bursting pressure), Such as In Heavy Industrial, Environmental, Technical and Laboratory Environments, marine, nuclear Region

A Variety of Reinforcing Fabrics Are Available and Determined by Factors Such as Temperature and Pressure.

Western Polyrub Offers Technical Guidance to Determine the Appropriate Design, Manufacturing and Material Composition. The Fabric Inflatable Must Withstand Environmental Factors and Perform Using Air or Gas Controlled Mechanisms Under Pressure.

BY EXPANSION

Western Polyrub inflatable seals inflate and deflate in three basic directions of operation. Each of these inflation directions come with their own performance parameters, such as height of inflation, bend radius, etc.



Axial



Radial-Inward



Radial-Outward

BY GEOMETRY

Western Polyrub inflatable seals can be constructed to practically any shape or size. We can supply inflatable seals as continuous loops for axial or radial expansion, in strip form with specially sealed ends, or in "U" or similar shapes with preformed corners. However, Western Rubbers has the expertise to custom mold them in unlimited number of sizes, configurations to meet client specifications. Various bend radii are available, and if a design calls for sharp or right-angled corners, the inflatable seal can be molded to the exact configuration.



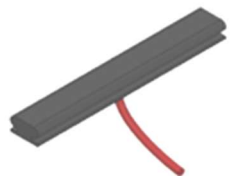
Circular



Rectangular



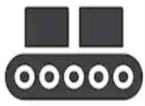
U-Shaped



Strip

APPLICATIONS

Western Polyrub specializes in the custom design and manufacture of inflatable seals with or without reinforcement as per the required pressure.



Conveyors:

Conveyor stops, brakes & bumpers



Converting Equipment:

Access way seals



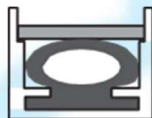
Flood Protection:

Gate and door seals



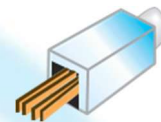
Food Processing Equipment:

Smokehouse door seals



Robotics Material Handling:

Clamps, grips, actuators



Wood Processing:

Drying kilns, log preparation chambers



Marine:

Cargo hatches, elevator platforms, maintenance orshut down seals on propeller shafts, personnel hatches



Fluid Sealing:

Isolation valve seals, follower plate seals, Maintenance shutdown shaft seals



Commercial Laundry Machinery:

Door seals



Powder & Bulk Solids Processing Equipment:

Mixers, Blenders, Screeners, Dryers, Chutes, Hoppers, Valves



TRANSPORTATION:

High speed trains, Tailgate seals, Automobile emission control test sheds



NUCLEAR:

Door & hatch seals, pool gate seals, refueling seals, nozzle dam seals



Electronic/Wafers

Semiconductor Processing: Washers, soldering equipment, furnaces, filters, load locks, measuring equipment, actuators



Medical:

Virology laboratories, clean rooms, sterilizers



Wineries:

Lid seals for variable capacity wine tanks



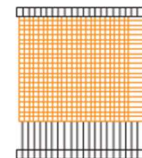
Paper Machinery:

Seals for the wet end of paper machinery, doctor blade bladders, inflatable bladders for expanding mandrels for slitters and scorers



Aerospace/Aircraft:

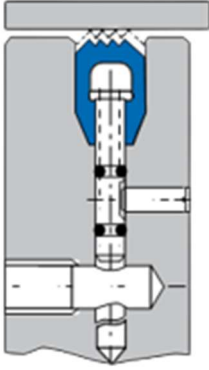
Wind tunnels, jet engine test cells, bladders for



Textile

Machinery: Pressure chambers, inflatable clamps

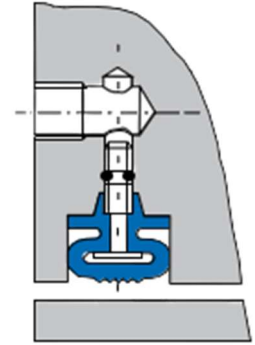
EXAMPLES



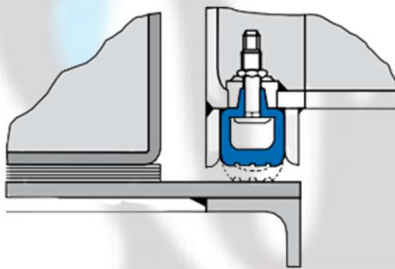
MOBILE BULKHEAD SEALING



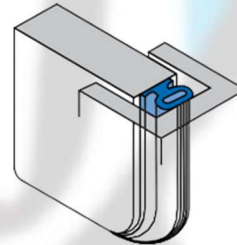
STERILISER DOOR SEALING



NUCLEAR POWER STATION SEALING DOOR

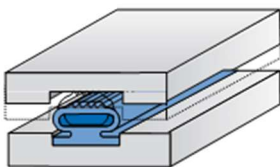


SEAL ON ISOTHERMAL BULKHEAD SEALING

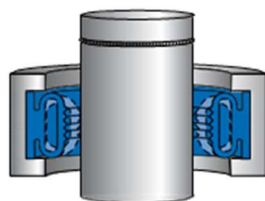


COFFERDAM SEALING

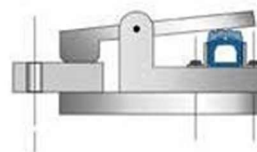
Western Polyrub's inflatable airseal™ can also be used for the moving, handling, holding or clamping, particularly for fragile or complex geometry objects. (See following sketch).



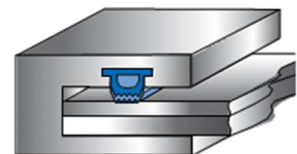
TO LIFT



TO HOLD

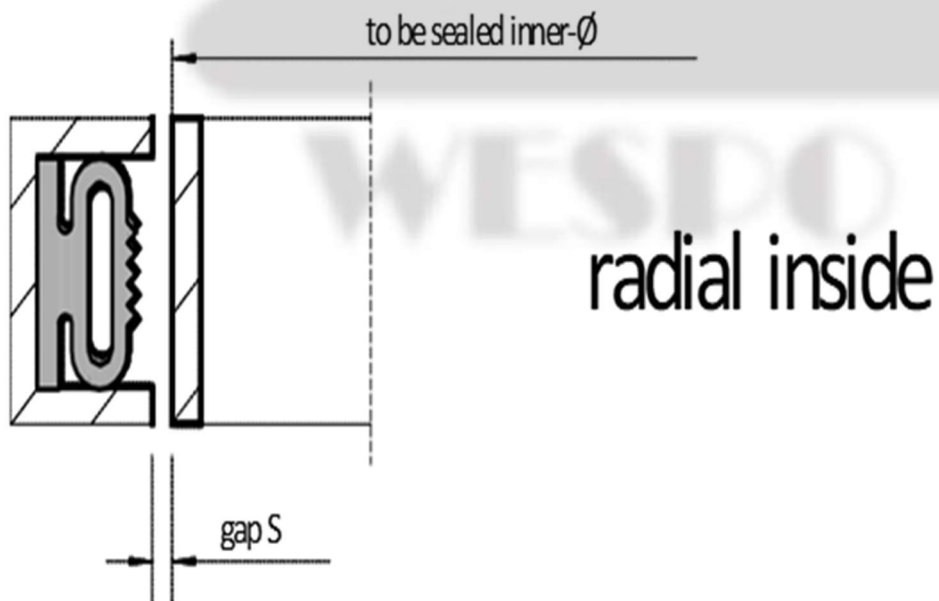
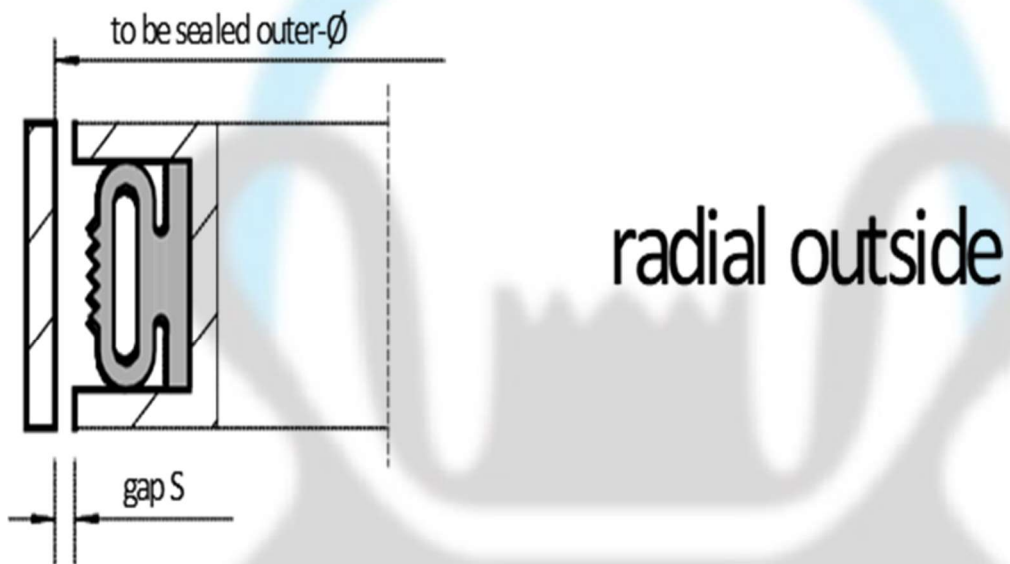
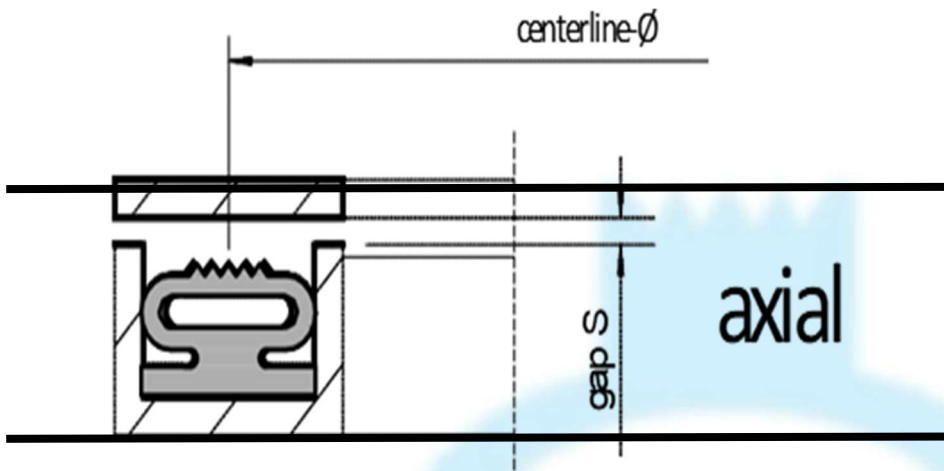


TO CLAMP



TO PRESS

TYPES OF EXPANSION

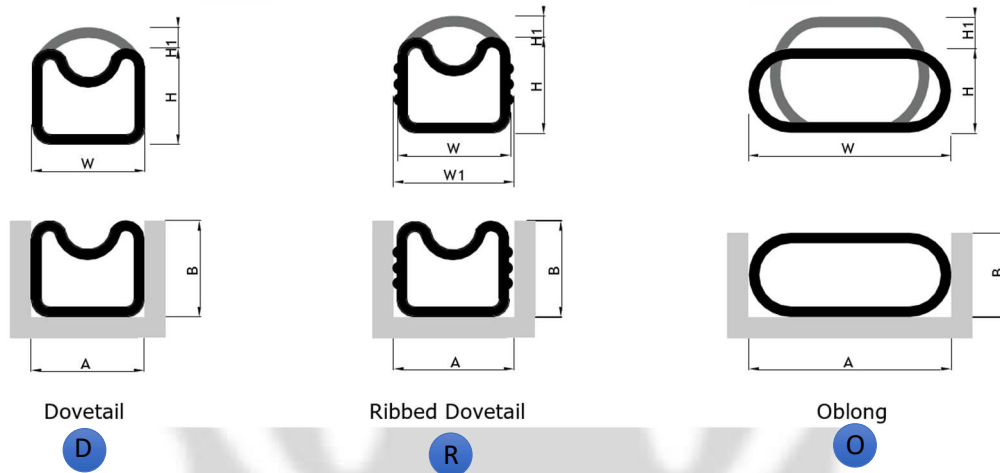


TYPES OF INFLATABLE SEALS

TYPE 1: FOOTLESS SEALS

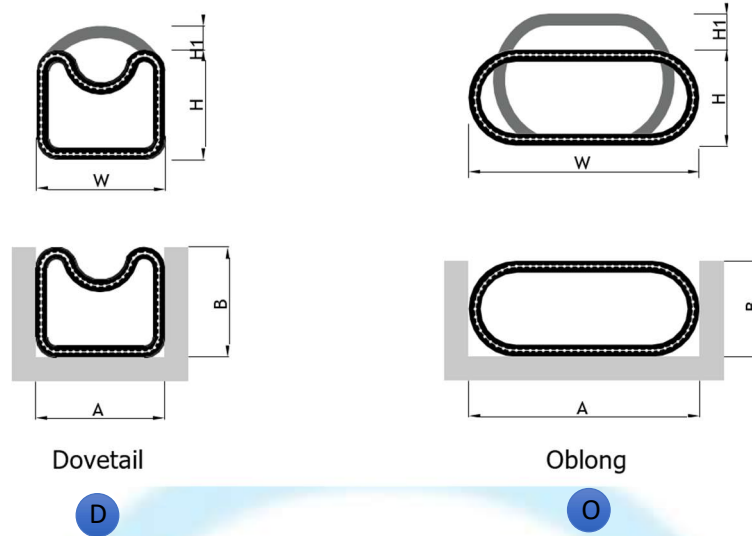
This seal is one of the simplest configurations. Footless Seals do not have foot like structures for clamping and retention. Owing to easy use and installation, nearly 60-70% of inflatable seals are fabricated using this profile. It can withstand moderate pressures, and in case of higher inflation pressures, Type B Footless Seals, which are fabric reinforced, are used.

TYPE 1A: NON-REINFORCED



PROFILE CODE	TYPE	W	H	W1	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
							A	B
WP-1N101	D	12.7	12.7	-	6.35	2	13.7	13.5
WP-1N102	D	15	15	-	7.5	2	16	15.8
WP-1N103	D	23.6	19	-	9.5	3	24.8	20
WP-1N105	D	35	32	-	16	3	36.5	33.3
WP-1N106	D	63.5	50	-	25.4	3	65.7	51.6
WP-1N111	RD	17	16	20	8	2	18.2	16.8
WP-1N112	RD	25.4	19	27.4	9.5	3	26.6	20
WP-1N121	O	19.1	6.4	-	4.8	1	20.3	7.1
WP-1N122	O	31.8	9.6	-	9.6	2	33.3	10.3
WP-1N123	O	38.1	12.7	-	11.2	2	39.6	13.5
WP-1N124	O	50.8	12.7	-	19.1	2	52.6	13.5
WP-1N125	O	76.2	19	-	25.4	3	78.4	20

TYPE 1B: FABRIC REINFORCED CONSTRUCTION



PROFILE CODE	TYPE	W	H	W1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
						A	B
WP-1R201	D	63.5	50	25.4	10	65.7	51.6
WP-1R202	O	19.6	9.6	3.2	6	20.8	10.3
WP-1R203	O	38.1	12.7	12.7	6	39.6	13.5
WP-1R204	O	76.2	19	31.8	10	78.4	20
WP-1R205	O	101.6	25.4	44.5	10	103.8	26.7

CONFINEMENT SYSTEM

Adhesive / Tape



Seals expanding axially or radially-in can be retained inside the groove channel by bonding the bottom of the seal to the channel with an adhesive, glue, or double-sided tape.

Tight Fit



Seals expanding radially outwards can be retained within the groove by making them slightly smaller in length than the required length i.e., by under-sizing the seal. Due to the elastomeric properties of rubber, the undersized seal will stretch and tightly fit inside the groove channel.

Engineers at Western Rubbers possess the expertise in deciding the proportion in which the seal should be undersized.

Ribs

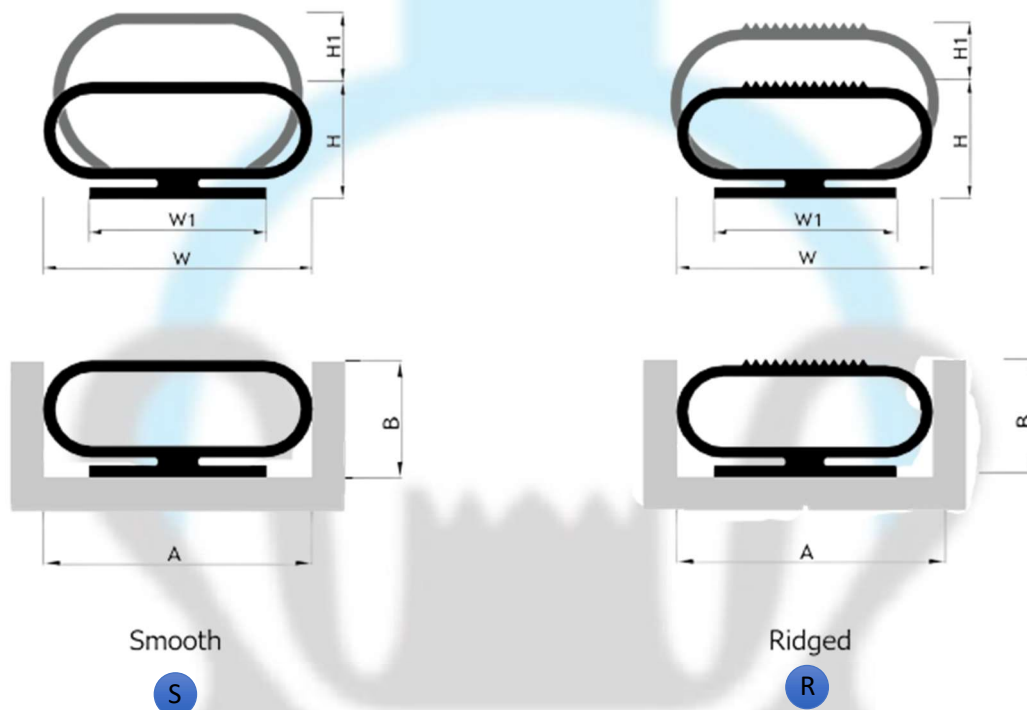


In selected cases, seals are manufactured with ridges given on the outer side of the side walls. They offer increased friction and hold the seal tightly inside the groove channel.

TYPE 2: FAST-IN SEALS

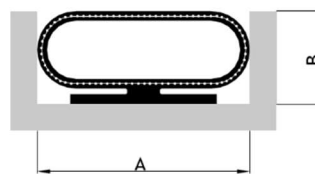
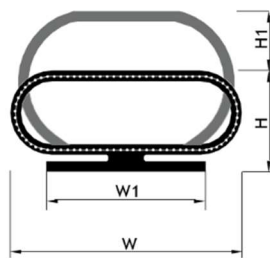
Fasten-In Seals come with foot like structures for clamping the seal in slots or grooves below. These footed seal profiles are widely used due to their ease of retention and ability to fully round out when inflated.

TYPE 2A: NON-REINFORCED CONSTRUCTION



PROFILE CODE	TYPE	W	H	W1	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
							A	B
WP-2N501	S	17.5	11.1	14	3.2	1.5	18.7	11.9
WP-2N502	S	25.4	12.7	19.1	6.5	2	26.9	13.5
WP-2N503	S	31.8	16	25.4	9.6	3	33.3	16.8
WP-2N504	S	50.8	22.3	44.5	19.1	3	52.6	23.3
WP-2N505	S	76.2	31.8	50.8	25.4	3	78.4	33.1
WP-2N510	S	101.6	41.4	82.5	44.4	3	103.8	43
WP-2N506	R	30	20	24	8	3	31.5	21
WP-2N507	R	39.7	25.4	33.1	11.2	3	41.2	26.7
WP-2N508	R	60.4	35	45.3	20.7	3	62.2	36.3

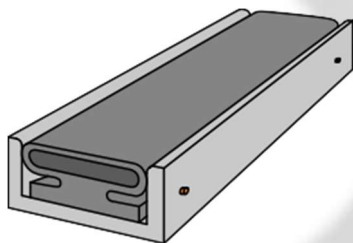
TYPE 2B: FABRIC REINFORCED CONSTRUCTION



Smooth

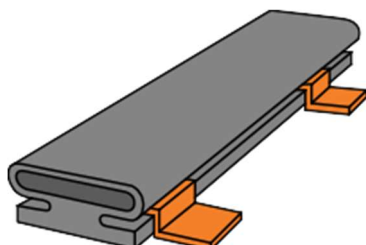
PROFILE CODE	TYPE	W	H	W1	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
							A	B
WP-2R410	S	25.4	12.7	19.1	8	6	26.9	13.5
WP-2R411	S	31.8	16	25.4	9.6	10	33.3	16.8
WP-2R412	S	50.8	22.3	44.5	19.1	10	52.6	23.3
WP-2R413	S	76.2	31.8	50.8	31.8	10	78.4	33.1

CONFINEMENT SYSTEM



U-Channel with Side Pins

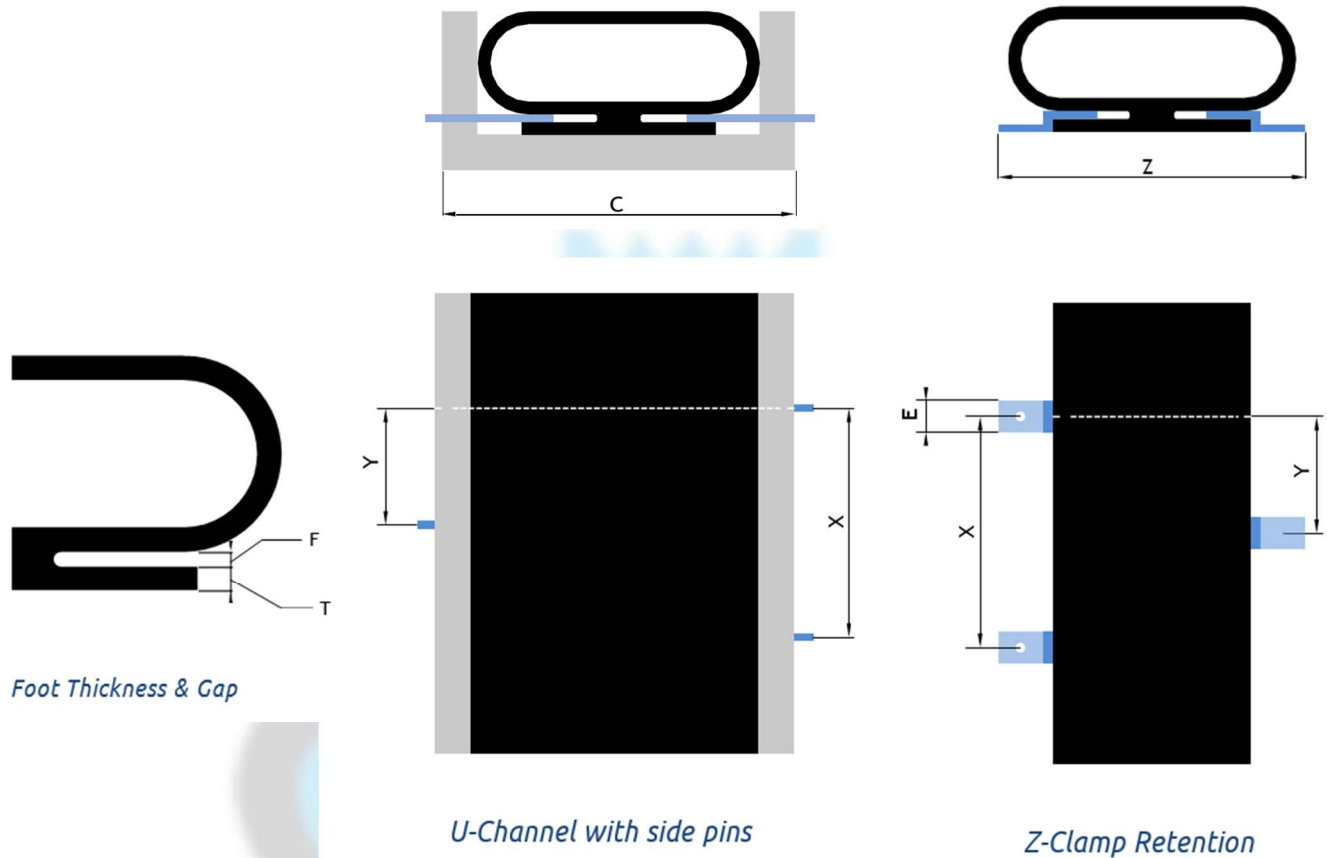
The seal is assembled in an extruded channel. Footed seals are supported by 'pins' that are screwed from outside the channel into the seal flanges. The pins provide additional support to hold the seal in place.



Z-Clamps

Stainless steel Z Clamps are screwed along the seal at intervals. Seal is firmly clamped with the help of this mechanism.

CONFINEMENT SYSTEM MEASUREMENTS

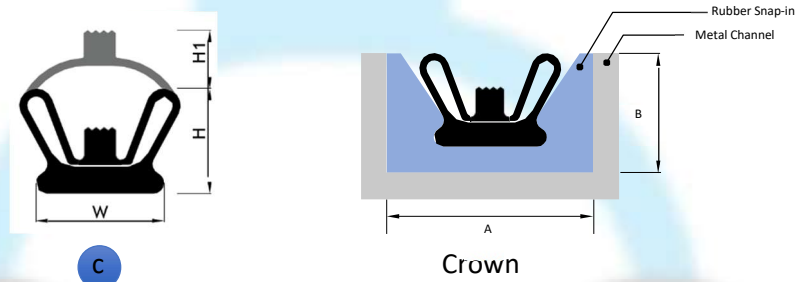


PROFILE CODE	FOOT THICKNESS (T)	GAP ABOVE FOOT (F)	X	Y	U-CHANNEL WIDTH (W)	OPEN INSTALLATION Z-CLAMP	
						WIDTH(Z)	LENGTH(E)
WP-2A71	3	2	101.6	50.8	25.4	40	9.5
WP-2A72	3	2	127	63.5	38.1	44.4	9.5
WP-2A73	3.5	2.5	152.4	76.2	38.1	54	9.5
WP-2A74	6.35	5.35	254	127	76.2	76.2	12.7
WP-2A75	7.5	6.5	381	190.5	101.6	85.7	12.7
WP-2A76	8	7	508	254	127	124	15.88
WP-2A77	3.5	2.5	152.4	76.2	38.1	54	9.5
WP-2A78	4.8	3.8	254	127	76.2	76.2	12.7
WP-2A79	6.5	5.5	381	190.5	101.6	85.7	12.7
WP-2A80	3	2	127	63.5	38.1	44.4	9.5
WP-2A81	3.5	2.5	152.4	76.2	38.1	54	9.5
WP-2A82	6.35	5.35	254	127	76.2	76.2	12.7
WP-2A83	7.5	6.5	381	190.5	101.6	85.7	12.7

TYPE 3: SNAP-IN SEALS

The Snap-In Seals are used in applications that demand the need to seal large inflation gaps, especially the crown type configuration. These profiles are best suited for expansion axially or radially outward. They are not recommended for inward expansion. They are the preferred seal choice for straight seals.

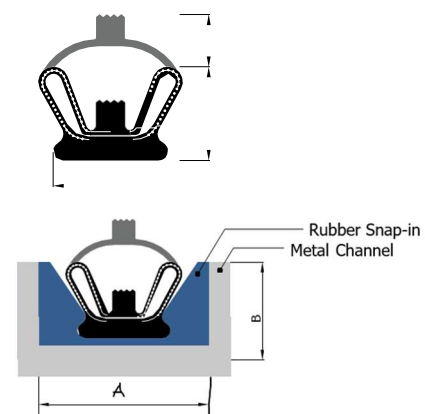
TYPE 3A: NON-REINFORCED CONSTRUCTION



PROFILE CODE	TYPE	W	H	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
						A	B
WP-3N301	C	15.9	12.7	9.53	1.5	23.9	18.7
WP-3N302	C	17.5	12.7	9.53	2	25.5	18.7
WP-3N303	C	25.4	16	12.7	2	33.4	22
WP-3N304	C	38.1	18.2	15	3	46.1	24.2
WP-3N305	C	50.8	31	28	3	58.8	37

TYPE 3B: FABRIC REINFORCED CONSTRUCTION

PROFILE CODE	TYPE	W	H	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
						A	B
WP-3R315	C	17.6	12.7	11.1	6	25.6	18.7
WP-3R312	C	25.4	16	14.8	6	33.4	22
WP-3R314	C	44.5	30.5	29	10	52.5	36.5



CONFINEMENT SYSTEM

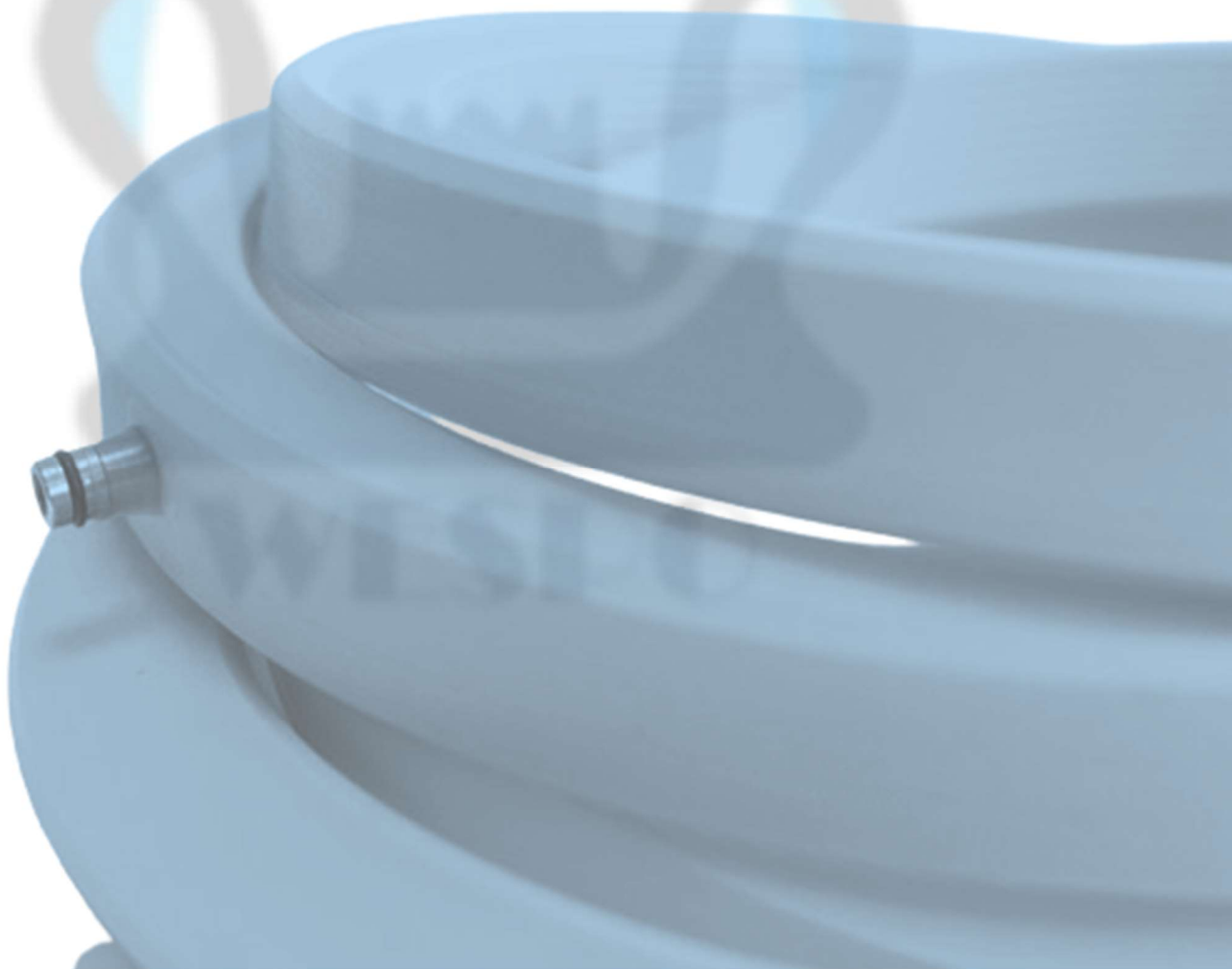
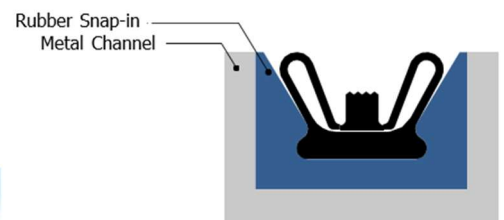


Plastic/Metal Retainer

Type 3 seals can be snapped in plastic/metallic retainers. Plastic retainers can be extruded in a single piece. Metal retainers, however, are extruded in three parts. These parts are then held together using bolting pins. The seal is snapped in place.

Snap-In (rubber retainer)

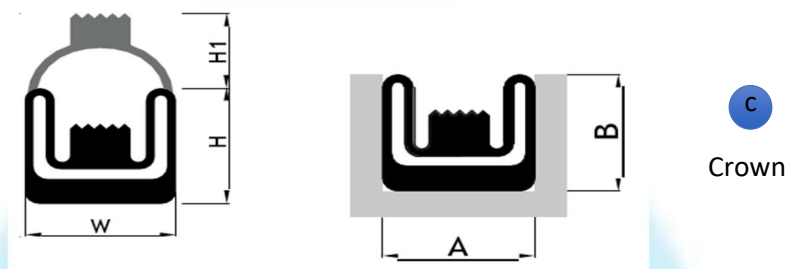
The seal snaps in place in an extruded rubber retainer, which is firmly supported on the sides or in a channel.



TYPE 4: BONDED BOTTOM SEALS

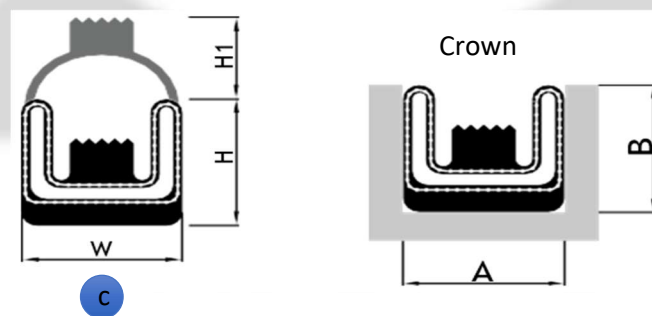
These seals do not have a base structure for retention, instead they are bonded on the bottom within a square channel. Bonded Bottom Seals can cover maximum seal gaps compared to other profiles. They can inflate up to almost 90-100% of their original height.

TYPE 4A: NON-REINFORCED CONSTRUCTION



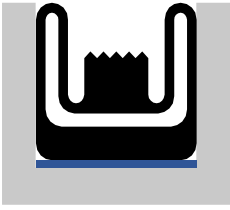
PROFILE CODE	TYPE	W	H	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
						A	B
WP-4N901	C	13.72	11.7	9.53	1.5	14.72	11.97
WP-4N902	C	16.66	11.1	11.13	1.5	17.86	11.9
WP-4N903	C	25	25	23.8	3	26.2	26
WP-4N904	C	35	32	30	3	36.5	33.3
WP-4N905	C	50.8	38.1	35	3	52.6	39.4

TYPE 4B: FABRIC REINFORCED CONSTRUCTION



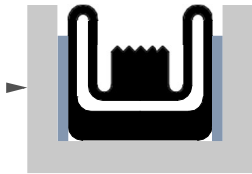
PROFILE CODE	TYPE	W	H	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
						A	B
WR-4R913	C	16.66	11.1	11.13	6	17.86	11.9
WR-4R914	C	25	25	23.8	6	26.2	26
WR-4R915	C	50.8	38.1	35	10	52.6	39.4

CONFINEMENT SYSTEM



Adhesive/Tape

Seals expanding axially or radially in can be retained inside the groove channel by bonding the bottom of the seal to the channel, by applying an adhesive/glue or with the help of a double-sided tape.



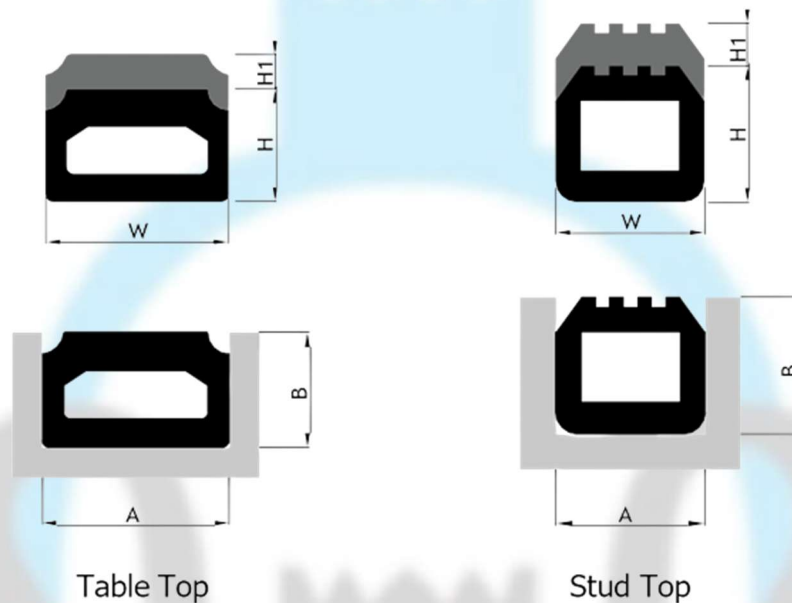
Tight Fit

Seals expanding radially outwards can be retained within the groove by making them slightly smaller in length than the required length i.e. by undersizing the seal. Due to the elastomeric properties of rubber, the undersized seal will stretch and tightly fit inside the groove channel. Engineers at Western Rubbers possess the expertise in deciding the proportion in which the seal should be undersized.



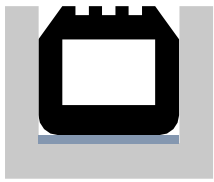
TYPE 5: SLOT-FIT SQUARE SEALS

Slot Fit Square Seals are preferred in heavy duty lifting or gripping applications. This profile offers higher seal life and hence is widely seen in uses where inflation and deflation cycles are very high. These seals can withstand higher pressures compared to other non-reinforced seals due to their rigid walls.



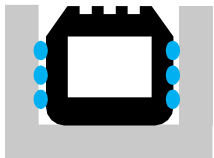
PROFILE CODE	TYPE	W	H	H1	MAX. INTERNAL PRESSURE (in bar)	U-CHANNEL	
						A	B
WP-1101	TT	7	5	1.25	1	7.9	5.35
WP-1102	TT	14.5	11	2.75	1.5	15.5	11.5
WP-1103	TT	35	32	10	6	36.5	32.8
WP-1104	ST	14	10	2.5	2	15	10.4
WP-1105	ST	16	12	3	2	17	12.5
WP-1106	ST	18	17	4.25	3	19.2	17.7
WP-1107	ST	23	20	5	3	24.2	20.7
WP-1108	ST	25	12	3	3	26.2	12.5
WP-1109	ST	26	22	6.5	6	27	23
WP-1110	ST	30	30	7.5	6	31.5	30.8
WP-1111	ST	35	32	8	6	36.5	32.8
WP-1112	ST	40	22	5.5	6	41.5	22.7
WP-1113	ST	50	20	5	6	51.8	20.7

CONFINEMENT SYSTEM



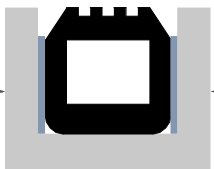
Adhesive / Tape

Seals expanding axially or radially-in can be retained inside the groove channel by bonding the bottom of the seal to the channel with an adhesive, glue, or double-sided tape.



Ribs

In selected cases, seals are manufactured with ridges given on the outer side of the side walls. They offer increased friction and hold the seal tightly inside the groove channel.



Tight Fit

Seals expanding radially outwards can be retained within the groove by making them slightly smaller in length than the required length i.e., by under-sizing the seal. Due to the elastomeric properties of rubber, the undersized seal will stretch and tightly fit inside the groove channel. Engineers at Western Rubbers possess the expertise in deciding the proportion in which the seal should be undersized.

NOTES:

Recommended Inflation Gap:

Inflation gap recommendations assume optimal sealing conditions. Depending on the application and environment, the gap should be reduced accordingly to ensure effective sealing. Contact Western Polyrub at info@westpolyrub.com for more details.

Max. Internal Pressure:

Seal must be pressurized only in closed (supported) conditions. The lesser the sealing pressure, the longer the operational life of the seal.

Materials:

All standard profiles are available in EPDM and Silicone. Inflatable seals in other materials* like Nitrile, HNBR, Viton, Natural Rubber can also be custom manufactured.

Additional tooling and design charges will be applicable for the same.

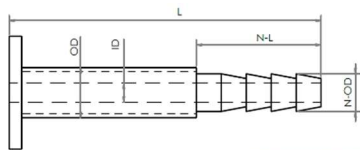
Need more Technical Info?

Check www.westpolyrub.com for details on profiles listed above or simply call us; our sales engineers will be happy to help determine the best seal for your application.

AIR CONNECTORS

For endless seals the standard location for the air connection is on the underside that mates with the mounting surface. For seals with closed solid ends the air connection can either be on the underside or extending out of one end. For some profiles, the air connection can be moulded to the sidewall. If desired, please consult Western for design feasibility.

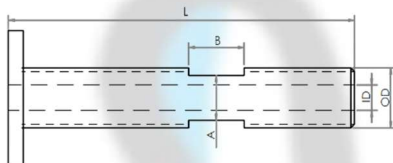
AC1: THREADED WITH NIPPLE



All dimensions in mm

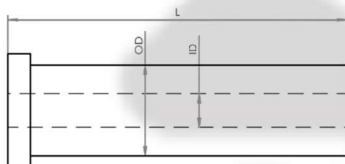
AC CODE	OUTER DIAMETER (OD)	INNER DIAMETER (ID)	NIPPLE LENGTH	NIPPLE OD	LENGTH
AC1F	M4	1.5	8	2.7	20
AC1A	M6	2.0	12	4	30
AC1B	M8	3.4	16	6	40
AC1D	M12	5.2	20	10	50

AC2: SIMPLE THREADED WITH SLOT



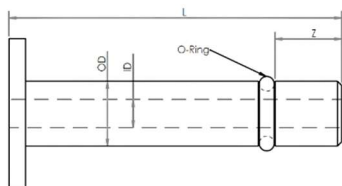
AC CODE	OUTER DIAMETER (OD)	INNER DIAMETER (ID)	SLOT FOR WRENCH (AXB)	LENGTH
AC2A	M4	1.5	3 x 4	20
AC2B	M6	3.4	5 x 6	30
AC2C	M8	3.4	6 x 8	40
AC2E	M12	5.2	10 x 12	50

AC3: ELASTOMER HOSE



AC CODE	OUTER DIAMETER (OD)	INNER DIAMETER (ID)	LENGTH
AC4A	8	3	Minimum Length:
AC4B	12	6	200mm (In multiples
AC4C	16	9	of 100)

AC4: O-RING NOZZLE



All dimensions in mm

AC CODE	OUTER DIAMETER (OD)	INNER DIAMETER (ID)	Z	METRIC O-RING	LENGTH
AC5G	3.8	1.5	2	0.8x2.7	20
AC5H	5.8	2.5	3	1.27x3.91	30
AC5I	7.8	3.4	4	1.5x5.5	40
AC5J	11.8	5.2	6	1.9x8.7	50

END CONNECTORS



Male-Fit Connector



Female-Fit Connector

THREAD TYPE

METRIC

BSPP

SIZES

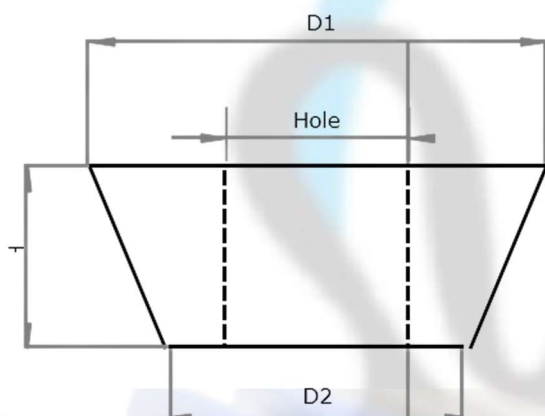
M6

1/8"

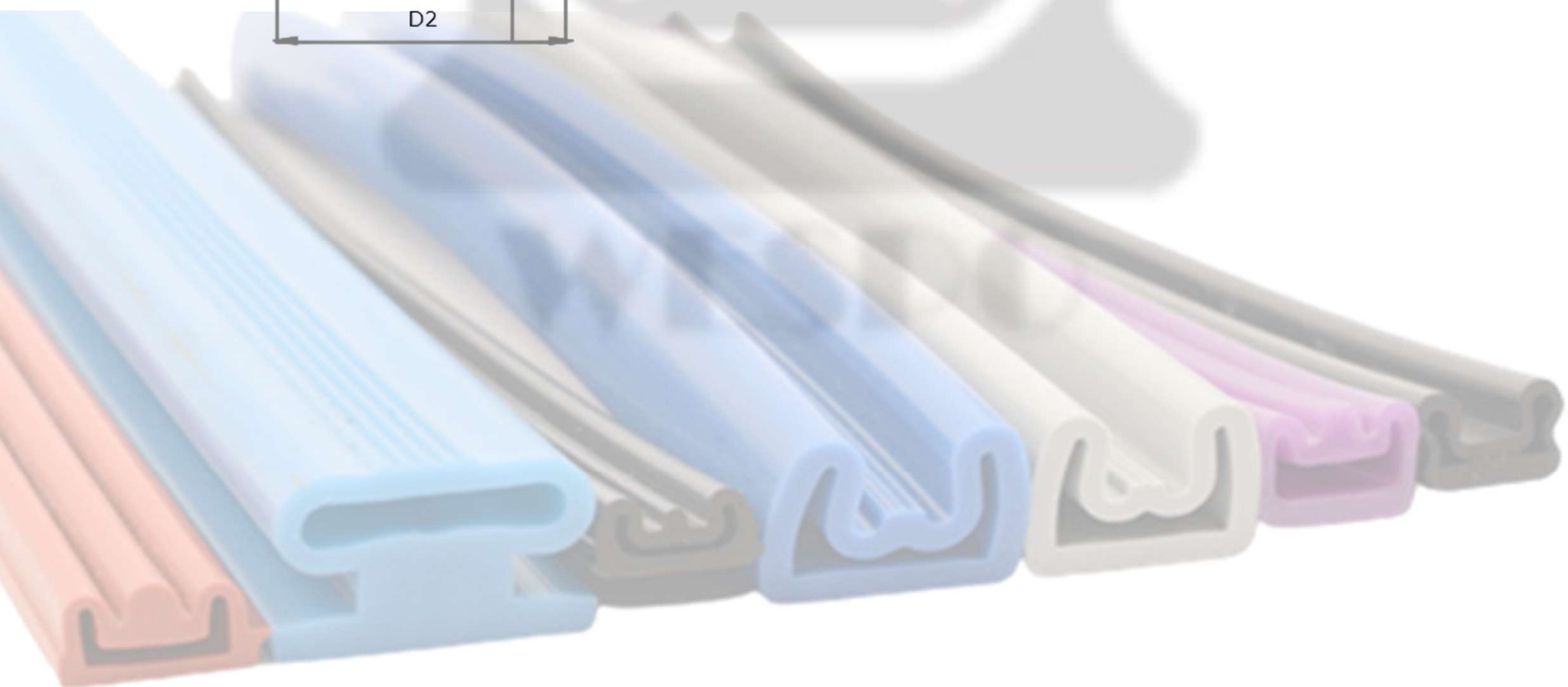
M8

1/4"

CONE DIMENSIONS



HOLE	D1	D2	H
4	6	5	3
6	12	10	6
8	14	12	6
12	24	16	10



FABRIC REINFORCEMENT

Moulded, fabric reinforced seals are recommended when sealing against pressure differentials greater than 14 psig (1bar) or to exert clamping/actuating forces greater than normal. Use of fabric reinforcement also adds to the seal's overall strength and resilience.

Fabrics are integrally moulded into each inflatable seal using special processes. Available fabrics vary by profile. As an example, due to Kevlar's thickness, we are unable to supply this reinforcement in some of the smaller seal profiles.

Nylon

A high tenacity yarn that is tough and abrasion resistant. Nylon is the most common fabric used in our inflatable products, because it is strong and pliant which enhances a seal's dynamic properties.

Dacron® Brand Polyester

Dacron is another high tenacity; high modulus yarn used primarily when high flexibility is required. Dacron can be used with silicone and organic polymers and is especially effective in applications where heat > 250°F (120°C) is present.

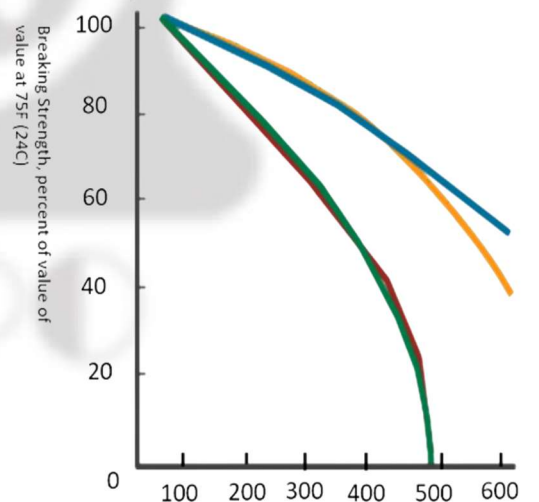
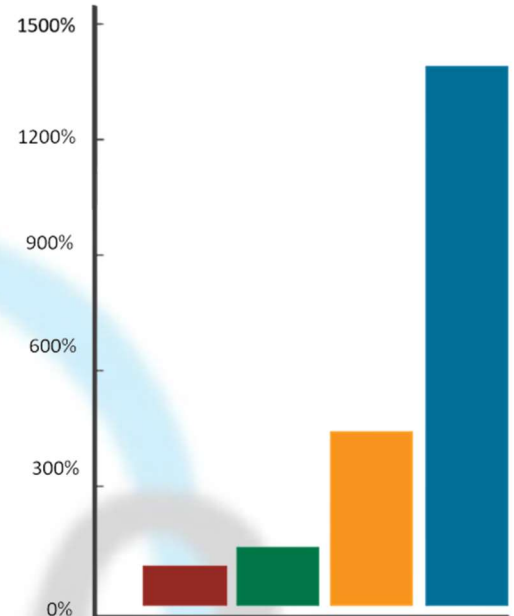
Nomex® Brand Aramid

Nomex is one step above Dacron in its ability to withstand temperatures and chemicals. Nomex is often used in conjunction with silicone as both materials are able to withstand temperatures > 250°F (120°C).

Kevlar® Brand Aramid

Kevlar is by far the strongest fabric Pawling EP uses. It is temperature resistant, tough, and has a high modulus. Kevlar can only be used in larger cross sections due to its thickness and its high cost needs to be weighed against the benefits provided.

FABRIC STRENGTH AS COMPARED TO NYLON



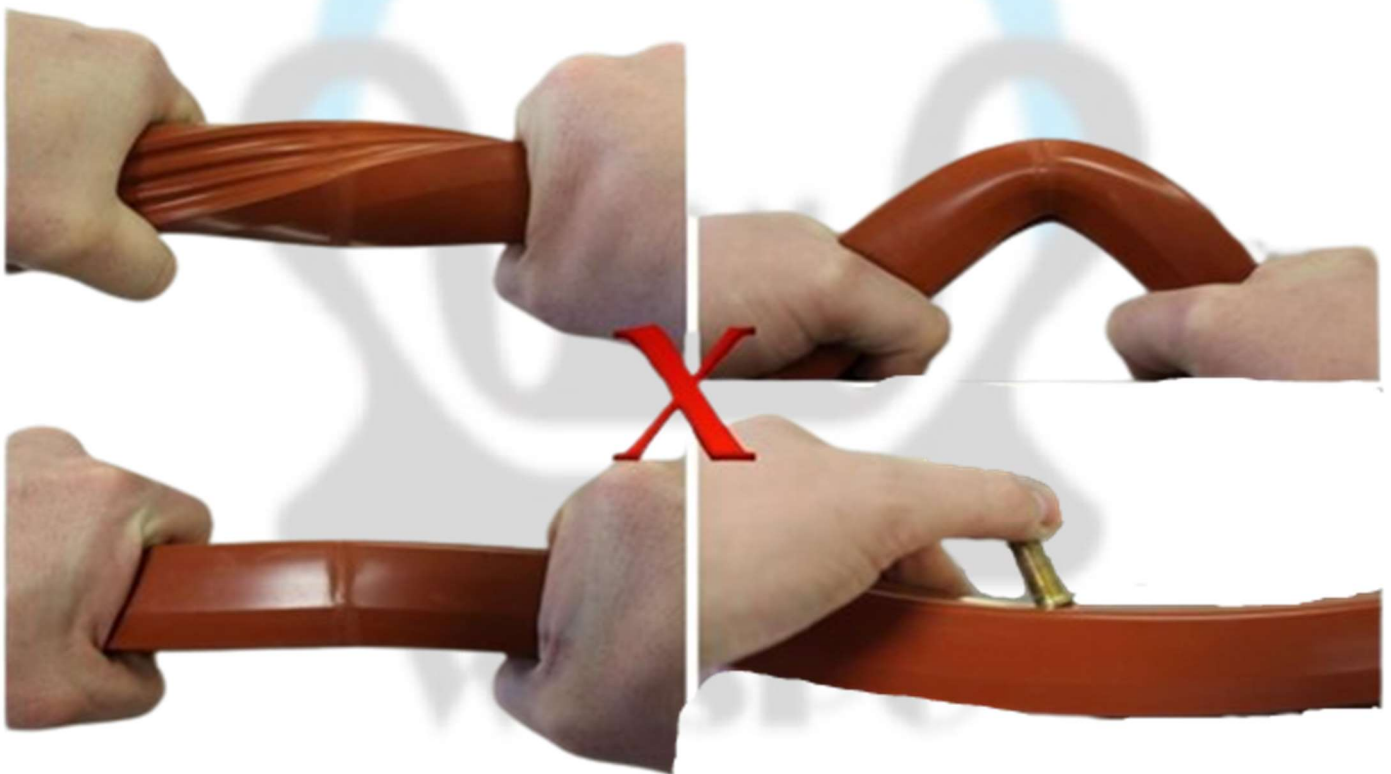
STRENGTH OF TYPICAL INDUSTRIAL YARNS AT ELEVATED TEMPERATURES

HANDLING INSTRUCTIONS

Inspection:

The seal can be visually inspected for damage, dimensionally checked and inflation tested (supported). However, please avoid the following:

- Twisting
- Stretching
- Bending of the profile at the vulcanization joint(s) or valve areas
- Un-supported inflation



CONTACT US



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