



Philippe Jans

The perfect fit for rubber solutions

RUBBERFLATE®

INFLATABLE SEALS - OPBLAASBARE DICHTINGEN - JOINTS GONFLABLE

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INTRODUCTION

Philippe Jans is an advanced materials company providing innovative bespoke engineered solutions with rubber polymeric materials (<http://www.philippejans.be>)

Why select Philippe Jans RUBBERFLATE®?

1. We are a responsive and versatile engineering organisation: innovation through rapid design and development work
2. We are well suited to low or high volume work, producing components and sub-assemblies often challenging in terms of design and application
3. RUBBERFLATE® inflatable seals are made from raw materials processed in-house under tight quality controls (AS 9100 Rev C aerospace quality system) using precision monitoring devices

4. RUBBERFLATE® inflatable seals are made using only the highest grade, 100% pure materials; Philippe Jans is a long-term DuPont™ licensee, and has secure long-term supply chain partnerships with such high quality vendors

5. RUBBERFLATE® inflatable seals can be moulded in one piece or extruded and joined using our highly developed hot-vulcanisation process. This gives us flexibility in design complexity. Philippe Jans' market-leading vulcanisation process provides superior joint strength
6. Philippe Jans enjoys the engineering challenge and is able to work closely with its customers to ensure the RUBBERFLATE® product matches the specific needs of each individual application (see page 9 for design considerations)

RELEVANT MARKETS/APPLICATIONS

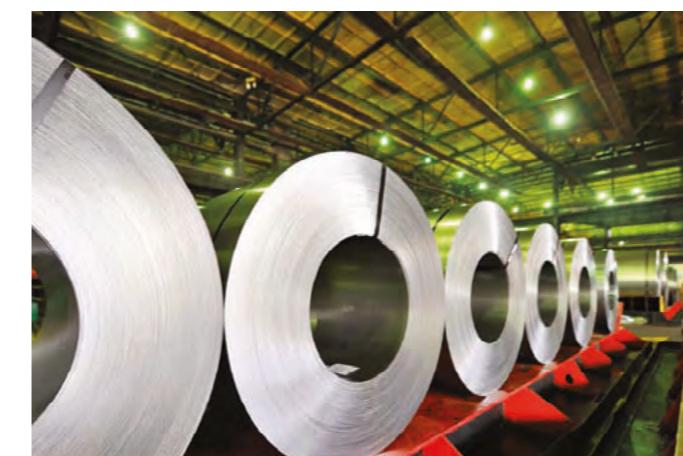
RUBBERFLATE® inflatable seals can be a cost effective option for applications with variable sealing requirements; expansion allows for uneven contours of the sealing face for example. They can be easier to fit as technicians can avoid forcing two components together for a good seal. Instead, they can move the mating parts freely into place and inflate the seal.

Inflatable seal technology is applicable to many applications across diverse industries:

- Heat Exchangers
- Hose Couplings
- Access Covers
- Pumps and Valves
- Chemical Reactor Chambers
- Mechanical Seals
- Filters
- Pressure Vessels
- Autoclaves
- Cryogenic Applications
- Pipelines
- Gas Compressors
- Etc



MECHANICAL HANDLING



RUBBERFLATE® inflatable seals can be used to assist the physical movement of items in production processes, utilising compressed air already installed in the production environment. RUBBERFLATE® inflatable seals can also be used in bulk material handling — transporting material across distances from one site to another.

FOOD & DRINK PROCESSING



RUBBERFLATE® inflatable seals can be configured using FDA approved and anti-microbial materials compatible with the food industry. Designs can be compatible with stringent cleaning/hygiene regimes.

RELEVANT MARKETS/APPLICATIONS

POWER GENERATION



RUBBERFLATE® inflatable seals can be used in the power generation industry — from nuclear power stations to alternative energy sources such as hydro-electric, solar and wind turbines.

REGULATION, ACTUATION, CONTROL & ADJUSTMENT



RUBBERFLATE® inflatable seals can be used as a means of control, actuating on mechanical and electrical devises to effect a change of speed, direction or pressure.

AEROSPACE



RUBBERFLATE® inflatable seals can be used in the aerospace industry (for example door seals and as composite 'lay-up' tooling).

TRANSPORTATION



The transport industry (eg, rail) increasingly uses inflatable seal technology to enhance safety (closing gaps between platform and train; sliding door sealing solutions etc).

RELEVANT MARKETS/APPLICATIONS

SHAFT SEAL AND MAINTENANCE



RUBBERFLATE® inflatable seals can provide effective temporary shaft sealing during shutdown and maintenance operations. They can be inflated against a stationary shaft while mechanical seals are being changed - thereby eliminating the need to drain mixers and agitators. This significantly reduces maintenance costs and operational down-time. The ship-building industry has obvious uses for such an application (propeller shaft change outs), as well as utilising RUBBERFLATE® inflatable seals to isolate storage holds from salt-laden atmospheres. RUBBERFLATE® 'membrane join' technology allows for wrap-around sealing and eliminates the need for shaft disconnection — thereby saving operational downtime.

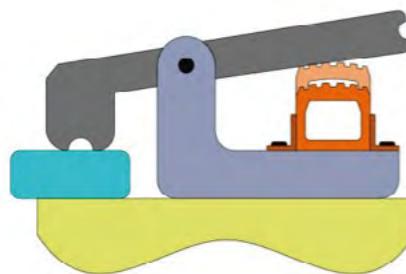
STERILISATION & AUTOCLAVE OPERATIONS



Moist heat technology is the most widely used method of sterilization. RUBBERFLATE® inflatable seals made out of heat and water resistant materials can provide safe sealing solutions for applications in this area.

BASIC SEAL FUNCTIONS

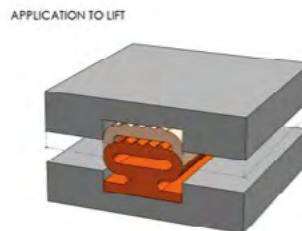
APPLICATION TO CLAMP



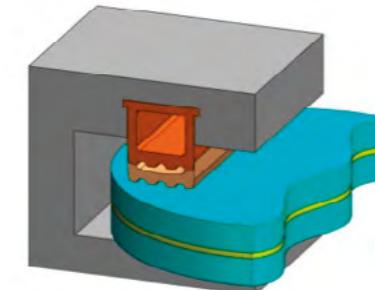
APPLICATION TO HOLD



APPLICATION TO LIFT



APPLICATION TO PRESS



DESIGN

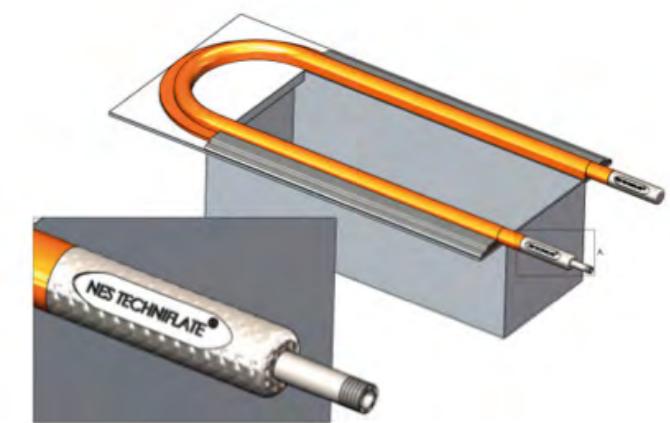
NES is experienced in guiding customers through the design process so that the specific qualities of the RUBBERFLATE® meet the specific requirements of the application.

INNOVATION

NES is highly motivated around patentable innovation in its solutions. For example, NES has designed a quick/easy-fit reusable inflation valve and end cap that customers can fit to their own cut lengths of RUBBERFLATE® profile. NES' specially designed RUBBERFLATE® 'membrane join' technology allows engineers to fit 'liquid-tight' complete wrap-round shaft seals with ease (without disconnecting the shaft) thereby minimising operational down-time.

The points below are some (not exhaustive) of the considerations during the design and selection phase that might enhance the performance of the RUBBERFLATE®:

- A basic description of the application: is application new or existing (if existing, details of any problems seen historically)
- Description of the environment: external pressures, operating temperatures, radiation, abrasion, UV light, microwaves, ozone etc
- Housing dimensions
- Travel set point: is the seal gap fixed or can it be reduced?
- Alignment configuration: radial-in, radial-out, axial
- Profile shape: standard or non-standard (if standard, it is unlikely to carry a tooling charge)
- Maximum supported internal seal pressure
- Profile measurements: I/D, O/D, CSD
- Valve type
- Valve orientation
- Inflation cycle details: time spent fully inflated and deflated, cycles per day/month/year
- Material requirement: FDA/USP/metal detectable/colour matching requirements
- What should be the mechanism for inflation – air, liquid?
- Any other relevant information, like required seal life



MATERIAL SELECTION

Materials	Natural rubber	Butyl	EPDM	Neoprene	NBR	Silicone	FKM	F-Silicone
FDA	NO	NO	YES	NO	YES	YES	YES	NO
3A	NO	NO	YES	NO	NO	YES	YES	NO
USP	NO	NO	YES	NO	NO	YES	YES	NO
Metal Detectable	NO	NO	YES	NO	YES	YES	YES	NO
Low outgassing	NO	NO	NO	NO	NO	NO	YES	NO
Specific gravity	0.93	0.92	1.1	1.23	1.01	0.98-1.60	1.99	1.7
Hardness range (shore A)	60-90	60-90	60-90	60-90	50-95	45-85	55-90	60-80
Tensile Strength Max	4000	2500	3000	3000	3000	1500	3000	1250
Elongation Max	750	700	600	600	600	800	450	500
Modulus	6.77	6.77	6.77	6.77	6.77	6.77	6.77	6.77
Radiation Resistance	F	E	E	G	G	F	E	E
Resilience	E	P-F	G	G-E	F-G	F-G	F	G-E
Compression set	G	P-F	G	F-G	G	G-E	G-E	E
Impermeability to gases	F	E	F	F-G	G	P-F	G-E	E
Flex Cracking resistance	F	G	G	G-E	F	F-E	G	F-E
Tear Strength	E	G	F-G	F-G	F-G	P-F	F	P
Abrasion resistance	E	G	G-E	G-E	G-E	P-F	F-G	F
Oxidisation resistance	F-G	E	G-E	G-E	F-G	E	E	E
Ozone resistance	P	G-E	E	G-E	P	E	E	E
Weathering resistance	F	E	E	G-E	F-G	E	E	E
Sunlight resistance	P-F	E	E	G-E	P-F	E	E	E
Water resistance	E	E	E	G	G-E	G-E	G-E	G-E
Heat resistance	P	G	G-E	F-G	G	E	E	E
Low temperature flexibility	G-E	F-G	G-E	F	F-G	E	F-G	E
Oil & Gasoline	P	P-F	P	F-G	G-E	P-F	E	G
Animal & vegetable Oils	F	G-E	G	G	G-E	F-G	E	E
Alcohols	G	G	F-G	G-E	F-G	G-E	F-E	G
Alkalies	F	E	G-E	E	G-E	P-F	F-G	G
Acids	F-G	G-E	G	G	G	F	G	G
Aliphatic Hydrocarbon Solvents	P	P-F	P	G	E	P-F	E	G
Aromatic Hydrocarbon Solvents	P	P-F	P	P-F	F-G	P-F	E	E
Oxygenated Solvents	G	G-E	G-E	P-F	P	F	P	E

E = Excellent G = Good F = Fair P = Poor

MATERIAL SELECTION

TYPICAL COMPOUNDS

EPDM	Excellent resistance to hot & cold water, steam, alcohols, Ozone, Temp range -30°C (-22°F) to +120°C (248°F)
Silicone (VMQ)	Excellent resistance to heat, cold, good steam resistance. Does not age -60°C (-76°F) to +230°C (446°F)
Fluorosilicone (FVMQ)	Excellent resistance to heat, cold, good steam resistance. Does not age, good resistance to chlorinated solvents -65°C (-85°F) to +180°C (356°F)
FKM (Viton™ - FPM)	Excellent upper temperature resistance, good resistance to chlorinated solvents - 20°C (-4°F) to 204°C (400°F)
Butyl (IIR)	Good resistance to ketones, diluted acids and bases, very low permeability - Temp range 20°C (4°F) to 120°C (248°F)
Neoprene (CR)	Good resistance to water, low resistance to grease, Ozone, demineralised water, air, diluted acids and bases, ketones, abrasion resistance, ultra violet rays - Temp range -20°C (-4°F) to +120°C (248°F)
Natural (NR)	Good resistance to tearing, abrasion, good flexibility at low temperatures - Temp range -40°C (-40°F) to +70°C (158°F)

PHILIPPE JANS can advise further on material selection, for example on anti-microbial materials, platinum-cured, anti-static, electrically conductive, FFKM etc.

RUBBERFLATE®

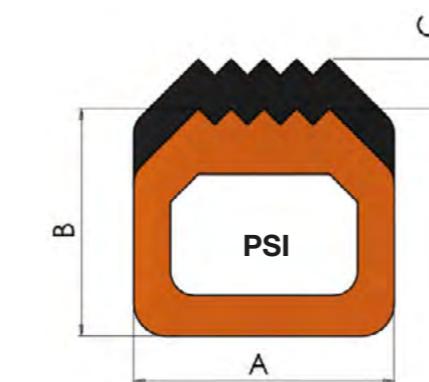
Standard Seals

(R)

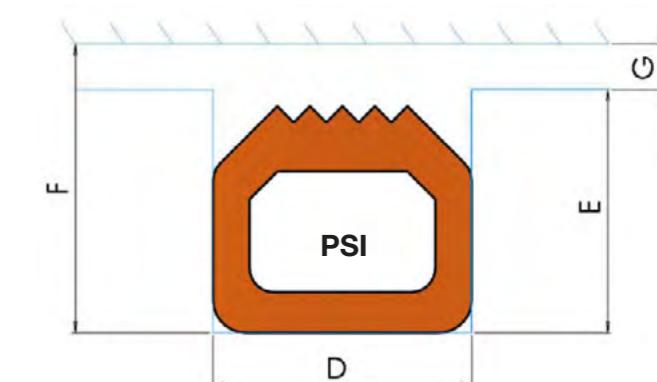
RUBBERFLATE

STANDARD HIGH PRESSURE SEALS (CORRUGATED)

CORRUGATED SEAL DIMENSIONS



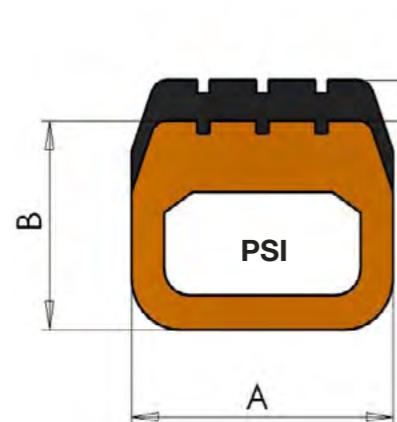
HOUSING DIMENSIONS



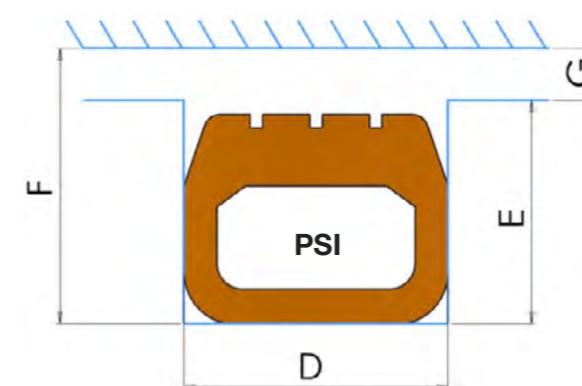
NES STANDARD HIGH PRESSURE SEALS (CORRUGATED)											
PART No.	SEAL DIMENSIONS			HOUSING DETAILS				SEAL PARAMETERS			
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	MAX. PRESSURE psi/(bar)	MIN. BEND		
NES 5521	6.50	5.00	1.50	6.50	5.50	6.50	1.50	14.50 (1)	20.00mm	20.00mm	15.00mm
NES 5785	14.00	10.00	3.00	14.00	11.00	13.00	2.50	58.00 (4)	35.00mm	35.00mm	30.00mm
NES 5071	16.00	14.00	3.50	16.00	15.50	17.50	2.50	72.50 (5)	40.00mm	40.00mm	35.00mm
NES 5069	20.00	20.00	4.00	20.00	21.50	24.00	3.00	87.00 (6)	60.00mm	55.00mm	80.00mm
NES 6560	21.00	24.00	5.00	21.00	26.00	29.00	3.50	101.50 (7)	70.00mm	55.00mm	80.00mm
NES 7629	54.00	40.00	8.00	54.00	42.00	48.00	6.50	145.00 (10)	150.00mm	120.00mm	85.00mm

STANDARD HIGH PRESSURE SEALS (GROOVED)

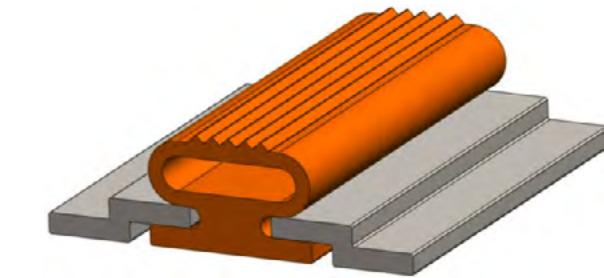
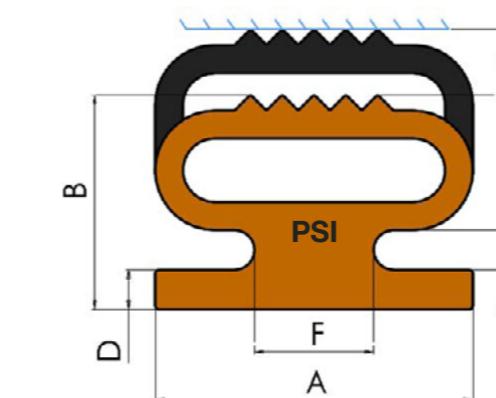
GROOVED SEAL DIMENSIONS



HOUSING DIMENSIONS



LOW PRESSURE (LP) SEAL DIMENSIONS



SECURED AT ALL TIMES

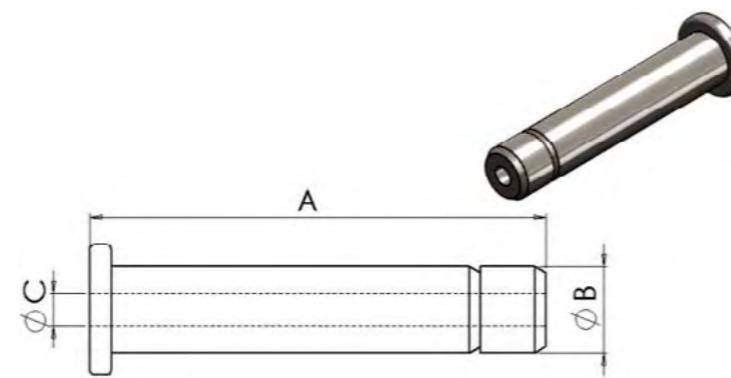
NES STANDARD HIGH PRESSURE SEALS (GROOVED)

PART No.	SEAL DIMENSIONS			HOUSING DETAILS			SEAL PARAMETERS				
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	MAX. PRESSURE psi/(bar)	MIN. BEND		
									RADIAL IN	RADIAL OUT	AXIAL
NES 5073	16.00	12.00	3.00	16.00	13.00	15.00	2.50	58.00 (4)	40.00mm	40.00mm	35.00mm
NES 5076	16.00	18.00	3.50	16.00	19.50	21.50	2.50	58.00 (4)	65.00mm	55.00mm	35.00mm
NES 5074	22.00	19.00	3.50	22.00	20.50	22.50	2.50	87.00 (6)	45.00mm	40.00mm	50.00mm
NES 5517	26.00	19.00	4.50	26.00	20.50	23.50	3.50	87.00 (6)	65.00mm	60.00mm	50.00mm
NES 7628	27.00	21.00	5.00	27.00	23.00	26.00	3.50	87.00 (6)	85.00mm	65.00mm	50.00mm
NES 5070	35.00	26.00	8.00	35.00	29.00	34.00	5.50	116.00 (8)	75.00mm	70.00mm	70.00mm
NES 5033	35.00	32.00	13.00	35.00	35.00	45.00	10.50	116.00 (8)	85.00mm	75.00mm	70.00mm

NES STANDARD LOW PRESSURE SEALS (LP)

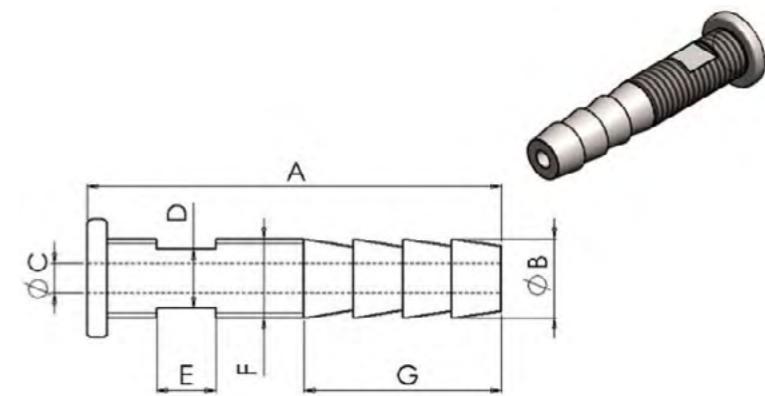
PART No.	SEAL DIMENSIONS			HOUSING DETAILS			SEAL PARAMETERS						
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	MAX. PRESSURE psi/(bar)	MIN. BEND		
											RADIAL IN	RADIAL OUT	AXIAL
NES 5075	30.00	20.00	25.00	4.00	4.00	12.00	30.00	22.00	30.00	43.50 (3)	80.00	70.00	100.00
NES 4634	40.00	27.00	35.00	51.00	5.00	15.00	40.00	29.00	40.00	43.50 (3)	90.00	80.00	120.00
NES 7630	60.00	35.00	50.00	6.00	6.00	25.00	60.00	38.00	60.00	43.50 (3)	105.00	90.00	170.00

STANDARD PUSH FIT VALVES (STAINLESS STEEL)



NES No.	A	ØB	ØC
NES 7650	15	4.0	1.5
NES 7651	25	4.0	1.5
NES 7652	40	4.0	1.5
NES 7653	20	6.0	3.4
NES 7654	35	6.0	3.4
NES 7655	50	6.0	3.4
NES 7656	25	8.0	3.4
NES 7657	40	8.0	3.4
NES 7658	50	8.0	3.4
NES 7659	30	10.0	5.0
NES 7660	45	10.0	5.0
NES 7661	60	10.0	5.0
NES 7662	40	12.0	6.8
NES 7663	50	12.0	6.8
NES 7715	60	12.0	6.8
NES 7716	40	14.0	6.8
NES 7717	60	14.0	6.8
NES 7718	80	14.0	6.8
NES 7719	50	16.0	8.5
NES 7720	70	16.0	8.5
NES 7721	90	16.0	8.5

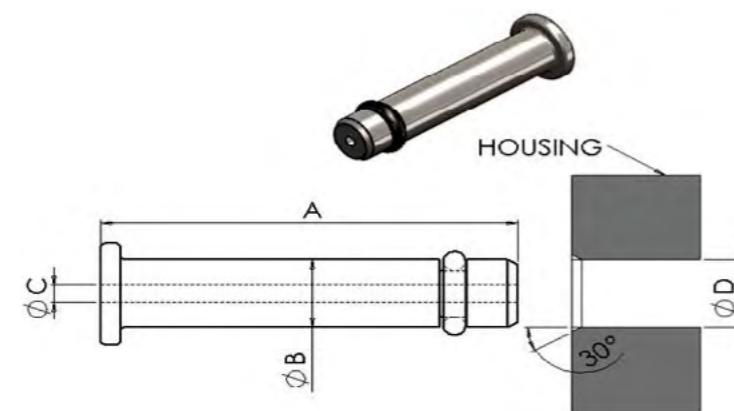
STANDARD HOSE BARB VALVES WITH WRENCH FLAT (STAINLESS STEEL)



NES No.	A	ØB	ØC	D x E	F	G
NES 7664	30	4.0	1.5	5.0 x 6.0	M6	12.0
NES 7665	35	4.0	1.5	5.0 x 6.0	M6	12.0
NES 7666	40	4.0	1.5	5.0 x 6.0	M6	12.0
NES 7667	50	4.0	1.5	5.0 x 6.0	M6	12.0
NES 7668	30	6.0	3.0	6.0 x 6.0	M8	16.0
NES 7669	35	6.0	3.0	6.0 x 6.0	M8	16.0
NES 7670	40	6.0	3.0	6.0 x 6.0	M8	16.0
NES 7671	50	6.0	3.0	6.0 x 6.0	M8	16.0
NES 7672	60	6.0	3.0	6.0 x 6.0	M8	16.0
NES 7673	40	8.0	5.0	8.0 x 8.0	M10	16.0
NES 7721	45	8.0	5.0	8.0 x 8.0	M10	16.0
NES 7722	50	8.0	5.0	8.0 x 8.0	M10	16.0
NES 7723	60	8.0	5.0	8.0 x 8.0	M10	16.0
NES 7724	70	8.0	5.0	8.0 x 8.0	M10	16.0
NES 7725	80	8.0	5.0	8.0 x 8.0	M10	16.0
NES 7726	40	10.0	6.0	10.0 x 8.0	M12	20.0
NES 7727	50	10.0	6.0	10.0 x 8.0	M12	20.0
NES 7728	60	10.0	6.0	10.0 x 8.0	M12	20.0
NES 7729	70	10.0	6.0	10.0 x 8.0	M12	20.0
NES 7730	80	10.0	6.0	10.0 x 8.0	M12	20.0
NES 7731	90	10.0	6.0	10.0 x 8.0	M12	20.0
NES 7732	50	12.0	6.0	11.0 x 8.0	M14	20.0
NES 7733	60	12.0	6.0	11.0 x 8.0	M14	20.0
NES 7734	70	12.0	6.0	11.0 x 8.0	M14	20.0
NES 7735	80	12.0	6.0	11.0 x 8.0	M14	20.0
NES 7736	90	12.0	6.0	11.0 x 8.0	M14	20.0
NES 7737	100	12.0	6.0	11.0 x 8.0	M14	20.0

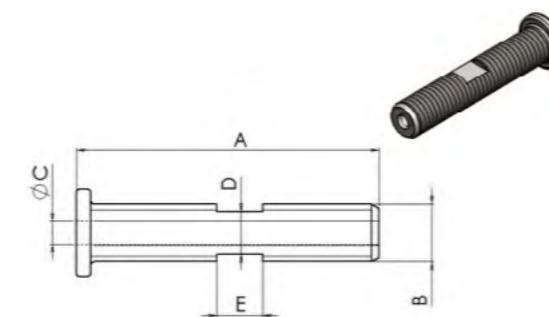
Please Note: D x E = Wrench Flat Dimensions

STANDARD HOUSING VALVES (STAINLESS STEEL)



NES No.	A	ØB	ØC	ØD
NES 7680	15	4.0	1.0	4H8
NES 7681	25	4.0	1.0	4H8
NES 7682	35	4.0	1.0	4H8
NES 7683	20	6.0	1.5	6H8
NES 7684	30	6.0	1.5	6H8
NES 7685	40	6.0	1.5	6H8
NES 7686	20	8.0	2.0	8H8
NES 7687	30	8.0	2.0	8H8
NES 7688	40	8.0	2.0	8H8
NES 7689	50	8.0	2.0	8H8
NES 7690	30	10.0	4.0	10H8
NES 7739	40	10.0	4.0	10H8
NES 7740	50	10.0	4.0	10H8
NES 7741	60	10.0	4.0	10H8
NES 7742	40	12.0	5.0	12H8
NES 7743	50	12.0	5.0	12H8
NES 7744	60	12.0	5.0	12H8
NES 7745	70	12.0	5.0	12H8
NES 7746	50	14.0	6.8	14H8
NES 7747	60	14.0	6.8	14H8
NES 7748	70	14.0	6.8	14H8
NES 7749	80	14.0	6.8	14H8

STANDARD THREADED VALVES WITH WRENCH FLAT (STAINLESS STEEL)



NES No.	A	B	ØC	D	x	E
NES 7691	15	M4	1.2	3.0		4.0
NES 7692	25	M4	1.2	3.0		4.0
NES 7693	35	M4	1.2	3.0		4.0
NES 7694	50	M4	1.2	3.0		4.0
NES 7695	20	M6	3.0	5.0		6.0
NES 7696	30	M6	3.0	5.0		6.0
NES 7697	40	M6	3.0	5.0		6.0
NES 7698	50	M6	3.0	5.0		6.0
NES 7699	20	M8	3.0	6.0		8.0
NES 7700	30	M8	3.0	6.0		8.0
NES 7701	40	M8	3.0	6.0		8.0
NES 7702	50	M8	3.0	6.0		8.0
NES 7703	60	M8	3.0	6.0		8.0
NES 7704	30	1/8G (BSP)	5.0	8.0		8.0
NES 7705	40	1/8G (BSP)	5.0	8.0		8.0
NES 7706	50	1/8G (BSP)	5.0	8.0		8.0
NES 7707	60	1/8G (BSP)	5.0	8.0		8.0
NES 7708	70	1/8G (BSP)	5.0	8.0		8.0
NES 7709	30	M10	5.0	8.0		8.0
NES 7754	40	M10	5.0	8.0		8.0
NES 7755	50	M10	5.0	8.0		8.0
NES 7756	60	M10	5.0	8.0		8.0
NES 7757	70	M10	5.0	8.0		8.0

(Table continues on next page)

STANDARD THREADED VALVES WITH WRENCH FLAT (STAINLESS STEEL)

(Table continued from previous page)

NES No.	A	B	ØC	D	x	E
NES 7758	30	M12	6.0	10.0		8.0
NES 7759	40	M12	6.0	10.0		8.0
NES 7760	50	M12	6.0	10.0		8.0
NES 7761	60	M12	6.0	10.0		8.0
NES 7762	70	M12	6.0	10.0		8.0
NES 7763	30	1/4G (BSP)	6.0	10.0		8.0
NES 7764	40	1/4G (BSP)	6.0	10.0		8.0
NES 7765	50	1/4G (BSP)	6.0	10.0		8.0
NES 7766	60	1/4G (BSP)	6.0	10.0		8.0
NES 7767	70	1/4G (BSP)	6.0	10.0		8.0
NES 7768	30	M14	6.0	11.0		8.0
NES 7769	40	M14	6.0	11.0		8.0
NES 7770	50	M14	6.0	11.0		8.0
NES 7771	60	M14	6.0	11.0		8.0
NES 7772	70	M14	6.0	11.0		8.0
NES 7773	80	M14	6.0	11.0		8.0
NES 7774	50	M16	8.0	13.0		10.0
NES 7775	60	M16	8.0	13.0		10.0
NES 7776	70	M16	8.0	13.0		10.0
NES 7777	80	M16	8.0	13.0		10.0
NES 7778	90	M16	8.0	13.0		10.0
NES 7779	100	M16	8.0	13.0		10.0

Please Note: D x E = Wrench Flat Dimensions

RUBBERFLATE® Non-Standard Seals

R
UBBERFLATE

STANDARD THREADED VALVES WITH WRENCH FLAT (STAINLESS STEEL)

(Table continued from previous page)

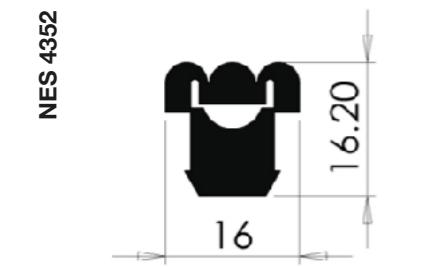
NES No.	A	B	ØC	D	x	E
NES 7758	30	M12	6.0	10.0		8.0
NES 7759	40	M12	6.0	10.0		8.0
NES 7760	50	M12	6.0	10.0		8.0
NES 7761	60	M12	6.0	10.0		8.0
NES 7762	70	M12	6.0	10.0		8.0
NES 7763	30	1/4G (BSP)	6.0	10.0		8.0
NES 7764	40	1/4G (BSP)	6.0	10.0		8.0
NES 7765	50	1/4G (BSP)	6.0	10.0		8.0
NES 7766	60	1/4G (BSP)	6.0	10.0		8.0
NES 7767	70	1/4G (BSP)	6.0	10.0		8.0
NES 7768	30	M14	6.0	11.0		8.0
NES 7769	40	M14	6.0	11.0		8.0
NES 7770	50	M14	6.0	11.0		8.0
NES 7771	60	M14	6.0	11.0		8.0
NES 7772	70	M14	6.0	11.0		8.0
NES 7773	80	M14	6.0	11.0		8.0
NES 7774	50	M16	8.0	13.0		10.0
NES 7775	60	M16	8.0	13.0		10.0
NES 7776	70	M16	8.0	13.0		10.0
NES 7777	80	M16	8.0	13.0		10.0
NES 7778	90	M16	8.0	13.0		10.0
NES 7779	100	M16	8.0	13.0		10.0

Please Note: D x E = Wrench Flat Dimensions

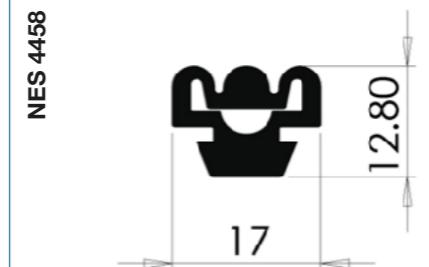
RUBBERFLATE® Non-Standard Seals

RUBBERFLATE®

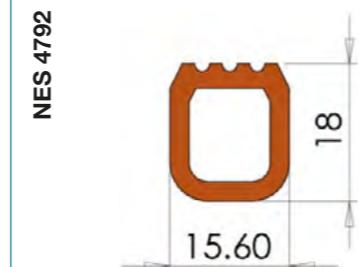
A SELECTION OF NON-STANDARD PROFILES



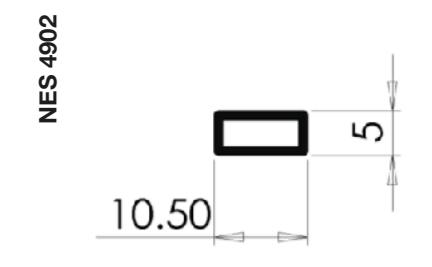
MIN BEND RATIO:
AXIAL - R40
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 6.00mm
MATERIAL: - FKM 60 (Black) MC 287



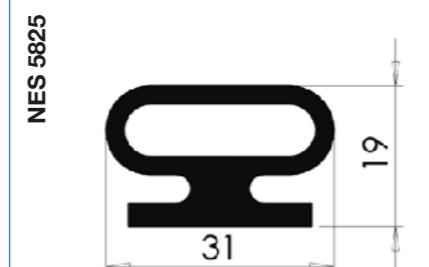
MIN BEND RATIO:
AXIAL - R40
RADIAL IN - R25
RADIAL OUT - R25
TRAVEL: - 6.00mm
MATERIAL: - FKM 60 (Black) MC 287



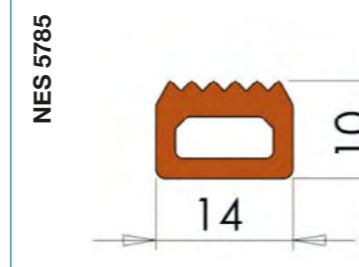
MIN BEND RATIO:
AXIAL - R40
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 2.50mm
MATERIAL: - SIL 60 (Red) MC 368, SIL 60 (White) MC374



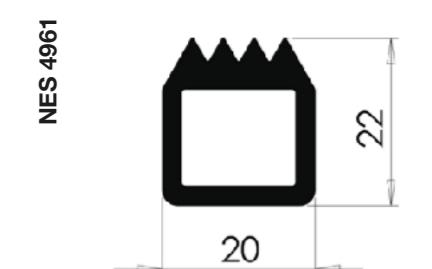
MIN BEND RATIO:
AXIAL - R50
RADIAL IN - R25
RADIAL OUT - R25
TRAVEL: - 2.00mm
MATERIAL: - EPDM 75 (BLACK) MC 130



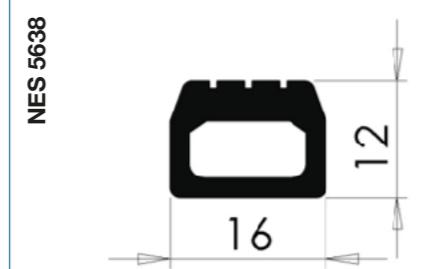
MIN BEND RATIO:
AXIAL - R100
RADIAL IN - R50
RADIAL OUT - R50
TRAVEL: - 5.00mm
MATERIAL: - EPDM 60 (BLACK) MC 389



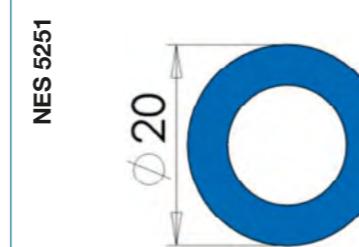
MIN BEND RATIO:
AXIAL - R30
RADIAL IN - R35
RADIAL OUT - R35
TRAVEL: - 2.50mm
MATERIAL: - SIL 60 (RED) MC 368, ALSO SIL 60 (WHITE) MC374



MIN BEND RATIO:
AXIAL - R40
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 3.50mm
MATERIAL: - FKM 75 (BLACK) MC 172

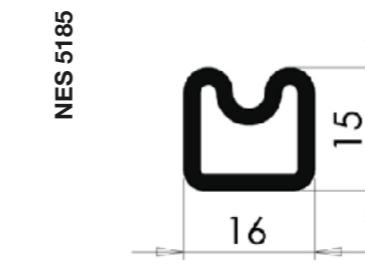


MIN BEND RATIO:
AXIAL - R50
RADIAL IN - R25
RADIAL OUT - R25
TRAVEL: - 3.00mm
MATERIAL: - EPDM 70 FDA USP (BLACK) MC 309

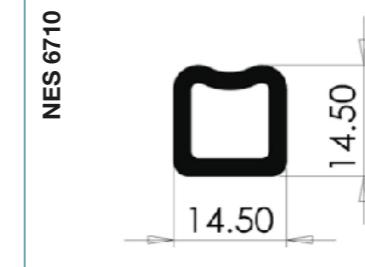


MIN BEND RATIO:
AXIAL - R40
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 2.50mm
MATERIAL: - EPDM 65 FDA (BLUE) MC 369

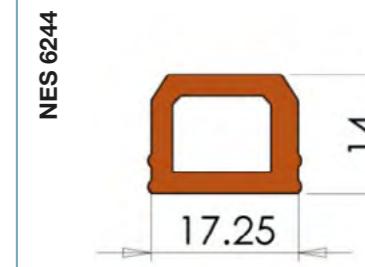
A SELECTION OF NON-STANDARD PROFILES



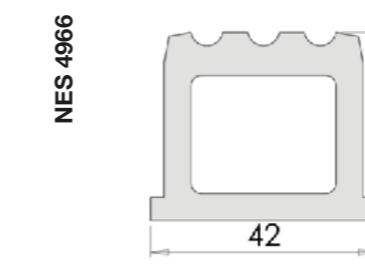
MIN BEND RATIO:
AXIAL - R50
RADIAL IN - R35
RADIAL OUT - R35
TRAVEL: - 7.00mm
MATERIAL: - EPDM USP (BLACK) FDA 70 MC 309



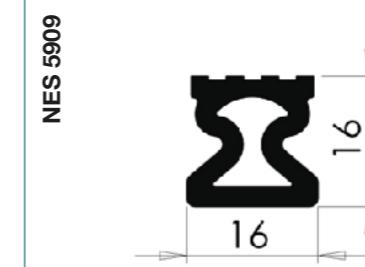
MIN BEND RATIO:
AXIAL - R40
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 3.00mm
MATERIAL: - EPDM 60 MC389



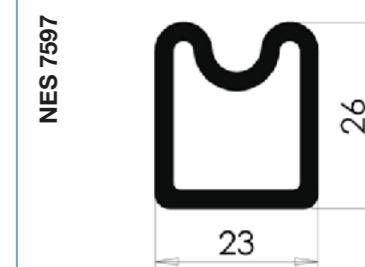
MIN BEND RATIO:
AXIAL - R50
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 3.00mm
MATERIAL: - SIL 60 (RED) MC 368, ALSO SIL 60 (WHITE) MC374



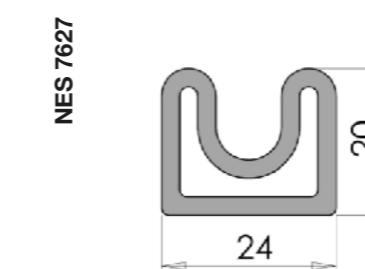
MIN BEND RATIO:
AXIAL - R75
RADIAL IN - R70
RADIAL OUT - R50
TRAVEL: - 10.00mm
MATERIAL: - SIL 60 (WHITE) MC 374, ALSO SIL 60 (RED) MC368



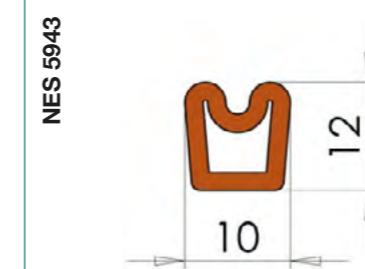
MIN BEND RATIO:
AXIAL - R50
RADIAL IN - R60
RADIAL OUT - R50
TRAVEL: - 4.00mm
MATERIAL: - EPDM 60 (BLACK) MC 389



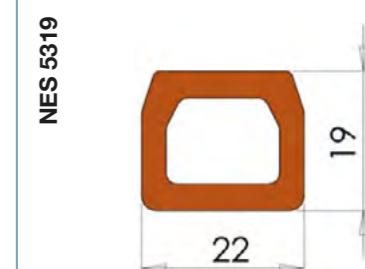
MIN BEND RATIO:
AXIAL - R100
RADIAL IN - R75
RADIAL OUT - R75
TRAVEL: - 6.00mm
MATERIAL: - EPDM 60 (BLACK) MC389



MIN BEND RATIO:
AXIAL - R100
RADIAL IN - R100
RADIAL OUT - R100
TRAVEL: - 15.00mm
MATERIAL: - SIL 60 (LIGHT GREY) MC 420

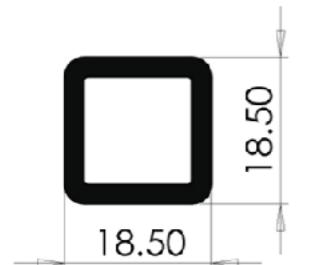
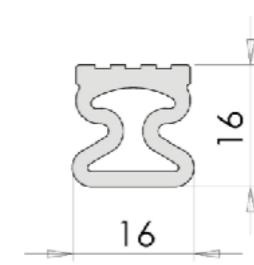
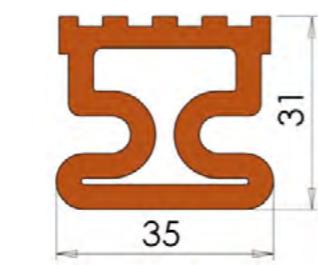
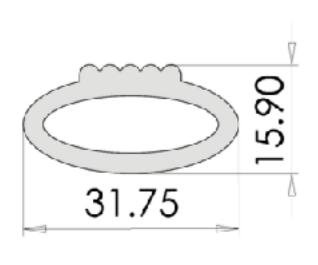
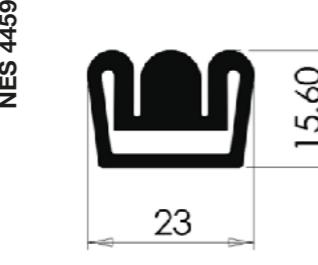
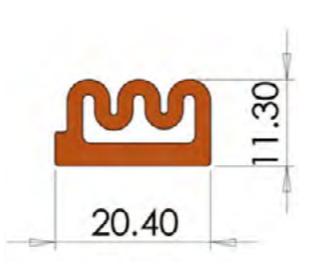
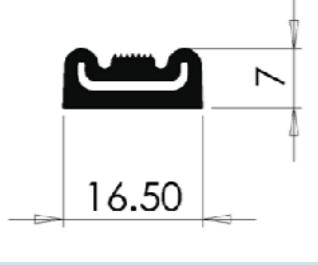
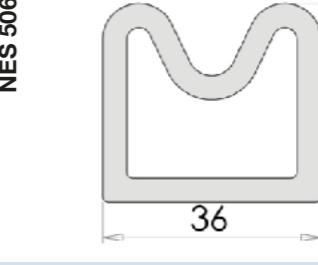
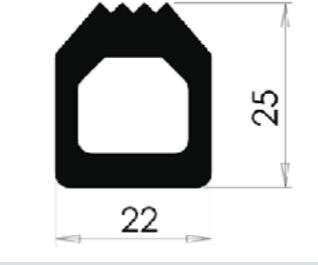


MIN BEND RATIO:
AXIAL - R40
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 5.00mm
MATERIAL: - SIL 60 (RED) MC 368, ALSO SIL 60 (WHITE) MC374

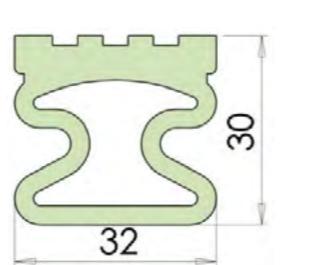
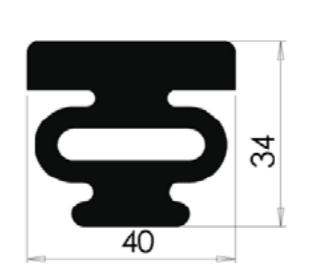
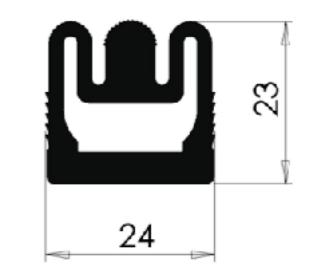
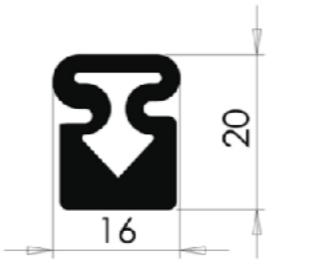
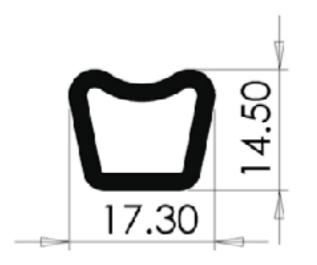
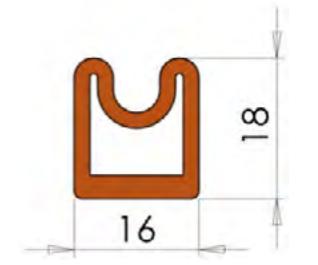
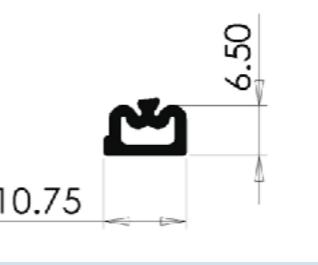
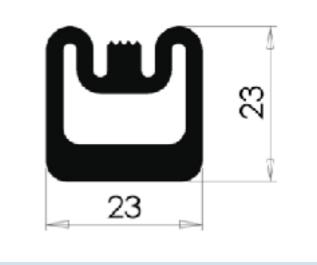
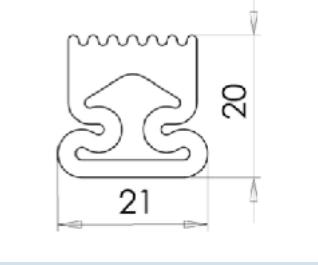


MIN BEND RATIO:
AXIAL - R60
RADIAL IN - R40
RADIAL OUT - R40
TRAVEL: - 3.50mm
MATERIAL: - SIL 60 (RED) MC 368, ALSO SIL 60 (WHITE) MC374

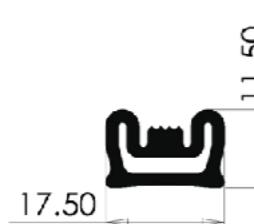
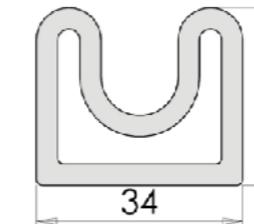
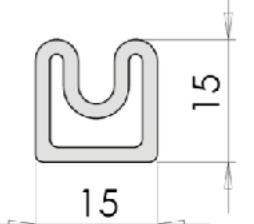
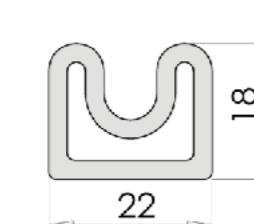
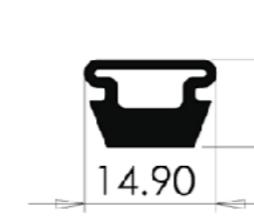
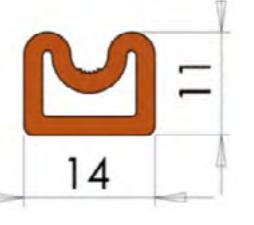
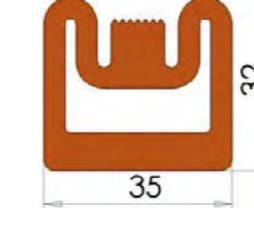
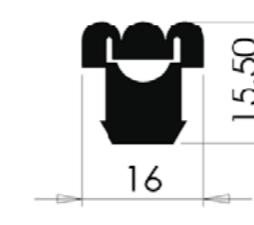
A SELECTION OF NON-STANDARD PROFILES

 <p>NES 7020</p> <p>MIN BEND RATIO: AXIAL - R50 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 1.50mm MATERIAL: - EPDM 60 (BLACK) MC389</p>	 <p>NES 6757</p> <p>MIN BEND RATIO: AXIAL - R50 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 1.50mm MATERIAL: - SIL 60 (WHITE) MC 374, ALSO SIL 60 (RED) MC368</p>	 <p>NES 5669</p> <p>MIN BEND RATIO: AXIAL - R100 RADIAL IN - R100 RADIAL OUT - R100 TRAVEL: - 4.00mm MATERIAL: - SIL 60 (RED) MC368, ALSO SIL 60 (WHITE) MC374</p>
 <p>NES 6258</p> <p>MIN BEND RATIO: AXIAL - R150 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 3.00mm MATERIAL: - SIL 60 (WHITE) MC 374, ALSO SIL 60 (RED) MC368</p>	 <p>NES 4459</p> <p>MIN BEND RATIO: AXIAL - R50 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 3.00mm MATERIAL: - FKM 60 (BLACK) MC 287</p>	 <p>NES 4865</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R25 RADIAL OUT - R25 TRAVEL: - 6.00mm MATERIAL: - SIL 60 (RED) MC 368, ALSO SIL 60 (WHITE) MC374</p>
 <p>NES 4835</p> <p>MIN BEND RATIO: AXIAL - R50 RADIAL IN - R20 RADIAL OUT - R20 TRAVEL: - 5.00mm MATERIAL: - FKM 60 (BLACK) MC 287</p>	 <p>NES 5062</p> <p>MIN BEND RATIO: AXIAL - R100 RADIAL IN - R75 RADIAL OUT - R75 TRAVEL: - 15.00mm MATERIAL: - SIL 60 (WHITE) MC 374, ALSO SIL 60 (RED) MC368</p>	 <p>NES 5245</p> <p>MIN BEND RATIO: AXIAL - R50 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 3.50mm MATERIAL: - EPDM 60 (BLACK) MC 278, ALSO EPDM FDA 60 MC 281</p>

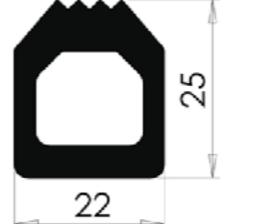
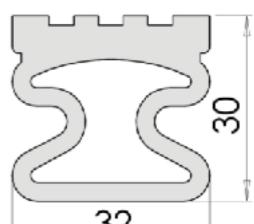
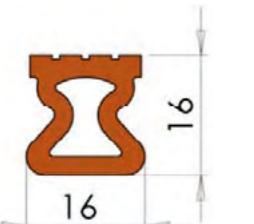
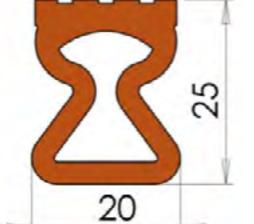
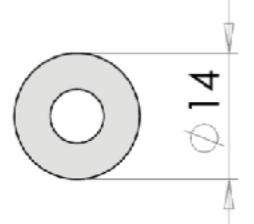
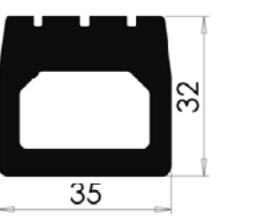
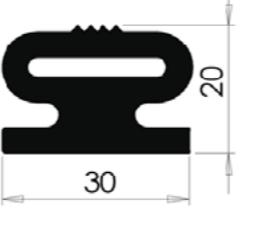
A SELECTION OF NON-STANDARD PROFILES

 <p>NES 5528</p> <p>MIN BEND RATIO: AXIAL - R100 RADIAL IN - R100 RADIAL OUT - R100 TRAVEL: - 16.00mm MATERIAL: - SIL70FDA USP TRANSMC308</p>	 <p>NES 5544</p> <p>MIN BEND RATIO: AXIAL - R100 RADIAL IN - R100 RADIAL OUT - R100 TRAVEL: - 10.00mm MATERIAL: - EPDM 60 (BLACK) MC 389</p>	 <p>NES 6031</p> <p>MIN BEND RATIO: AXIAL - R125 RADIAL IN - R100 RADIAL OUT - R100 TRAVEL: - 17.00mm MATERIAL: - EPDM 60 (BLACK) MC 389</p>
 <p>NES 5633</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 8.00mm MATERIAL: - EPDM 65 (BLACK) MC 389</p>	 <p>NES 5634</p> <p>MIN BEND RATIO: AXIAL - R60 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - N/A MATERIAL: - EPDM 65 (BLACK) MC 389</p>	 <p>NES 5945</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R75 RADIAL OUT - R75 TRAVEL: - 6.00mm MATERIAL: - SIL 60 (RED) MC 368, ALSO SIL 60 (WHITE) MC374</p>
 <p>NES 7427</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 3.50mm MATERIAL: - FKM 60 (BLACK) MC287</p>	 <p>NES 5975</p> <p>MIN BEND RATIO: AXIAL - R80 RADIAL IN - R60 RADIAL OUT - R75 TRAVEL: - 15.00mm MATERIAL: - EPDM 65 FDA (BLACK) MC 281</p>	 <p>NES 5931</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R75 RADIAL OUT - R75 TRAVEL: - 8.00mm MATERIAL: - SIL 60 (WHITE) MC 374 , ALSO SIL 60 (RED) MC368. (NO TOOLING)</p>

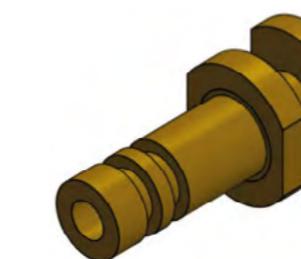
A SELECTION OF NON-STANDARD PROFILES

 <p>NES 6118</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R60 RADIAL OUT - R60 TRAVEL: - 7.00mm MATERIAL: - EPDM 60 (BLACK) MC 389</p>	 <p>NES 6983</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 6.00mm MATERIAL: - EPDM 60 (BLACK) MC 389</p>	 <p>NES 7230</p> <p>MIN BEND RATIO: AXIAL - R150 RADIAL IN - R100 RADIAL OUT - R100 TRAVEL: - 15.00mm MATERIAL: - SIL 60 (WHITE)MC 374, ALSO SIL 60 (RED) MC368</p>
 <p>NES 7232</p> <p>MIN BEND RATIO: AXIAL - R60 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 7.00mm MATERIAL: - SIL 60 (WHITE) MC 374, ALSO SIL 60 (RED) MC368</p>	 <p>NES 7231</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R75 RADIAL OUT - R75 TRAVEL: - 10.00mm MATERIAL: - SIL 60 (WHITE) MC389, ALSO SIL 60 (RED) MC368</p>	 <p>NES 7344</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R60 RADIAL OUT - R60 TRAVEL: - 2.00mm MATERIAL: - EPDM 60 (BLACK) MC389</p>
 <p>NES 7284</p> <p>MIN BEND RATIO: AXIAL - R40 RADIAL IN - R40 RADIAL OUT - R40 TRAVEL: - 5.00mm MATERIAL: - SIL 60 (RED)MC 368,ALSO SIL 60 (WHITE) 374</p>	 <p>NES 7381</p> <p>MIN BEND RATIO: AXIAL - R125 RADIAL IN - R100 RADIAL OUT - R100 TRAVEL: - 18.00mm MATERIAL: - SIL 60 (RED) MC368 ALSO SIL 60 (WHITE) MC374</p>	 <p>NES 6051</p> <p>MIN BEND RATIO: AXIAL - R40 RADIAL IN - R40 RADIAL OUT - R40 TRAVEL: - 6.00mm MATERIAL: - FKM 60 (BLACK) MC 287</p>

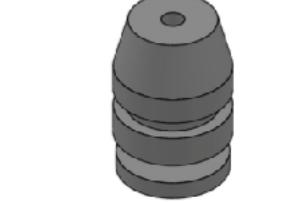
A SELECTION OF NON-STANDARD PROFILES

 <p>NES 7309</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R75 RADIAL OUT - R75 TRAVEL: - 3.00mm MATERIAL: - EPDM 60 (BLACK) MC278</p>	 <p>NES 7310</p> <p>MIN BEND RATIO: AXIAL - R100 RADIAL IN - R100 RADIAL OUT - R100 TRAVEL: - 16.00mm MATERIAL: - SIL 60 (WHITE) MC 374</p>	 <p>NES 5537</p> <p>MIN BEND RATIO: AXIAL - R60 RADIAL IN - R50 RADIAL OUT - R50 TRAVEL: - 4.00mm MATERIAL: - SIL 60 (RED) MC368 SIL 60 (WHITE) MC374</p>
 <p>NES 5456</p> <p>MIN BEND RATIO: AXIAL - R50 RADIAL IN - R85 RADIAL OUT - R70 TRAVEL: - 10.00mm MATERIAL: - SIL 60 (RED) MC 368, ALSO SIL 60 (WHITE) MC374</p>	 <p>NES 5596</p> <p>MIN BEND RATIO: AXIAL - R20 RADIAL IN - R20 RADIAL OUT - R20 TRAVEL: - 2.00mm MATERIAL: - SIL 60 (WHITE) MC374, ALSO SIL 60 (RED) MC368</p>	 <p>NES 5809</p> <p>MIN BEND RATIO: AXIAL - R75 RADIAL IN - R75 RADIAL OUT - R75 TRAVEL: - 10.00mm MATERIAL: - NBR 60MC394,EPDM FDA USP MC309</p>
 <p>NES 6615</p> <p>MIN BEND RATIO: AXIAL - R100 RADIAL IN - R70 RADIAL OUT - R80 TRAVEL: - 5.00mm MATERIAL: - FKM 60 (BLACK) MC 287</p>		

A SELECTION OF NON-STANDARD VALVES

NES 5840	NES 5847	NES 5852
		
MATERIAL: Stainless Steel	MATERIAL: Brass	MATERIAL: Brass
NES 5858	NES 5865	NES 5834
		
MATERIAL: Brass	MATERIAL: Stainless Steel	MATERIAL: Brass
NES 5845	NES 5848	NES 5849
		
MATERIAL: Stainless Steel	MATERIAL: Brass	MATERIAL: Stainless Steel
NES 5861	NES 5901	NES 6240
		
MATERIAL: Stainless Steel	MATERIAL: Brass	MATERIAL: Stainless Steel

A SELECTION OF NON-STANDARD VALVES

NES 6684	NES 6966	NES 6982
		
MATERIAL: Stainless Steel	MATERIAL: Brass	MATERIAL: Nylon
NES 7019	NES 7144	NES 7247
		
MATERIAL: Brass	MATERIAL: Brass	MATERIAL: Stainless Steel
NES 7255	NES 7359	
		
MATERIAL: Brass	MATERIAL: Brass	

INSTALLATION

PREPARATION OF THE RUBBERFLATE® CHANNEL/HOUSING

PHILIPPE JANS recommends the thorough preparation of the seal channel/housing by ensuring it is free from dirt, grease, sharp edges or anything else that might either damage the integrity of the RUBBERFLATE® inflatable seal, or prevent a strong adhesive bond/correct fitment.

Installers should consider, therefore, the use of degreasing agents and the smoothing off of sharp edges (sandblasting prior to adhesive priming is known to significantly improve bond strength).

RUBBERFLATE® inflatable seals can be mechanically (screw base for example) and/or chemically (adhesive) secured to the seal channel/housing. Should adhesive be used, we recommends applying adhesive only to the base or bottom surface of the RUBBERFLATE® seal.

CONTACT

For quotations, samples or further technical advice:

Tel: +32 (0)3 470 13 90

Fax: +32 (0)3 470 13 97

Email: info@philippejans.be

Web: www.philippejans.be

DISCLAIMER

PHILIPPE JANS' Terms & Conditions apply to/prevail for all purchases of the RUBBERFLATE® product.

Visit <http://www.philippejans.be>
for more information.

Due to a lack of control over fitment, PHILIPPE JANS cannot accept any liability for the performance of the RUBBERFLATE® seal once it is installed, neither does it accept any liability for consequential losses or personal injury due to failure of the seal after installation.

This brochure has been produced using widely available and generic technical data on inflatable seal technology. Customers of PHILIPPE JANS are strongly encouraged to take appropriate care in fully understanding the application for which they purchase the RUBBERFLATE® product so that they can mitigate any risk of failure/injury during the design/selection process.



Philippe Jans

The perfect fit for rubber solutions

RUBBERFLATE®

INFLATABLE SEALS PRODUCT INFORMATION

RUBBERFLATE®