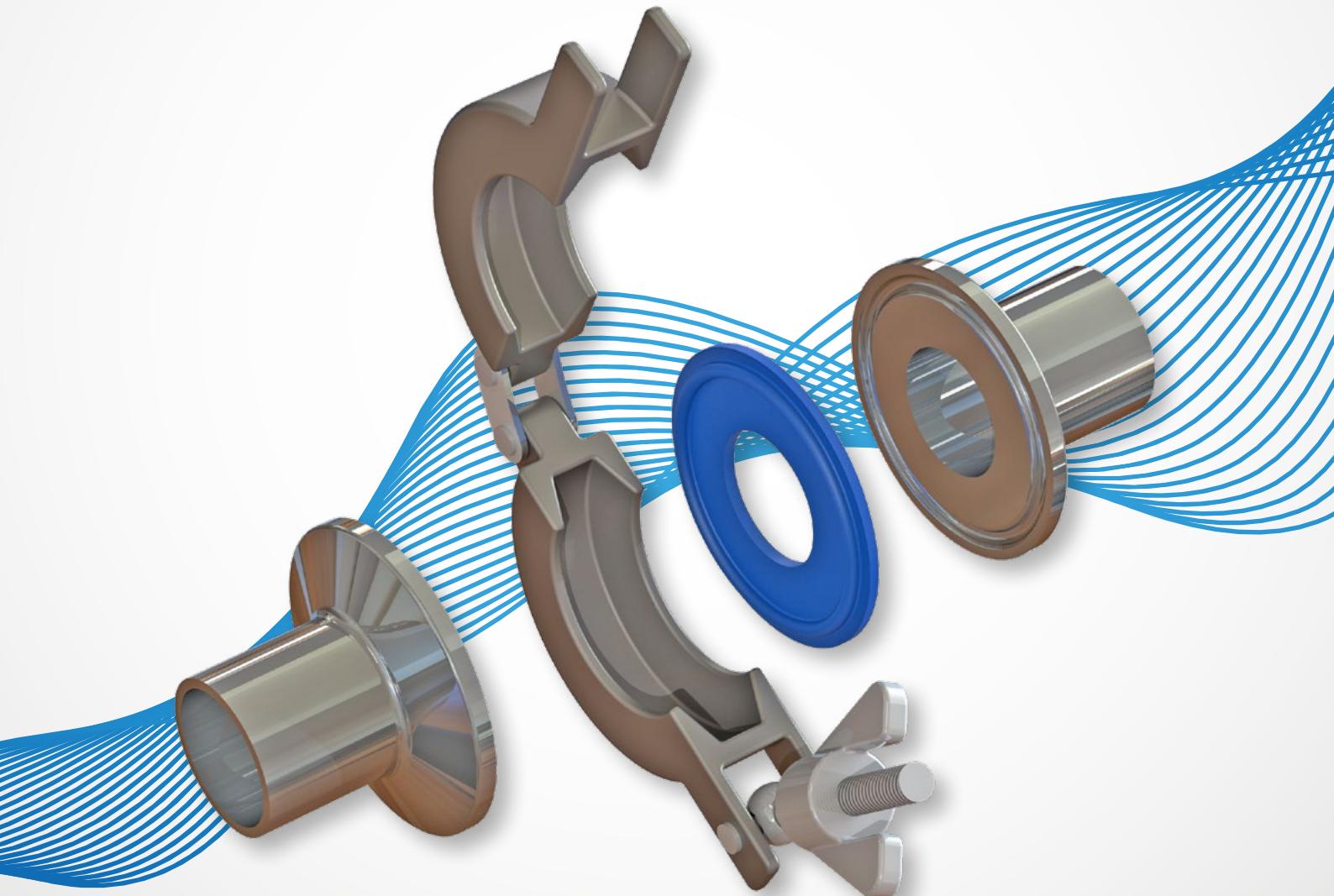


High Performance Elastomer Sealing Solutions



Hygienic Gaskets and Seals

for Aseptic Pipe Couplings



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Your Global Partner in High Performance Elastomer Sealing Solutions

PPE is dedicated to providing sealing solutions for some of the world's most demanding applications and environments.

With over 40 years of experience designing and manufacturing sealing components, PPE possess a thorough understanding of food, pharmaceutical and life-science applications. This technical know-how, combined with unique elastomer materials, ensures that the correct sealing solution is delivered to meet legislative and manufacturing performance and standards.

Quality Assured

PPE has been audited and approved to ISO9001:2000 Quality Management System Standard covering the design, development, manufacture and supply of mouldings, seals, gaskets and composites in elastomer materials.



Intertek

Intertek

For more information visit www.prepol.com or contact us directly.

Precision Polymer Engineering at a glance

- Founded in 1975, in Blackburn, Lancashire, UK.
- A unit of IDEX Corporation.
- Head office located in Blackburn and secondary manufacturing site located in Brenham, Texas, USA.
- Employees 300 staff across two sites.
- Forty-four channel partners supply elastomer seals across the globe, from Europe to Asia.
- Quality management ISO 9001.
- Environmental management ISO 14001.
- State of the art laboratory facilities to formulate unique, high performance elastomer materials.
- In-house toolmaking department.
- Approvals and certification for a wide variety of materials including FDA, USP, 3A 18-03 Sanitary Standard, ADI-free, EC 1935/2004 and EC 2023/2006 to name a few.

Product Range



HyClamp™ Gaskets

Hygienic gaskets for pipe couplings, tri-clamps or tri-clovers, used in food, beverage and pharmaceutical process lines.



PPE's Compact range of gaskets are suitable for mini-couplings available in various standard sizes.



O-rings

Sanitary O-rings are available in a range of standard sizes to fit RTJ (BS4825 Part 5) unions and DIN 11864 connectors.



D-seals

Elastomer D-rings manufactured in standard DN sizes to fit DIN 11851 connectors.



IDF seals

Hygienic gasket seals available in various sizes to fit International Dairy Federation (IDF) pipe fittings (BS4825-4).



SMS seals

Square section rings to fit Swedish Metric Standard sanitary unions (SS 1149).

Elastomer Materials

PERLAST®

Perfluoroelastomer (FFKM) is the most chemically resistant elastomer available and is effectively a rubber form of PTFE. Perlast® perfluoroelastomer grades provide other properties which prove most valuable in challenging sealing applications where steam resistance and high temperature capability are required.

Perlast® perfluoroelastomer materials are at the leading edge of polymer technology; they have been developed to offer superior sealing solutions with enhanced performance and improved functionality, which is proven in the field.



DETECTASEAL®

✓ METAL DETECTABLE

PPE's range of metal detectable and X-ray detectable elastomer compounds offer the ultimate protection for contamination detection and containment in the food processing industry.

Available in blue and black, Detectaseal® components have been tested and proven in use at leading food manufacturing plants. Fragments of Detectaseal® as small as 5mm can be identified by X-ray and in-line metal detection equipment in process lines.

Detectaseal® elastomers are free from animal derived ingredients (ADI-free) and conform to EU regulations EC1935/2004 and EC2023/2006.

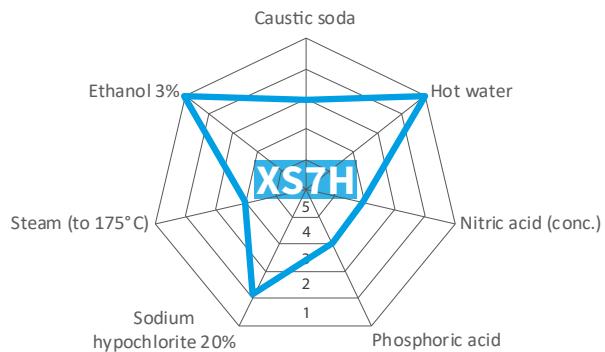
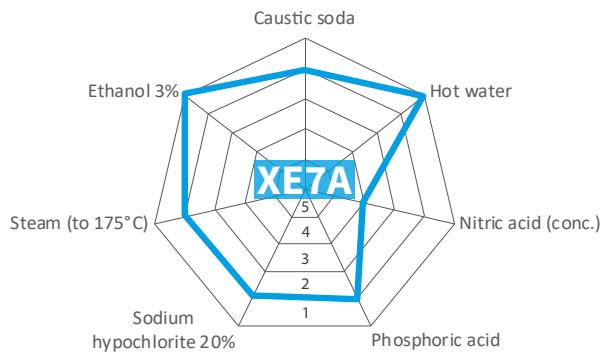
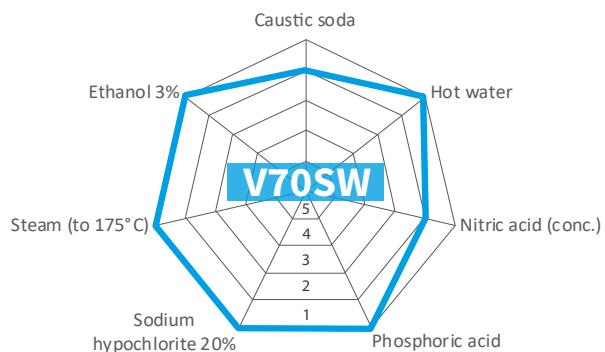
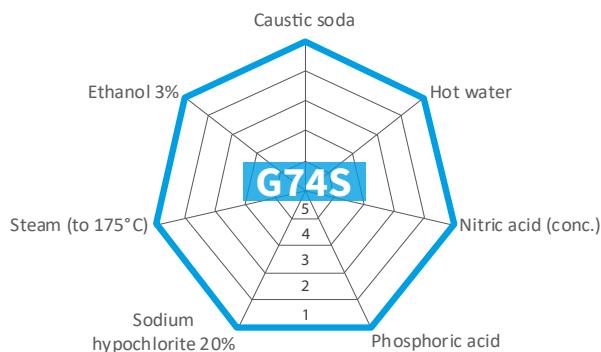
Elastomer Chemical Compatibility

	G74S	V70SW	XE7A	XS7H
Caustic soda	1	2	2	3
Hot water	1	1	1	1
Nitric acid (conc.)	1	2	4	4
Phosphoric acid	1	1	2	4
Sodium hypochlorite (20%)	1	1	2	2
Steam (to 175°C)	1	1	2	4
3% Ethanol	1	1	1	1

Key:

1 = Excellent, 2 = Good, 3 = Doubtful, 4 = Do not use

Based on volume swell at room temperature: 1 = <10%, 2 = 10-20%, 3 = 20-40%, 4 = >40%



Elastomer Material Grades

Perlast® G74S (FFKM)

Specifically developed to cope with a wide range of process media and potent active pharmaceutical ingredients (API's).

G74S is a white Perfluoroelastomer especially suited to withstand steam-in-place (SIP) and clean-in-place (CIP) procedures within pipe work and vessels.



Property	Value
Hardness (°IRHD)	71
Operating Temperature	-15 to +260°C
Tensile Strength (MPa)	17.4
Elongation at break (%)	166
100% Modulus (MPa)	9.9
Compression Set (%) 72 hrs @ 200°C (392°F)	25

V70SW (FKM)

A peroxide-cured white fluoroelastomer material developed to withstand steam-in-place (SIP) and clean-in-place (CIP) pipe work and vessels. Unlike other FDA-compliant fluoroelastomers, V70SW provides superior steam resistance, ideal for use in Stage II Sterilization processes which require exposure to steam up to 200°C (392°F).



Property	Value
Hardness (°IRHD)	70
Operating Temperature	-10 to +200°C
Tensile Strength (MPa)	15.8
Elongation at break (%)	260
100% Modulus (MPa)	6.0
Compression Set (%) 72 hrs @ 200°C (392°F)	12

Detectaseal® XE7A (EPDM)

A blue Ethylene Propylene Terpolymer that can be easily identified by in-line metal detection and x-ray equipment used on food manufacturing process lines.

XE7A is a versatile elastomer that provides excellent mechanical properties and sealing efficiency as well as exceptional water and steam resistance.



Property	Value
Hardness (°IRHD)	70
Operating Temperature	-40 to +150°C
Tensile Strength (MPa)	5.0
Elongation at break (%)	150
100% Modulus (MPa)	2.7

Detectaseal® XS7H (VMQ)

A dark grey platinum-cured, metal detectable silicone that exhibits excellent compression set resistance at high temperatures.

Platinum-cured silicone offers enhanced levels of purity and high physiological inertness. XS7H is resistant to bacteria, fungi and a broad range of media.



Property	Value
Hardness (°IRHD)	75
Operating Temperature	-60 to +200°C
Tensile Strength (MPa)	8.6
Elongation at break (%)	500
100% Modulus (MPa)	1.8

Material Approvals

Material Code	Material Type	Temp Range (°C)	Colour	FDA	EC1935 EC2023	USP <87> 37°C	USP <88> 70°C	USP <88> 121°C	3A 18-03
Perlast® G74S	FFKM	-15 to +260	White	A - F	✓	✓	✓	✓	Class I
V70SW	FKM	-10 to +200	White	A - F	✓		✓	✓	Class I
Detectaseal® XE7A	EPDM	-40 to +150	Blue	A - F	✓				
Detectaseal® XS7H	VMQ	-60 to +200	Dark Grey	A - F	✓			✓	

See material datasheets for details of compliance to regulatory standards.



The U.S. Food & Drug Administration (FDA) promulgates a list of materials and chemicals that are approved for contact with foodstuffs.

FDA CFR 21.177.2600 paragraphs A to D describe the relevant regulations for 'Rubber articles intended or repeated use'. It lists the ingredients, and any quantitative limits, that may be used in rubber compounds used for sanitary gaskets, intended for repeated use in all stages of food manufacture, preparation and transportation.

FDA CFR 21.177.2600 paragraphs E and F also specify limits on extractable products if the FDA rubber gasket is to be used in contact with aqueous or fatty foods. The regulation specifies extraction test limits in water and n-hexane.



3A Sanitary Standards Inc. defines specifications and best practice for the design, manufacture, installation and use of hygienic equipment. 3A Standard 18-03 "3A Sanitary Standards for multiple-use rubber and rubber-like materials used as product contact surfaces in dairy equipment", defines requirements for food quality materials that must also be suitable for cleaning and sanitizing solutions.

All PPE's 3A Sanitary Standards approved elastomers are FDA-compliant to FDA CFR21.177.2600, free from animal derived ingredients (ADI-free), resistant to steam sterilization, milk fat and water, acid and alkali cleaning solutions and chlorine sanitizing solution.



United States Pharmacopeia (USP) promotes public health by establishing standards to ensure the quality of medicines and other health care technologies. Whilst this organisation is concerned with the pharmaceutical and bio-technology industries, many manufacturers of hygienic equipment will be designing multipurpose equipment that may be used in a range of different industry sectors.

Standards are published in the US Pharmacopeia and the National Formulary (USP NF). Testing for compliance to United States Pharmacopeia USP 26, NF21, 2003 Class VI involves an assessment of the effects of the sealing material, and extractables, on tissue. Two chapters applicable to elastomers, plastics and polymeric materials are Chapter 87 (biological reactivity in vitro testing) and Chapter 88 (biological reactivity in vivo testing).



All PPE sealing materials are free from Animal Derived Ingredients (ADI) and are therefore BSE / TSE free with respect to source, manufacture and treatment.

PPE certifies that its full range of sealing materials are ADI-FREE which avoids the potential risk of BSE (Bovine Spongiform Encephalopathy) and TSE (Transmissible Spongiform Encephalopathy) contamination in products that are intended for human consumption.



The European Parliament Council has set out regulations in EC1935/2004 and EC2023/2006. The principle of the Directive is that materials that are in contact with food should be sufficiently inert to prevent transfer of substances into food in quantities which might be significant enough to endanger human health.

Regulation EC1935/2004 of the European Parliament and of the Council - “Materials and articles intended to come into contact with food”

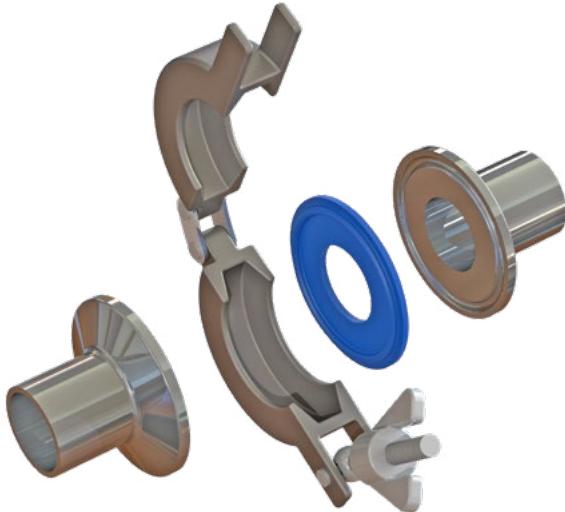
Regulation EC2023/2006 of the European Parliament and of the Council - “Good manufacturing practice for materials and articles intended to come into contact with food”.



Seals for food process equipment often need to satisfy the requirements of the European Hygiene Equipment Design Group (EHEDG) for hygienic sealing. EHEDG is a consortium of equipment manufacturers, food industries, research institutes and public health authorities, founded in 1989, with the aim of promoting hygiene during the processing and packaging of food products.

European legislation requires that handling, preparation, processing and packaging of food is done hygienically, with hygienic machinery in hygienic premises. EHEDG provides practical guidance on the hygienic engineering aspects of manufacturing safe and wholesome food, focusing particularly on equipment design and installation, cleanability and maintenance.

HyClamps™ hygienic gasket seals



PPE's HyClamp™ range of hygienic gasket seals is specifically designed to meet the needs of pipe couplings in food, beverage and pharmaceutical process lines. HyClamp™ gaskets are available in a selection of elastomer materials which offer a broad range of performance characteristics to satisfy every hygienic sealing environment.

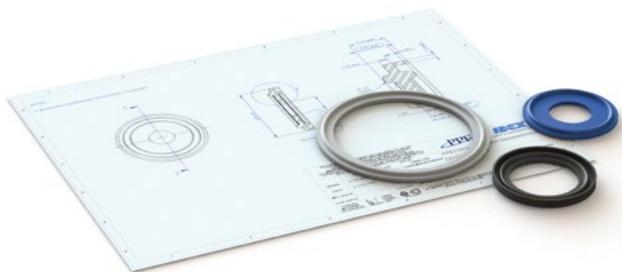
Engineered to deliver optimal chemical resistance to meet the requirements of aseptic conditions, CIP (clean-in-place) and SIP (sterilization-in-place) processes, HyClamp™ gaskets provide excellent long-term sealing performance, therefore extending planned maintenance intervals and minimising downtime.

HyClamp™ gaskets are manufactured to popular size standards conforming to current GMP (Good Manufacturing Practice) and supplied with full manufacturing batch traceability and certificates of conformity on request.

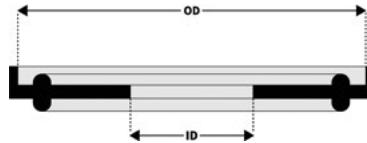


HyClamp™ elastomer gaskets:

- Compliant with FDA, USP Class VI and 3-A Sanitary Standards
- Free from animal-derived ingredients (ADI)
- Optimal chemical and temperature resistance
- Excellent long-term sealing performance
- 'Metal Detectable' elastomer materials
- Parts manufactured to BS4825, ISO2852 and DIN32676 standard sizes
- Full manufacturing batch traceability
- Certificates of conformity on request

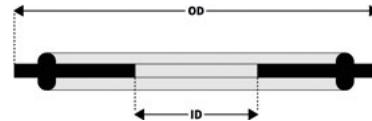


HyClamp™ BS4825-3 – Lipped | Flanged (Type A/II)



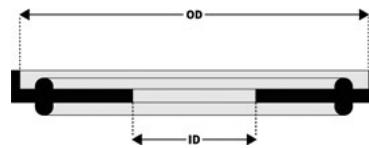
Nominal Size (mm)	Nominal size (inch)	ID (mm)	OD (mm)	Elastomer	PPE part number
25.4	1"	22.8	50.5	Perlast® G74S, White FFKM	HCL-0505002280-G74SW-1020
38.1	1 ½"	35.5	50.5	Perlast® G74S, White FFKM	HCL-0505003550-G74SW-1020
50.8	2"	48.2	64.0	Perlast® G74S, White FFKM	HCL-0640004820-G74SW-1020
63.5	2 ½"	60.5	77.5	Perlast® G74S, White FFKM	HCL-0775006050-G74SW-1020
76.2	3"	73.2	91.0	Perlast® G74S, White FFKM	HCL-0910007320-G74SW-1020
101.6	4"	97.8	119.0	Perlast® G74S, White FFKM	HCL-1190009780-G74SW-1020
25.4	1"	22.8	50.5	V70SW, White FKM	HCL-0505002280-V70SW-0020
38.1	1 ½"	35.5	50.5	V70SW, White FKM	HCL-0505003550-V70SW-0020
50.8	2"	48.2	64.0	V70SW, White FKM	HCL-0640004820-V70SW-0020
63.5	2 ½"	60.5	77.5	V70SW, White FKM	HCL-0775006050-V70SW-0020
76.2	3"	73.2	91.0	V70SW, White FKM	HCL-0910007320-V70SW-0020
101.6	4"	97.8	119.0	V70SW, White FKM	HCL-1190009780-V70SW-0020
25.4	1"	22.8	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505002280-XE7AA-0020
38.1	1 ½"	35.5	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505003550-XE7AA-0020
50.8	2"	48.2	64.0	Detectaseal® XE7A, Blue EPDM	HCL-0640004820-XE7AA-0020
63.5	2 ½"	60.5	77.5	Detectaseal® XE7A, Blue EPDM	HCL-0775006050-XE7AA-0020
76.2	3"	73.2	91.0	Detectaseal® XE7A, Blue EPDM	HCL-0910007320-XE7AA-0020
101.6	4"	97.8	119.0	Detectaseal® XE7A, Blue EPDM	HCL-1190009780-XE7AA-0020
25.4	1"	22.8	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505002280-XS7HY-0050
38.1	1 ½"	35.5	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505003550-XS7HY-0050
50.8	2"	48.2	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0640004820-XS7HY-0050
63.5	2 ½"	60.5	77.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0775006050-XS7HY-0050
76.2	3"	73.2	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0910007320-XS7HY-0050
101.6	4"	97.8	119.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-1190009780-XS7HY-0050

HyClamp™ BS4825-3 – Unlipped (Type B/I)



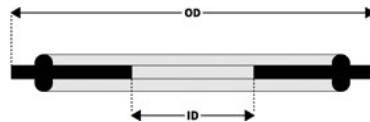
Nominal Size (mm)	Nominal size (inch)	ID (mm)	OD (mm)	Elastomer	PPE part number
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38.1	1 ½"	35.5	50.5	Perlast® G74S, White FFKM	HCN-0505003550-G74SW-1020
50.8	2"	48.2	64.0	Perlast® G74S, White FFKM	HCN-0640004820-G74SW-1020
63.5	2 ½"	60.5	77.5	Perlast® G74S, White FFKM	HCN-0775006050-G74SW-1020
76.2	3"	73.2	91.0	Perlast® G74S, White FFKM	HCN-0910007320-G74SW-1020
101.6	4"	97.8	119.0	Perlast® G74S, White FFKM	HCN-1190009780-G74SW-1020
25.4	1"	22.8	50.5	V70SW, White FKM	HCN-0505002280-V70SW-0020
38.1	1 ½"	35.5	50.5	V70SW, White FKM	HCN-0505003550-V70SW-0020
50.8	2"	48.2	64.0	V70SW, White FKM	HCN-0640004820-V70SW-0020
63.5	2 ½"	60.5	77.5	V70SW, White FKM	HCN-0775006050-V70SW-0020
76.2	3"	73.2	91.0	V70SW, White FKM	HCN-0910007320-V70SW-0020
101.6	4"	97.8	119.0	V70SW, White FKM	HCN-1190009780-V70SW-0020
25.4	1"	22.8	50.5	Detectaseal® XE7A, Blue EPDM	HCN-0505002280-XE7AA-0020
38.1	1 ½"	35.5	50.5	Detectaseal® XE7A, Blue EPDM	HCN-0505003550-XE7AA-0020
50.8	2"	48.2	64.0	Detectaseal® XE7A, Blue EPDM	HCN-0640004820-XE7AA-0020
63.5	2 ½"	60.5	77.5	Detectaseal® XE7A, Blue EPDM	HCN-0775006050-XE7AA-0020
76.2	3"	73.2	91.0	Detectaseal® XE7A, Blue EPDM	HCN-0910007320-XE7AA-0020
101.6	4"	97.8	119.0	Detectaseal® XE7A, Blue EPDM	HCN-1190009780-XE7AA-0020
25.4	1"	22.8	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCN-0505002280-XS7HY-0050
38.1	1 ½"	35.5	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCN-0505003550-XS7HY-0050
50.8	2"	48.2	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-0640004820-XS7HY-0050
63.5	2 ½"	60.5	77.5	Detectaseal® XS7H, Dark Grey VMQ	HCN-0775006050-XS7HY-0050
76.2	3"	73.2	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-0910007320-XS7HY-0050
101.6	4"	97.8	119.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-1190009780-XS7HY-0050

HyClamp™ ISO 2852 - Lipped | Flanged (Type A/II)



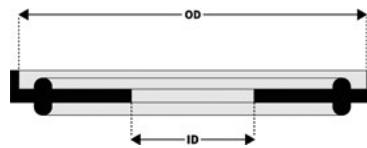
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
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38.0	35.8	50.5	Perlast® G74S, White FFKM	HCL-0505003580-G74SW-1020
51.0	48.8	64.0	Perlast® G74S, White FFKM	HCL-0640004880-G74SW-1020
63.5	60.5	77.5	Perlast® G74S, White FFKM	HCL-0775006050-G74SW-1020
76.1	73.1	91.0	Perlast® G74S, White FFKM	HCL-0910007310-G74SW-1020
101.6	97.8	119.0	Perlast® G74S, White FFKM	HCL-1190009780-G74SW-1020
25.0	22.8	50.5	V70SW, White FKM	HCL-0505002280-V70SW-0020
38.0	35.8	50.5	V70SW, White FKM	HCL-0505003580-V70SW-0020
51.0	48.8	64.0	V70SW, White FKM	HCL-0640004880-V70SW-0020
63.5	60.5	77.5	V70SW, White FKM	HCL-0775006050-V70SW-0020
76.1	73.1	91.0	V70SW, White FKM	HCL-0910007310-V70SW-0020
101.6	97.8	119.0	V70SW, White FKM	HCL-1190009780-V70SW-0020
25.0	22.8	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505002280-XE7AA-0020
38.0	35.8	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505003580-XE7AA-0020
51.0	48.8	64.0	Detectaseal® XE7A, Blue EPDM	HCL-0640004880-XE7AA-0020
63.5	60.5	77.5	Detectaseal® XE7A, Blue EPDM	HCL-0775006050-XE7AA-0020
76.1	73.1	91.0	Detectaseal® XE7A, Blue EPDM	HCL-0910007310-XE7AA-0020
101.6	97.8	119.0	Detectaseal® XE7A, Blue EPDM	HCL-1190009780-XE7AA-0020
25.0	22.8	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505002280-XS7HY-0050
38.0	35.8	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505003580-XS7HY-0050
51.0	48.8	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0640004880-XS7HY-0050
63.5	60.5	77.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0775006050-XS7HY-0050
76.1	73.1	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0910007310-XS7HY-0050
101.6	97.8	119.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-1190009780-XS7HY-0050

HyClamp™ ISO 2852 - Unlipped (Type B/I)



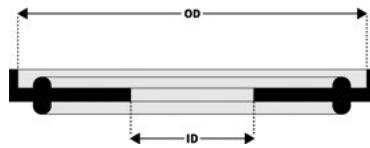
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
25.0	22.8	50.5	Perlast® G74S, White FFKM	HCN-0505002280-G74SW-1020
38.0	35.8	50.5	Perlast® G74S, White FFKM	HCN-0505003580-G74SW-1020
51.0	48.8	64.0	Perlast® G74S, White FFKM	HCN-0640004880-G74SW-1020
63.5	60.5	77.5	Perlast® G74S, White FFKM	HCN-0775006050-G74SW-1020
76.1	73.1	91.0	Perlast® G74S, White FFKM	HCN-0910007310-G74SW-1020
101.6	97.8	119.0	Perlast® G74S, White FFKM	HCN-1190009780-G74SW-1020
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25.0	22.8	50.5	V70SW, White FKM	HCN-0505002280-V70SW-0020
38.0	35.8	50.5	V70SW, White FKM	HCN-0505003580-V70SW-0020
51.0	48.8	64.0	V70SW, White FKM	HCN-0640004880-V70SW-0020
63.5	60.5	77.5	V70SW, White FKM	HCN-0775006050-V70SW-0020
76.1	73.1	91.0	V70SW, White FKM	HCN-0910007310-V70SW-0020
101.6	97.8	119.0	V70SW, White FKM	HCN-1190009780-V70SW-0020
<hr/>				
25.0	22.8	50.5	Detectaseal® XE7A, Blue EPDM	HCN-0505002280-XE7AA-0020
38.0	35.8	50.5	Detectaseal® XE7A, Blue EPDM	HCN-0505003580-XE7AA-0020
51.0	48.8	64.0	Detectaseal® XE7A, Blue EPDM	HCN-0640004880-XE7AA-0020
63.5	60.5	77.5	Detectaseal® XE7A, Blue EPDM	HCN-0775006050-XE7AA-0020
76.1	73.1	91.0	Detectaseal® XE7A, Blue EPDM	HCN-0910007310-XE7AA-0020
101.6	97.8	119.0	Detectaseal® XE7A, Blue EPDM	HCN-1190009780-XE7AA-0020
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25.0	22.8	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCN-0505002280-XS7HY-0050
38.0	35.8	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCN-0505003580-XS7HY-0050
51.0	48.8	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-0640004880-XS7HY-0050
63.5	60.5	77.5	Detectaseal® XS7H, Dark Grey VMQ	HCN-0775006050-XS7HY-0050
76.1	73.1	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-0910007310-XS7HY-0050

HyClamp™ DIN 32676 Series A – Lipped | Flanged (Type II)



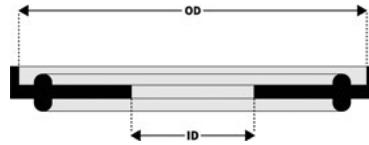
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
25	26.2	50.5	Perlast® G74S, White FFKM	HCL-0505002620-G74SW-1020
32	32.2	50.5	Perlast® G74S, White FFKM	HCL-0505003220-G74SW-1020
40	38.2	50.5	Perlast® G74S, White FFKM	HCL-0505003820-G74SW-1020
50	50.2	64.0	Perlast® G74S, White FFKM	HCL-0640050020-G74SW-1020
65	66.2	91.0	Perlast® G74S, White FFKM	HCL-0910006620-G74SW-1020
80	81.2	106.0	Perlast® G74S, White FFKM	HCL-1060008120-G74SW-1020
100	100.2	119.0	Perlast® G74S, White FFKM	HCL-1190010020-G74SW-1020
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25	26.2	50.5	V70SW, White FKM	HCL-0505002620-V70SW-0020
32	32.2	50.5	V70SW, White FKM	HCL-0505003220-V70SW-0020
40	38.2	50.5	V70SW, White FKM	HCL-0505003820-V70SW-0020
50	50.2	64.0	V70SW, White FKM	HCL-0640050020-V70SW-0020
65	66.2	91.0	V70SW, White FKM	HCL-0910006620-V70SW-0020
80	81.2	106.0	V70SW, White FKM	HCL-1060008120-V70SW-0020
100	100.2	119.0	V70SW, White FKM	HCL-1190010020-V70SW-0020
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25	26.2	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505002620-XE7AA-0020
32	32.2	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505003220-XE7AA-0020
40	38.2	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505003820-XE7AA-0020
50	50.2	64.0	Detectaseal® XE7A, Blue EPDM	HCL-0640050020-XE7AA-0020
65	66.2	91.0	Detectaseal® XE7A, Blue EPDM	HCL-0910006620-XE7AA-0020
80	81.2	106.0	Detectaseal® XE7A, Blue EPDM	HCL-1060008120-XE7AA-0020
100	100.2	119.0	Detectaseal® XE7A, Blue EPDM	HCL-1190010020-XE7AA-0020
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25	26.2	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505002620-XS7HY-0050
32	32.2	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505003220-XS7HY-0050
40	38.2	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505003820-XS7HY-0050
50	50.2	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0640050020-XS7HY-0050
65	66.2	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0910006620-XS7HY-0050
80	81.2	106.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-1060008120-XS7HY-0050
100	100.2	119.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-1190010020-XS7HY-0050

HyClamp DIN 32676 Series B - Lipped | Flanged (Type II)



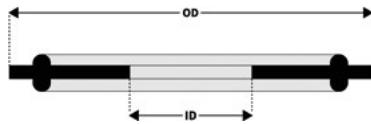
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
26.9	23.9	50.5	Perlast® G74S, White FFKM	HCL-0505002390-G74SW-1020
33.7	29.9	50.5	Perlast® G74S, White FFKM	HCL-0505002990-G74SW-1020
42.4	38.6	64.0	Perlast® G74S, White FFKM	HCL-0640003860-G74SW-1020
48.3	44.5	64.0	Perlast® G74S, White FFKM	HCL-0640004450-G74SW-1020
60.3	56.5	77.5	Perlast® G74S, White FFKM	HCL-0775005650-G74SW-1020
76.1	72.3	91.0	Perlast® G74S, White FFKM	HCL-0910007230-G74SW-1020
88.9	84.5	106.0	Perlast® G74S, White FFKM	HCL-1060008450-G74SW-1020
26.9	23.9	50.5	V70SW, White FKM	HCL-0505002390-V70SW-0020
33.7	29.9	50.5	V70SW, White FKM	HCL-0505002990-V70SW-0020
42.4	38.6	64.0	V70SW, White FKM	HCL-0640003860-V70SW-0020
48.3	44.5	64.0	V70SW, White FKM	HCL-06400-04450-V70SW-0020
60.3	56.5	77.5	V70SW, White FKM	HCL-0775005650-V70SW-0020
76.1	72.3	91.0	V70SW, White FKM	HCL-0910007230-V70SW-0020
88.9	84.5	106.0	V70SW, White FKM	HCL-1060008450-V70SW-0020
26.9	23.9	50.5	Detectaseal® XV7A, Blue FKM	HCL-0505002390-XV7AA-0020
33.7	29.9	50.5	Detectaseal® XV7A, Blue FKM	HCL-0505002990-XV7AA-0020
42.4	38.6	64.0	Detectaseal® XV7A, Blue FKM	HCL-0640003860-XV7AA-0020
48.3	44.5	64.0	Detectaseal® XV7A, Blue FKM	HCL-0640004450-XV7AA-0020
60.3	56.5	77.5	Detectaseal® XV7A, Blue FKM	HCL-0775005650-XV7AA-0020
76.1	72.3	91.0	Detectaseal® XV7A, Blue FKM	HCL-0910007230-XV7AA-0020
88.9	84.5	106.0	Detectaseal® XV7A, Blue FKM	HCL-1060008450-XV7AA-0020
26.9	23.9	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505002390-XS7HY-0050
33.7	29.9	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505002990-XS7HY-0050
42.4	38.6	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0640003860-XS7HY-0050
48.3	44.5	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0640004450-XS7HY-0050
60.3	56.5	77.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0775005650-XS7HY-0050
76.1	72.3	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0910007230-XS7HY-0050
88.9	84.5	106.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-1060008450-XS7HY-0050

HyClamp DIN 32676 Series C - Lipped | Flanged (Type II)



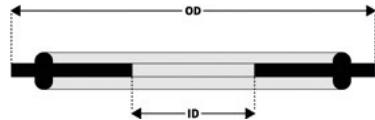
Nominal Size (inch)	ID (mm)	OD (mm)	Elastomer	PPE part number
1"	22.3	50.5	Perlast® G74S, White FFKM	HCL-0505002230-G74SW-1020
1½"	35.0	50.5	Perlast® G74S, White FFKM	HCL-0505003500-G74SW-1020
2"	47.7	64.0	Perlast® G74S, White FFKM	HCL-0640004770-G74SW-1020
2½"	60.4	77.5	Perlast® G74S, White FFKM	HCL-0775006040-G74SW-1020
3"	73.1	91.0	Perlast® G74S, White FFKM	HCL-0910007310-G74SW-1020
4"	97.6	119.0	Perlast® G74S, White FFKM	HCL-1190009760-G74SW-1020
1"	22.3	50.5	V70SW, White FKM	HCL-0505002230-V70SW-0020
1½"	35.0	50.5	V70SW, White FKM	HCL-0505003500-V70SW-0020
2"	47.7	64.0	V70SW, White FKM	HCL-0640004770-V70SW-0020
2½"	60.4	77.5	V70SW, White FKM	HCL-0775006040-V70SW-0020
3"	73.1	91.0	V70SW, White FKM	HCL-0910007310-V70SW-0020
4"	97.6	119.0	V70SW, White FKM	HCL-1190009760-V70SW-0020
1"	22.3	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505002230-XE7AA-0020
1½"	35.0	50.5	Detectaseal® XE7A, Blue EPDM	HCL-0505003500-XE7AA-0020
2"	47.7	64.0	Detectaseal® XE7A, Blue EPDM	HCL-0640004770-XE7AA-0020
2½"	60.4	77.5	Detectaseal® XE7A, Blue EPDM	HCL-0775006040-XE7AA-0020
3"	73.1	91.0	Detectaseal® XE7A, Blue EPDM	HCL-0910007310-XE7AA-0020
4"	97.6	119.0	Detectaseal® XE7A, Blue EPDM	HCL-1190009760-XE7AA-0020
1"	22.3	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505002230-XS7HY-0050
1½"	35.0	50.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0505003500-XS7HY-0050
2"	47.7	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0640004770-XS7HY-0050
2½"	60.4	77.5	Detectaseal® XS7H, Dark Grey VMQ	HCL-0775006040-XS7HY-0050
3"	73.1	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-0910007310-XS7HY-0050
4"	97.6	119.0	Detectaseal® XS7H, Dark Grey VMQ	HCL-1190009760-XS7HY-0050

HyClamp™ ASME BPE - Unlipped | Type I



Nominal Size (inch)	ID (mm)	OD (mm)	Elastomer	PPE part number
1"	21.7	50.4	Perlast® G74S, White FFKM	HCN-0504002170-G74SW-1020
1 ½"	34.4	50.4	Perlast® G74S, White FFKM	HCN-0504003440-G74SW-1020
2"	47.1	64.0	Perlast® G74S, White FFKM	HCN-0640004710-G74SW-1020
2 ½"	59.8	77.4	Perlast® G74S, White FFKM	HCN-0774005980-G74SW-1020
3"	72.5	91.0	Perlast® G74S, White FFKM	HCN-0910007250-G74SW-1020
4"	97.0	119.0	Perlast® G74S, White FFKM	HCN-1190009700-G74SW-1020
6"	146.5	166.9	Perlast® G74S, White FFKM	HCN-1669014650-G74SW-1020
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1"	21.7	50.4	V70SW, White FKM	HCN-0504002170-V70SW-0020
1 ½"	34.4	50.4	V70SW, White FKM	HCN-0504003440-V70SW-0020
2"	47.1	64.0	V70SW, White FKM	HCN-0640004710-V70SW-0020
2 ½"	59.8	77.4	V70SW, White FKM	HCN-0774005980-V70SW-0020
3"	72.5	91.0	V70SW, White FKM	HCN-0910007250-V70SW-0020
4"	97.0	119.0	V70SW, White FKM	HCN-1190009700-V70SW-0020
6"	146.5	166.9	V70SW, White FKM	HCN-1669014650-V70SW-0020

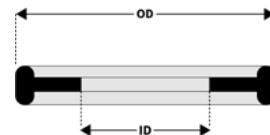
HyClamp™ ASME BPE - Unlipped | Type I



Nominal Size (inch)	ID (mm)	OD (mm)	Elastomer	PPE part number
1"	21.7	50.4	Detectaseal® XE7A, Blue EPDM	HCN-0504002170-XE7AA-0020
1 1/2"	34.4	50.4	Detectaseal® XE7A, Blue EPDM	HCN-0504003440-XE7AA-0020
2"	47.1	64.0	Detectaseal® XE7A, Blue EPDM	HCN-0640004710-XE7AA-0020
2 1/2"	59.8	77.4	Detectaseal® XE7A, Blue EPDM	HCN-0774005980-XE7AA-0020
3"	72.5	91.0	Detectaseal® XE7A, Blue EPDM	HCN-0910007250-XE7AA-0020
4"	97.0	119.0	Detectaseal® XE7A, Blue EPDM	HCN-1190009700-XE7AA-0020
6"	146.5	166.9	Detectaseal® XE7A, Blue EPDM	HCN-1669014650-XE7AA-0020
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1"	21.7	50.4	Detectaseal® XS7H, Dark Grey VMQ	HCN-0504002170-XS7HY-0020
1 1/2"	34.4	50.4	Detectaseal® XS7H, Dark Grey VMQ	HCN-0504003440-XS7HY-0020
2"	47.1	64.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-0640004710-XS7HY-0020
2 1/2"	59.8	77.4	Detectaseal® XS7H, Dark Grey VMQ	HCN-0774005980-XS7HY-0020
3"	72.5	91.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-0910007250-XS7HY-0020
4"	97.0	119.0	Detectaseal® XS7H, Dark Grey VMQ	HCN-1190009700-XS7HY-0020
6"	146.5	166.9	Detectaseal® XS7H, Dark Grey VMQ	HCN-1669014650-XS7HY-0020

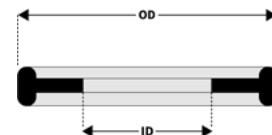
HyClamp™ Compact Range (mini pipe couplings)

DIN 32676 Series A



Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
6.0	6.2	21.8	Perlast® G74S, White FFKM	HCC-0218000620-G74SW-1020
8.0	8.2	21.8	Perlast® G74S, White FFKM	HCC-0218000820-G74SW-1020
6.0	6.2	21.8	V70SW, White FKM	HCC-0218000620-V70SW-0020
8.0	8.2	21.8	V70SW, White FKM	HCC-0218000820-V70SW-0020
6.0	6.2	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0218000620-XE7AA-0020
8.0	8.2	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0218000820-XE7AA-0020
6.0	6.2	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0218000620-XS7HY-0050
8.0	8.2	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0218000820-XS7HY-0050

HyClamp™ Compact Range (mini pipe couplings)

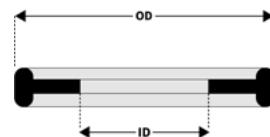


DIN 32676 Series B

Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
10.2	7.2	21.8	Perlast® G74S, White FFKM	HCC-0218000720-G74SW-1020
13.5	10.5	21.8	Perlast® G74S, White FFKM	HCC-0250001050-G74SW-1020
17.2	14.2	21.8	Perlast® G74S, White FFKM	HCC-0218001420-G74SW-1020
10.2	7.2	21.8	V70SW, White FKM	HCC-0218000720-V70SW-0020
13.5	10.5	21.8	V70SW, White FKM	HCC-0218001050-V70SW-0020
17.2	14.2	21.8	V70SW, White FKM	HCC-0218001420-V70SW-0020
10.2	7.2	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0218000720-XE7AA-0020
13.5	10.5	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0218001050-XE7AA-0020
17.2	14.2	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0218001420-XE7AA-0020
10.2	7.2	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0218000720-XS7HY-0050
13.5	10.5	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0218001050-XS7HY-0050
17.2	14.2	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0218001420-XS7HY-0050

HyClamp™ Compact Range (mini pipe couplings)

DIN 32676 Series C



Nominal Size (inch)	ID (mm)	OD (mm)	Elastomer	PPE part number
1/4"	4.8	21.8	Perlast® G74S, White FFKM	HCC-0250000480-G74SW-1020
3/8"	8.0	21.8	Perlast® G74S, White FFKM	HCC-0250000800-G74SW-1020
1/2"	9.6	21.8	Perlast® G74S, White FFKM	HCC-0250000960-G74SW-1020
3/4"	16.0	21.8	Perlast® G74S, White FFKM	HCC-0250001600-G74SW-1020
1/4"	4.8	21.8	V70SW, White FKM	HCC-0250000480-V70SW-0020
3/8"	8.0	21.8	V70SW, White FKM	HCC-0250000800-V70SW-0020
1/2"	9.6	21.8	V70SW, White FKM	HCC-0250000960-V70SW-0020
3/4"	16.0	21.8	V70SW, White FKM	HCC-0250001600-V70SW-0020
1/4"	4.8	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0250000480-XE7AA-0020
3/8"	8.0	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0250000800-XE7AA-0020
1/2"	9.6	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0250000960-XE7AA-0020
3/4"	16.0	21.8	Detectaseal® XE7A, Blue EPDM	HCC-0250000960-XE7AA-0020
1/4"	4.8	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0250000480-XS7HY-0050
3/8"	8.0	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0250000800-XS7HY-0050
1/2"	9.6	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0250000960-XS7HY-0050
3/4"	16.0	21.8	Detectaseal® XS7H, Dark Grey VMQ	HCC-0250001600-XS7HY-0050

HyClamps for Demanding Applications

The traditional hygienic gasket has been used for many years without any significant advances to meet the requirements of more demanding applications and processes. In circumstances that require higher levels of chemical compatibility or elevated temperatures, there may be a requirement to use perfluoroelastomer (FFKM) materials, such as PPE's Perlast® G74S.

Perfluoroelastomers offer almost universal chemical resistance and the highest temperature capability, but they also experience a higher Coefficient of Thermal Expansion (CTE) than other elastomer materials. This can be detrimental to how a gasket performs; the expansion of the elastomer into the bore of the pipe can lead to cleaning issues, contamination and loss of flow through the pipe. Further complexities such as space constraints within the housing or incorrectly designed/machined grooves can also become an issue preventing the gasket from functioning correctly. Contact PPE for advice.

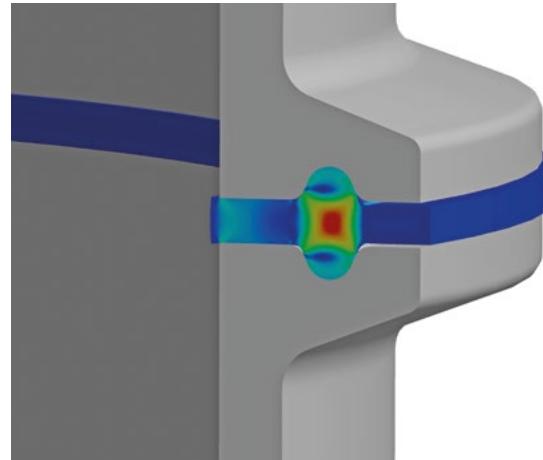


Figure 1 – Protrusion of gasket into bore of pipe.

Hygienic Seal Design Service for Optimised Performance

Hygienic seals are an integral part of food production plant and equipment. Maximising plant flexibility and reducing seal maintenance downtime is heavily dependent upon choosing the right sealing material and, of course, the seal design.

PPE offers an in-house design service that allows food engineers and equipment manufacturers to specify custom hygienic gaskets. HyClamp designs can be optimised for specific applications; this may be a change to the diameter for better fit or a complete change to the geometry.

Finite Element Analysis (FEA) is used to understand thermal expansion of the elastomer, tolerance stack up concerns and stress analysis to identify any weak points in the gasket during operation. The HyClamp gasket is simulated virtually and the design fine-tuned before manufacturing. This service is particularly useful to engineers sourcing FFKM gaskets for demanding applications, to ensure optimum fit and performance.

For non-standard HyClamp enquiries please contact PPE for further information and advice.

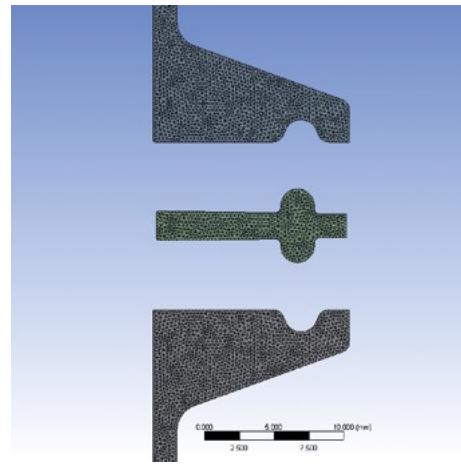
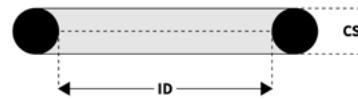


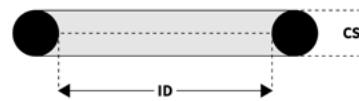
Figure 2 – FEA model of HyClamp and mating hardware.

RJT O-rings BS4825 - 5



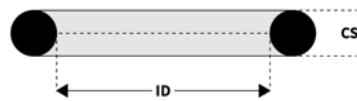
Nominal Size (inch)	ID (mm)	CS (mm)	Elastomer	PPE part number
1"	26.7	6.6	Perlast® G74S, White FFKM	RJT-002670-0660-G74SW1020
1 ½"	39.4	6.6	Perlast® G74S, White FFKM	RJT-003940-0660-G74SW1020
2"	52.1	6.6	Perlast® G74S, White FFKM	RJT-005210-0660-G74SW1020
2 ½"	64.8	6.6	Perlast® G74S, White FFKM	RJT-006480-0660-G74SW1020
3"	77.5	6.6	Perlast® G74S, White FFKM	RJT-007750-0660-G74SW1020
4"	93.9	6.6	Perlast® G74S, White FFKM	RJT-009390-0660-G74SW1020
1"	26.7	6.6	V70SW, White FKM	RJT-002670-0660-V70SW0020
1 ½"	39.4	6.6	V70SW, White FKM	RJT-003940-0660-V70SW0020
2"	52.1	6.6	V70SW, White FKM	RJT-005210-0660-V70SW0020
2 ½"	64.8	6.6	V70SW, White FKM	RJT-006480-0660-V70SW0020
3"	77.5	6.6	V70SW, White FKM	RJT-007750-0660-V70SW0020
4"	93.9	6.6	V70SW, White FKM	RJT-009390-0660-V70SW0020
1"	26.7	6.6	Detectaseal® XE7A, Blue EPDM	RJT-002670-0660-XE7AA0020
1 ½"	39.4	6.6	Detectaseal® XE7A, Blue EPDM	RJT-003940-0660-XE7AA0020
2"	52.1	6.6	Detectaseal® XE7A, Blue EPDM	RJT-005210-0660-XE7AA0020
2 ½"	64.8	6.6	Detectaseal® XE7A, Blue EPDM	RJT-006480-0660-XE7AA0020
3"	77.5	6.6	Detectaseal® XE7A, Blue EPDM	RJT-007750-0660-XE7AA0020
4"	93.9	6.6	Detectaseal® XE7A, Blue EPDM	RJT-009390-0660-XE7AA0020
1"	26.7	6.6	Detectaseal® XS7H, Dark Grey VMQ	RJT-002670-0660-XS7HY0050
1 ½"	39.4	6.6	Detectaseal® XS7H, Dark Grey VMQ	RJT-003940-0660-XS7HY0050
2"	52.1	6.6	Detectaseal® XS7H, Dark Grey VMQ	RJT-005210-0660-XS7HY0050
2 ½"	64.8	6.6	Detectaseal® XS7H, Dark Grey VMQ	RJT-006480-0660-XS7HY0050
3"	77.5	6.6	Detectaseal® XS7H, Dark Grey VMQ	RJT-007750-0660-XS7HY0050
4"	93.9	6.6	Detectaseal® XS7H, Dark Grey VMQ	RJT-009390-0660-XS7HY0050

O-rings DIN 11864 - Series A



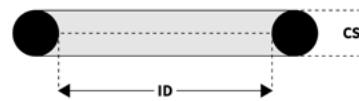
Nominal size (mm)	ID (mm)	CS (mm)	Elastomer	PPE part number
10	12.0	3.5	Perlast® G74S, White FFKM	HDO-001200-0035-G74SW1020
15	18.0	3.5	Perlast® G74S, White FFKM	HDO-001800-0035-G74SW1020
20	22.0	3.5	Perlast® G74S, White FFKM	HDO-002200-0035-G74SW1020
25	28.0	3.5	Perlast® G74S, White FFKM	HDO-002800-0035-G74SW1020
32	34.0	5.0	Perlast® G74S, White FFKM	HDO-003400-0050-G74SW1020
40	40.0	5.0	Perlast® G74S, White FFKM	HDO-004000-0050-G74SW1020
50	52.0	5.0	Perlast® G74S, White FFKM	HDO-005200-0050-G74SW1020
65	68.0	5.0	Perlast® G74S, White FFKM	HDO-006800-0050-G74SW1020
80	83.0	5.0	Perlast® G74S, White FFKM	HDO-008300-0050-G74SW1020
100	102.0	5.0	Perlast® G74S, White FFKM	HDO-102000-0050-G74SW1020
125	127.0	5.0	Perlast® G74S, White FFKM	HDO-012700-0050-G74SW1020
150	152.0	5.0	Perlast® G74S, White FFKM	HDO-015200-0050-G74SW1020
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10	12.0	3.5	V70SW, White FKM	HDO-001200-0035-V70SW0020
15	18.0	3.5	V70SW, White FKM	HDO-001800-0035-V70SW0020
20	22.0	3.5	V70SW, White FKM	HDO-002200-0035-V70SW0020
25	28.0	3.5	V70SW, White FKM	HDO-002800-0035-V70SW0020
32	34.0	5.0	V70SW, White FKM	HDO-003400-0050-V70SW0020
40	40.0	5.0	V70SW, White FKM	HDO-004000-0050-V70SW0020
50	52.0	5.0	V70SW, White FKM	HDO-005200-0050-V70SW0020
65	68.0	5.0	V70SW, White FKM	HDO-006800-0050-V70SW0020
80	83.0	5.0	V70SW, White FKM	HDO-008300-0050-V70SW0020
100	102.0	5.0	V70SW, White FKM	HDO-102000-0050-V70SW0020
125	127.0	5.0	V70SW, White FKM	HDO-012700-0050-V70SW0020
150	152.0	5.0	V70SW, White FKM	HDO-015200-0050-V70SW0020
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10	12.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-001200-0035-XE7AA0020
15	18.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-001800-0035-XE7AA0020
20	22.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-002200-0035-XE7AA0020
25	28.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-002800-0035-XE7AA0020
32	34.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-003400-0050-XE7AA0020
40	40.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-004000-0050-XE7AA0020
50	52.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-005200-0050-XE7AA0020
65	68.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-006800-0050-XE7AA0020
80	83.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-008300-0050-XE7AA0020
100	102.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-102000-0050-XE7AA0020
125	127.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-012700-0050-XE7AA0020
150	152.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-015200-0050-XE7AA0020

O-rings DIN 11864 - Series A



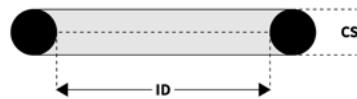
Nominal size (mm)	ID (mm)	CS (mm)	Elastomer	PPE part number
10	12.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-001200-0035-XS7HY0050
15	18.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-001800-0035-XS7HY0050
20	22.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-002200-0035-XS7HY0050
25	28.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-002800-0035-XS7HY0050
32	34.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-003400-0050-XS7HY0050
40	40.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-004000-0050-XS7HY0050
50	52.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-005200-0050-XS7HY0050
65	68.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-006800-0050-XS7HY0050
80	83.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-008300-0050-XS7HY0050
100	102.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-102000-0050-XS7HY0050
125	127.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-012700-0050-XS7HY0050
150	152.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-015200-0050-XS7HY0050

O-rings DIN 11864 - Series B



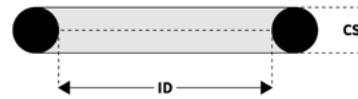
Nominal size (mm)	ID (mm)	CS (mm)	Elastomer	PPE Part number
13.5	12.0	3.5	Perlast® G74S, White FFKM	HDO-001200-0035-G74SW1020
17.2	16.0	3.5	Perlast® G74S, White FFKM	HDO-001600-0035-G74SW1020
21.3	20.0	3.5	Perlast® G74S, White FFKM	HDO-002000-0035-G74SW1020
26.9	26.0	3.5	Perlast® G74S, White FFKM	HDO-002600-0035-G74SW1020
33.7	32.0	5.0	Perlast® G74S, White FFKM	HDO-003200-0050-G74SW1020
42.4	40.5	5.0	Perlast® G74S, White FFKM	HDO-004050-0050-G74SW1020
48.3	46.5	5.0	Perlast® G74S, White FFKM	HDO-004650-0050-G74SW1020
60.3	58.5	5.0	Perlast® G74S, White FFKM	HDO-005850-0050-G74SW1020
76.1	73.5	5.0	Perlast® G74S, White FFKM	HDO-007350-0050-G74SW1020
88.9	86.5	5.0	Perlast® G74S, White FFKM	HDO-008650-0050-G74SW1020
13.5	12.0	3.5	V70SW, White FKM	HDO-001200-0035-V70SW0020
17.2	16.0	3.5	V70SW, White FKM	HDO-001600-0035-V70SW0020
21.3	20.0	3.5	V70SW, White FKM	HDO-002000-0035-V70SW0020
26.9	26.0	3.5	V70SW, White FKM	HDO-002600-0035-V70SW0020
33.7	32.0	5.0	V70SW, White FKM	HDO-003200-0050-V70SW0020
42.4	40.5	5.0	V70SW, White FKM	HDO-004050-0050-V70SW0020
48.3	46.5	5.0	V70SW, White FKM	HDO-004650-0050-V70SW0020
60.3	58.5	5.0	V70SW, White FKM	HDO-005850-0050-V70SW0020
76.1	73.5	5.0	V70SW, White FKM	HDO-007350-0050-V70SW0020
88.9	86.5	5.0	V70SW, White FKM	HDO-008650-0050-V70SW0020
13.5	12.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-001200-0035-XE7AA0020
17.2	16.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-001600-0035-XE7AA0020
21.3	20.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-002000-0035-XE7AA0020
26.9	26.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-002600-0035-XE7AA0020
33.7	32.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-003200-0050-XE7AA0020
42.4	40.5	5.0	Detectaseal® XE7A, Blue EPDM	HDO-004050-0050-XE7AA0020
48.3	46.5	5.0	Detectaseal® XE7A, Blue EPDM	HDO-004650-0050-XE7AA0020
60.3	58.5	5.0	Detectaseal® XE7A, Blue EPDM	HDO-005850-0050-XE7AA0020
76.1	73.5	5.0	Detectaseal® XE7A, Blue EPDM	HDO-007350-0050-XE7AA0020
88.9	86.5	5.0	Detectaseal® XE7A, Blue EPDM	HDO-008650-0050-XE7AA0020

O-rings DIN 11864 - Series B



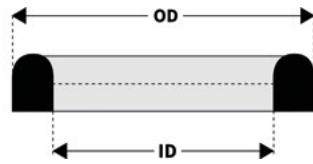
Nominal size (mm)	ID (mm)	CS (mm)	Elastomer	PPE Part number
13.5	12.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-001200-0035-XS7HY0050
17.2	16.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-001600-0035-XS7HY0050
21.3	20.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-002000-0035-XS7HY0050
26.9	26.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-002600-0035-XS7HY0050
33.7	32.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-003200-0050-XS7HY0050
42.4	40.5	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-004050-0050-XS7HY0050
48.3	46.5	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-004650-0050-XS7HY0050
60.3	58.5	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-005850-0050-XS7HY0050
76.1	73.5	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-007350-0050-XS7HY0050
88.9	86.5	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-008650-0050-XS7HY0050

O-rings DIN 11864 - Series C



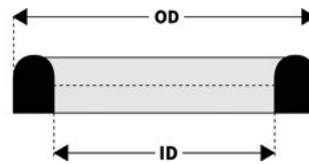
Nominal size (inch)	ID (mm)	CS (mm)	Elastomer	Part Code
1/2"	12.0	3.5	Perlast® G74S, White FFKM	HDO-001200-0035-G74SW1020
3/4"	18.0	3.5	Perlast® G74S, White FFKM	HDO-001800-0035-G74SW1020
1"	24.0	3.5	Perlast® G74S, White FFKM	HDO-002400-0035-G74SW1020
1 1/2"	37.0	5.0	Perlast® G74S, White FFKM	HDO-003700-0050-G74SW1020
2"	50.0	5.0	Perlast® G74S, White FFKM	HDO-005000-0050-G74SW1020
2 1/2"	62.0	5.0	Perlast® G74S, White FFKM	HDO-006200-0050-G74SW1020
3"	75.0	5.0	Perlast® G74S, White FFKM	HDO-007500-0050-G74SW1020
4"	100.0	5.0	Perlast® G74S, White FFKM	HDO-010000-0050-G74SW1020
1/2"	12.0	3.5	V70SW, White FKM	HDO-001200-0035-V70SW0020
3/4"	18.0	3.5	V70SW, White FKM	HDO-001800-0035-V70SW0020
1"	24.0	3.5	V70SW, White FKM	HDO-002400-0035-V70SW0020
1 1/2"	37.0	5.0	V70SW, White FKM	HDO-003700-0050-V70SW0020
2"	50.0	5.0	V70SW, White FKM	HDO-005000-0050-V70SW0020
2 1/2"	62.0	5.0	V70SW, White FKM	HDO-006200-0050-V70SW0020
3"	75.0	5.0	V70SW, White FKM	HDO-007500-0050-V70SW0020
4"	100.0	5.0	V70SW, White FKM	HDO-010000-0050-V70SW0020
1/2"	12.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-001200-0035-XE7AA0020
3/4"	18.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-001800-0035-XE7AA0020
1"	24.0	3.5	Detectaseal® XE7A, Blue EPDM	HDO-002400-0035-XE7AA0020
1 1/2"	37.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-003700-0050-XE7AA0020
2"	50.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-005000-0050-XE7AA0020
2 1/2"	62.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-006200-0050-XE7AA0020
3"	75.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-007500-0050-XE7AA0020
4"	100.0	5.0	Detectaseal® XE7A, Blue EPDM	HDO-010000-0050-XE7AA0020
1/2"	12.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-001200-0035-XS7HY0050
3/4"	18.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-001800-0035-XS7HY0050
1"	24.0	3.5	Detectaseal® XS7H, Dark Grey VMQ	HDO-002400-0035-XS7HY0050
1 1/2"	37.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-003700-0050-XS7HY0050
2"	50.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-005000-0050-XS7HY0050
2 1/2"	62.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-006200-0050-XS7HY0050
3"	75.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-007500-0050-XS7HY0050
4"	100.0	5.0	Detectaseal® XS7H, Dark Grey VMQ	HDO-010000-0050-XS7HY0050

D-seals DIN 11851



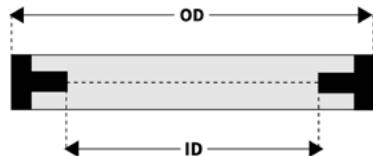
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
DN10	12.0	20.0	Perlast® G74S, White FFKM	HDS-02000120045-G74SW1020
DN15	18.0	26.0	Perlast® G74S, White FFKM	HDS-02600180045-G74SW1020
DN20	23.0	33.0	Perlast® G74S, White FFKM	HDS-03300230045-G74SW1020
DN25	30.0	40.0	Perlast® G74S, White FFKM	HDS-04000300500-G74SW1020
DN32	36.0	46.0	Perlast® G74S, White FFKM	HDS-04600360050-G74SW1020
DN40	42.0	52.0	Perlast® G74S, White FFKM	HDS-05200420050-G74SW1020
DN50	54.0	64.0	Perlast® G74S, White FFKM	HDS-06400540050-G74SW1020
DN65	71.0	81.0	Perlast® G74S, White FFKM	HDS-08100710050-G74SW1020
DN80	85.0	95.0	Perlast® G74S, White FFKM	HDS-09500850050-G74SW1020
DN90	94.0	104.0	Perlast® G74S, White FFKM	HDS-10400940050-G74SW1020
DN100	104.0	114.0	Perlast® G74S, White FFKM	HDS-11401040060-G74SW1020
DN125	130.0	142.0	Perlast® G74S, White FFKM	HDS-14201300070-G74SW1020
DN150	155.0	167.0	Perlast® G74S, White FFKM	HDS-16701550070-G74SW1020
DN10	12.0	20.0	V70SW, White FKM	HDS-02000120045-V70SW0020
DN15	18.0	26.0	V70SW, White FKM	HDS-02600180045-V70SW0020
DN20	23.0	33.0	V70SW, White FKM	HDS-03300230045-V70SW0020
DN25	30.0	40.0	V70SW, White FKM	HDS-04000300500-V70SW0020
DN32	36.0	46.0	V70SW, White FKM	HDS-04600360050-V70SW0020
DN40	42.0	52.0	V70SW, White FKM	HDS-05200420050-V70SW0020
DN50	54.0	64.0	V70SW, White FKM	HDS-06400540050-V70SW0020
DN65	71.0	81.0	V70SW, White FKM	HDS-08100710050-V70SW0020
DN80	85.0	95.0	V70SW, White FKM	HDS-09500850050-V70SW0020
DN90	94.0	104.0	V70SW, White FKM	HDS-10400940050-V70SW0020
DN100	104.0	114.0	V70SW, White FKM	HDS-11401040060-V70SW0020
DN125	130.0	142.0	V70SW, White FKM	HDS-14201300070-V70SW0020
DN150	155.0	167.0	V70SW, White FKM	HDS-16701550070-V70SW0020

D-seals DIN 11851



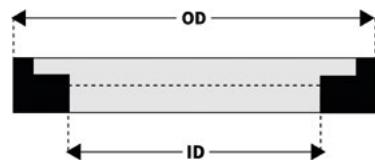
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
DN10	12.0	20.0	Detectaseal® XE7A, Blue EPDM	HDS-02000120045-XE7AA0020
DN15	18.0	26.0	Detectaseal® XE7A, Blue EPDM	HDS-02600180045-XE7AA0020
DN20	23.0	33.0	Detectaseal® XE7A, Blue EPDM	HDS-03300230045-XE7AA0020
DN25	30.0	40.0	Detectaseal® XE7A, Blue EPDM	HDS-04000300500-XE7AA0020
DN32	36.0	46.0	Detectaseal® XE7A, Blue EPDM	HDS-04600360050-XE7AA0020
DN40	42.0	52.0	Detectaseal® XE7A, Blue EPDM	HDS-05200420050-XE7AA0020
DN50	54.0	64.0	Detectaseal® XE7A, Blue EPDM	HDS-06400540050-XE7AA0020
DN65	71.0	81.0	Detectaseal® XE7A, Blue EPDM	HDS-08100710050-XE7AA0020
DN80	85.0	95.0	Detectaseal® XE7A, Blue EPDM	HDS-09500850050-XE7AA0020
DN90	94.0	104.0	Detectaseal® XE7A, Blue EPDM	HDS-10400940050-XE7AA0020
DN100	104.0	114.0	Detectaseal® XE7A, Blue EPDM	HDS-11401040060-XE7AA0020
DN125	130.0	142.0	Detectaseal® XE7A, Blue EPDM	HDS-14201300070-XE7AA0020
DN150	155.0	167.0	Detectaseal® XE7A, Blue EPDM	HDS-16701550070-XE7AA0020
DN10	12.0	20.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-02000120045-XS7HY0050
DN15	18.0	26.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-02600180045-XS7HY0050
DN20	23.0	33.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-03300230045-XS7HY0050
DN25	30.0	40.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-04000300500-XS7HY0050
DN32	36.0	46.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-04600360050-XS7HY0050
DN40	42.0	52.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-05200420050-XS7HY0050
DN50	54.0	64.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-06400540050-XS7HY0050
DN65	71.0	81.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-08100710050-XS7HY0050
DN80	85.0	95.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-09500850050-XS7HY0050
DN90	94.0	104.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-10400940050-XS7HY0050
DN100	104.0	114.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-11401040060-XS7HY0050
DN125	130.0	142.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-14201300070-XS7HY0050
DN150	155.0	167.0	Detectaseal® XS7H, Dark Grey VMQ	HDS-16701550070-XS7HY0050

IDF seals BS 4825 - 4 Type A



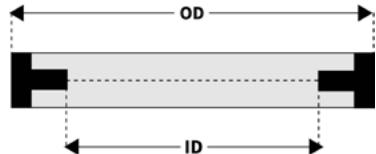
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
25.4	23.2	32.5	V70SW, White FKM	BSA-03250232070-V70SW0020
38.1	35.9	46.0	V70SW, White FKM	BSA-04600359070-V70SW0020
50.8	48.6	59.5	V70SW, White FKM	BSA-05950486070-V70SW0020
63.5	61.3	73.2	V70SW, White FKM	BSA-07320613070-V70SW0020
76.2	74.0	86.5	V70SW, White FKM	BSA-08650740070-V70SW0020
101.6	98.6	119.0	V70SW, White FKM	BSA-11900986096-V70SW0020
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25.4	23.2	32.5	Detectaseal® XE7A, Blue EPDM	BSA-03250232070-XE7AA0020
38.1	35.9	46.0	Detectaseal® XE7A, Blue EPDM	BSA-04600359070-XE7AA0020
50.8	48.6	59.5	Detectaseal® XE7A, Blue EPDM	BSA-05950486070-XE7AA0020
63.5	61.3	73.2	Detectaseal® XE7A, Blue EPDM	BSA-07320613070-XE7AA0020
76.2	74.0	86.5	Detectaseal® XE7A, Blue EPDM	BSA-08650740070-XE7AA0020
101.6	98.6	119.0	Detectaseal® XE7A, Blue EPDM	BSA-11900986096-XE7AA0020

IDF seals BS 4825 - 4 Type B



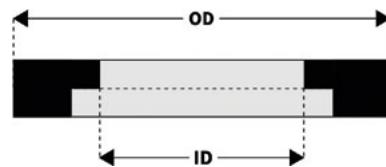
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
25.4	23.2	32.5	V70SW, White FKM	BSB-03250232070-V70SW0020
38.1	35.9	46.0	V70SW, White FKM	BSB-04600359070-V70SW0020
50.8	48.6	59.5	V70SW, White FKM	BSB-05950486070-V70SW0020
63.5	61.3	73.2	V70SW, White FKM	BSB-07320613070-V70SW0020
76.2	74.0	86.5	V70SW, White FKM	BSB-08650740070-V70SW0020
101.6	98.6	119.0	V70SW, White FKM	BSB-11900986096-V70SW0020
25.4	23.2	32.5	Detectaseal® XE7A, Blue EPDM	BSB-03250232070-XE7AA0020
38.1	35.9	46.0	Detectaseal® XE7A, Blue EPDM	BSB-04600359070-XE7AA0020
50.8	48.6	59.5	Detectaseal® XE7A, Blue EPDM	BSB-05950486070-XE7AA0020
63.5	61.3	73.2	Detectaseal® XE7A, Blue EPDM	BSB-07320613070-XE7AA0020
76.2	74.0	86.5	Detectaseal® XE7A, Blue EPDM	BSB-08650740070-XE7AA0020
101.6	98.6	119.0	Detectaseal® XE7A, Blue EPDM	BSB-11900986096-XE7AA0020

IDF seals ISO 2853 - Lipped



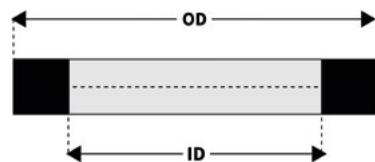
Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
DN25	23.6	32.5	V70SW, White FKM	IDF-03250236060-V70SW0020
DN38	36.6	46.0	V70SW, White FKM	IDF-04600366060-V70SW0020
DN51	49.6	59.5	V70SW, White FKM	IDF-05950496060-V70SW0020
DN63.5	61.3	73.2	V70SW, White FKM	IDF-07320613060-V70SW0020
DN76.1	73.9	86.5	V70SW, White FKM	IDF-08650739060-V70SW0020
DN101.6	98.6	112.5	V70SW, White FKM	IDF-11250986060-V70SW0020
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DN25	23.6	32.5	Detectaseal® XE7A, Blue EPDM	IDF-03250236060-XE7AA0020
DN38	36.6	46.0	Detectaseal® XE7A, Blue EPDM	IDF-04600366060-XE7AA0020
DN51	49.6	59.5	Detectaseal® XE7A, Blue EPDM	IDF-05950496060-XE7AA0020
DN63.5	61.3	73.2	Detectaseal® XE7A, Blue EPDM	IDF-07320613060-XE7AA0020
DN76.1	73.9	86.5	Detectaseal® XE7A, Blue EPDM	IDF-08650739060-XE7AA0020
DN101.6	98.6	112.5	Detectaseal® XE7A, Blue EPDM	IDF-11250986060-XE7AA0020

SMS SS1149 seals - Lipped



Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
25.0	22.5	32.0	V70SW, White FKM	SML-03200225055-V70SW0020
38.0	35.5	48.0	V70SW, White FKM	SML-04800355055-V70SW0020
51.0	48.5	61.0	V70SW, White FKM	SML-06100485055-V70SW0020
63.5	60.5	73.5	V70SW, White FKM	SML-07350605055-V70SW0020
76.0	72.9	86.0	V70SW, White FKM	SML-08600729055-V70SW0020
101.6	100.0	113.5	V70SW, White FKM	SML-11351000505-V70SW0020
25.0	22.5	32.0	Detectaseal® XE7A, Blue EPDM	SML-03200225055-XE7AA0020
38.0	35.5	48.0	Detectaseal® XE7A, Blue EPDM	SML-04800355055-XE7AA0020
51.0	48.5	61.0	Detectaseal® XE7A, Blue EPDM	SML-06100485055-XE7AA0020
63.5	60.5	73.5	Detectaseal® XE7A, Blue EPDM	SML-07350605055-XE7AA0020
76.0	72.9	86.0	Detectaseal® XE7A, Blue EPDM	SML-08600729055-XE7AA0020
101.6	100.0	113.5	Detectaseal® XE7A, Blue EPDM	SML-11351000505-XE7AA0020

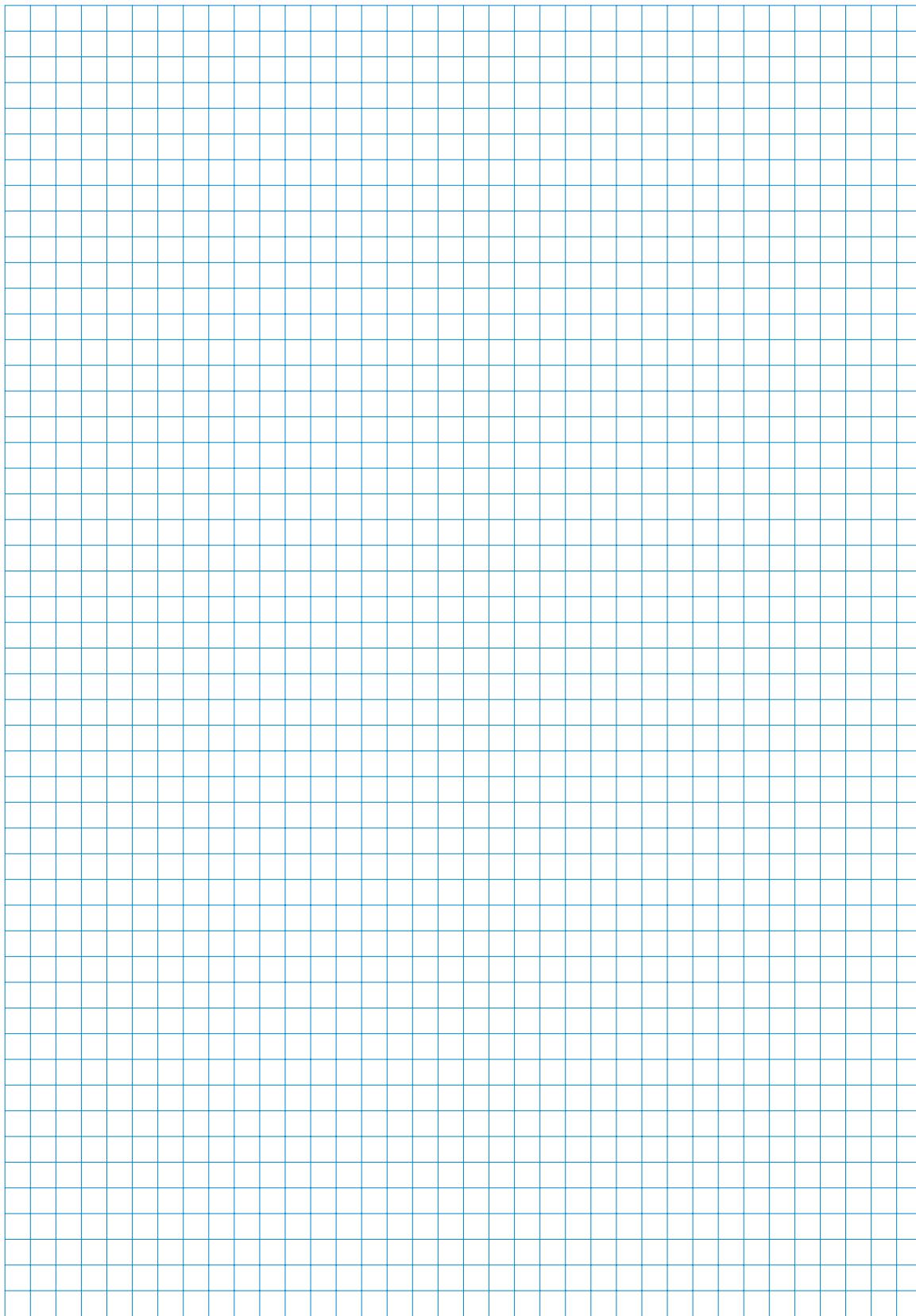
SMS SS1149 Seals - Unlipped



Nominal Size (mm)	ID (mm)	OD (mm)	Elastomer	PPE part number
25.0	25.0	32.0	V70SW, White FKM	SMP-03200250055-V70SW0020
32.0	32.0	40.0	V70SW, White FKM	SMP-04000320055-V70SW0020
38.0	38.0	48.0	V70SW, White FKM	SMP-04800380055-V70SW0020
51.0	51.0	61.0	V70SW, White FKM	SMP-06100510055-V70SW0020
63.5	63.5	73.5	V70SW, White FKM	SMP-07350635055-V70SW0020
76.0	76.0	86.0	V70SW, White FKM	SMP-08600760055-V70SW0020
101.6	101.6	113.5	V70SW, White FKM	SMP-11351016055-V70SW0020
25.0	25.0	32.0	Detectaseal® XE7A, Blue EPDM	SMP-03200250055-XE7AA0020
32.0	32.0	40.0	Detectaseal® XE7A, Blue EPDM	SMP-04000320055-XE7AA0020
38.0	38.0	48.0	Detectaseal® XE7A, Blue EPDM	SMP-04800380055-XE7AA0020
51.0	51.0	61.0	Detectaseal® XE7A, Blue EPDM	SMP-06100510055-XE7AA0020
63.5	63.5	73.5	Detectaseal® XE7A, Blue EPDM	SMP-07350635055-XE7AA0020
76.0	76.0	86.0	Detectaseal® XE7A, Blue EPDM	SMP-08600760055-XE7AA0020
101.6	101.6	113.5	Detectaseal® XE7A, Blue EPDM	SMP-11351016055-XE7AA0020

Notes

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