

HyClamp™

Hygienic sanitary seals for pipe couplings used in the food, beverage and pharmaceutical industries.



The HyClamp™ range of hygienic gasket seals from Precision Polymer Engineering Ltd is specifically designed to meet the needs of pipe couplings in food, beverage and pharmaceutical process lines.

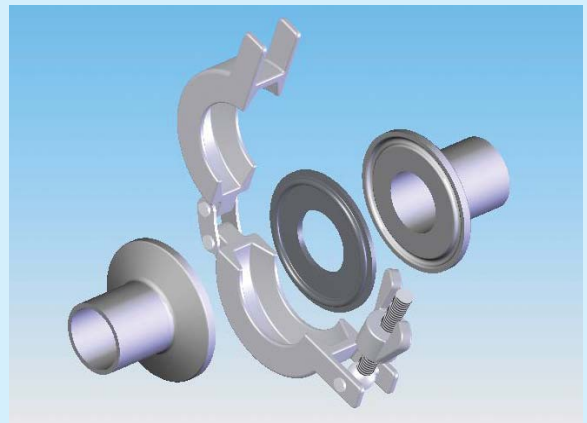
Free from animal-derived ingredients (ADI), the range of HyClamp™ elastomer materials meets various international sanitary standards and approvals, ensuring a material for every hygienic sealing application.

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

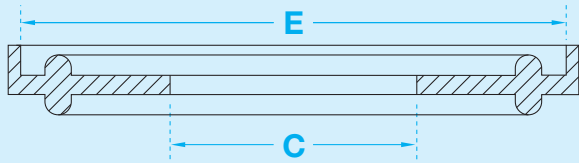
HyClamp™ seals are manufactured to several size standards conforming to current GMP (Good Manufacturing Practice) and supplied with full manufacturing batch traceability and certificates of conformity on request.

HyClamp™ elastomer seal gaskets:

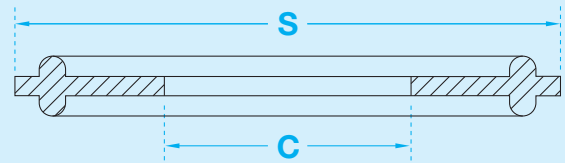
- Compliant with FDA, USP Class VI and 3-A Sanitary Standards
- Free from animal-derived ingredients (ADI)
- Optimal chemical and temperature resistance
- Excellent long-term sealing performance
- 'Metal Detectable' elastomer materials
- Parts manufactured to BS4825, ISO2852 and DIN32676 standard sizes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



TYPE A (lipped)



TYPE B (un-lipped)



BS 4825

Nominal Size (mm)	Nominal size (inch)	C	E/ S
25.4	1"	22.8	50.5
38.1	1 1/2"	35.5	50.5
50.8	2"	48.2	64
63.5	2 1/2"	60.5	77.5
76.2	3"	73.2	91
101.6	4"	97.8	119
114.3	4 1/2"	110.5	130
139.7	5 1/2"	135.9	155
168.3	6 5/8"	163.3	183
219.1	8 5/8"	214.1	233.5

BS 4825

Nominal Size (mm)	Nominal size (inch)	C	E/ S
25.4	1"	22.8	50.5
38.1	1 1/2"	35.5	50.5
50.8	2"	48.2	64
63.5	2 1/2"	60.5	77.5
76.2	3"	73.2	91
101.6	4"	97.8	119
114.3	4 1/2"	110.5	130
139.7	5 1/2"	135.9	155
168.3	6 5/8"	163.3	183
219.1	8 5/8"	214.1	233.5

ISO 2852

Nominal Size	C	E/ S
12	10.2	34
12.7	10.9	34
17.2	15.4	34
21.3	19.5	34
25	22.8	50.5
33.7	31.5	50.5
38	35.8	50.5
40	37.8	64
51	48.8	64
63.5	60.5	77.5
70	67	91
76.1	73.1	91
88.9	85.1	106
101.6	97.8	119
114.3	110.5	130
139.7	135.9	155
168.3	163.3	183
219.1	214.1	233.5

ISO 2852

Nominal Size	C	E/ S
12	10.2	34
12.7	10.9	34
17.2	15.4	34
21.3	19.5	34
25	22.8	50.5
33.7	31.5	50.5
38	35.8	50.5
40	37.8	64
51	48.8	64
63.5	60.5	77.5
70	67	91
76.1	73.1	91
88.9	85.1	106
101.6	97.8	119
114.3	110.5	130
139.7	135.9	155
168.3	163.3	183
219.1	214.1	233.5

DIN 32676

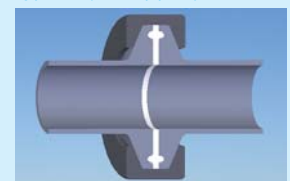
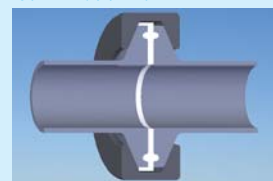
Nominal Size	C	E/ S
10	10.2	34
15	16.2	34
20	20.2	34
25	26.2	50.5
32	32.2	50.5
40	38.2	50.5
50	50.2	64
65	66.2	91
80	81.2	106
100	100.2	119
125	125.2	155
150	150.2	183
200	200.2	233.5



Type A (lipped)



Type B (non-lipped)



For non-standard sizes please contact our technical department for further information and advice.

Part Number Definition

HyClamp™ part numbers are prefixed with SAN followed by four pieces of information; standard, type, size and material. This is defined as SANx-x-xxx-xxxx, for example: SANI - A - 21.3 - G75S

SAN	I-	A-	21.3*	G75S
Sanitary seal prefix, non-changeable				
Standard: I=ISO, B=BS, D=DIN, S=Special				
Gasket model type: A=Type A, B=Type B				
Standard nominal size* of pipe in mm (maximum 1 decimal place)				
Material: changeable with material grade used				

* For special (non-standard) parts this number should be the internal diameter of the pipe.

FDA Elastomers

The Food and Drug Administration is the US Federal Agency responsible for ensuring that foods are safe. Regulation CFR 21.177.2600 'Rubber articles intended for repeated use' limits the ingredients that may be used in rubber compounds for moulded products intended for repeated use in all stages of food manufacture, preparation and transportation.

All PPE HyClamp™ seal materials have been extraction tested in water and n-hexane, in accordance with the FDA regulation (paragraphs A to F), making them suitable for use in dry, aqueous and fatty foods (please refer to the chemical compatibility table overleaf).

USP Class VI elastomers

For applications in the pharmaceutical and bio-technology industries, elastomers compliant with USP Class VI are often required.

Several PPE HyClamp™ seal materials are approved to USP Class VI suffix 87 and 88.



3A Sanitary Elastomers

PPE manufactures HyClamp™ seals from elastomer materials which are in accordance with '3-A Sanitary Standard 18-03 for multiple-use rubber and rubber-like materials used in product contact surfaces in dairy equipment'

This standard defines the requirements for food quality materials that must be suitable for cleaning and sanitising solutions.

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



Elastomer materials available as HyClamp™ seals

Compound	Material Type	Colour	Hardness °IRHD	Temp Range °C	FDA	USP Class VI	3-A
E70Q	EPDM	Black	70	-40 to +150	A-F	88	Class II
E70H	EPDM	White	70	-40 to +150	A-F	87 & 88	-
N70F	Nitrile	Black	70	-40 to +120	A-F	-	Class II
N70W	Nitrile	White	70	-40 to +120	A-F	-	-
S80U	Silicone	Translucent	80	-60 to +200	A-F	87	Class I
S70H	Silicone	White	70	-60 to +250	A-F	87 & 88	-
V75W	FKM/FPM	White	75	-20 to +200	A-F	87 & 88	Class I
V70H	FKM/FPM	Black	70	-10 to +200	A-F	87 & 88	Class I
G75S	FFKM/FFPM	White	75	-50 to +310	A-F	88	Class I
Z70F	HNBR	Black	70	-40 to +180	A-F	-	Class III

DETECTASEAL® materials available as HyClamp™ seals

Compound	Material Type	Colour	Hardness °IRHD	Temp Range °C	FDA	USP Class VI	3-A
XV7H	FKM	Black	74	-10 to +200	A-F	-	-
XV7A	FKM	Blue	70	-20 to +200	A-F	-	-
XN7H	Nitrile	Black	70	-40 to +120	A-F	-	-
XN7A	Nitrile	Blue	70	-40 to +120	A-F	-	-
XE7H	EPDM	Black	75	-40 to +150	A-F	-	-
XE7A	EPDM	Blue	70	-40 to +150	A-F	-	-

Detectaseal® - The latest advance in contamination detection and containment

Detectaseal® is a range of metal detectable elastomer compounds designed specifically to meet the stringent demands of the pharmaceutical and food processing industries. **Detectaseal®** O-rings have been tested and proven in use at leading pharmaceutical and food manufacturing plants. Fragments of **Detectaseal®** as small as 2mm can be identified by metal detection equipment.

Chemical Compatibility of HyClamp™ elastomer materials

Material Type	Acids	Alkalis	Fats & Oils	Alcohol	Solvents	Steam
EPDM	2	1	3	1	2	1
Nitrile	3	1	1	2	3	4
Silicone	4	2	2	1	4	4
FKM/FPM	1	3	1	1	2	1
FFKM/FFPM	1	1	1	1	1	1
HNBR	4	2	1	2	3	4

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



Precision Polymer Engineering Ltd

Greenbank Road, Blackburn, BB1 3EA, England
 Tel. +44 (0)1254 295400
 Fax. +44 (0)1254 680182
 Email: sales@prepol.com
 Web: www.prepol.com

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Detectaseal®