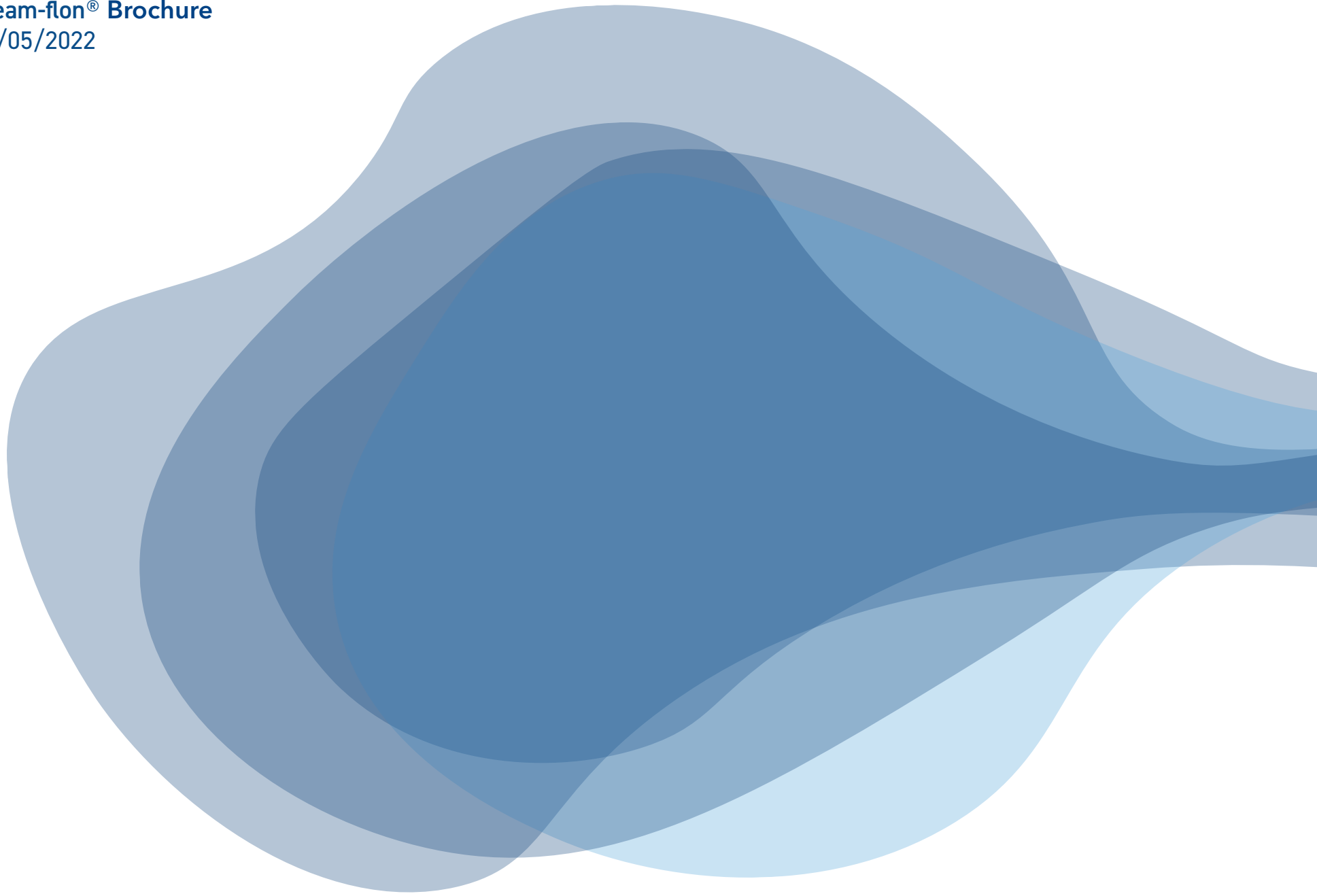




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**Steam-flon®**

Property of Ultrapharma BV



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Steam-Flon® is a registered trademark of Ultrapharma BV

## 1. Introduction

Ultrapharma has developed "Steam-Flon®" for sanitary gaskets and some special products. This material is a unique blend of non pigmented PTFE and 316L stainless steel powder.

The mechanical properties of this compound are very interesting, because it eliminates the cold flow problems we experience with for example virgin PTFE.

## 2. Cold flow

Cold flow is the term we use for movement of plastic under permanent load/stress, a state that is used with static seals. At elevated temperatures cold flow increases. Material of the gasket is slowly moving towards the inside of the fitting and creates a bead. This bead leads to flow restriction and is a potential area for particles/bacterial entrapment. The Steam-Flon® material takes the cold flow out of the equation, creating a very stable seal with no leaks even at large temperature fluctuations.

### 3. Compliance

Material:	TFM/316L
Compound number:	CMD-1019
Colour:	Bronze
Temperature range:	-195°C to 288°C
Odor:	None
Storage stability:	Indefinitely
Meets:	FDA CFR 177.1550 USP 35 Cytotoxicity Testing <87> USP 35 Class VI 121°C <88> USP 35 Physicochemical Testing <661> EC10/2011 Migration test
Conform with:	ADIF (Animal Derived Ingredient Free) BSE/TSE

### 4. General advice

SIP:	excellent
CIP:	excellent
Mineral oils & grease:	excellent
WFI:	excellent
Sterilization:	excellent
Steam Sterilization:	excellent

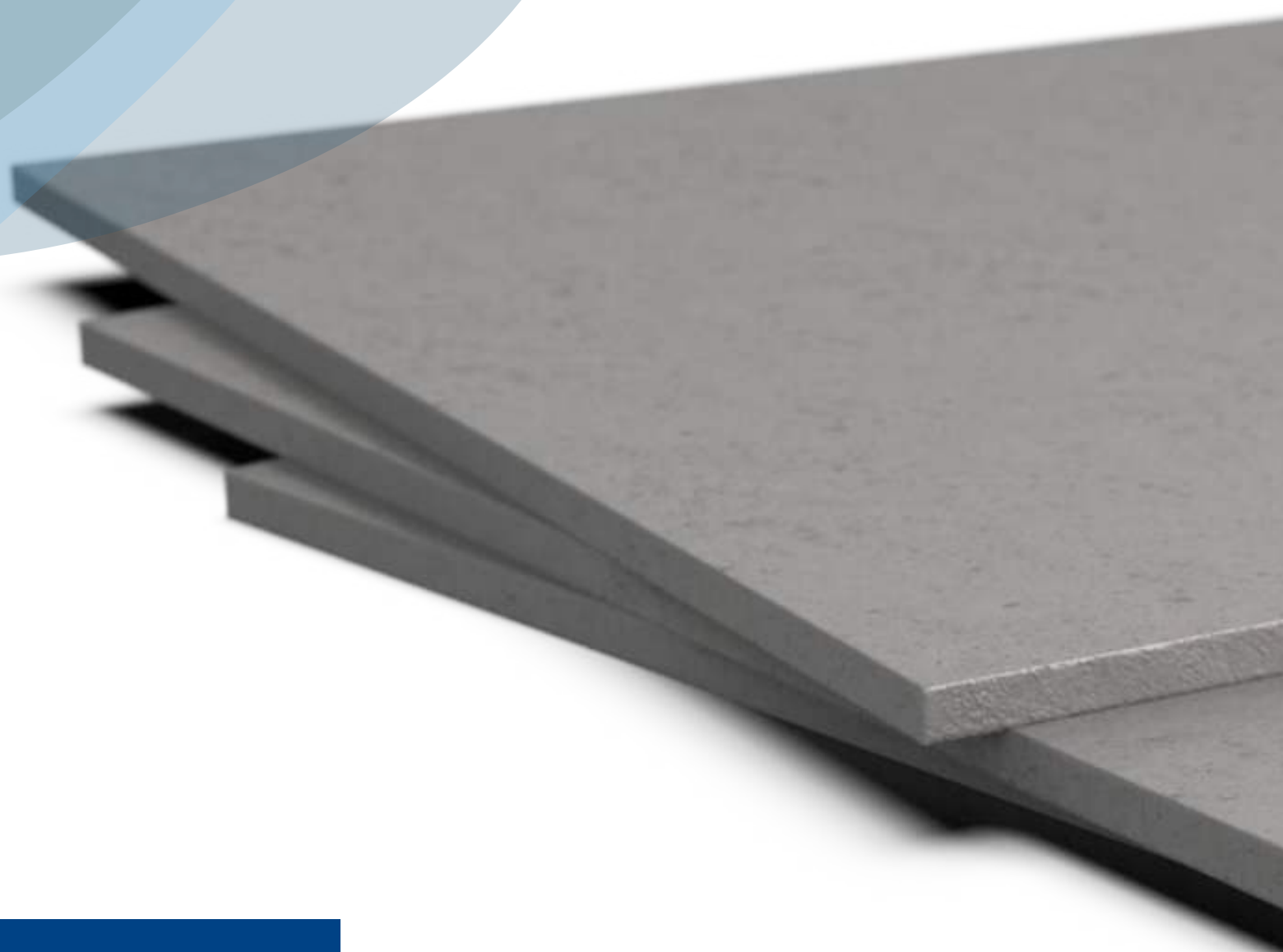
For more information and all the results of the individual compliance testing, our Validation guide is available upon request or sign up for our members hub on the website; [www.ultrapharma.com](http://www.ultrapharma.com).

### 5. Removable Steam-Flon®

The removable Steam-Flon® is a gasket that we developed because of these unique mechanical properties. The gasket is made out of two mating parts. In between these two parts you can place any kind of product as long as it is not thicker than 1,00 mm. Products like orifice plates, screens and perforated discs can be used.

The removable Steam-Flon® gasket can be dismantled after use, cleaned and reassembled again without any problem. Perfect if a screen needs to be cleaned. Orifice plates can be exchanged rapidly and Sock screens can now be equipped with a Steam-Flon® seal.

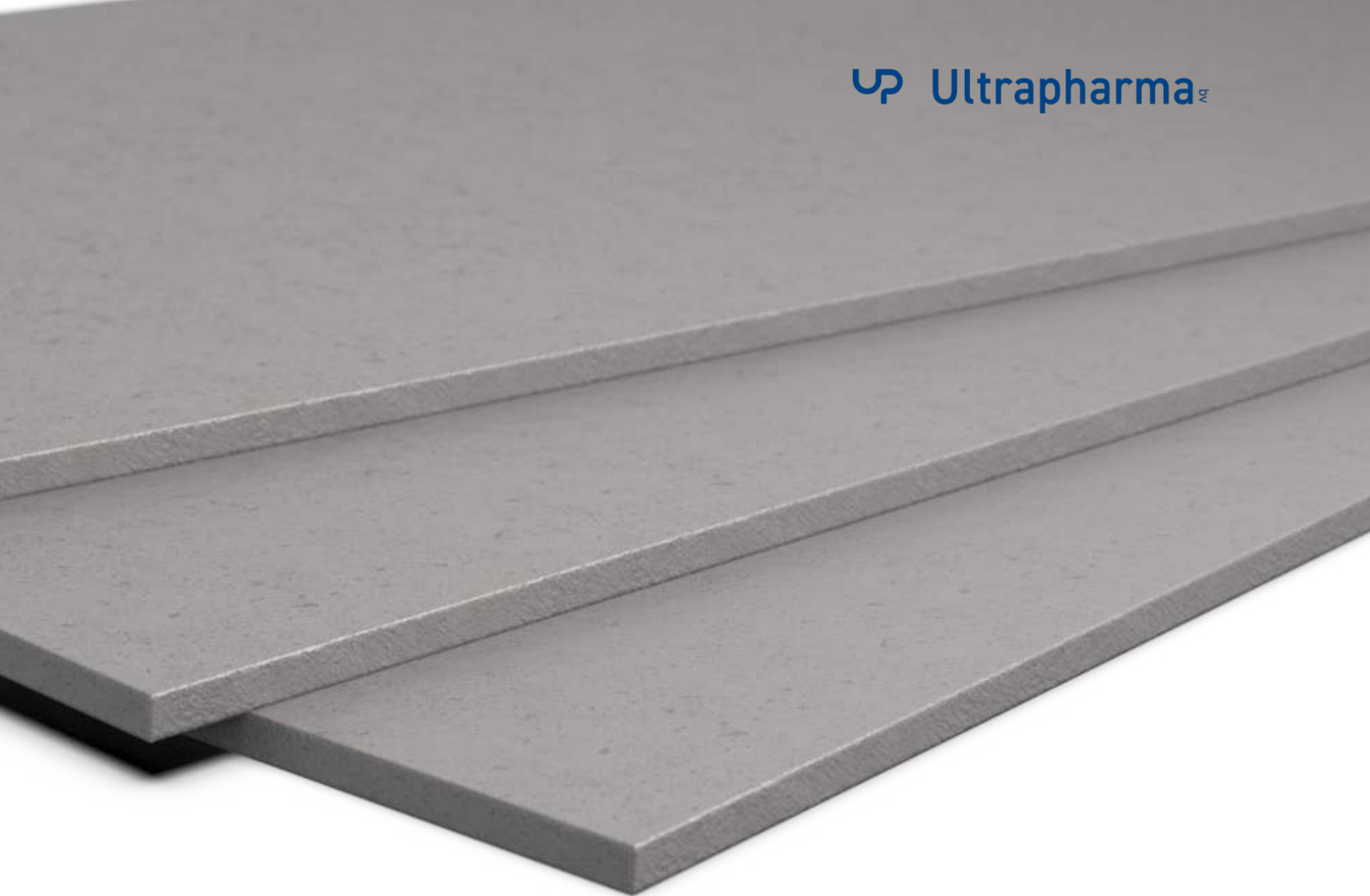




## 6. Steam-flon® Sheet

Not all applications can be fitted with standard Tri-Clamp style gaskets. Heat exchangers for example sometimes require odd shape flat gaskets which can be waterjet cut from sheet.

Steam-Flon® is available in 3,00 mm sheet.

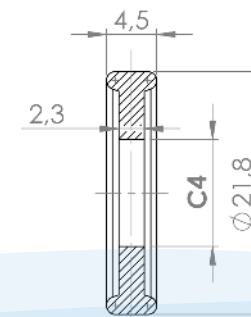
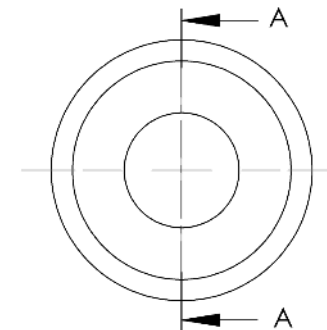


## 7. Available sizes

### Mini

ASME BPE size	C4 mm (inch)	Recommended Torque	Recommended Clamp
½"	9.6 (0.38)	1,5 Nm	13LAH
¾"	16.0 (0.63)	1,5 Nm	13LAH

DIN 32676 size	C4 mm (inch)	Recommended Torque	Recommended Clamp
DN06	4 (0.16)	1,5 Nm	13LAH
DN08	6 (0.24)	1,5 Nm	13LAH
DN10	8 (0.31)	1,5 Nm	13LAH
DN12	10 (0.39)	1,5 Nm	13LAH
DN14	12 (0.47)	1,5 Nm	13LAH
DN16	14 (0.55)	1,5 Nm	13LAH
DN18	16 (0.63)	1,5 Nm	13LAH



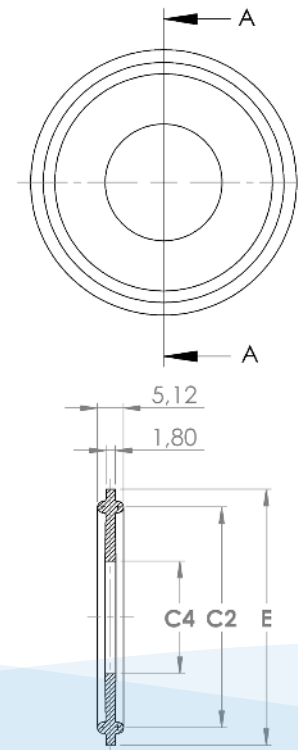
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### Type 1

ASME BPE size	E mm (inch)	C4 mm (inch)	C2 mm (inch)	Recommended Torque	Recommended Clamp
1"	50.5 (1.99)	22.2 (0.87)	43.5 (1.71)	2 Nm	13LAH
1½"	50.5 (1.99)	35.0 (1.38)	43.5 (1.71)	2 Nm	13LAH
2"	64.0 (2.52)	47.6 (1.87)	56.5 (2.22)	4 Nm	13LAH
2½"	77.5 (3.05)	60.3 (2.37)	70.5 (2.78)	6 Nm	13LAH
3"	91.0 (3.58)	72.9 (2.87)	83.5 (3.29)	8 Nm	13LAH
4"	119.0 (4.69)	97.4 (3.83)	110.0 (4.33)	on request	13MHP
6"	167.0 (6.57)	146.9 (5.78)	156.4 (6.16)	on request	13MHP

SMS 3017 size	E mm (inch)	C4 mm (inch)	C2 mm (inch)	Recommended Torque	Recommended Clamp
DN25	50.5 (1.99)	22.8 (0.90)	43.5 (1.71)	2 Nm	13LAH
DN38	50.5 (1.99)	35.8 (1.41)	43.5 (1.71)	2 Nm	13LAH
DN51	64.0 (2.52)	48.8 (1.92)	56.5 (2.22)	4 Nm	13LAH
DN101.6	119.0 (4.69)	97.9 (3.85)	110.0 (4.33)	on request	13MHP



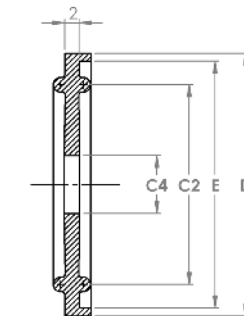
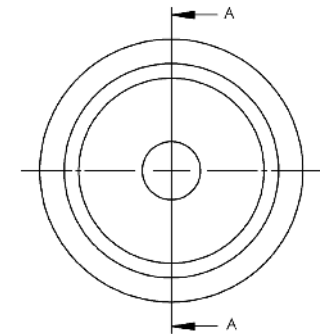
SECTION A-A

Type 2

DIN 32676 A	E mm (inch)	C4 mm (inch)	C2 mm (inch)	D mm (inch)	Recommended Torque	Recommended Clamp
DN08	34.0 (1.34)	8.0 (0.31)	27.5 (1.08)	36.2 (1.43)	on request	13LAH
DN10	34.0 (1.34)	10.0 (0.39)	27.5 (1.08)	36.2 (1.43)	on request	13LAH
DN15	34.0 (1.34)	16.0 (0.63)	27.5 (1.08)	36.2 (1.43)	on request	13LAH
DN20	34.0 (1.34)	20.0 (0.79)	27.5 (1.08)	36.2 (1.43)	on request	13LAH
DN25	50.5 (1.99)	26.0 (1.02)	43.5 (1.71)	52.7 (2.07)	4 Nm	13LAH
DN32	50.5 (1.99)	32.0 (1.26)	43.5 (1.71)	52.7 (2.07)	4 Nm	13LAH
DN40	50.5 (1.99)	38.0 (1.50)	43.5 (1.71)	52.7 (2.07)	4 Nm	13LAH
DN50	64.0 (2.52)	50.0 (1.97)	56.5 (2.22)	66.2 (2.61)	on request	13LAH
DN65	91.0 (3.58)	66.0 (2.60)	83.5 (3.29)	93.2 (3.67)	on request	13MHP
DN80	106.0 (4.17)	81.0 (3.19)	97.0 (3.82)	108.2 (4.26)	on request	13MHP
DN100	119.0 (4.69)	100.0 (3.94)	110.0 (4.33)	121.2 (4.78)	on request	13MHP
DN125	155.0 (6.10)	125.0 (4.92)	146.0 (5.75)	157.2 (6.19)	on request	13MHP
DN150	183.0 (7.20)	150.0 (5.91)	174.0 (6.85)	185.2 (7.29)	on request	13MHP

ISO 1127 SIZE	E mm (inch)	C4 mm (inch)	C2 mm (inch)	D mm (inch)	Recommended Torque	Recommended Clamp
DN08*	34.0 (1.34)	10.3 (0.41)	27.5 (1.08)	36.2 (1.43)	on request	13LAH
DN10*	34.0 (1.34)	14.0 (0.55)	27.5 (1.08)	36.2 (1.43)	on request	13LAH
DN15*	34.0 (1.34)	18.1 (0.71)	27.5 (1.08)	36.2 (1.43)	on request	13LAH
DN15	50.5 (1.99)	18.1 (0.71)	43.5 (1.71)	52.7 (2.07)	2 Nm	13LAH
DN20	50.5 (1.99)	23.7 (0.93)	43.5 (1.71)	52.7 (2.07)	2 Nm	13LAH
DN25	50.5 (1.99)	29.7 (1.17)	43.5 (1.71)	52.7 (2.07)	2 Nm	13LAH
DN32*	50.5 (1.99)	38.4 (1.51)	43.5 (1.71)	52.7 (2.07)	2 Nm	13LAH
DN32	64.0 (2.52)	38.4 (1.51)	56.5 (2.22)	66.2 (2.61)	4 Nm	13LAH
DN40	64.0 (2.52)	44.3 (1.74)	56.5 (2.22)	66.2 (2.61)	4 Nm	13LAH
DN50	77.5 (3.05)	56.3 (2.22)	70.5 (2.78)	79.7 (3.17)	4 Nm	13LAH
DN65	91.0 (3.58)	72.1 (2.84)	83.5 (3.29)	93.2 (3.67)	6 Nm	13MHP
DN80	106.0 (4.17)	84.3 (3.32)	97.0 (3.82)	108.2 (4.26)	on request	13MHP
DN100	130.0 (5.12)	109.7 (4.32)	122.0 (4.80)	132.2 (5.20)	on request	13MHP
DN125	155.0 (6.10)	134.5 (5.30)	146.0 (5.75)	157.2 (6.19)	on request	13MHP
DN150	183.0 (7.20)	150.0 (5.91)	174.0 (6.85)	185.2 (7.29)	on request	13MHP

Note: sizes indicated with an asterisk (\*) is not a norm standard.



SECTION A-A

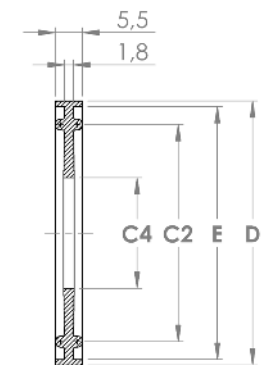
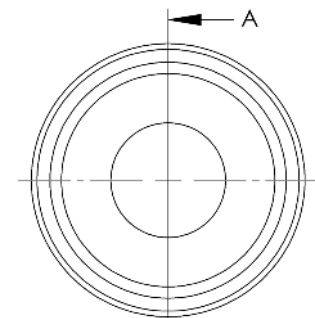
## Type 3

ASME BPE size	E mm (inch)	C4 mm (inch)	C2 mm (inch)	D mm (inch)	Recommended Torque	Recommended Clamp
1"	50.7 (2.00)	22.2 (0.87)	43.5 (1.71)	52.9 (20.8)	2 Nm	13LAH
1½"	50.7 (2.00)	34.9 (1.37)	43.5 (1.71)	52.9 (20.8)	2 Nm	13LAH
2"	64.2 (2.53)	47.6 (1.87)	56.5 (2.22)	66.4 (2.61)	4 Nm	13LAH
2½"	77.7 (3.06)	60.3 (2.37)	70.5 (2.78)	79.9 (3.15)	4 Nm	13LAH
3"	91.2 (3.59)	73.0 (2.87)	83.5 (3.29)	93.4 (3.68)	6 Nm	13MHP
4"	119.2 (4.69)	97.5 (3.84)	110.0 (4.33)	121.4 (4.78)	16 Nm	13MHP
6"	167.2 (6.58)	147.0 (5.79)	156.4 (6.16)	169.4 (6.67)	on request	13MHP
8"	217.4 (8.56)	197.7 (7.78)	207.0 (8.15)	219.6 (8.65)	on request	13MHP
10"	268.5 (10.57)	247.2 (9.73)	257.8 (10.15)	270.7 (10.66)	on request	13MHP
12"	319.3 (12.57)	298.0 (11.73)	308.6 (12.15)	321.5 (12.66)	on request	13MHP

The Steam-Flon® material is a relatively hard material and can therefore cause problems with sealing when misalignment of pipelines is eminent.

We are therefore introducing a solution to fix the misalignment issue and therewith improve the sealing ability at lower torque levels. The Steam-Flon® Type-III gasket has not one, but two lips: one on either side. So whereas the Type I unlippped competition gasket allows for large side way movement of the ferrules, making the misalignment even more imminent, the Type-III gasket doesn't allow for any leeway and therefore creates the ultimate condition for a perfect seal.

The new Steam-Flon® Type-III gasket seals 10 bar pressure at approximately half the torque level of standard Type-I seals in larger diameters.



SECTION A-A

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