

1. TRICLOVER CLAMP SEALS

a) Definition

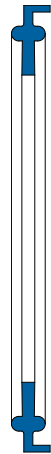
Triclover Clamp seals are aseptic seals widely used in the food processing or pharmaceutical industries. They are exclusively mounted in Clamp tube made of two ferrules/pipe coupling and a clamp.

Depending on the country and use, new standards have seen the day. Thus there are four main standards for clamp connectors:

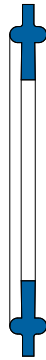


b) Characteristics

✓ Profiles



Type A



Type B¹



µclamp²

¹if $d_3 = 25$, the type B is named «clamp micro»
 Si $d_3 = 34$, the type B is named «clamp mini»
 Si $d_3 > 34$, the type B is named «clamp or triclamp»
² $d_3 = 25$ (see sketch of metal ring above)

✓ Techné compounds & certifications :

	EPDM (Compound 334137)	FKM (Compound 33466)	VMQ (Compound 334144)	PTFE (Compound 95101)
	Black	Black	Translucent ¹ (Peroxyd cured)	White ¹
Approvals	FDA	FDA	FDA	FDA
	USP VI	USP VI	USP VI	USP VI
	1935/2004	1935/2004	1935/2004	1935/2004
	3A	3A	3A	3A
		BNIC		



✓ **Techné specific compounds :**

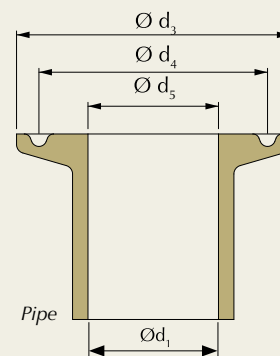
USOD Clamp	MVQ Platinum 334536	MVQ Platinum 334603
	<i>White</i>	<i>Translucent</i>
Approvals	FDA	FDA
	USP VI	USP VI
		1935/2004

Other compounds and colours on demand. Some examples:

FKM green: FDA, 1935/2004, USP VI
MVQ PX red: FDA
NBR blue: FDA, 1935/2004

In order to avoid any mistake, Techné advises to provide following data with inquiries and orders:

- Seal's profile: A or B**
- Ferrule diameter d3 (and eventually housing diameter d5)**
- Pipe diameter and pipe thickness**
- Seal's material and list of required approvals**



✓ **PTFE enveloped clamp seals:**

These seals consist of an outside PTFE envelop surrounding a rubber inlay. They are mostly used for chemical and pharmaceutical applications. The PTFE envelop provides a very good chemical resistance while the rubber inlay grants elasticity and sealing over time.



Type A





Type B



µclamp

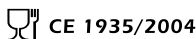
Clamp	PTFE compound 95101 white		
Rubber inlay	MVQ Compound 409058 translucent	EPDM Compound 409023 black	FKM Compound 409043 white

 Caps :

	Techné Nr	Compound	
Ferrule cap Ø 25	15 9904 1210	PTFE WHITE 95101 USP-FDA-3A 1935/2004	
Ferrule cap Ø 34	15 9704 0024		
Ferrule cap Ø 50,5	15 9704 0004		
Ferrule cap Ø 64	15 9704 0019		
Ferrule cap Ø 77,5	15 9704 0022		
Ferrule cap Ø 91	15 9704 0023		
Ferrule cap Ø 106	15 9704 0005		
Ferrule cap Ø 119	15 9704 0025		

c) Dimensions – Seals for ferrules according to standard

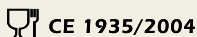
Standard	Dimension	Ø Ferrule	Ø ID	Ø Pipe x Th.
SMS 3008	25	50,5	22,6	25 x 1,2
SMS 3008	38	50,5	35,6	38 x 1,2
SMS 3008	51	64	48,6	51 x 1,2
SMS 3008	63	77,5	60,3	63,5 x 1,6
SMS 3008	76	91	72,9	76,1 x 1,6
SMS 3008	101,6	119	97,6	101,6 x 2
SMS 3008	104	119	100	104 x 2
USOD / BS4825	1/4" µ clamp	25	4,57	6,35 x 0,89
USOD / BS4825	3/8" µ clamp	25	7,75	9,53 x 0,89
USOD / BS4825	1/2" µ clamp	25	9,40	12,7 x 1,65
USOD / BS4825	3/4" µ clamp	25	15,75	19,05 x 1,65
USOD / BS4825	3/8" mini	34	7,75	9,53 x 0,89
USOD / BS4825	1/2" mini	34	9,40	12,7 x 1,65
USOD / BS4825	3/4" mini	34	15,75	19,05 x 1,65
USOD / BS4825	1"	50,50	22,1	25,4 x 1,65
USOD / BS4825	1 1/2"	50,50	34,8	38,1 x 1,65
USOD / BS4825	2"	64	47,5	50,8 x 1,65



Indicative values. Techné reserves the right to change, without prior notice.



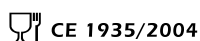
Standard	Dimension	Ø Ferrule	Ø ID	Ø Pipe x Th.
USOD / BS4825	2 1/2"	77,50	60,2	63,5 x 1,65
USOD / BS4825	3"	91	72,9	76,2 x 1,65
USOD / BS4825	3 1/2"	106	84,7	88,9 X 2,11
USOD / BS4825	4"	119	97,4	101,6 x 2,11
USOD / BS4825	4 1/2"	130	110,3	114,3 x 2
USOD / BS4825	5 1/2"	155		141,3 x 2,77
USOD / BS4825	6"	167		152,4 x 2,77
USOD / BS4825	6 5/8"	183		168,3 x 2,6
USOD / BS4825	8"	217,50		203,2 x 2,77
USOD / BS4825	8 5/8"	233,50		219,1 x 2,6
USOD / BS4825	10"	268		254 x 2,77
USOD / BS4825	12"	319		304,8 x 2,77
USOD / BS4825	12 3/4"	338		323,9 x 3,96
DIN 32676	DN 10 mini	34	10	13 x 1,5
DIN 32676	DN 15 mini	34	16	19 x 1,5
DIN 32676	DN 20 mini	34	20	23 x 1,5
DIN 32676	DN 25	50,5	26	29 x 1,5
DIN 32676	DN 32	50,5	32	35 x 1,5
DIN 32676	DN 40	50,5	38	41 x 1,5
DIN 32676	DN 50	64	50	53 x 1,5
DIN 32676	DN 65	91	66	70 x 2
DIN 32676	DN 80	106	81	85 x 2
DIN 32676	DN 100	119	100	104 x 2
DIN 32676	DN 115	130	110,3	114,3 x 2
DIN 32676	DN 125	155	125	129 X 2
DIN 32676	DN 150	183	150	154 X 2
DIN 32676	DN 200	233,5	200	204 X 2
DIN 32676	DN 250	268	250	254 X 2
DIN 32676	DN 300	319	300	304 x 2
ISO 1127	DN 6 µ clamp	25	6	8 x 1
ISO 1127	DN 8 µ clamp	25	8	10 x 1



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Standard	Dimension	Ø Ferrule	Ø ID	Ø Pipe x Th.
ISO 1127	DN 10 µ clamp	25	10	12 x 1
ISO 1127	DN 12 µ clamp	25	12	14 x 1 16 x 2
ISO 1127	DN 8 µ clamp	25	10,3	13,5 x 1,6
ISO 1127	DN 10 µ clamp	25	14	17,2 x 1,6
ISO 1127	DN 18 µ clamp	25	16	18 x 1 20 x 2
ISO 1127	DN 8 mini	34	10,3	13,5 x 1,6
ISO 1127	DN 10 mini	34	14	17,2 x 1,6
ISO 1127	DN 15 mini	34	18,1	21,3 x 1,6
ISO 1127	DN 8	50,5	10,3	13,5 x 1,6
ISO 1127	DN 10	50,5	14,0	17,2 x 1,6
ISO 1127	DN 15	50,5	18,1	21,3 x 1,6
ISO 1127	DN 20	50,5	23,7	26,9 x 1,6
ISO 1127	DN 25	50,5	31,3	33,7 x 1,2
ISO 1127			30,5	33,7 x 1,6
ISO 1127			29,7	33,7 x 2
ISO 1127	DN 32	50,5	39,2	42,4 x 1,6
ISO 1127			38,4	42,4 X 2
ISO 1127	DN 32	64	38,4	42,4 x 2
ISO 1127	DN 40	64	45,1	48,3 x 1,6
ISO 1127			44,3	48,3 x 2
ISO 1127	DN 50	77,5	56,3	60,3 x 2
ISO 1127	DN 65	91	72,1	76,1 x 2
ISO 1127	DN 80	106	84,9	88,9 x 2
ISO 1127	DN 100	130	110,3	114,3 x 2
ISO 1127	DN 125	155	135,7	139,7 x 2
ISO 1127			134,5	139,7 x 2,6
ISO 1127			133,7	139,7 x 3
ISO 1127	DN 150	183	164,3	168,3 x 2
ISO 1127			163,1	168,3 X 2,6
ISO 1127			162,3	168,3 x 3
ISO 1127	DN 200	233,5	213,9	219,1 x 2,6
ISO 1127			211,1	219,1 x 4
ISO 1127	DN 250	286,1	267,8	273 x 2,6
ISO 1127	DN 300	338	318,7	323,9 x 2,6

112



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Techné

O-Rings 62 

JT4 X-Rings 78 

Backup Rings (BAE) 84 

Rubber Cord 94 

JR Fitting Seals 96 

Bonded Seals 100 

Triclover Clamp Seals 108 

D-Ring milk coupling Seals 114

SMS Seals 118 

Macon Seals 122

Aseptic O-Rings DIN 11864 126

1. D-RING MILK COUPLING SEALS

a) Definition

Techné DIN 11851 milk coupling seals are aseptic seals. Widely used in the food industry and especially in dairy lines, it is mounted in the housing according to the DIN 11850 regulation. However, the pipe-couplings can be adapted to tubes of different standards (SMS, DIN, US or BSOD, etc.). Moreover, Techné can provide specific seals on request.



b) Characteristics

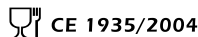
✓ Profiles

There are two types of profiles. The simple D-ring and the flanged D-ring. TECHNE est capable de réaliser après étude, des D-ring dimensionnellement hors standard et dans d'autres matières.



D-ring DIN 11851	Ø ID	Ø OD	H	NBR BLUE 344075B FDA 1935/2004	EPDM BLACK 334137 USP-FDA-3A 1935/2004	FKM BLACK 33466 USP-FDA- BNIC 3A 1935/2004	MVQ TRANS. 334144 USP-FDA-3A 1935/2004	PTFE WHITE 95101/23413 USP-FDA-3A 1935/2004
DN								
10	12	20	4,5	19 2123 0010	19 2520 0010	19 2320 0010	19 2225 0010	19 2922 0010
15	18	26	4,5	19 2123 0015	19 2520 0015	19 2320 0015	19 2225 0015	19 2922 0015
15H	18	26	8	19 2123 0158	19 2520 0158	19 2320 0158	19 2225 0158	19 2922 0158
20	23	33	4,5	19 2123 0020	19 2520 0020	19 2320 0020	19 2225 0020	19 2922 0020
20H	23	33	8	19 2123 0208	19 2520 0208	19 2320 0208	19 2225 0208	19 2922 0208
25	30	40	5	19 2123 0025	19 2520 0025	19 2320 0025	19 2225 0025	19 2922 0025
25H	30	40	8	19 2123 0258	19 2520 0258	19 2320 0258	19 2225 0258	19 2922 0258
32	36	46	5	19 2123 0032	19 2520 0032	19 2320 0032	19 2225 0032	19 2922 0032
32H	36	46	8	19 2123 0328	19 2520 0328	19 2320 0328	19 2225 0328	19 2922 0328
40	42	52	5	19 2123 0040	19 2520 0040	19 2320 0040	19 2225 0040	19 2922 0040
40H	42	52	8	19 2123 0408	19 2520 0408	19 2320 0408	19 2225 0408	19 2922 0408
50	54	64	5	19 2123 0050	19 2520 0050	19 2320 0050	19 2225 0050	19 2922 0050
50H	54	64	8	19 2123 0508	19 2520 0508	19 2320 0508	19 2225 0508	19 2922 0508

In Red: on demand only



Indicative values. Techné reserves the right to change, without prior notice.

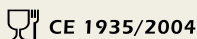


D-ring DIN 11851	Ø ID	Ø OD	H	NBR BLACK 344075B FDA 1935/2004	EPDM BLACK 334137 USP-FDA-3A 1935/2004	FKM BLACK 33466 USP-FDA BNIC 3A 1935/2004	MVQ TRANS. 334144 USP-FDA-3A 1935/2004	PTFE WHITE 95101/23413 USP-FDA-3A 1935/2004
DN								
65	71	81	5	19 2123 0065	19 2520 0065	19 2320 0065	19 2225 0065	19 2922 0065
65M	71	81	6,5	19 2123 6565	19 2520 6565	19 2320 6565	19 2225 6565	19 2922 6565
65H	71	81	8	19 2123 0658	19 2520 0658	19 2320 0658	19 2225 0658	19 2922 0658
75	78	88	5	19 2123 0075	19 2520 0075	19 2320 0075	19 2225 0075	19 2922 0075
80	85	95	5	19 2123 0080	19 2520 0080	19 2320 0080	19 2225 0080	19 2922 0080
80H	85	95	8	19 2123 0808	19 2520 0808	19 2320 0808	19 2225 0808	19 2922 0808
90	94	104	5	19 2123 0090	19 2520 0090	19 2320 0090	19 2225 0090	19 2922 0090
100	104	114	6	19 2123 0100	19 2520 0100	19 2320 0100	19 2225 0100	19 2922 0100
100H	104	114	8	19 2123 1008	19 2520 1008	19 2320 1008	19 2225 1008	19 2922 1008
125	130	142	7	19 2123 0125	19 2520 0125	19 2320 0125	19 2225 0125	19 2922 0125
125H	130	142	8	19 2123 1258	19 2520 1258	19 2320 1258	19 2225 1258	19 2922 1258
150	155	167	7	19 2123 0150	19 2520 0150	19 2320 0150	19 2225 0150	19 2922 0150
150H	155	167	8	19 2123 1508	19 2520 1508	19 2320 1508	19 2225 1508	19 2922 1508
200	204	216	7	19 2123 0200	19 2520 0200	19 2320 0200	19 2225 0200	19 2922 0200

In Red: on demand only

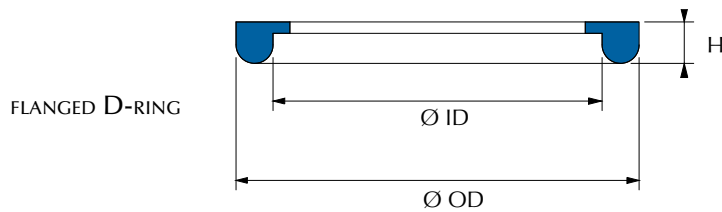
D-ring SMS	Ø ID	Ø OD	H	EPDM BLACK 334137 USP-FDA-3A 1935/2004	FKM BLACK 33466 USP-FDA-BNIC 3A 1935/2004	MVQ TRANS. 334144 USP-FDA-3A 1935/2004	PTFE WHITE 95101/23413 USP-FDA-3A 1935/2004
DN							
25	25	32	5,5	19 2510 0025	19 2310 0025	19 2215 0025	19 2912 0025
32	32	40	5,5	19 2510 0032	19 2310 0032	19 2215 0032	19 2912 0032
38	38	48	5,5	19 2510 0038	19 2310 0038	19 2215 0038	19 2912 0038
40	40	50	5,5	19 2510 0040	19 2310 0040	19 2215 0040	19 2912 0040
51	51	61	5,5	19 2510 0051	19 2310 0051	19 2215 0051	19 2912 0051
63	63	73,5	5,5	19 2510 0063	19 2310 0063	19 2215 0063	19 2912 0063
76	76	86	5,5	19 2510 0076	19 2310 0076	19 2215 0076	19 2912 0076
104	104	116	5,5	19 2510 0104	19 2310 0104	19 2215 0104	19 2912 0104

D-ring USOD	Ø ID	Ø OD	H	EPDM BLACK 334137 USP-FDA-3A 1935/2004	FKM BLACK 33466 USP-FDA-BNIC 3A 1935/2004	MVQ TRANS. 334144 USP-FDA-3A 1935/2004	PTFE WHITE 95101 USP-FDA-3A 1935/2004
DN							
1"	25	32	5,5	19 2540 0001	19 2340 0001	19 2245 0001	19 2942 0001
1 1/2"	38	48	5,5	19 2540 0015	19 2340 0015	19 2245 0015	19 2942 0015
2"	51	61	5,5	19 2540 0002	19 2340 0002	19 2245 0002	19 2942 0002
2 1/2"	63	73,5	5,5	19 2540 0025	19 2340 0025	19 2245 0025	19 2942 0025
3"	76	86	5,5	19 2540 0003	19 2340 0003	19 2245 0003	19 2942 0003
4"	104	116	5,5	19 2540 0004	19 2340 0004	19 2245 0004	19 2942 0004



Indicative values. Techné reserves the right to change, without prior notice.

D-ring NORSK	Ø ID	Ø OD	H	NBR BLUE 344075B FDA 1935/2004	EPDM BLACK 334137 USP-FDA-3A 1935/2004
DN					
25	25	31,8	4,5	19 2153 0025	19 2550 0025
38	38	46,8	4,5	19 2153 0038	19 2550 0038
51	51	58,7	4,5	19 2153 0051	19 2550 0051
63,5	63,5	74,2	4,5	19 2153 0063	19 2550 0063
76,1	76,1	87,6	4,5	19 2153 0076	19 2550 0076
101,6	101,6	112,1	4,5	19 2153 1016	19 2550 1016



D-ring FLANGED DIN 11851	Ø ID	Ø OD	H	NBR BLUE 344075B FDA 1935/2004	EPDM BLACK 334137 USP-FDA-3A 1935/2004	FKM BLACK 33466 USP-FDA- BNIC 1935/2004	MVQ TRANS. 334144 USP-FDA-3A 1935/2004	PTFE WHITE 95101 USP-FDA-3A 1935/2004
DN								
10	12	20	5	19 6123 0010	19 6520 0010	19 6320 0010	19 6225 0010	19 6922 0010
15	18	26	5	19 6123 0015	19 6520 0015	19 6320 0015	19 6225 0015	19 6922 0015
20	23	33	5	19 6123 0020	19 6520 0020	19 6320 0020	19 6225 0020	19 6922 0020
25	30	40	5	19 6123 0025	19 6520 0025	19 6320 0025	19 6225 0025	19 6922 0025
25H	30	40	6	19 6123 0250	19 6520 0250	19 6320 0250	19 6225 0250	19 6922 0250
32	36	46	6	19 6123 0032	19 6520 0032	19 6320 0032	19 6225 0032	19 6922 0032
40	42	52	6	19 6123 0040	19 6520 0040	19 6320 0040	19 6225 0040	19 6922 0040
50	54	64	6	19 6123 0050	19 6520 0050	19 6320 0050	19 6225 0050	19 6922 0050
65	71	81	6	19 6123 0065	19 6520 0065	19 6320 0065	19 6225 0065	19 6922 0065
80	85	95	6	19 6123 0080	19 6520 0080	19 6320 0080	19 6225 0080	19 6922 0080
100	104	114	6	19 6123 0100	19 6520 0100	19 6320 0100	19 6225 0100	19 6922 0100
125	130	142	7	19 6123 0125	19 6520 0125	19 6320 0125	19 6225 0125	19 6922 0125
150	155	167	7	19 6123 0150	19 6520 0150	19 6320 0150	19 6225 0150	19 6922 0150

O-Rings 62 

JT4 X-Rings 78 

Backup Rings (BAE) 84 

Rubber Cord 94 

JR Fitting Seals 96 

Bonded Seals 100 

Triclover Clamp Seals 108 

O-Ring Seals 114 

SMS Seals

118



Macon Seals 122

Aseptic O-Rings DIN 11864 126

1. SMS SEALS

a) Definition

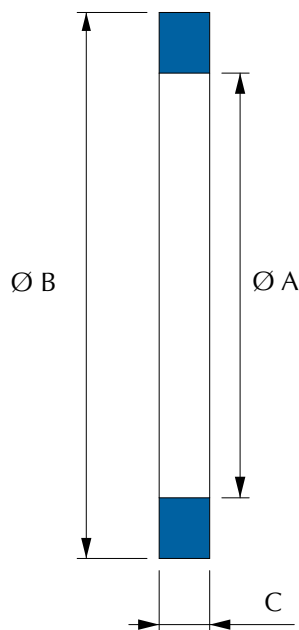
Techné SMS seal is an aseptic seal used in food and pharmaceutical applications. They are produced acc. SMS 1149 standard are suitable for fittings acc. SMS 1146 / 1147 standards (for tube acc. 1145 standard).



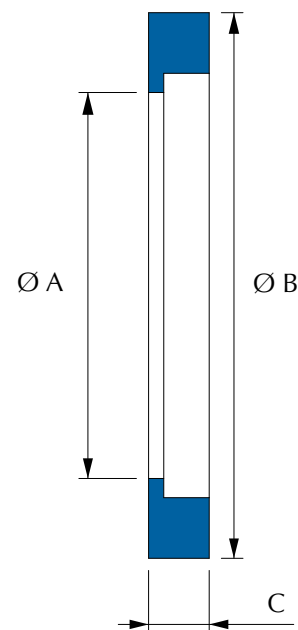
b) Characteristics

✓ Profiles

2 shapes of SMS seals are available: with (profile L) and without (profile R) flange. Techné also produces on demand special SMS seals with other dimensions and compounds.



SMS R



SMS L

SMS-R SMS 1149		Ø A	Ø B	C	EPDM BLACK 334137 USP-FDA-3A 1935/2004	FKM BLACK 33466 USP-FDA-BNIC 3A 1935/2004	PTFE WHITE 95101 USP-FDA-3A 1935/2004
DN							
25	25	32	5,5	19 4530 0025	19 4330 0025	19 4932 0025	
32	32	40	5,5	19 4530 0032	19 4330 0032	19 4932 0032	
38	38	48	5,5	19 4530 0038	19 4330 0038	19 4932 0038	
40*	40	50	5,5	19 4530 0040	19 4330 0040	19 4932 0040	
51	51	61	5,5	19 4530 0051	19 4330 0051	19 4932 0051	
53*	53	63	5,5				
63,5 (65*)	63,5	73,5	5,5	19 4530 0063	19 4330 0063	19 4932 0635	
76 (80*)	76	86	5,5	19 4530 0076	19 4330 0076	19 4932 0076	
89	89	101	5,5	19 4530 0089	19 4330 0089	19 4932 0089	
100*	101,6	113,5	5,5	19 4530 0100	19 4330 0100	19 4932 0100	
104*	104	116	5,5	19 4530 0104	19 4330 0104	19 4932 0104	
108	108	120	5,5	19 4530 0108	19 4330 0108	19 4932 0108	

In Red: on demand only

SMS-L SMS 1149		Ø A	Ø B	C	NBR BLACK 334270A FDA	EPDM BLACK 334137 USP-FDA-3A 1935/2004	FKM BLACK 33466 USP-FDA- BNIC 3A 1935/2004	MVQ WHITE 33421 FDA	PTFE WHITE 95101 USP-FDA-3A 1935/2004
DN									
25	22,6	31,6	5,4	19 3130 0025	19 3530 9025	19 3330 0025	19 3232 0025	19 3932 0025	
32	29,8	38,8	5,4	19 3130 0032	19 3530 0032	19 3330 0032	19 3232 0032	19 3932 0032	
38	35,5	47,5	5,6	19 3130 0038	19 3530 9038	19 3330 0038	19 3232 0038	19 3932 0038	
51	48,6	60,6	5,6	19 3130 0051	19 3530 9051	19 3330 0051	19 3232 0051	19 3932 0051	
63	60,6	73,0	5,6	19 3130 0063	19 3530 9063	19 3330 0063	19 3232 0063	19 3932 0063	
76	73,1	85,5	5,6	19 3130 0076	19 3530 9076	19 3330 0076	19 3232 0076	19 3932 0076	
101	97,4	115	5,6	19 3130 0101	19 3530 9101	19 3330 0101	19 3232 0101	19 3932 0101	
104	99,8	115	5,6	19 3130 0100	19 3530 9104	19 3330 0104	19 3232 0104	19 3932 0104	

In Red: on demand only