Silicone hoses for food and pharmaceutical applications



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SILICONE STAR D / SD / HD

Platinum-cured silicone pressure hose for food and pharmaceutical applications

Inner layer: semi-transparent silicone
Reinforcement: - 4 layers of polyester fabric
- AISI 316 stainless steel spiral (SD and HD versions only)
Cover: semi-transparent silicone
Working temperature: from -60°C to +180°C

High-quality platinum-cured silicone hose. The inner layer is made in a clean zone (*cleanroom*), extruded (DN10, 63, 76, 102 - formed – *handbuilt*). Available in three constructions: **SILICONE STAR D** – delivery hose, without steel spiral, **SILICONE STAR SD** – suction and delivery hose, with steel spiral, and **SILCONE STAR HD** – HEAVY DUTY suction and delivery hose, with a thicker wall and an extra silicone layer, for heavier duty. All versions are reinforced with 4 longitudinally arranged layers of high-strength, light white polyester fabric. The SILICONE STAR hose features a very smooth, glossy inner and outer surface, preventing product particles from settling and bacteria from developing, and facilitating internal and external cleaning of the hose.

Hose widely used in the food, cosmetic and pharmaceutical industries.

Inner and outer layers compliant with FDA requirements 21 CFR 177.2600, USP XXVI Class VI, BfR XV, BfR LII, France Journal Officiel - Brochure 1227, European Pharmacopoeia 3.1.9, ISO 10993-5, -6,-10, -11 and directives 1935/2004/EC, 2023/2006/EC (GMP) and ResAP (2004) 5, tested with simulant fluids B and D1 (for hydrated, acidic and dairy products). Compliant with the material directive RoHS 2011/65/EU and the REACH regulation 1907/2006/EU - contains no hazardous or banned substances. Steam sterilisation max. +135°C at 3.5 bar for max. 90 min. To avoid impairing the hose's mechanical properties, sterilisation should not be repeated sooner than one hour after the last cleaning.

At working temperatures above +100°C, the maximum working pressure given in the tables must be reduced by 1% per each 1°C rise in temperature. Pressure safety factor 4:1.

index	diameter inner [mm] ± 0.3 mm	diameter external* [mm]	wall wall* [mm]	pressure working** 20°C [bar]	pressure burst 20°C [bar]	vacuum [bar]	bending radius [mm]	weight [kg/m]	length max. [m]
SILICONE STAR D									
SO-SILICONESTAR-D-10	10,0	19,8	4,9	9	36	-	50***	0,303	4
SO-SILICONESTAR-D-13	12,7	22,5	4,9	8,5	34	-	50***	0,325	4
SO-SILICONESTAR-D-19	19,05	28,85	4,9	8	32	-	50***	0,432	4
SO-SILICONESTAR-D-25	25,4	35,2	4,9	7,5	30	-	75***	0,665	4
SO-SILICONESTAR-D-32	31,8	41,6	4,9	7,5	30	-	96***	0,725	4
SO-SILICONESTAR-D-38	38,1	47,9	4,9	6,75	27	-	110***	0,805	4
SO-SILICONESTAR-D-51	50,8	60,6	4,9	6,25	25	-	170***	1,050	4
SO-SILICONESTAR-D-63	63,0	72,8	4,9	5	20	-	210***	~1,26	4
SO-SILICONESTAR-D-76	76,0	85,8	4,9	4,5	18	-	250***	~1,51	4
SO-SILICONESTAR-D-102	102,0	111,8	4,9	4	16	-	300***	~2,00	4
SILICONE STAR SD									
SO-SILICONESTAR-SD-10	10,0	21,2	5,6	21,5	86	0,97	50	0,338	4
SO-SILICONESTAR-SD-13	12,7	23,9	5,6	20,25	81	0,97	50	0,400	4
SO-SILICONESTAR-SD-19	19,05	30,25	5,6	15,75	63	0,97	50	0,540	4
SO-SILICONESTAR-SD-25	25,4	36,6	5,6	15,75	63	0,97	75	0,671	4
SO-SILICONESTAR-SD-32	31,8	43,0	5,6	20,25	81	0,97	96	0,818	4
SO-SILICONESTAR-SD-38	38,1	49,3	5,6	12,75	51	0,97	110	1,100	4
SO-SILICONESTAR-SD-51	50,8	62,0	5,6	11,5	46	0,97	170	1,454	4
SO-SILICONESTAR-SD-63	63,0	74,2	5,6	14,25	57	0,97	210	~1,70	4
SO-SILICONESTAR-SD-76	76,0	87,2	5,6	8,25	33	0,97	250	~2,03	4
SO-SILICONESTAR-SD-102	102,0	113,2	5,6	6,25	25	0,97	300	~2,68	4

* - wall thickness tolerance: +/- 0.5 mm (type D), +/- 0.6 mm (type SD); resulting outer diameter
**- working pressure determined relative to burst pressure at a safety factor of 4:1
*** - for hose without spiral (SILICONE STAR D) theoretical minimum bend radius at internal hose pressure (≥ 1 bar)

Ends and ferrules for SILICONE STAR and CLEARWAY PLATINUM hoses

The standard ends are hygienic stainless steel AISI 316 ends of various types: TRICLOVER (NH-TCR-…), DIN11851 (NH-DWR-…, NH-DZR-…), SMS (NH-SWR-…, NH-SZR-…), IDF and others. The TI-LS1-…, TI-LS2-… ferrules are made of AISI 304 steel. The selection of ends and ferrules for a given hose type and size is shown in the table. Other ends may be used (ends designed for SAFETY CLAMP clamps (EN 14420), e.g. GD-VSLB, GD-MSLB, CAMLOCK. Note whether a hygienic finish of the end tail is required. Other end and ferrule solutions may also be developed – to the customer's needs – contact Tubes International.



1 – TRICLOVER end of stainless steel AISI 316; 2 – ferrule type TI-LS1 or TI-LS2; 3 – SILICONE STAR or CLEARWAY PLATINUM hose

DN	SILICONE STAR hose		ferrule (AISI 304)	CLEARWAY PLATINUM hose		hose end (AISI 316)	instructions
	index	size	index	size	index	index	
10 (3/8")	SO-SILICONESTAR-D-10	10,0 x 19,8	**TI-LS1-22-06-SS**	-	-	*contact Tubes Int.*	*IT-136 and contact Tubes Int.*
	SO-SILICONESTAR-SD-10	10,0 x 21,2	**TI-LS1-22-06-SS**	10,0 x 20	MT-CLEARWAY-SD-10		
	SO-SILICONESTAR-HD-010	10,0 x 23,8	**TI-LS2-24-06-SS**	10,0 x 22	MT-CLEARWAY-HD-10		
13 (1/2")	SO-SILICONESTAR-D-13	12,7 x 22,5	**TI-LS1-24-08-SS**	13 x 23	MT-CLEARWAY-D-13	NH-TCR-…-...013 NH-DWR-015 GD-VSLBT-…-013-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-13	12,7 x 23,9	**TI-LS1-24-08-SS**	13 x 23	MT-CLEARWAY-SD-13		
	SO-SILICONESTAR-HD-013	12,7 x 26,5	**TI-LS2-28-08-SS**	13 x 25	MT-CLEARWAY-HD-13		
16 (5/8")	-	-	-	-	-	*contact Tubes Int.*	*IT-136 and contact Tubes Int*
	-	-	**TI-LS1-28-10-SS**	16 x 26	MT-CLEARWAY-SD-16		
	-	-	**TI-LS2-30-10-SS**	16 x 29	MT-CLEARWAY-HD-16		
19 (3/4")	SO-SILICONESTAR-D-19	19,05 x 28,85	**TI-LS1-30-12-SS**	19 x 30	MT-CLEARWAY-D-19	NH-TCR-…-...019 NH-DWR-020 GD-VSLBT-…-019-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-19	19,05 x 30,25	**TI-LS1-30-12-SS**	19 x 29	MT-CLEARWAY-SD-19		
	SO-SILICONESTAR-HD-019	19,05 x 32,85	**TI-LS2-34-12-SS**	19 x 31	MT-CLEARWAY-HD-19		
25 (1")	SO-SILICONESTAR-D-25	25,4 x 35,2	**TI-LS1-37-16-SS**	25 x 35	MT-CLEARWAY-D-25	NH-TCR-…-...025 NH-DWR-025 GD-VSLBT-…-025-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-25	25,4 x 36,6	**TI-LS1-37-16-SS**	25 x 35	MT-CLEARWAY-SD-25		
	SO-SILICONESTAR-HD-025	25,4 x 39,2	**TI-LS2-40-16-SS**	25 x 38	MT-CLEARWAY-HD-25		
32 (1.1/4")	SO-SILICONESTAR-D-32	31,8 x 41,6	**TI-LS1-44-20-SS**	32 x 43	MT-CLEARWAY-D-32	NH-TCR-…-...032 NH-DWR-032 GD-VSLBT-…-032-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-32	31,8 x 43,0	**TI-LS1-44-20-SS**	32 x 42	MT-CLEARWAY-SD-32		
	SO-SILICONESTAR-HD-032	31,8 x 45,6	**TI-LS2-47-20-SS**	32 x 45	MT-CLEARWAY-HD-32		
38 (1.1/2")	SO-SILICONESTAR-D-38	38,1 x 47,9	**TI-LS1-50-24-SS**	38 x 48	MT-CLEARWAY-D-38	NH-TCR-…-...038 NH-DWR-038 GD-VSLBT-…-038-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-38	38,1 x 49,3	**TI-LS1-50-24-SS**	38 x 48	MT-CLEARWAY-SD-38		
	SO-SILICONESTAR-HD-038	38,1 x 51,9	**TI-LS2-53-24-SS**	38 x 52	MT-CLEARWAY-HD-38		
50 (2")	SO-SILICONESTAR-D-51	50,8 x 60,6	**TI-LS1-63-32-SS**	51 x 62	MT-CLEARWAY-D-51	NH-TCR-…-...-050, -051 NH-DWR-050, -051 GD-VSLBT-…-050-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-51	50,8 x 62,0	**TI-LS1-63-32-SS**	51 x 61	MT-CLEARWAY-SD-51		
	SO-SILICONESTAR-HD-051	50,8 x 64,6	**TI-LS2-66-32-SS**	51 x 65	MT-CLEARWAY-HD-51		
63 (2.1/2")	SO-SILICONESTAR-D-63	63,0 x 72,8	**TI-LS1-76-40-SS**	-	-	NH-TCR-…-...063 NH-DWR-063 GD-VSLBT-…-065-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-63	63,0 x 74,2	**TI-LS1-76-40-SS**	63,5 x 74,5	MT-CLEARWAY-SD-63		
	SO-SILICONESTAR-HD-063	63,0 x 76,8	**TI-LS2-79-40-SS**	63,5 x 77,5	MT-CLEARWAY-HD-63		
76 (3")	SO-SILICONESTAR-D-76	76,0 x 85,8	**TI-LS1-89-48-SS**	-	-	NH-TCR-…-...076 NH-DWR-075 GD-VSLBT-…-075-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-76	76,0 x 87,2	**TI-LS1-89-48-SS**	76 x 88	MT-CLEARWAY-SD-76		
	SO-SILICONESTAR-HD-076	76,0 x 89,8	**TI-LS2-92-48-SS**	76 x 90	MT-CLEARWAY-HD-76		
100 (4")	SO-SILICONESTAR-D-102	102,0 x 111,8	**TI-LS1-114-64-SS**	-	-	NH-TCR-…-...076 NH-DWR-100, -102 GD-VSLBT-…-100-SS and other similar…	IT-136
	SO-SILICONESTAR-SD-102	102,0 x 113,2	**TI-LS1-114-64-SS**	100 x 112	MT-CLEARWAY-SD-100		
	SO-SILICONESTAR-HD-102	102,0 x 115,8	**TI-LS2-117-64-SS**	100 x 114	MT-CLEARWAY-HD-100		

Tubes International supplies complete silicone lines (hoses with ends) SILICONE STAR and CLEARWAY PLATINUM for the food, cosmetics and pharmaceutical industries. Proper shaping and assembly of the stainless steel ends ensures unobstructed flow and a high degree of hygiene. The lines are marked, traceable and suitably packaged.

