Silicone hose systems designed
for precision and performance

DS002

Fluorosilicone Lined Silicone Hose With Polyester Reinforcement

For more information or data, please visit www.silflex.com or contact us
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General Use

This type of hose is generally used in applications where the medium flowing through the hose is likely to degrade the standard silicone. Examples of this are Oils, Diesel Fuel, etc.

Working Temperature Range: -50°C to +180°C.

Working Pressures: Dependant on hose construction and customer requirements.

Construction

A lining of Black Fluorosilicone, covered with plies of Silicone, reinforced with Polyester Fabric. The number of plies will vary depending on the working pressure, bore size, and required wall thickness. In some applications a further Fluorosilicone liner is added to the outside of the hose. A Blended Fluorosilicone is also available for applications such as filler hoses, oil/air mist intercooler hoses, etc.

Material Specifications

Fluorosilicone Rubber Compound

Colour	Black
Hardness (IHRD)	60 ± 5
Specific Gravity (g/cm^3)	1.59 ± 0.05
Tensile Strength (Mpa)	5
Elongation at Break (%)	210
Tear Strength (KN/m)	23

Silicone Rubber Compound

Colour	Various
Hardness (IHRD)	65 ± 5
Specific Gravity (g/cm^3)	1.18 ± 0.05
Tensile Strength (Mpa)	8.6
Elongation at Break (%)	308
Tear Strength (KN/m)	13

The above physical properties refer to a test sheet press cured for 5mins at 115°C, and post cured for 4 hrs @ 200°C. Tested to the relevant BS903 standard.

Fluid Resistance Figures (Fluorosilicone Lining)

Immersion Medium	Immersion Conditions	Hardness Change (Pts)	Tensile Change (%)	Elongation Change (%)	Volume Change (%)
ASTM No1 Oil	70 Hours @ 150°C	-5	-1	-5	Nil
ASTM No3 Oil	70 Hours @ 150°C	-5	-20	-10	+5
Diesel Fuel	7 Days 50°C	-7	-22	-7	+5
Petrol	24 Hours @ 24°C	-12	-39	-30	+21

The values shown above have achieved through the use of immersion tests in accordance with ASTM D 471. Service conditions are usually less severe than immersion tests, as the rubber may only be splashed or partly exposed to the particular medium. Figures for other media are available on request.

Knitted Polyester Fabric

Description	Fine Mesh
Yarn Type	100% Polyester
Finish	Scour & Set
Bursting Strength (Fabric) (7" Internal Dia. Ring)	33psi
Extensibility at Burst	60%
Thickness	0.022" (0.56mm)

Spring Steel Wire Helix (where applicable)
Constructed from galvanised spring steel wire (to BS5216 HS3) at a spacing of 2-3 tpi and buried between the plies.

Burst and Working Pressure Guidelines for 3 & 4 Ply Polyester Reinforced Hoses

Bore Size	3 Ply Hoses				4 Ply Hoses			
	Burst Pressure		Recommended Max. Operating Pressure		Burst Pressure		Recommended Max. Operating Pressure	
mm	Bar	Psi	Bar	Psi	Bar	Psi	Bar	Psi
6.5	76.6	1126	19.2	282	86.1	1266	21.5	316
8	64.2	944	16.1	237	73.0	1073	18.3	269
9.5	55.4	814	13.9	204	63.6	935	15.9	234
11	48.9	719	12.2	179	56.6	832	14.2	209
12.7	42.4	623	10.6	156	49.6	729	12.4	182
15.8	35.5	522	8.9	131	42.0	617	10.5	154
19	30.6	450	7.7	113	36.7	539	9.2	135
20	29.3	431	7.3	107	35.2	517	8.8	129
22	27.0	397	6.8	100	32.6	479	8.2	121
25	24.2	356	6.1	90	29.5	434	7.4	109
28	22.0	323	5.5	81	26.9	395	6.7	98
30	20.7	304	5.2	76	25.5	375	6.4	94
32	19.6	288	4.9	72	24.2	356	6.1	90
35	18.1	266	4.5	66	22.6	332	5.7	84
38	16.9	248	4.2	62	21.1	310	5.3	78
41	15.8	232	4.0	59	19.9	293	5.0	74
44.5	14.6	215	3.7	54	18.5	272	4.6	68
48	13.8	203	3.5	51	17.5	257	4.4	65
51	13.1	193	3.3	49	16.7	245	4.2	62
54	12.5	184	3.1	46	16.0	235	4.0	59
57	12.0	176	3.0	44	15.3	225	3.8	56
60	11.4	168	2.9	43	14.7	216	3.7	54
63	11.0	162	2.8	41	14.1	207	3.5	51
65	10.7	157	2.7	40	13.8	203	3.5	51
68	10.3	151	2.6	38	13.3	196	3.3	49
70	10.0	147	2.5	37	13.0	191	3.3	49

76	9.3	137	2.3	34	12.2	179	3.1	46
80	8.9	131	2.2	32	11.7	172	2.9	43
83	8.7	128	2.2	32	11.4	168	2.9	43
89	8.2	121	2.1	31	10.7	157	2.7	40
102	7.3	107	1.8	26	9.6	141	2.4	35
114	6.6	97	1.7	25	8.8	129	2.2	32
127	6.0	88	1.5	22	8.1	119	2.0	29
152	5.2	76	1.3	19	7.0	103	1.8	26

All figures apply to shaped hoses and hoses up to 1m long. Please enquire for longer lengths. All figures are taken from Silflex Ltd test data. All data developed by burst profiling at standard conditions. Performance characteristics are dependent on the environment. Operating parameters will deviate in differing operating environments.
Maximum Operating pressures defined by a ratio of 4:1. This is only a guide pressure; each application should be assessed individually.