C.B.FROST
RUBBER & PLASTICS

CBF Sil V-0 (SM)

Soft-Medium Silicone Sponge
EN45545-2 Compliant

Data Sheet Version: v8

Grade: Soft-Medium - 300kg/m³

Availability:

- Grey (standard) & Black
- Sheets and Rolls
- Pressure Sensitive Adhesive (PSA) Backing
- Punched / Water Jet Gaskets
- Cords, Tubes, Profiles, Joined Rings & Sections

Temperature Ranges:

- -60°C (-76°F) to 230°C (446°F) and up to 250°C (482°F) intermittent

Specifications:

- CBF Sil V0 is a closed cell, lightweight silicone sponge/foam
- CBF Sil V0 meets UL94 V-0 at 1.5mm and above
- EN45545-2 compliant (HL3)
- NFPA 130 compliant
- Low water absorption and dust ingress, capable of meeting IP67
- Product meets the flammability requirements of FAR 25/JAR 25/CS 25 Appendix F, Part 1, (a)(1)(i) and (a) (1)(ii) vertical, (a)(1)(iv) and (a)(1)(v) horizontal, (a)(2)(ii) and (a)(2)(iii) 45 degrees flammability tests and automotive standard PART 571FMVSS302.
- Additional Approval: CBF Sil V0 Soft-Medium meets ASTM D1056 2D2

Environment Resistance:

- Silicone products have excellent resistance to ozone, oxidation, ultraviolet light, corona discharge, cosmic radiation, ionising radiation, and weathering in general

Typical Applications:

- Automotive, Aerospace, Electronics, Heating and Ventilation (HVAC), Lighting, Marine & Rail

General Characteristics:

Test	Result	Standard
Brittle Point	-80°C (-112 °F)	ASTM D746
Limiting Oxygen Index	33.5 – 43.9 %	EN ISO 4589-2
Radiation Resistance	>10^5 Grays (10^7 Rads) typical	

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Mechanical Properties:

Property	Units	CBF Sil V-0 Soft-Medium	Test Method
*Density	Kg/m^{-3} $lb.ft^{-3}$	300 19.4	BSENISO 845 ASTM D3574
**Compression Stress 25% strain	kPa psi	40 5.8	ASTM D1056
**Compression Stress 40% strain	kPa psi	90 13.1	BSENISO 3386 part 1, 2
Tensile Strength	kPa psi	304 44.1	BSENISO 1798 ASTM D412
Elongation at failure	%	90	BSENISO 1798 ASTM D412
Compression Set 50% compression 24 hours recovery. 22 hours @ 70 °C (158°F)	%	<1	BSENISO 1856
22 hours @ 100°C (212 °F)	%	3	ASTM D1056
Thermal conductivity	W/m.K	0.099	DIN EN993-15

Additional information

- *(*) Density measured on 25mm diameter cord samples. The density of samples of different sizes will be different from that stated here*
- *(**) Compression stress measured on samples defined in BSENISO 3386*
- *The compressive stress on samples of different dimensions, especially thickness may vary from that quoted here*

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Flame Resistance:

Property	Units	CBF Sil V-0 Soft-Medium	Test Method
UL94 Vertical Burn	Minimum Thickness (mm)	V-0 @ 1.5	UL94
FAR 25 app. F sec A 1 (i) & (ii)	Minimum Thickness (mm)	1.5	FAR 25 App. F sec A 1(i)
Limiting Oxygen Index	%	43.9	EN ISO 4589-2: OI
Flame spread (CFE)	kW/m^2	2mm = 26.57 25mm = 20.87	ISO 5658-2
Smoke/Toxicity 50 kWm^{-2}	$D_s(4)$ $V0F_4$ min CIT_g	2mm = 55 25mm = 57 2mm = 159 25mm = 154 2mm = 0.03 25mm = 0.04	EN ISO 5659-2
Cone Calorimeter 50 kWm^{-2}	MARHE kWm^2	2mm = 76.67 25mm = 68.14	ISO 5660-1
Smoke Density 25 kWm^{-2}	D_s Max	2mm = 18 25mm = 31	EN ISO 5659-2
Toxicity 600°C	CIT_{NLP}	2mm = 0.02 25mm = 0.05	NF X 70-100-1 & 2

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EN 45545-2 Classification:

Property	Description	Thickness Range (mm)	CBF Sil V-0 Soft-Medium
R1	Interior surfaces (non-listed interior products >0.2m²)	2 – 25	HL2
R2	Limited surfaces	2 – 25	HL3
R3	Strips	2 – 25	HL3
R7	Gangway surfaces, ducting (& non-listed exterior products >0.2m²)	2 – 25	HL2
R8	Roof (external)	2 – 25	HL2
R10	Floors and cavity walls	3 – 50	-
R17	Cab housing	2 - 25	HL2
R21	Seating & mattress materials	3 – 50	-
R22	Interior seals (& non-listed interior products <0.2m²)	2 – 25	HL3
R23	Exterior seals (& non-listed exterior products <0.2m²)	2 – 25	HL3

Flame Resistance to NFPA 130:

Property	Units	CBF Sil V-0 Soft-Medium	Test Method
Average Flame Propagation	Inches	1.6	ASTM C1166
Surface Flammability	Is (flame spread index)	3mm = 15 30mm = 25	ASTM E 162
Smoke Generation (Flaming Mode)	D_s (1.5)	3mm = 8 30mm = 11	ASTM E 662
	D_s (4.0)	3mm = 14 30mm = 30	
Smoke Generation (Non-Flaming Mode)	D_s (1.5)	3mm = 5 30mm = 10	ASTM E 662
	D_s (4.0)	3mm = 13 30mm = 29	
Toxic Gas Generation	N/A	3mm = PASS 30mm = PASS	Bombardier SMP 800-C