

VFR203-803

Flame Retardant Silicone Rubber (Aerospace Spec)

Material

Flame retardant silicone rubber

Available Grades

VFR203, VFR303, VFR403, VFR503, VFR603, VFR703, VFR803

General Information

A fire retardant compound with good mechanical properties. This compound has good heat stability inside a wide temperature range. Pigmentation options are limited due to off-white base colour.

Material compliance

Test Method / Specification	VFR203	VFR303	VFR403	VFR503	VFR603	VFR703	VFR803
F1 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(i) & (b)(4) 60s. Vert.	Pass 13/03/17			Pass 13/12/22	Pass 13/12/22	Pass 13/12/22	
F2 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(ii) & (b)(4) 12s. Vert.							
F3 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(iv) & (b)(5) 15s. Horiz.		Pass 31/07/18	Pass 31/07/18	Pass 31/07/18		Pass 01/08/18	Pass 01/08/18
F4 CS 25.853(a) Amdt.21 App.F Pt.I(a)(1)(v) & (b)(5) 15s. Horiz.	Pass 20/10/22						
F5 CS 25.555(d) Amd1. 21 App.F.Pt.I(a)(2)(ii) & (b)(6) 30sec.45°					Pass 11/10/16		
F6 CS 25.1713(c) Amdt.21 App.F Pt.I(a)(3) (b)(7) 30sec/60°							
F7 HEAT RELEASE* CS 25.853(d) Amdt.21 App.F Pt.IV (e) & (g)							
F8 SMOKE EMISSION * CS 25.853(d) Amdt.21 App.F.Pt.V(a) & (b)							
F9 SMOKE EMISSION* ABD0031 IssF		Pass 31/07/18	Pass 31/07/18	Pass 20/12/22	Pass 20/12/22	Pass 20/12/22	Pass 01/08/18
F10 Toxic Gas Emission (ppm) ABD0031 IssF		Pass 31/07/18	Pass 31/07/18	Pass 20/12/22	Pass 20/12/22	Pass 20/12/22	Pass 01/08/18

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Environmental Resistance

Silicone Rubber Products have an excellent resistance to:

- Ozone
- Oxidation
- Ultraviolet Light
- Corona Discharge
- Cosmic radiation
- Ionising radiation
- Weathering in general

Typical Applications

- Automotive
- Domestic and Commercial
- Catering
- Electronics
- Construction
- Energy
- Food & Beverage
- Heating and Ventilation (HVAC)
- Industrial
- Insulation
- Lighting
- Marine

Material Properties

Cure conditions: 1.5% (50% paste of bis (2,4-dichlorobenzoyl)-peroxide in silicone fluid), 10 min / 135°C in press, post-cured 4h / 200°C.

Property	Units	Typical Value							Test Method
		VFR203	VFR303	VFR403	VFR503	VFR603	VFR703	VFR803	
Appearance	-	Off-White							-
Temperature Range	°C	-50 to + 220							
Hardness	° Shore A	20	30	40	50	60	70	80	DIN 53505
Density	g/cm ³	1.14	1.13	1.12	1.16	1.18	1.20	1.19	ISO 1183-1 A
Tensile strength	N/mm ²	8.6	9.3	10	11	11	11.6	11	DIN 53504 S1 / ISO 37
Elongation at break	%	671	616	560	630	460	460	460	DIN 53504 S 1
Tear strength	N/mm	14.5	15.2	16	37	21	21	27	ASTM D 624 B
Compression Set	%	40	33	27	32	32	40	40	DIN ISO815-B (22h / 175°C)
Dielectric Strength	KV/mm	-	-	-	-	-	20	-	

These figures are only intended as a guide and should not be used in preparing specifications. Size tolerance to ISO 3302-1: 2014.

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