

Fire Retardant Silicone

JEHBSIL® FRC Series (Rail Applications)



Technical Datasheet

Material Overview

Jehbsil FRC fire retardant silicone is an exceptionally high-quality flame retardant silicone suitable for rail applications. This material is fabricated using high tear strength platinum cured rubber and exhibits outstanding mechanical characteristics and fire retardant properties. Specifically engineered with rail applications in mind, all FRC series materials are jet black in colour.

All articles manufactured with this material are certified under EN45545-2 for R22 and R23 applications at a HL3 level, the highest fire retardant rating achievable under this standard. All samples have extremely low smoke toxicity and smoke density, and have an extremely high limiting oxygen index (LOI) > 36%, up to 44.3% for FRC-90.

Custom grades of silicone can also be engineered on request to match specific mechanical property requirements, typically by combining different existing grades (eg. 55 Shore A).



Technical Specifications

Property	Typical Values							Inspection Method
	Unit	Jehbsil Platinum Material Codes						
		FRC-30	FRC-40	FRC-50	FRC-60	FRC-70	FRC-90	
Hardness	Shore A	30	40	50	60	70	90	DIN 53505
Tensile Strength	N/mm ²	9.0	8.5	7.9	7.4	6.9	5.8	DIN 53504 S1
Elongation at Break	%	1500	1150	950	750	550	250	DIN 53504 S1
Compression Set ¹	%	53	54	55	57	58	60	DIN ISO 815B
Tear Strength	N/mm	45	40	35	31	26	17	ASTM D624B
Service Temp.	°C	-60 to +200						ASTM D2000
Autoignition Temp.	°C	> 400						DIN 51794
Limiting Oxygen Index	%	> 36						EN ISO4589-2
Rail Fire Safety		HL3, HL2 and HL1 Compliant for R22 and R23						EN45545-2
RoHS		Compliant						RoHS 2015