

Silplus* 60 CW

Heat Cured Elastomer

Description

Silplus 60 CW is a heat cured silicone rubber base compound. It is an excellent candidate to consider for use in the cable and wire industry.

Key Features and Typical Benefits

- excellent processing (high green strength)
- good mechanical profile
- very good electrical properties
- enhanced high temperature resistance

Typical Physical Properties

Typical Properties of the Uncured Base Compound			
Appearance			Translucent
Density	DIN 53 479 A	g/cm ³	1.20
Mooney Viscosity	DIN 53 523		
ML (4) 25°C		ME	58
Δ ML 0/ML4			≤20

Typical Properties of the Vulcanized Rubber			
100 (pbw) Silplus 60 CW heat cured silicone with 1.5 pbw bis-(2,4-dichlorobenzoyl)-peroxide (50%). Vulcanization conditions: 10 min. @ 120°C.			
Hardness	DIN 53 505	Shore A	63
Tensile Strength	DIN 53 504 S2	N/mm ²	11
Elongation at Break	DIN 53 504 S2	%	500
Tear Strength	ASTM D 624 die B	N/mm	24
Volume Resistivity	DIN IEC 93	Ohm•cm	1•10 ¹⁵
Dielectric Strength	IEC 243-1	kV/mm	25
Dielectric Constant	IEC 250	(50 Hz)	3.1
Dissipation Factor	IEC 250	(tan delta/1000 Hz)	2.6•10 ⁻⁴

Typical properties are average data and are not to be used as or to develop specifications.

Attention:

Using a peroxide other than bis-(2,4-dichlorobenzoyl)-peroxide (50%), might result in different mechanical properties.

Diacyl-peroxides like Di(2,4-dichlorobenzoyl)peroxide are non vinyl specific cross link peroxides (higher cross link density).

Diaryl-peroxides like Dicumylperoxide or Dialky-peroxides like 2,5-Dimethyl-2,5-di(tert. butylperoxy)hexane are vinyl specific cross link peroxides (lower cross link density).

Processing Recommendations

Various organic peroxides will vulcanize the compounding bases. Fabricators should select a curing agent based on the method of fabrication, desired properties and safety considerations. They are mixed into the rubber on a two-roll-mill, together with additives if necessary.

If the goods are to be vulcanized without pressure, e.g. in hot air or in an infrared radiation tunnel, bis-2,4-dichlorobenzoyl-peroxide (50%) is usually recommended. The dosage ranges from 1-2 parts (pbw) of cross-linking agent on 100 parts (pbw) of base compound. Good results have been achieved with a dosage of 1.5 parts (pbw). While the cross-linking agent is being incorporated, the temperature of the compound should not exceed 40°C to avoid scorch. Therefore the rolls of the mixing mill should always be well cooled.

Regulatory Compliance

- Listed as UL 94 HB (file No. E205753)

Packaging

Silplus 60 CW heat cured silicone is available in 500 kg boxes.

Patent Status

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