

Silplus™ 60 EX

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Description

Silplus 60 EX is a heat cured silicone rubber base compound that is an excellent candidate to consider for use in extrusion, press-molding injection and calendaring. Silplus 60 EX heat cured silicone may be considered for use in a wide variety of high quality applications such as high durometer tubes and profiles.

Key Features and Benefits

- excellent extruding processability
- good mechanical properties
- high green strength
- easily blendable
- versatile

Typical Physical Properties

Typical Properties of the Uncured Base Compound			
Appearance			Translucent
Density, 20°C	DIN 51757	g/cm ³	1.19
Mooney Viscosity	DIN 53 523		
ML (4) 25°C		ME	51
∑ ML 0/ML4		ME	≤20
Typical Properties of the Vulcanized Rubber			
100 (pbw) Silplus 60 EX heat cured silicone with 1.5 pbw bis-(2,4-dichlorobenzoyl)-peroxide (50%).			
Vulcanization conditions: 10 min. @ 120°C. Post cured: 6h @ 200°C in hot air.			
Hardness	DIN 53 505	Shore A	62
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	25
Compression set (22 h @ 175°C)	ISO 815	%	45

Typical data are average data and actual values may vary.

Typical data shall not be used as product specifications.

Attention:

Using other peroxides 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).

Potential Applications

Because of its outstanding properties, Silplus 60 EX heat cured silicone is an excellent

candidate to consider for use in most types of extrusion and calendaring applications.

Processing Recommendations

Crosslinking can be carried out with most peroxides commonly used for the press molding and extrusion process. They are mixed into the rubber, 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 by weight of crosslinking agent on 100 parts by weight (pbw.) of base compound. Good results have been achieved with a dosage of 1.5 pbw. While the crosslinking agent is being incorporated, the temperature of the compound should not exceed 40°C. Therefore the rolls of the mixing mill should always be well cooled. It is pointed out that the compression set behavior obtained with bis-2,4-dichlorobenzoyl-peroxide is generally less satisfactory than that given by dicumyl peroxide or comparable products.

To vulcanize goods in a press or in steam, recrystallized dicumyl peroxide (95%) is generally recommended. Instead of dicumyl peroxide corresponding proportions of other peroxides (e.g. ones with less odor) can be used.

Regulatory Compliance

- The ingredients are listed in the BfR recommendation XV “Silicones” ⁽¹⁾
- Compositionally compliant with 21 CFR 177.2600 - Rubber articles intended for repeated use⁽²⁾
- Silplus 60 EX met the requirements for USP Class VI, ISO 10993 and Tripartite testing under Good Laboratory Practices (GLP)

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

(1) Producer of the final article needs to test and confirm that the final product meets the extraction limits of BfR XV or corresponding EU legislation.

(2) It is the responsibility of the user to determine that the final product complies with the extractive limitations and other requirements of 21 CFR 177.2600 under their specific manufacturing procedures.

Packaging

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

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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