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SLX – 27 FG

FOOD GRADE CASTING SILICONE

Description

Silex SLX-27FG is a two component food grade Silicone elastomer which cures at room temperature by way of a Polyaddition reaction. Cure time can be accelerated by heat if required to speed up processing time.

Advantages

- Easy processing and curing.
 - Outstanding tensile and tear strength.
 - Low linear shrinkage (when crosslinked at room temperature)
 - PART B: white available (see characteristics)
 - Once cured according to the conditions given in this technical data sheet, the chemical approved by regulations in force in the following countries:
 - FRANCE: Journal Officiel, Brochure 1227
 - GERMANY: BGA, chapter XV-A
 - UNITED STATES: FDA Regulations, CRR-2 1
- For regulated applications, please contact Silex Ltd to ensure compliance and obtain relevant statement.*

Processing

Remix each of the two components (part A and part B) every time before using.

1. Mixing of the two components

Add 100 parts of SLX-27FG A to 10 parts of SLX-27FG B. The two components can be mixed by hand using a spatula or something similar or using a low-speed electric or pneumatic mixer to minimise the introduction of air into the mixture.

2. Degassing

After mixing base and catalyst, it is recommended to eliminate entrapped air. If mixing is done with the help of a machine and a static mixer, both parts are degassed before mixing. SLX-27FG is degassed under a vacuum of 30-50 mbar. The degassing of the mixed products or of the two separated parts occurs under a vacuum of 30 to 50 mbar. Under vacuum, the product expands 3 to 4 times its initial volume and forms back bubbles on its surface.

These bubbles will disappear gradually and the mixture will sink back down to its initial volume within 5 minutes. Release the vacuum and repeat the operation a few minutes later.
Remark: release the vacuum several times improves the degassing. For easier degassing only fill a recipient to 1/2 of its height.
The product can be casted by gravity or under pressure.

Typical Applications

- Production of flexible moulds requiring excellent detail reproduction, good tear strength and mechanical properties.
- Production of food grade moulds for moulding and casting articles in chocolate, sugar, confectionery, baked products, biscuits and many other food products.

Characteristics

1. Characteristics of the non cured product

Properties	SLX-27FG A	SLX-27FG B
Appearance	Viscous liquid	
Colour	Colourless	White
Specific Gravity (at 23°C, g/cm ³ approx.)	1.1	1.1
Viscosity (at 23°C, g/cm ³ approx.)	25 000	8 000

2. Polymerization

SLX-27FG A100 parts
SLX-27FG B 10 parts

Properties	SLX-27FG A & B
Pot life (at 23°C, hours)	1
Demoulding time (at 23°C, hours)	16

Note: heat accelerated crosslinking does not affect the properties of SLX-27FG A & B. However, dimensional changes do occur that should be kept into account.

3. Characteristics of the cross linked product

Measured after curing 24 hours @ 23°C

Properties	SLX-27FG A & B
Hardness (Shore A, on a 6mm thick specimen, approx.)	27 ± 3
Tensile strength at break (MPa, approx.)	7.5
Elongation at break (%, approx.)	600
Tear strength (KN/m, approx.)	20
Linear shrinkage (%, 7 days after curing at 23°C)	0.1

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3. Cross Linking

The best curing conditions are at 23°C. When using the products at higher temperatures, the pot life is shorter and the setting rate faster. As opposed to this, lower temperatures increase the pot life and decrease the setting rate.

Room temperature curing assures the lowest possible shrinkage, if accelerated cure is desired, mild heat should be preferred. To minimise shrinkage the elastomer should be cured at maximum temperature of 60°C. Higher temperatures might cause higher shrinkage. At 23°C, the cured silicone can be demoulded after the time indicated as "demoulding time" (see 2. Polymerization). In order to achieve the best possible performance levels from the pads, it is preferable to wait for 24 hours before using them.

Be aware that contact with certain materials can inhibit the curing of this adhesive.

- Natural rubbers vulcanised with sulphur
- Polycondensation of adhesive catalysed with metal salts
- PVC stabilising agents
- Amine cured epoxies
- Sulphur containing clays

In case of doubts, it is recommended to test the substrate by applying a small quantity of the mixed silicone on a restricted area. Take note that cross contaminations due to improperly cleaned tools or devices is the most frequent cause of inhibition.

Storage and shelf life

When stored in their original packaging at a temperature of between -5°C and +30°C, SILEX SLX-27FG A & B may be stored for up to 20 months from their date of manufacture.

Comply with the storage instructions and expiry date marked on the packaging.

Beyond this date, Silex Ltd no longer guarantees that the products meet the sales specifications.

Safety

Please consult the Safety Data Sheet of **SILEX SLX-27-FG**.

Use of Silex SLX-27FG A & SLX-27FG B White for production of moulds for direct contact with food preparations

If cured according to the instructions described in paragraph Characteristics of this datasheet, the chemical composition of **SLX-27FG A & B White COLOUR** conforms with the positive lists of products approved by the regulations in force in the following countries: **FRANCE: Journal Officiel, Brochure 1227; GERMANY: BGA, chapter XV-A; UNITED STATES: FDA Regulations, CFR-2**

In all cases, the mould manufacturers must check that the moulds, in their future conditions of use, satisfy the EEC directive relative to migration tests: **European Directive 93/8/EEC**

Purely for information purposes, migration tests have been carried out on prototype moulds in accordance with this directive. The results obtained showed that:

1. In the special case of moulding of fat based products such as chocolate, the contact time between the mould and the melted foodstuff must be minimised: e.g the duration of contact between the mould and the melted fatty product should not exceed 2 hours and the mould temperature should be exceed 40°C.
2. In the case of other foodstuff, the moulds may be used without any particular precautions in terms of duration of contact and temperature, whilst remaining within the temperature range compatible with the heat stability of silicone elastomers.

*NOTE: In order to comply with the above mentioned directives, **SILEX SLX-27FG A & SLX-27FG B White COLOUR** must be mixed in the recommended ratio (A:B 10:1 w/w).*

In food contact application context, under no circumstances should the product be diluted with silicone oils.

Packaging

SILEX SLX-27FG A is available in 200 KG metal drums, 22 KG, 11 KG, 5.5 KG, 2.2 KG, 1.1 KG or 0.55 KG plastic pails.

SILEX SLX-27FG B is available in 20 KG, 2.2 KG, 1.1 KG, 550 gm, 220 gm, 110 gm or 55 gm plastic pails.

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