

Laminating system  
**SLIP-LG 100**  
Hardeners S-HG 130, S-HG 140

## 1. Description

**Laminating system SLIP-LG 100** is a highly clear, low viscous, and modified mixture of S-LG 100 epoxy and polyether hardener S-HG 130 or polyether modified hardener S-HG 140.

## 2. Use

Laminating system SLIP LG 100 is a highly clear casting system ensuring a very long pot life and enabling the casting of very thick layers of resin. It is especially used for special applications, such as the encapsulation of advertising articles and glass or ice imitations.

**Laminating resin SLIP-LG 100** is a low viscous epoxy modified by additives considerably reducing the possibility of allergic reaction in persons and enabling the escape of air bubbles from the mixture. The epoxy is highly clear.

**Hardener S-HG 130** is a very slow hardener with an almost negligible exotherm ensuring the good properties of castings even under room temperature and the possibility of additional hot curing (a temperature of approximately 50°C is sufficient). The hardener ensures the curing into a highly clear composition and does not form a matt skin in the course of curing.

**Hardener S-HG 140** is a hardener faster by approximately 30% than S-HG 130 and still it has an almost zero under room temperature. The hardener contains additives creating a brilliant gloss even on surface not closed by the mould (level in cup, etc.).

The pot life is approximately within the range of 4 to 5 at 23°C with the S-HG 130 hardener and 3 – 4 hours with the S-HG 140 hardener. You will gain highly shiny and tack-free surfaces. The low viscosity of the mixture ensures its fast and perfect flow.

Under room temperature, the curing of the mixture is a slow and moderate process distinguished by a very low exotherm. The product can be removed from the mould in approximately 24 hours (in the case of additional curing under room temperature).

**Attention!** The system acquires the best properties only after the hot additional curing at a temperature of approximately 50°C; therefore, we recommend that the subsequent tempering for a period of six hours should be applied when working with this system. When working, comply with the respective safety instructions for handling epoxy resins and hardeners, as well as our instructions for safe processing.

### 2.1 Working instructions

The optimal processing temperature is between 20 – 25°C. Higher processing temperature is possible, but it will result in shortening of the processing time. Temperature increase of 10 °C will shorten the processing time by half. When casting extremely thick layers, we highly recommend that the work should be done at a

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temperature of not more than 35°C. A higher temperature could result in the burning of mixture and subsequent deformation of the product and mould. Water (for example, very high humidity or water involved in fillers) will fasten the reaction of resin and hardener. Different temperatures and humidities during processing have no significant effect on strength of the cured product.

When an accelerated cycle of curing is required, the product can be tempered to approximately 30 – 35°C immediately after the casting. However, we recommend that this process step (especially in the case of thicker layers) should be tested at first. An excessive increase in the temperature of the casting mixture before the gel point causes a risk of the start of reaction and burning of mixture.

**Gel time:** (building-up a layer of 1 mm at different temperature)

SLIP-LG 100	S-HG 130	S-HG 140
at 25°C	14 hours	10 hours
at 50°C	3 hours	2 hours

**Thermal resistance:**

SLIP-LG 100	S-HG 130	S-HG 140
at 25°C (2 - 7 days)	up to 50°C	up to 50°C
at 50°C (5 hours)	60°C	55°C
at 60°C (> 4 hours)	65°C	60°C
at 90°C (> 3 hours)	75°C	70°C

**Mixing ratio, resin + hardener:**

	S-HG 130	S-HG 140
Parts by weight	100 : 30	100 : 40
Parts by volume	100 : 38	100 : 50

The mixing ratios must be observed as precisely as possible. The adding of more or less hardener will not ensure a faster or slower reaction, respectively; it will cause only an inadequate curing of the mixture that cannot be rectified in any manner whatsoever.

The mixture resin and hardener must be very carefully stirred. Stir until the mixture is completely clear and without "hairs". A special attention should be paid to the walls and bottom of the vessel in which the mixture is stirred. We recommend that the component weight ratio should be used. The volume mixing is not accurate with respect to possible temperature differences.

**Note:** In order to achieve the ice imitation, it is possible to add a trace amount of the Berlin blue colour agent to the mixture. A deeper 3D effect will thus be achieved.

The best properties of the products are achieved if the tempering is performed before the mixture is cured completely. **(However, after the gel point!!)**

Under room temperature, it is possible to mix even very large quantities of mixture.

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### 2.2 Technical parameters

#### Properties (at 25°C):

		SLIP- LG 100
Density	g/cm <sup>3</sup> (25°C)	1,13
Viscosity	mPa/s (25°C)	9 000 – 11 000
Epoxy equivalent	mol/1kg	-
Epoxy index	g/ekv.	0,53
Colour	Pt/Co stupnice	max 200

		S-HG 130	S-HG 130
Density	g/cm <sup>3</sup> (25°C)	0,96 – 0,98	0,96 – 0,98
Viscosity	mPa/s (25°C)	20 - 40	30 - 50
Amine number	g/ekv.	57,5	76,5
Colour	Gardner	max 3*	max 3*

\* related to a non-coloured hardener

### 3. Storage and package

Resins can be stored for a period at least 24 months, hardeners 12 months in carefully sealed drums at temperatures around + 25°C. At temperatures below + 15°C resins and hardeners should get crystallized. Crystallization is visible as misting-up or modification of liquid contents into a solid. Before processing, the crystallization has to be eliminated. Slowly warm-up the hardener to approx. 50 – 60°C into a water bath or oven and by stirring or shaking you will get the contents into its initial appearance without any negative effect on its quality. Process only products of totally unified colour. Before warming-up slightly open the drum, so that the pressure inside gets stabilized. Be careful during the warming-up. Do not warm-up above open fire! During stirring use safety utilities (gloves, protective glasses, breathing device).

**Packaging:** 220 kg drums, smaller amounts in canisters, buckets or doses on request.

### 4. Contact details

**Manufacturer/Supplier:** GRM Systems s.r.o.  
Slatinky 158  
783 42 Olomouc (Slatinice)  
CZECH REPUBLIC

Phone NO: +420 585 431 734  
Fax NO: +420 585 431 994  
www.grm-systems.cz  
**info@grm-systems.cz**

**Technical service:** Zbyněk Gofroj

Phone NO: +420 777 766 706  
**zbynek@grm-systems.cz**

#### Note

This technical data sheet has been created based on our latest knowledge and according to the best information and knowledge available. As we are unable to check if our products are used in a correct way, we cannot guarantee results. In spite of this we will be glad to give advice.