Technical Datasheet

SG 150

Basis	**Heat resistant fast curing resin system**
Resin	**SG 150 Comp. 1**
Resin	**SG 150 Comp. 2**
Hardener	**Hardener powder SG 150**
Filler	**Alu-powder <63 µm**
Colour	grey

Applications

- Vacuum forming tools
- Foam tools
- Polyester press tools

Properties

- highly heat resistant
- fast curing

Processing data

Product		**Mixture SG 150**	**Resin SG 150 Comp. 1**	**Resin SG 150 Comp. 2**	**Hardener Hardener powder SG 150**	**Filler Alu-powder <63 µm**
Colour		grey	greenish transparent	yellow transparent	white	alu grey
Mixing ratio	**p. b. w.**		**100**	**200**	**9**	**450**
Viscosity at 25°C	mPas	7000 ± 1000	-	-	-	-
Density at 20°C	g / cm^3	1,7 ± 0,05	-	-	-	-
Pot life 200 g / 20°C	min.	18 - 22	-	-	-	-
Curing time at RT	hrs.	0,5 - 1	-	-	-	-

Physical data

Properties	**Inspect. requirem.**	**Unit**	**Value**
Impact resistance (Charpy)	EN ISO 179	kJ/m^2	3,5 ± 0,1
Compressive strength	EN ISO 604	MPa	85 ± 5
Heat resistance (HDT)	DIN EN ISO 75 B	°C	135 ± 5
Shore hardness	DIN ISO 7619-1	Shore D	84 ± 2
Coefficient of thermal expansion	internal test / Dilatometer	$10^{-6}K^{-1}$	ca. 45
Linear shrinkage	internal	%	ca. 0,1
Reaction temperature	-	-	120 - 130
Vicat softening temperature	DIN 53460	°C	>180
Heat conductivity	DIN 1341	W/mk (Kcal/hm°C)	ca. 1 (ca. 0,86)

Sales units (packages)

Units	Comp. A	SG 150 Comp. 1	4,000 kg / 25,000 kg
	Comp. 2	SG 150 Comp. 2	8,000 kg / 25,000 kg
	Hardener powder	Hardener powder SG 150	0,360 kg / 2,000 kg
	Filler	Alu-powder <63 µm	25,000 kg

Processing instructions

Release treatment:
All models and moulds have to be treated with **ebalta**-primer and **ebalta** release wax T2. The negative, which is treated with the release wax has to be treated with the release film PVA finally. The release film residues can be washed off easily with water after demoulding.

Preparation:
The wall thicknesses should not be less than 30mm, as otherwise the necessary curing is not achieved.
Result:
Weakening of the edges, danger of cracks. A after post-curing of the system is not possible.
1. Komp. 1+2 parts by weight 1: 2, casting together and mixing
2. Stirring in of aluminium powder , 1,5 x quantity of comp. 1 + 2
3. approx. 1-2 hours for evacuation
4. 3% hardener powder, refering to comp. 1+2, to be stirred in carefully by hand
5. After further 10 minutes short stirring by hand and then casting

Mixing table: please see separate sheet.

In case of an open casting mould the casting should be covered with a board after the casting operation, so that the reaction heat of can not escape faster at the back than within the mould, this prevents distortion.

Advice:
The processing temperature should never be lower than 20°C.
All components should have at least this temperature. In case of lower processing temperature, the potlife would be prolonged extremely and the chemical process would start very slowly. In the meantime the aluminium filler would sink in the mould and result in different densities, which lead to distortion of the casting.
During curing of **ebalta** SG 150 temperatures up to 130°C can occur depending on casting thickness. The final strength will be achieved after 24 hours.
The resin-aluminium mixture requires a temperature of 19°C - 22°C before casting.
Temperatures over 22°C cause shrinkage, temperatures below 19°C lead to expansion of the cast material.

In General

ebalta SG 150 is a four component acryl casting resin. It consists of 2 liquid components and a hardener powder. Both liquid components are filled with the 1,5 amount in ppw of special aluminium powder. The resin cures within 20-30 minutes to well heat-conducting, heat-resistant moulds.

The cured moulds are very well workable by machines. The structure is extremely dense and the machined areas have an aluminium-like appearance.

It is possible to cast any quantity, which can be mixed in one or more containers. Aftercasting or casting in layers is not possible. Therefore it is very important to determine the casting volume exactly in order to avoid that the mixed quantity is too small.

Since the hardener powder is hygroscopic, always seal it air-tight. We recommend to sieve it before each use.

Linear shrinkage as per mixture listed in the data sheet.
Room temperature and starting temperature of resin components are 21°C as per measurement.
For other temperatures or a different content of aluminium powder, shrinkage might also be different.

As open storage can also affect shrinkage, we recommend to cover all prepared mixtures.

Storing

Storage at room temperature 18-25 °C.

Opened containers should be closed immediately after use and should be used up as soon as possible.

Shelf life is indicated on the labels.

Safety measure

Please follow the precaution instructions of the Government Safety Organisation of the chemical industry when working with this material. Please follow safety advices !

Waste Disposal

According to arrangement with local authorities cured material can be disposed as domestic or commercial waste.
Non-cured products are waste which is subject to inspection and has to be disposed accordingly.
In case of further questions please do not hesitate to contact our Department for Product Safety.