

SG 166 GM

High temperature resistant epoxy gel-coat

SG 166 GM has a viscosity suitable for brush application.
 Cure at room temperature, a post-cure is required before release.
 Excellent thermal resistance after post-cure.
 Good abrasion resistance.
 Recommended for manufacturing of mould with a service temperature of 130°C max.

SG 166 GM Resin

		SG 166 GM
Aspect		Gel
Colour		Black
Viscosity (mPa.s)	15 °C	160 000 ± 32 000
Rheometer CP 50 mm	20 °C	85 000 ± 16 000
Shear rate 10 s ⁻¹	25 °C	55 000 ± 12 000
	30 °C	45 000 ± 9 000
	40 °C	30 000 ± 6 000
Density :	20 °C	1.23 ± 0.05
Picnometer		
NF EN ISO 2811-1		
Storage stability:		24 months crystallization free

Hardener SD 902

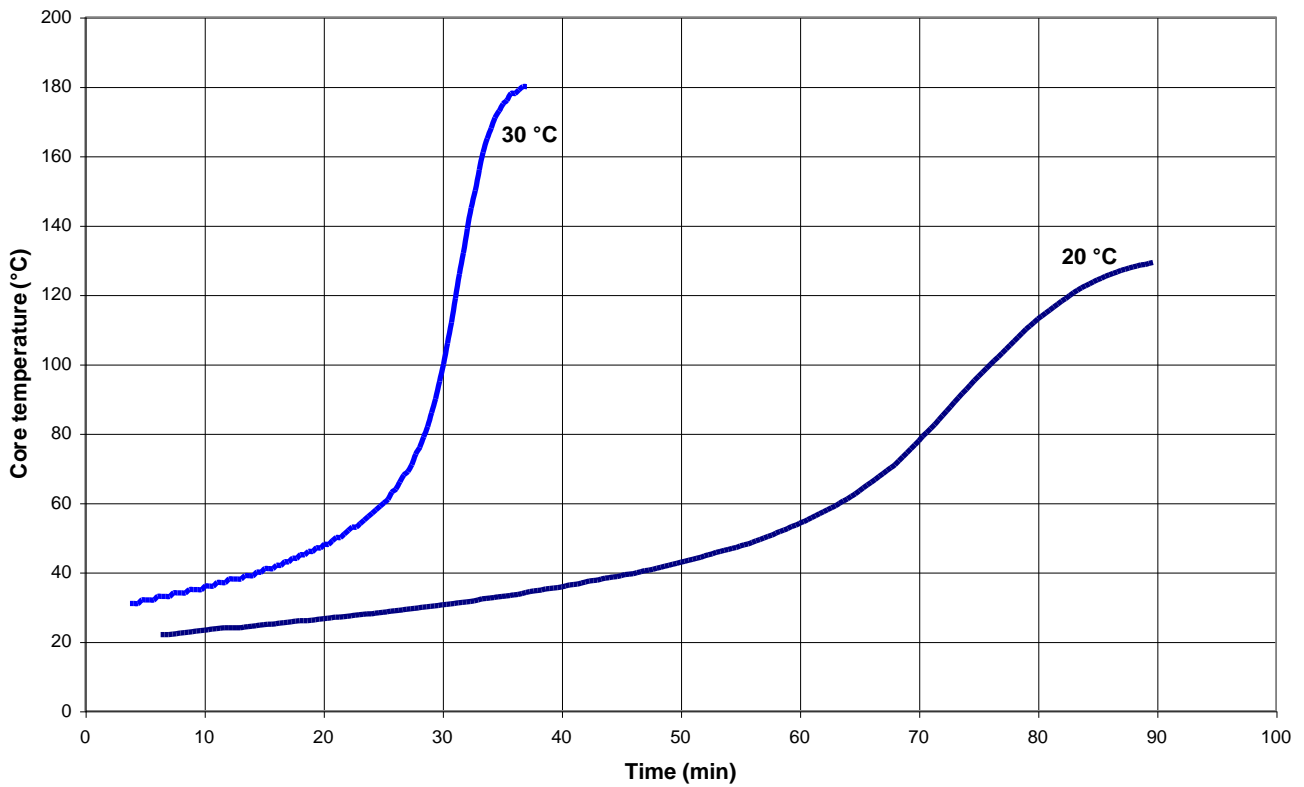
		SD 902
Aspect		Liquide
Colour		jaune
Viscosity (mPa.s)	15 °C	450 ± 80
Rheometer CP 50 mm	20 °C	280 ± 60
Shear rate 10 s ⁻¹	25 °C	180 ± 40
	30 °C	120 ± 25
	40 °C	60 ± 15
Density :	20 °C	0.971 ± 0.01
Picnometer		
NF EN ISO 2811-1		
Storage stability:		24 months crystallization free

SG 166 GM / SD 902 mix properties

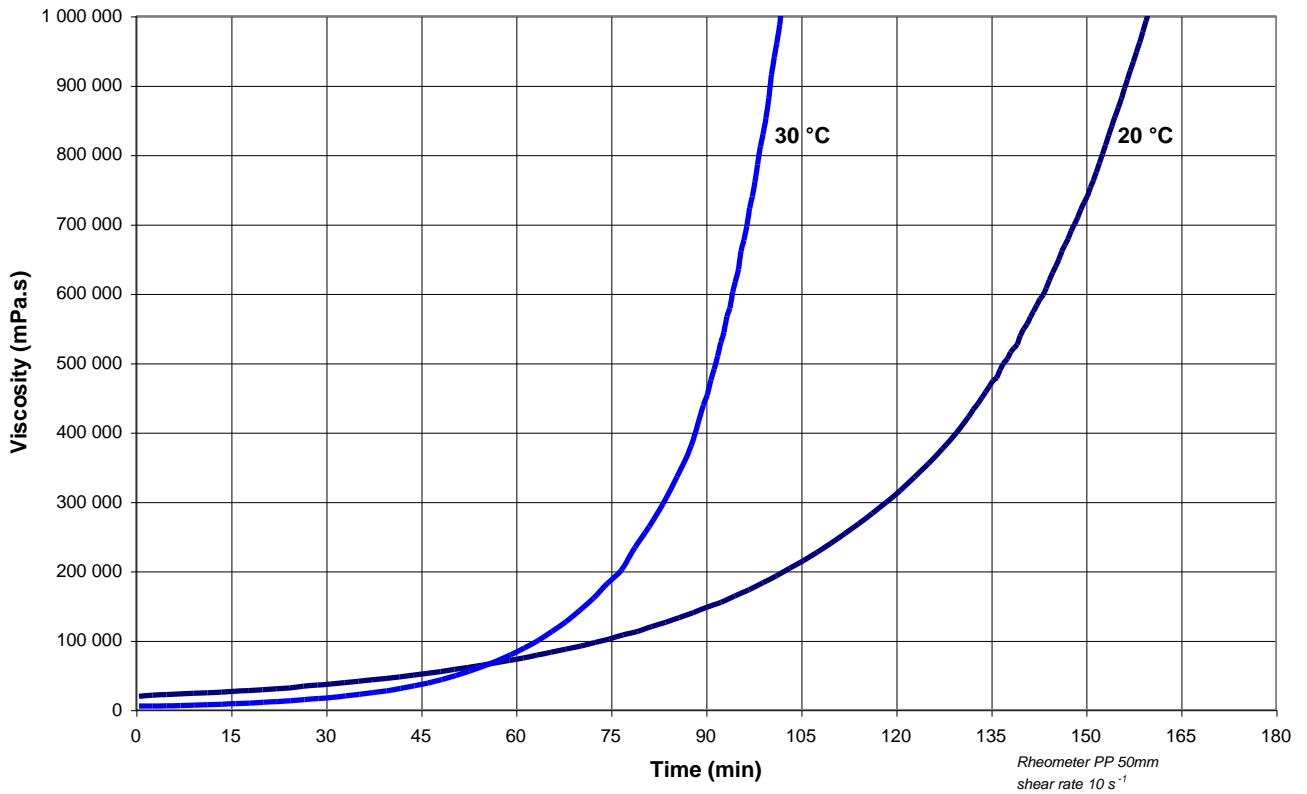
		SG 166 GM / SD 902
Weight ratio		100 / 24 g
Viscosity (mPa.s)		
Rheometer CP 50 mm	20 °C	20 000 ± 4 000
Shear rate 10 s ⁻¹	30 °C	9 500 ± 2 000

Mass reactivity

		SG 166 GM / SD 902	
Exothermic peak on 150 g mix:	20°C	130 °C	
	30°C	180 °C	
Time to reach exothermic peak on 150 g mix:	20°C	1 h 30'	
	30°C	37'	
Time to reach 50 °C on 150 g mix	20°C	56'	
	30°C	21'	



Reactivity – viscosity evolution on a 1 mm film



Conditions of application

18°C < Temperature of substrate < 50°C Hygrometry < 70%

Release Agent

Try first the compatibility of **SG 166 GM** with the release agent (fish eyes, release properties after high temperature post cure)

Select a release agent suitable for high temperature (140°C minimum)

Recommended release agent : Cirex Si 041 WB, solvent free.

Application

Use a stirrer with high shear.

Respect the mixing ratio Gel / Hardener accurately

Mix the two components, wipe the edge and the bottom of the pot while mixing.

Prepare the quantity applicable in less than 40 minutes.

With a brush or roll, do not dilute, **SG 166 GM** is slightly self levelling.

Laminating

The laminate can start when the gel is still tacky, or later if the gel has been overlay by a surface veil as Armstrim 50, in order to create a mechanical key.

Aluminium powder put directly on the gel coat gives also very good results in terms of adhesion resistance and .visual aspect.

Mechanical key

A mechanical key is a surface veil or a carded type fabric, applied onto gelcoat when it is still wet but starting to set. The purpose is to have half of the fabric wet by **SG 166 GM** , the other half is wet by the resin system. Use a clean, dry lacquer roller to apply gently the fabric on **SG 166 GM**

Advantages

- Late overlay of gelcoat.
- Less print of fibers
- Very good adhesion between gelcoat and laminate.

Post curing cycles

Apply the same post-cure cycle as the one recommended for the resin used in the laminate.

Recommended epoxy resin: **SR 1700 / SD 7820, SR 1660 / SD 2630 or SD 7820**

A minimum of 12 h at 60°C is generally required before release from the pattern. After release, complete gradually the post-cure with higher temperature.

Glass transition / DSC

Tg1 max = 148 °C

Glass transition DSC : *ISO 11357-2 : 1999 -5°C to 180°C under nitrogen gaz*

Tg1 or Onset : 1st point at 20 °C/mn

Tg1 maximum or Onset : second passage

Cleaning of tools

Methyl ethyl ketone (MEK) or solvents for epoxy paint

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