

SR CastClear Clear Casting Two Component Epoxy System

SR CastClear / SD 1213 has been specially formulated for high thickness and big volume casting with weak exothermic peak during the reaction and very clear colour.

This particular system can stand two different ratios depending on what is required on the final piece :

- Two parts resin for one part hardener by weight to get a clear and very rigid epoxy part.
- One part resin for one part hardener to achieve a part soft enough to avoid any auto-
unmoulding in very rigid moulds (such as glass, Plexiglas or polycarbonate...).

SR CastClear Epoxy Resin

Aspect Colour		Liquide Clear
Viscosity (± 20 %mPa.s)	@ 15 °C	5 000
	@ 20 °C	2 600
	@ 25 °C	1 500
	@ 30 °C	900
	@ 40 °C	400
Density : ± 0.01	@ 20 °C	1.16
Storage stability:		24 months, crystallization free

SD 1213 Hardener

Aspect / colour:		Clear liquid
Reactivity		Ultra slow
Viscosity (mPa.s) (± 20 %mPa.s)	@ 15 °C	180
	@ 20 °C	125
	@ 25 °C	90
	@ 30 °C	70
	@ 40 °C	40
Densité ± 0.01	@ 20 °C	0.98
Storage stability:		24 months Hardener react with carbon dioxide and moisture. Keep tightly closed packaging; minimize maximum contact with the air.

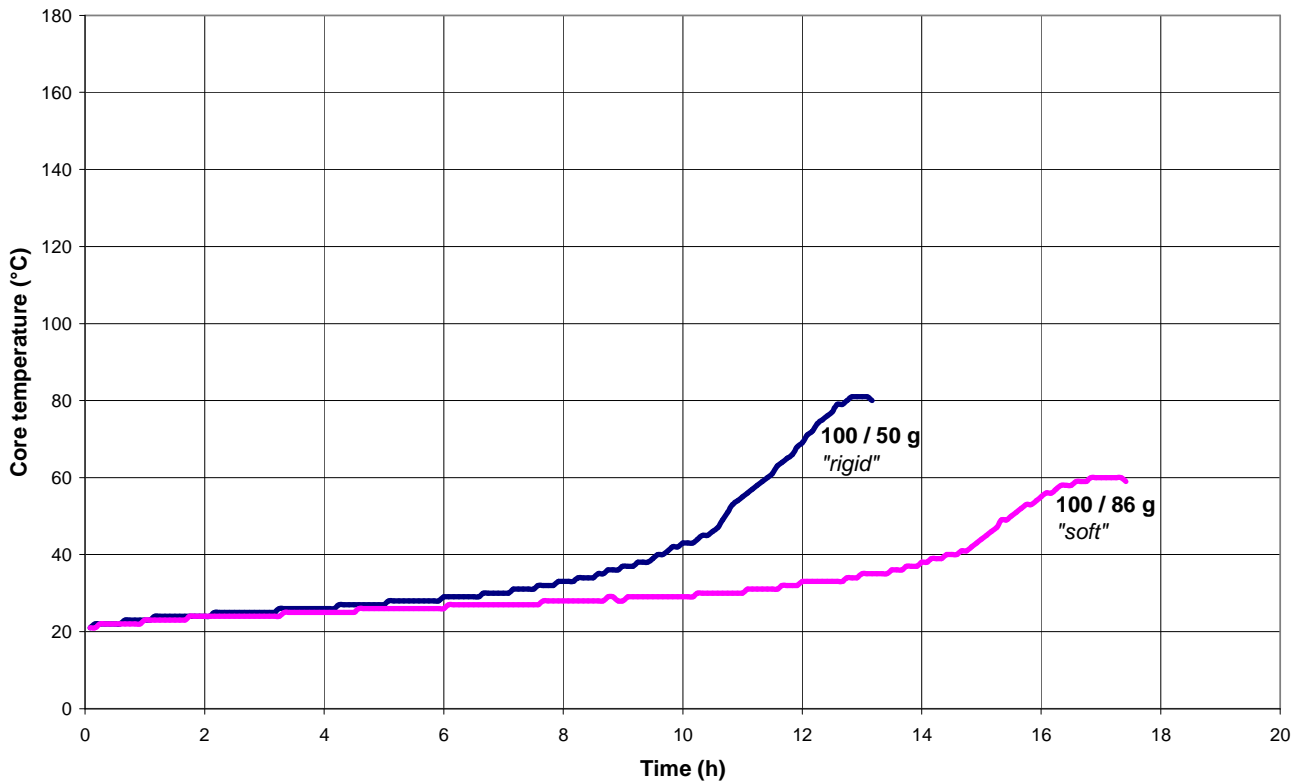
SR CastClear / SD 1213 Mix Properties

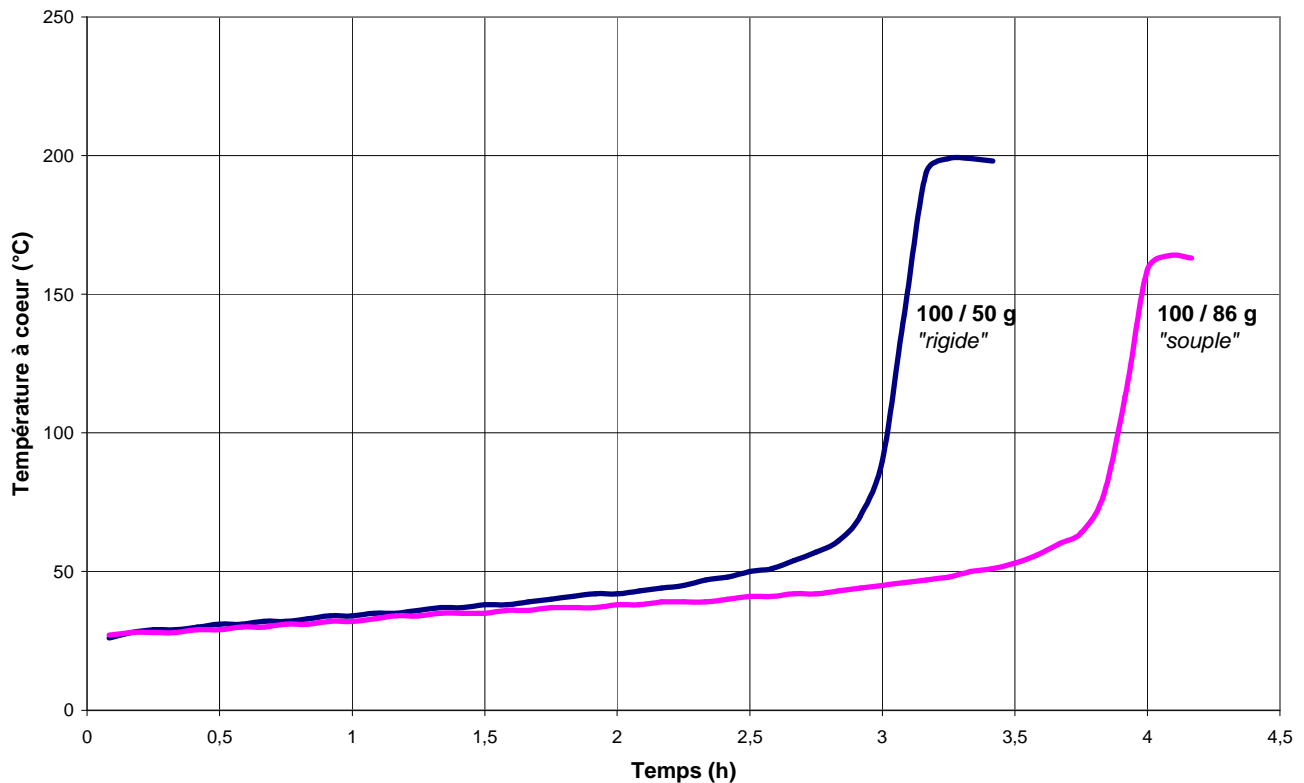
Weight ratio	100 / 50 g	100 / 86 g	
Volume ratio	100 / 60	100 / 100	
Hardened mix appearance	rigid	soft	
Viscosité (mPa.s)	@ 20 °C	700	350
	@ 25 °C	450	250
	@ 30 °C	300	170
	@ 40 °C	150	100

Mass Reactivity on 1 kg Mix

	SR CastClear / SD 1213 100 / 50 g "rigid"	SR CastClear / SD 1213 100 / 86 g "soft"
Exothermic peak on 1 000 g mix :		
30°C	200 °C	164 °C
20°C	81 °C	60 °C
Time to reach exothermic peak on 1 000 g mix :		
30°C	3 h 50'	4 h 20'
20°C	13 h 10'	17 h 20'
Time to reach 50 °C on 1 000 g mix :		
30°C	2 h 30'	3 h 20'
20°C	10 h 45'	15 h 30'

Mix temperature on 1 000 g mix @ 20 °C



@ 30 °C


Tests carried out on samples of pure cast resin, without prior degassing, between steel plates.

Measures undertaken according to the following norms:

Tension : Iso 527 - 2

Flexion : Iso 178

Charpy impact strength: NF T 51-035

Shear Strength ASTM D 732 - 93

Compressive ISO 604

Water absorption: Internal. Polymerisation according to cycle, machining, weighing, time spent in distilled water at 70 °C / 48 hours, weighing 1 hour after emerging,

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

Glass transition DTMA: ISO 11357-1 - TG onset G' Temperature ramp 0°C to 180 °C @ 2°C/min

ASTM D4065 - TG peak G''

Physical tests according standard ::

Gardner color: NF EN ISO 4630 Visual method

Refractive index : NF ISO 280

Viscosity: NF EN ISO 3219 Rheometer 50 mm, shear 10s⁻¹

Density: NF EN ISO 2811-1 Pyknometer

Gel time : Cross G' G'' / rheometer CP50 - Shear rate 10 s⁻¹

GreenCarbon content: ASTM D6866 or XP CEN/TS 16640 Avril 2014

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