

SR 1125 / SD 3303

Fire retardant infusion epoxy system

The **SR 1125 / SD 3303** extinguishing system has been specially formulated for implementation by the infusion technologies. It has many qualities:

- offers a very low viscosity designed for infusion
- no filtration or clogging through fabrics during infusion
- is a fire retardant epoxy system, halogen free and flame retardant.
- has a low smokes opacity and toxicity.
- meets the stringent fire protection standards specified in construction, automotive and transportation parts.
- requires a post curing in the mould before the part's release
- offers an exceptional fire resistance with SC FW16 coating (ASTM E84 class A)

Precaution of use: the rapid decanting of the resin part needs a homogenization of the base before use and a permanent homogenization of the mix during the infusion.

Fire Retardant Epoxy Resin SR 1125

Appearance		Light yellow translucent liquid
Storage stability		2 years @ 20 °C Stir thoroughly just before use
Viscosity (mPa.s)	@ 15 °C @ 20 °C @ 25 °C @ 30 °C @ 40 °C	2 850 1 700 1 070 702 337
Density	@ 20 °C	1.262 ± 0.001
Refractive Index	@ 25 °C	1.5416 ± 0.0005

Hardener SD 3303

Appearance / colour		Light yellow liquid
Viscosity (mPa.s)	@ 15 °C @ 20 °C @ 25 °C @ 30 °C @ 40 °C	20 8 7 6 4
Density	@ 20 °C	0.949 ± 0.001
Refractive Index	@ 25 °C	1.4846 ± 0.0005
Storage stability		2 years @ 20 °C <i>Hardeners react with carbon dioxide and moisture. Need to be kept in its original closed container. Avoid to a maximum any contact with air. If the aspect becomes cloudy, do not use</i>

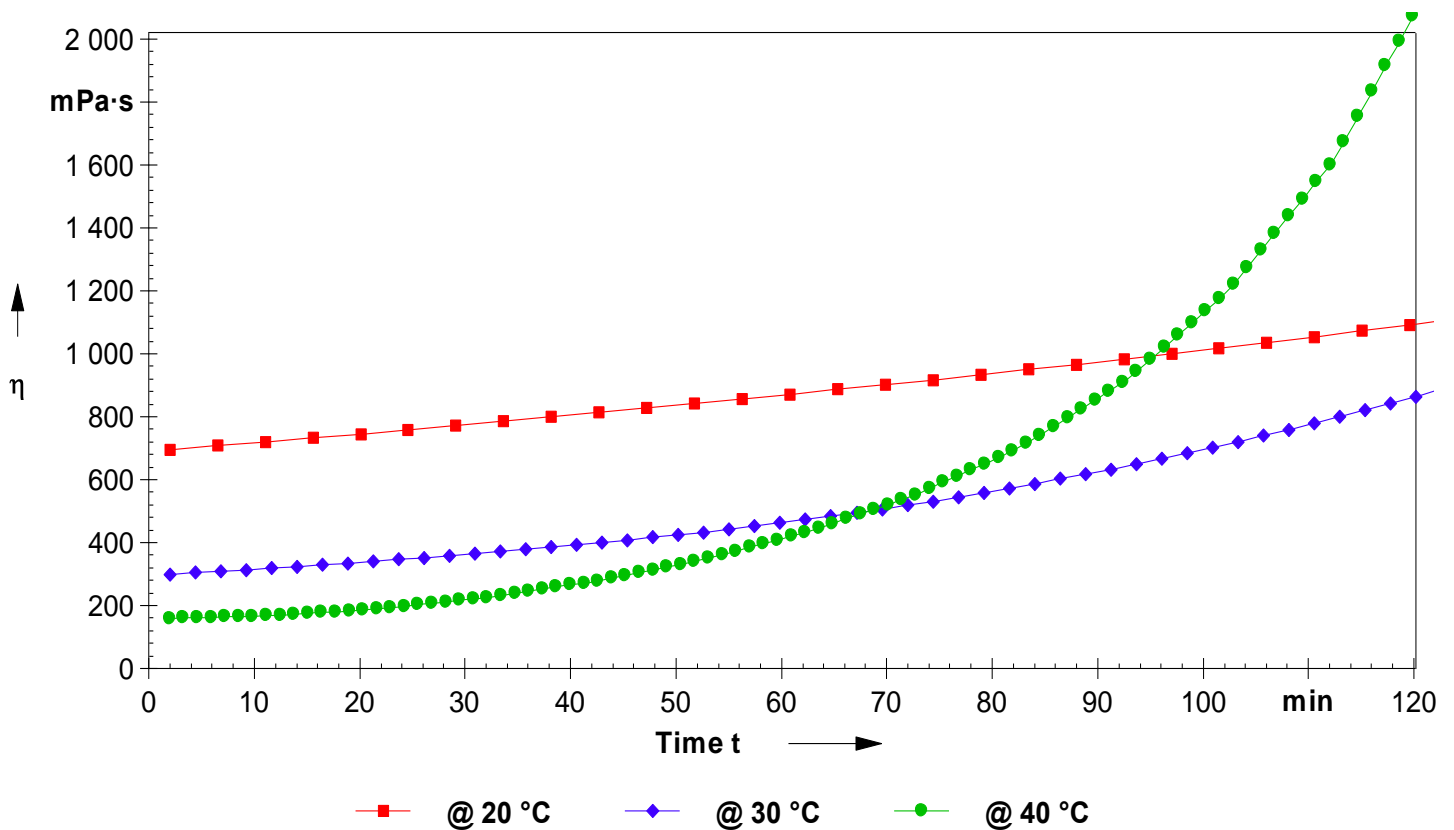
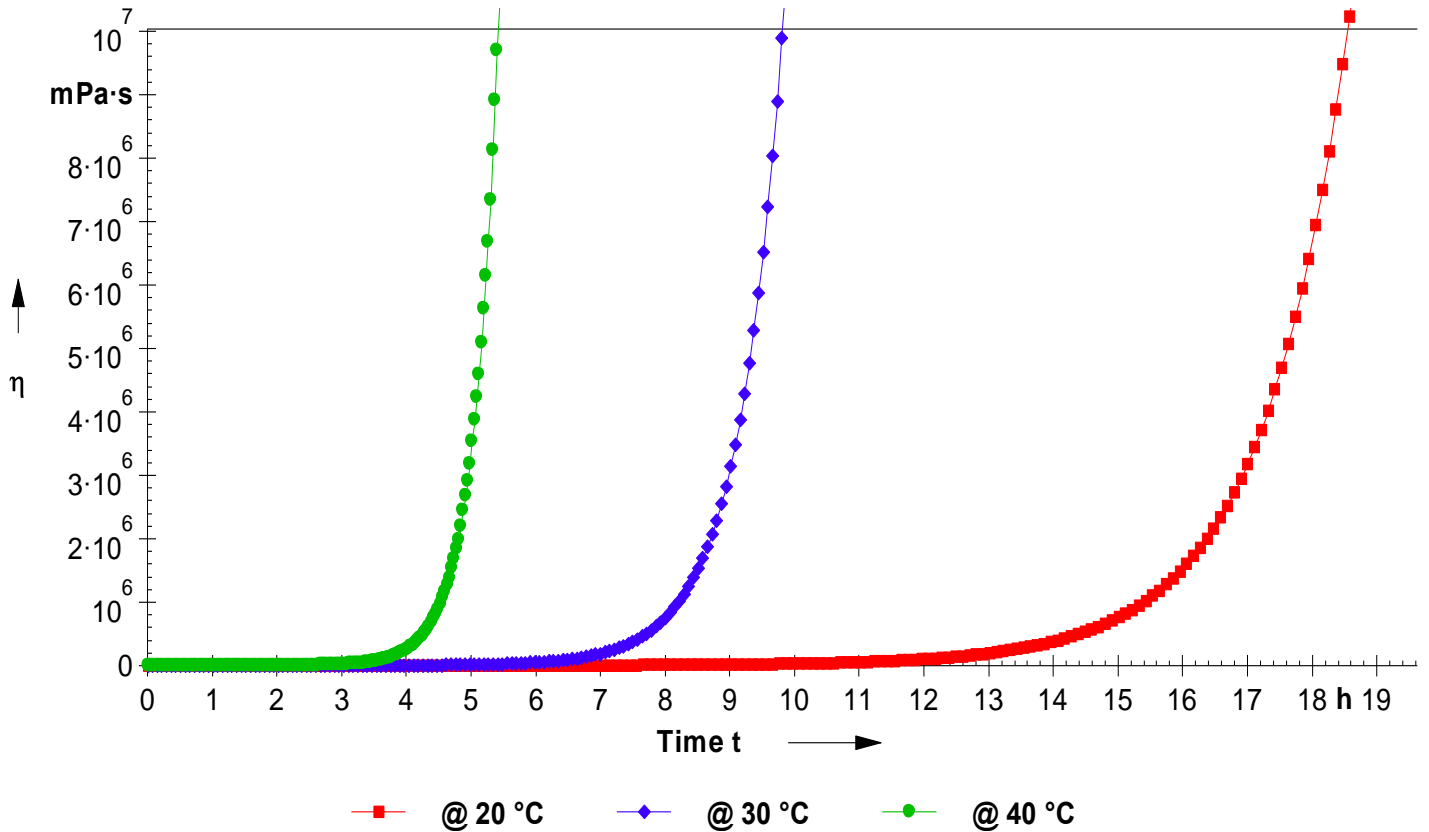
Epoxy Blend SR 1125 / SD 3303

Appearance uncured		Light yellow translucent liquid
Mixing ratio by weight Mixing ratio by volume		100 / 14 16 / 3
Viscosity (mPa.s)	@ 20 °C @ 30 °C @ 40 °C	680 305 160

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Reactivity

Increase of viscosity on a layer of 1 mm thick @ 20, 30 and 40 °C

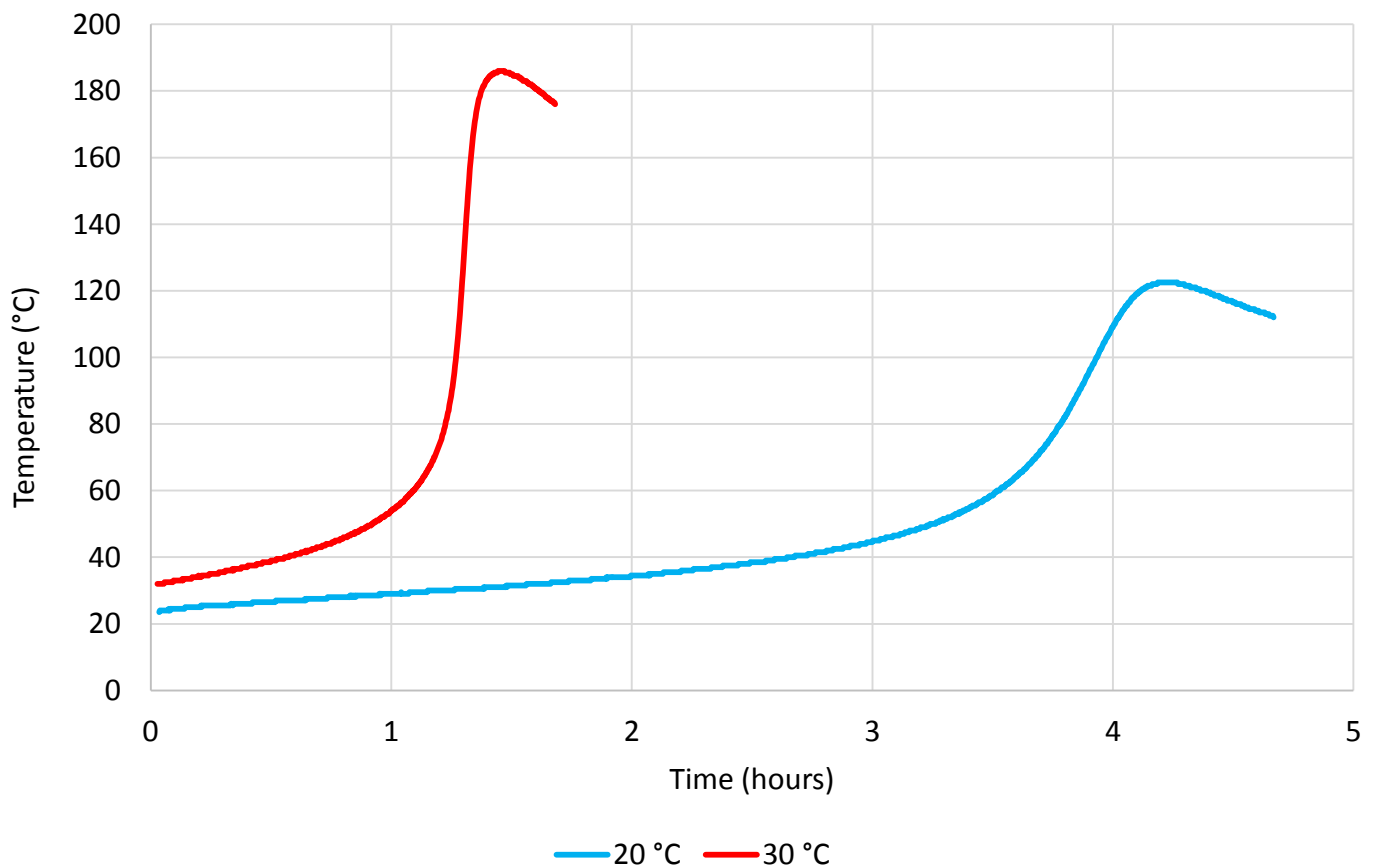


Gel time on a layer of 1 mm thick

Temperature	20 °C	30 °C	40 °C
Gel Time	23 h	11 h 45 min	6 h 30 min

Mixtures reactivities with SR 1125 / SD 3303 on 500g mix

Exothermic peak temperature (°C) mix:	@ 20 °C	122
	@ 30 °C	186
Waiting time to reach exothermic peak on 500 g mix:	@ 20 °C	4 h 10'
	@ 30 °C	1 h 30'
Waiting time to reach 50 °C on 500 g mix:	@ 20 °C	3 h 15'
	@ 25 °C	55'



Mechanical Properties on Cast Resin

		SR 1125 / SD 3303		
Curing schedule		8 h @ 23 °C + 24 h @ 40 °C	8 h @ 23 °C +16 h @ 60 °C	8 h @ 23 °C + 8 h @ 80 °C
Tensile				
Modulus of elasticity	N/mm ²	3790	3595	3525
Maximum resistance	N/mm ²	46	44	40
Resistance at break	N/mm ²	46	44	40
Elongation at max. load	%	1.6	1.8	1.5
Elongation at break	%	1.6	1.8	1.5
Flexion				
Modulus of elasticity	N/mm ²	3500	3340	3100
Maximum resistance	N/mm ²	70	74	74
Elongation at max. load	%	2	2.4	2.7
Elongation at break	%	12	2.4	2.7
Compression				
Compressive yield strength	N/mm ²	101	96	94
Offset compressive yield	%	5.4	6.5	6.2
Shear				
Maximum resistance	N/mm ²	40	42	39
Charpy impact strength				
Resilience	kJ/m ²	6.9	6.9	6.3
Glass transition				
Tg ₁ / Tg ₁ max	°C	67 / 77	75 / 83	86 / 90

Tests carried out on samples of pure cast resin, without prior degassing, between steel plates.
Measures undertaken according to the following norms:

Tensile:	ISO 527-2
Flexion:	NF EN ISO 178
Compression:	ISO 604
Shear:	ASTM D732-93
Charpy impact strength:	NF T 51-035
DSC glass transition:	ISO 11377-2:1999 -5°C to 180°C under nitrogen gas
	Tg ₁ or Onset: 1 st run at 20 °C/min
	Tg ₁ maximum or Onset: 2 nd run at 20 °C/min
Viscosity:	Rheometer - CP 50 mm - Shear rate 10 s ⁻¹
Density:	Pycnometer (ISO 2811-1)
Gel time:	Crossing of the G'G' curves method