SR 1720 / SD 7840

High performance infusion systems

Two component epoxy system
Specially formulated with a low viscosity for RTM processes such as injection, vacuum assisted injection or infusion.
Reactivity suitable for large part processing.
Excellent mechanical properties even after a post cure of only 16 hours at 50 °C, allowing any parts to be unmoulded.
Temperature resistance up to 200 °C

Epoxy resin SR 1720

		SR 1720
Aspect / colour		Yellow liquid
Viscosity (cps) Rheometer CP 50 mm Shear rate 10 s^{-1}	20 °C 25 °C 30 °C 40 °C	8 500 ± 1 500 4 400 ± 800 2 300 ± 500 800 ± 150
Density Picnometer ISO 2811-1	20 °C	1.180 ± 0.01

Hardener SD 7840

		SD 7840
Aspect / colour		Reddish yellow liquid
Viscosity (cps) Rheometer CP 50 mm Shear rate 10 s^{-1}	15 °C 20 °C 25 °C 30 °C 40 °C	30 ± 5 22 ± 4 17 ± 3 14 ± 3 10 ± 2
Density Picnometer ISO 2811-1		0.970 ± 0.01

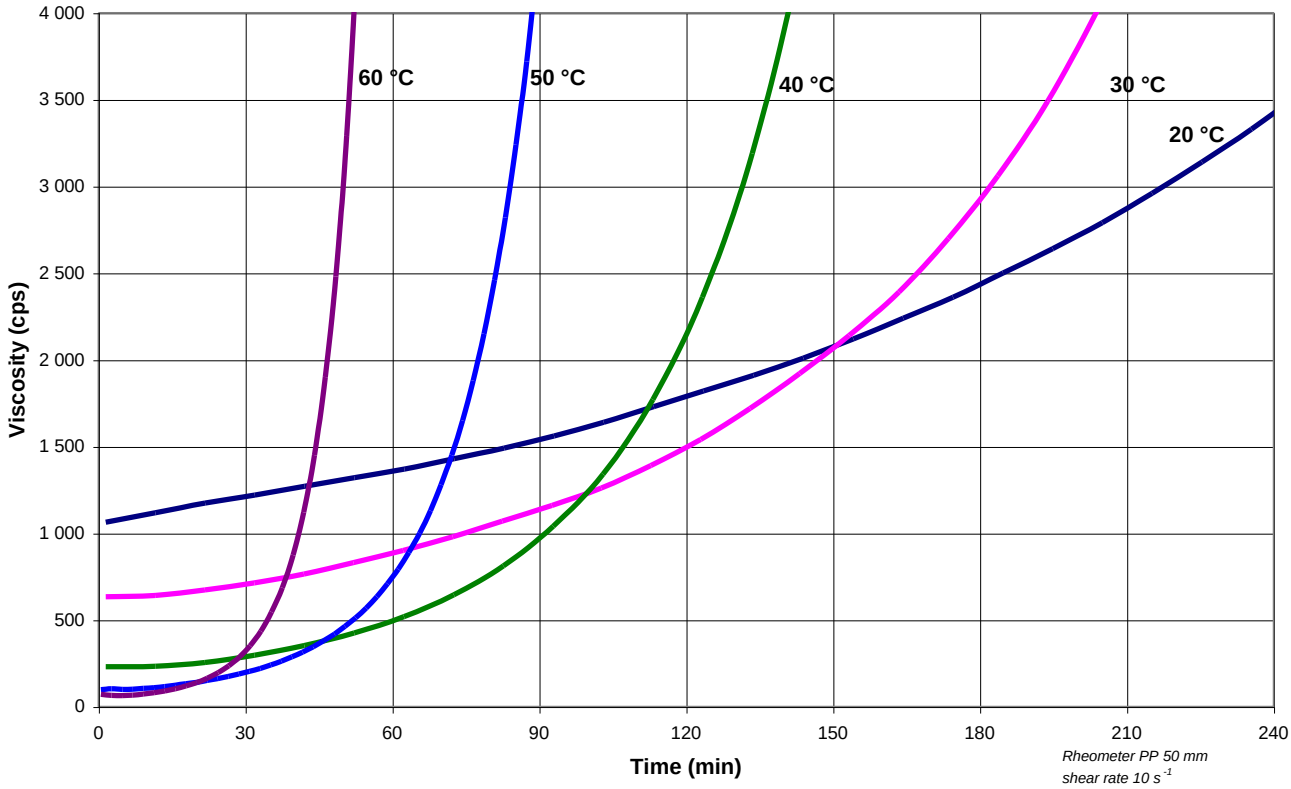
SR 1720 / SD 7840 mix properties

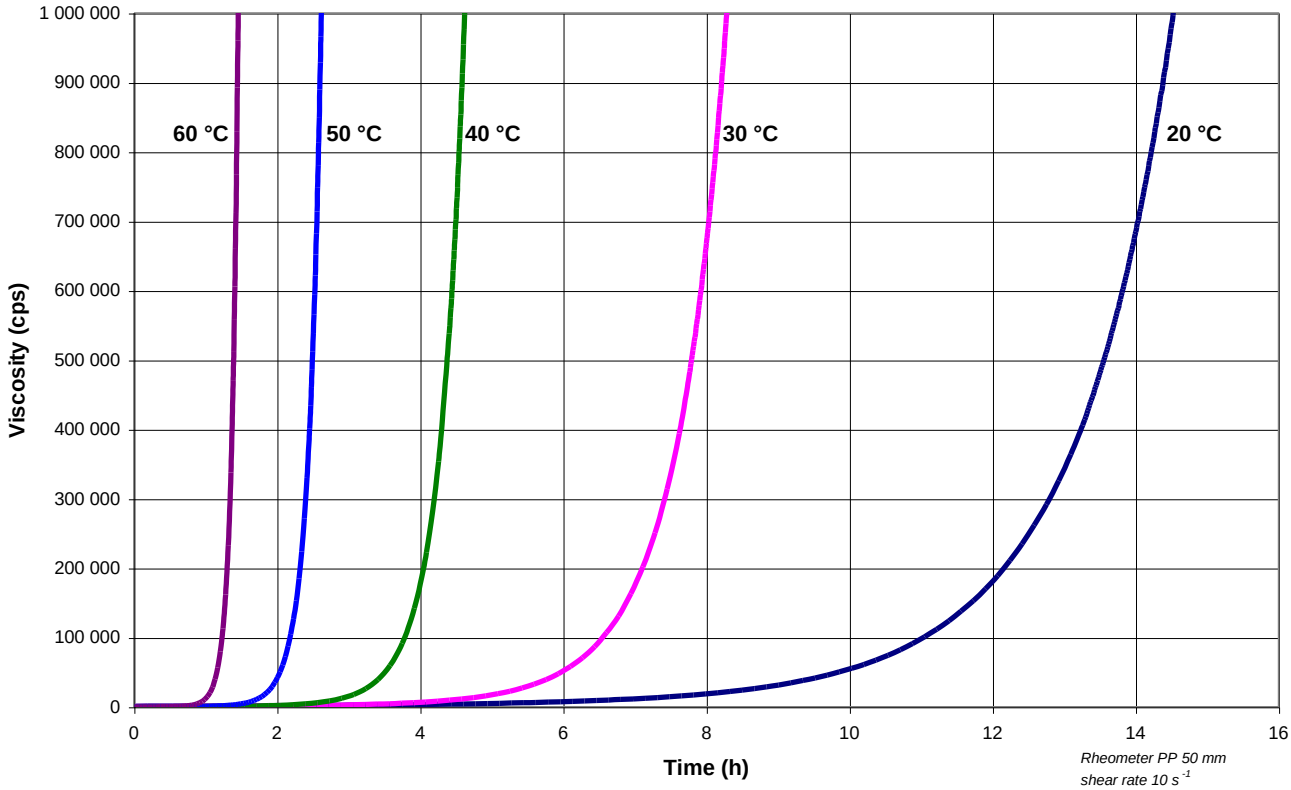
		SR 1720 / SD 7840
Weight ratio		100 / 26 g
Volume ratio		100 / 32 ml
Mix viscosity (cps)		
Rheometer PP 50 mm	30 °C	450 ± 100
Shear rate 10 s^{-1}	40 °C	230 ± 40
	50 °C	80 ± 20
	60 °C	60 ± 15

Reactivity – mass exotherm

	SR 1720 / SD 7840
Exothermic peak (°C) on 500 g mix :	
20 °C	
30 °C	
40 °C	> 250 °C
Time to reach exothermic peak on 500 g mix :	
20 °C	
30 °C	
40 °C	1 h 08'
Time to reach 50 °C on 500 g mix :	
20 °C	
30 °C	
40 °C	42'

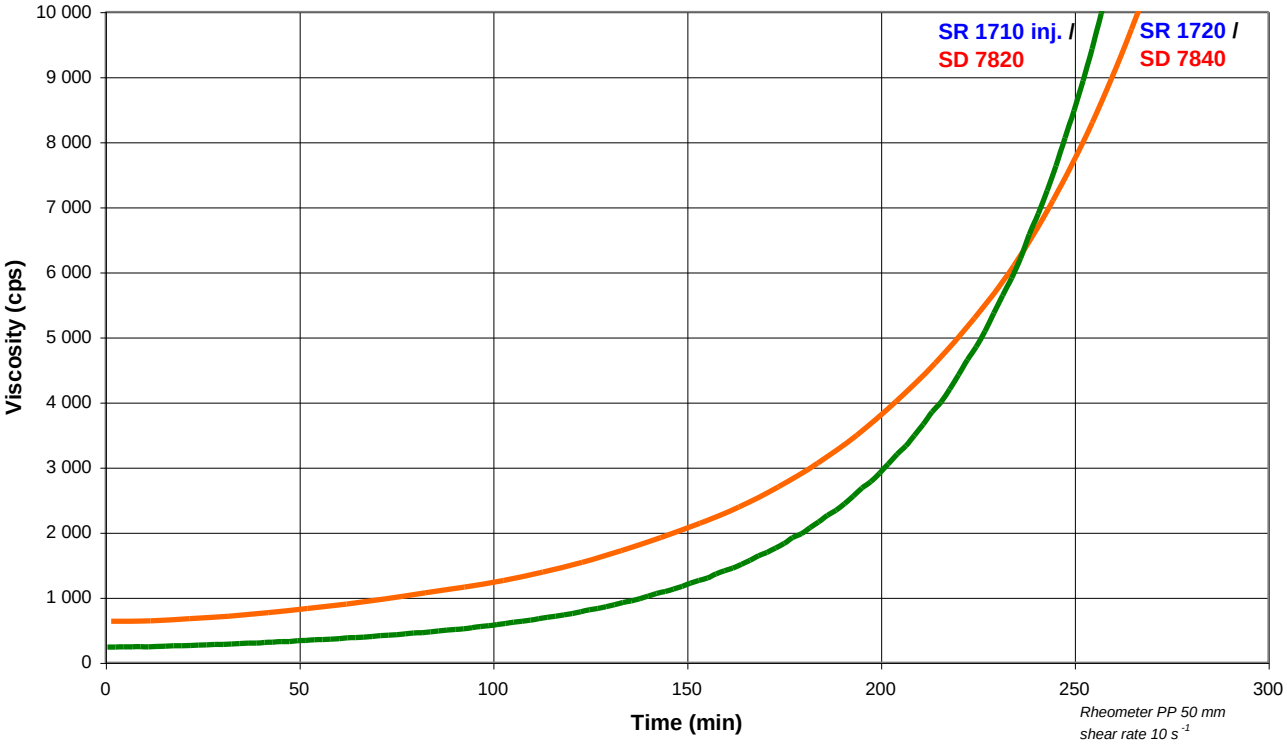
Reactivity – 1 mm film viscosity evolution



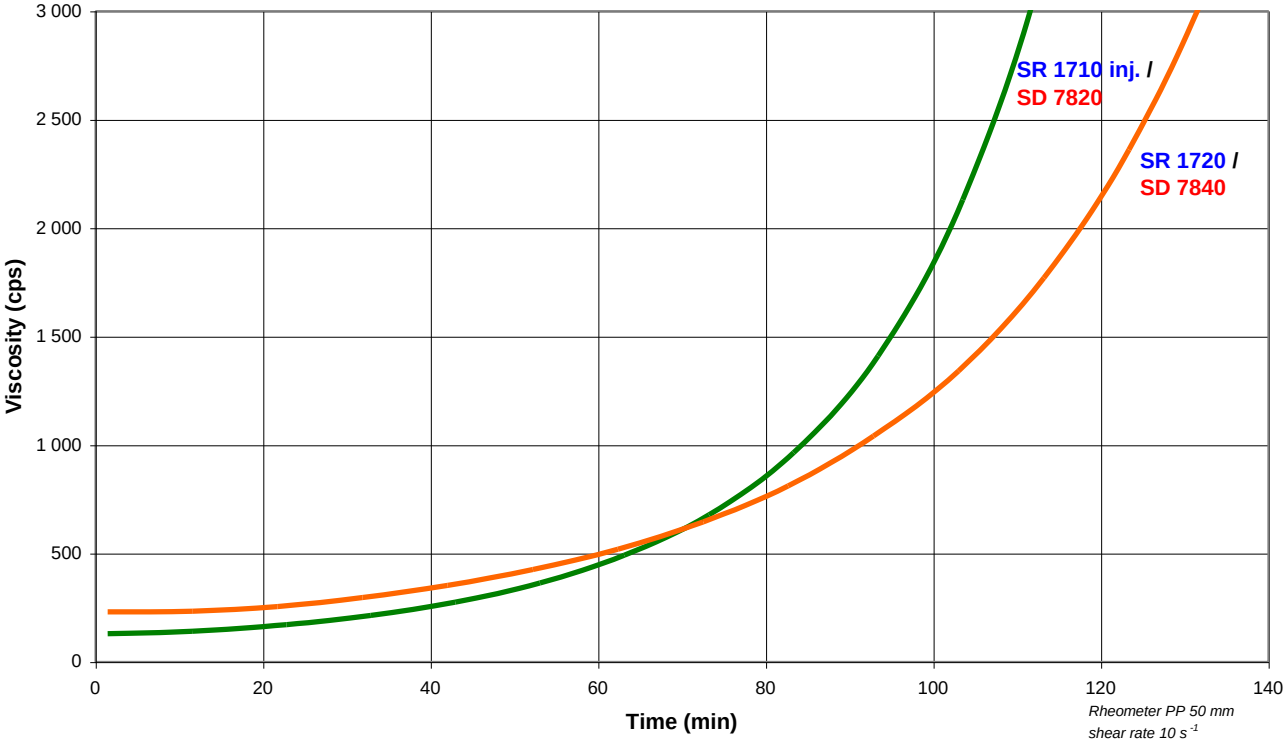


Comparative reactivity with SR 1710 inj. / SD 7820

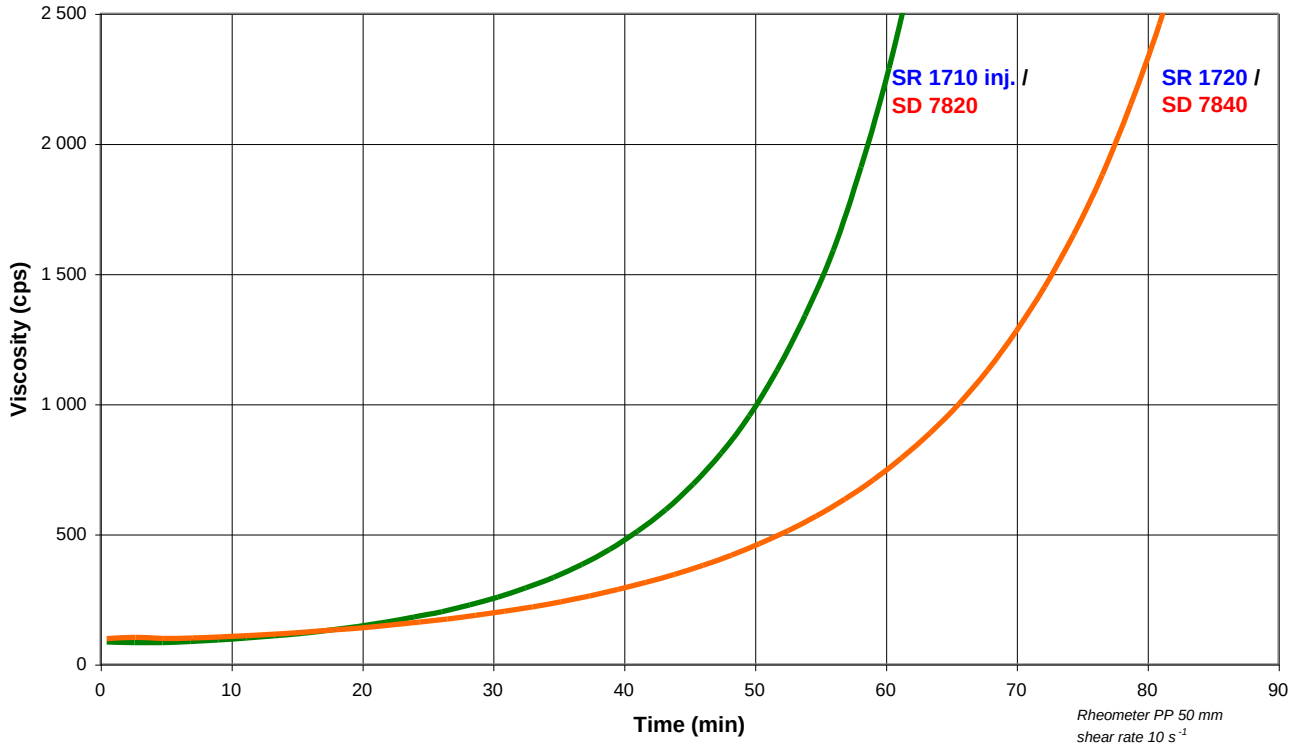
- **30 °C**



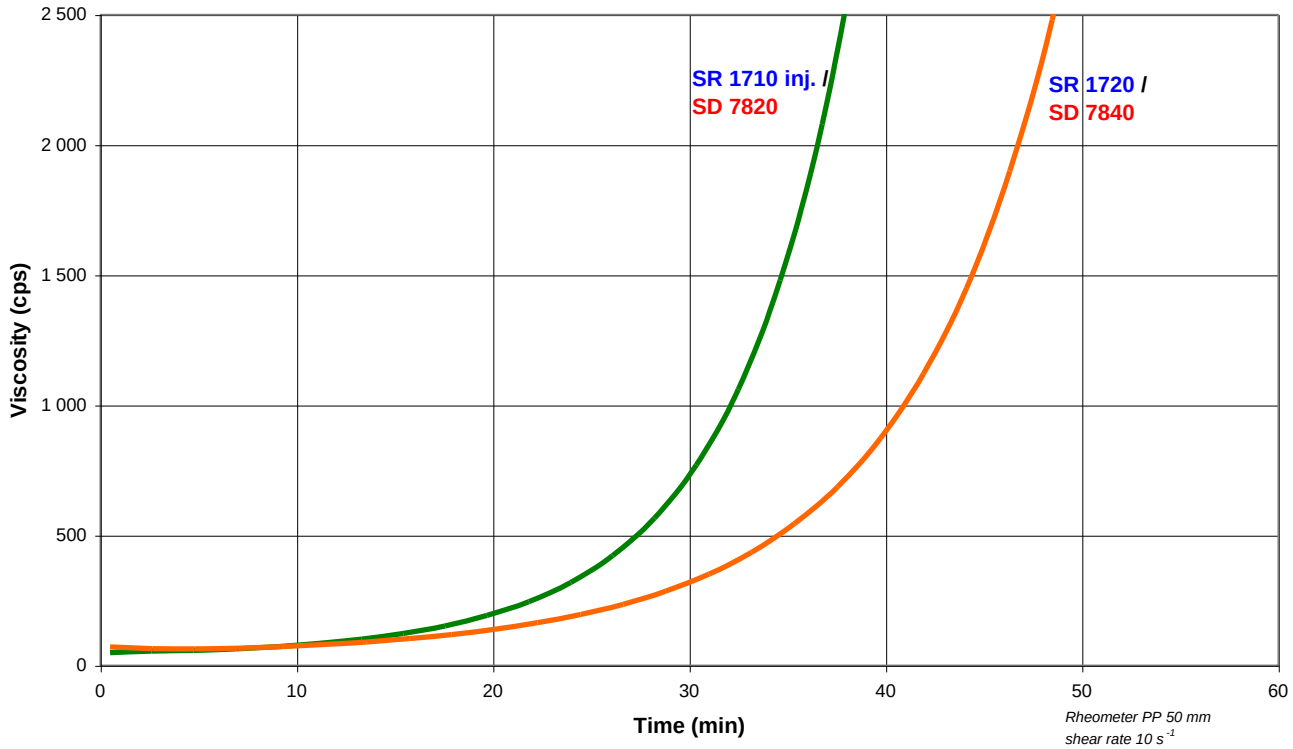
- **40 °C**



- **50 °C**


2 500
2 000
1 500
1 000
500
0
Viscosity (cps)
0
10
20
30
40
50
60
70
80
90
Time (min)
SR 1710 inj. /
SD 7820
SR 1720 /
SD 7840
Rheometer PP 50 mm
shear rate 10 s -1

- **60 °C**


2 500
2 000
1 500
1 000
500
0
Viscosity (cps)
0
10
20
30
40
50
60
Time (min)
SR 1710 inj. /
SD 7820
SR 1720 /
SD 7840
Rheometer PP 50 mm
shear rate 10 s -1

Mechanical properties on pure cast resin

		SR 1720 / SD 7840	SR 1720 / SD 7840
Curing cycle		24 h 23 °C + 24 h 60°C	24 h à 23 °C + 8 h à 60 °C + 2 h à 80 °C + 2 h à 100 °C + 2 h à 120 °C + 2 h à 140 °C + 2 h à 160 °C + 2 h à 180 °C + 2 h à 200 °C
Tension			
Modulus of elasticity	N/mm^2	4 000	3 800
Maximum resistance	N/mm^2	44	45
Resistance at break	N/mm^2	44	45
Elongation at max. load	%	1.1	1.2
Elongation at break	%	1.1	1.2
Flexion			
Modulus of elasticity	N/mm^2	4 060	3 730
Maximum resistance	N/mm^2	95	58
Elongation at max. load	%	2.2	1.4
Elongation at break	%	2.2	1.4
Charpy impact strength			
Resilience	kJ/m^2	9	6
Glass Transition / DSC			
Tg1	°C	100	198
Tg1 max.	°C		200

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

Tension:	NF T 51-034
Flexion :	NF T 51-001
Charpy impact strength:	NF T 51-035
Glass transition DSC :	ISO 11357-2 : 1999 -5°C to 250°C under nitrogen gaz
	Tg1 or Onset : 1st point at 20 °C/mn
	Tg1 maximum or Onset : second passage