

## CA 85

### Sealing & casting epoxy system

CA 85 is a system formulated for sealing, embedding and casting allowing all thicknesses up to 12 cm in one shot thanks to the wide range of hardeners.

Its hydrophobia and high density allow CA 85 to harden very well under water.

CA 85 shows very good mechanical properties, especially in compression and has a very good behaviour towards fire.

Thanks to the mixability of the SD 860x hardeners, CA 85 reactivity can be adjusted to every casting whatever the thickness and/or the temperature.

### Epoxy Resin CA 85

		<b>CA 85</b>
Aspect / couleur		White viscous liquid
Viscosity (mPa.s)	15 °C	120 000 ± 20 000
Rheometer CP 50 mm	20 °C	47 000 ± 10 000
Shear rate 10 s <sup>-1</sup>	25 °C	23 000 ± 4 000
	30 °C	12 500 ± 2 500
	40 °C	4 500 ± 900
Density	20 °C	1.650 + 0.01
Picnometer NF EN ISO 2811-1		
Storage stability		2 years, do not cristallize May decant after long storage

### Hardeners SD

		<b>SD 8605</b>	<b>SD 8601</b>	<b>SD 8451</b>	<b>SD 7160</b>	<b>SD 1213</b>
Typical reactivity :		Ultra fast Mixable in any proportions	Very slow	Slow	Ultra slow	Ultra slow High thickness
Aspect / colour		Yellow liquid	Clear liquide	Yellow liquid	Clear liquid	Clear liquid
Viscosity (mPa.s)	15 °C	630 ± 100	20 ± 4	230 ± 40	180 ± 30	100 ± 20
Rheometer CP 50 mm	20 °C	400 ± 80	15 ± 3	160 ± 30	125 ± 20	75 ± 20
Shear rate 10 s <sup>-1</sup>	25 °C	280 ± 50	12 ± 2	120 ± 25	90 ± 15	55 ± 15
	30 °C	200 ± 40	10 ± 2	90 ± 40	70 ± 10	40 ± 10
	40 °C	100 ± 20	7 ± 2	50 ± 20	40 ± 8	25 ± 8
Density	20 °C	1.020 ± 0.01	0.950 ± 0.01	0.980 ± 0.01	0.980 ± 0.01	1.000 ± 0.01
Picnometer NF EN ISO 2811-1						

## CA 85 / SD Mix Properties

		CA 85 / SD 8605	CA 85 / SD 8601	CA 85 / SD 8451	CA 85 / SD 7160	CA 85 / SD 1213
Mix viscosity	20 °C	10 000 ± 2 000	2 500 ± 500	4 400 ± 800	4 500 ± 900	4 000 ± 800
Rheometer CP 50 mm	25 °C	4 000 ± 800	1 400 ± 250	3 200 ± 600	3 200 ± 600	2 800 ± 500
Shear rate 10 s <sup>-1</sup>	30 °C	2 200 ± 450	800 ± 150	1 800 ± 350	2 000 ± 400	1 500 ± 300
Weight ratio		100 / 17.5 g Mixable in any proportions		100 / 25 g	100 / 24 g	100 / 24 g
Volume ratio		100 / 28 ml	100 / 30 ml	100 / 40 ml	100 / 40 ml	100 / 40 ml
Cured mix density		1.50	1.49	1.43	1.34	1.34

## CA 85 - Mix Reactivity

		CA 85 / SD 8605	CA 85 / SD 8601	CA 85 / SD 8451	CA 85 / SD 7160	CA 85 / SD 1213
<b>Max temperature (°C) in the middle of the cast</b>						
	25 °C / 5 cm		127 °C	157 °C	38 °C	81 °C (8 cm)
	20 °C / 8 cm	174 °C (2 cm)	125 °C	162 °C	41 °C	44 °C (10 cm)
<b>Time to reach exothermic peak</b>						
	25 °C / 5 cm		4 h	1 h 55	6 h 30	
	20 °C / 8 cm	43'	6 h 30	2 h	10 h	11 h
<b>Time to wait before second casting</b>						
	25 °C / 5 cm		7 h	5 h		
	20 °C / 8 cm	1 h 30'	10 h	7 h	18 h	18 h

## Cast Max Thickness

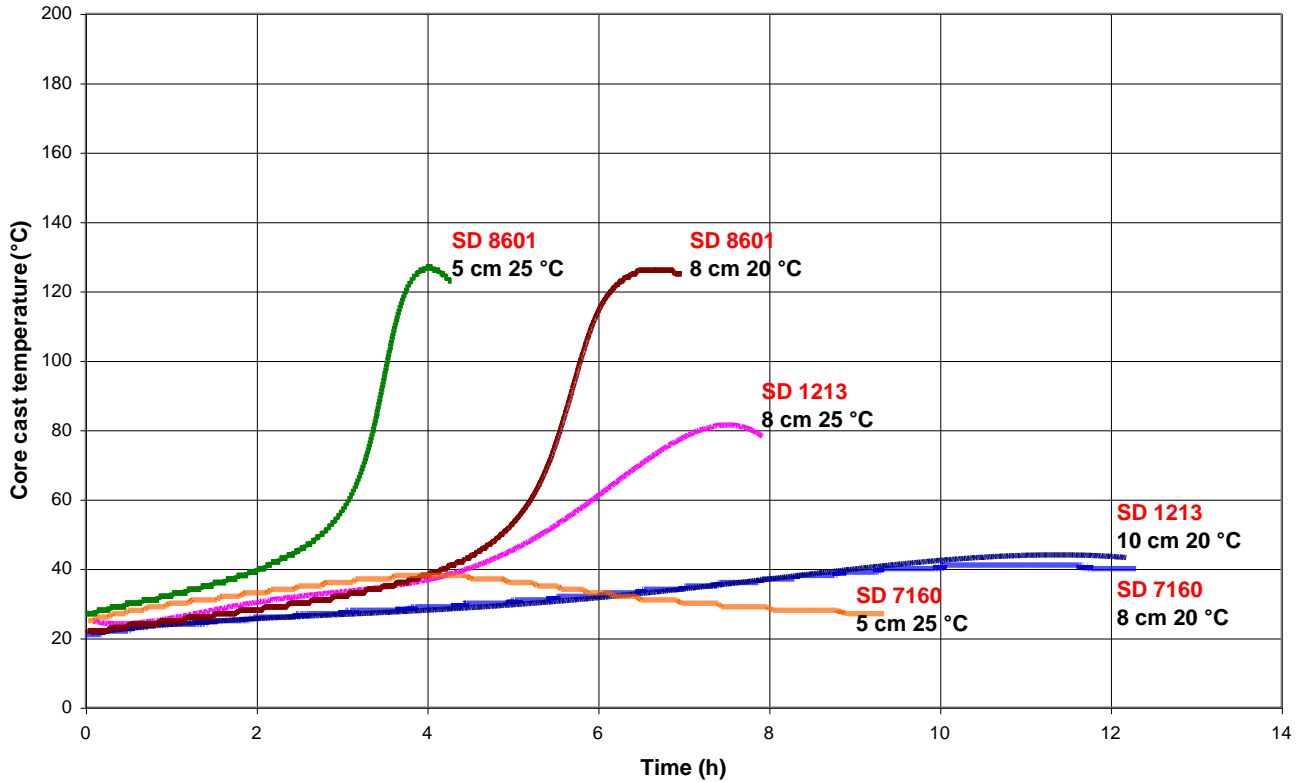
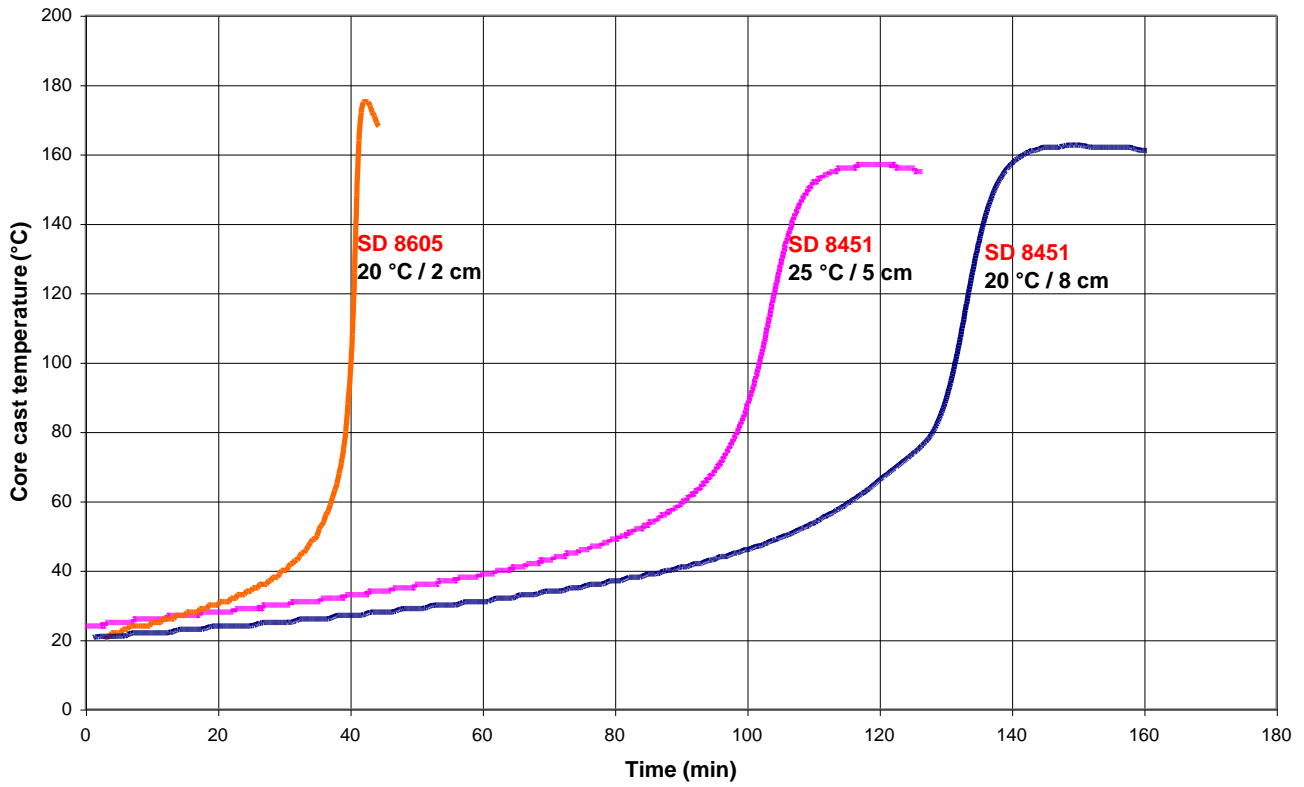
		CA 85 / SD 8605	CA 85 / SD 8601	CA 85 / SD 8451	CA 85 / SD 7160	CA 85 / SD 1213
Ambient temperature	25 °C	5 mm	5 cm	4 cm	6 cm	8 cm
	20 °C	1 cm	7 cm	6 cm	10 cm	12 cm

## Curing

CA 85 can cure at ambient temperature.

Full cure after: 7 days 25 °C or 48 hr 30 °C or 12 hr 40 °C or 6 hr 60°C

### CA 85 – Cast reactivity



## Mechanical Properties On Pure Casting Resin

	CA 85 / SD 8605		CA 85 / SD 8601		CA 85 / SD 8451		CA 85 / SD 7160	CA 85 / SD 1213	
<b>Curing cycles</b>	48 h 25 °C + 24 h 40 °C	48 h 23 °C + 16 h 60 °C	48 h 23 °C + 16 h 60 °C	48 h 23 °C + 16 h 60 °C	48 h 23 °C + 16 h 60 °C	48 h 23 °C + 16 h 60 °C	48 h 23 °C + 16 h 60 °C	48 h 23 °C + 16 h 60 °C	48 h 23 °C + 16 h 60 °C
<b>Testing temperature</b>	23 °C	23 °C	23 °C	60 °C	23 °C	60 °C	23 °C	23 °C	23 °C
<b>Flexion</b>									
Modulus of elasticity	N/mm <sup>2</sup>		4 250	4 150	4 200	4 150	4 600	4 850	4 550
Maximum resistance	N/mm <sup>2</sup>		68	51	68	40	45	65	67
Elongation at max. load.	%		2.4	2.8	2.8	4.5	1.1	1.4	1.5
<b>Compression</b>									
Compressive yield strength	N/mm <sup>2</sup>		105	69	106	68	65		
Offset compressive yield	%		8.9	7.6	10.5	8.3	7.4		
<b>Tension</b>									
Modulus of elasticity	N/mm <sup>2</sup>		5 400		3 850			5 100	5 000
Maximum resistance	N/mm <sup>2</sup>		29		29			52	42
Resistance at break	N/mm <sup>2</sup>		0.7		29			41	42
Elongation at max. resistance	%		0.7		0.8			1	1
Elongation at break	%				0.8			1	1
<b>Charpy impact strength</b>									
Resilience	KJ/m <sup>2</sup>		5		5				
<b>Glass transition / DSC</b>									
Tg 1	°C			64		64	75	54	60
Tg 1 maximum	°C			79		69	78		68

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

Measures undertaken according norms :

- Flexion : DIN 53452 / ISO 178
- Compression : DIN 53454
- Tension : NF T 51\_034
- Charpy impact strength: NF T 51-035
- Glass transition: 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