



SR 1500 Epoxy laminating system

Description

This modified epoxy resin has been formulated to be cristalization free and low toxicity.

The formulation bases of SR 1500 are bisphenol A and F

This epoxy system has very good wet-out, degazing properties and an excellent adhesion to all type of reinforcements (glass, aramid, carbon, polyester...)

Adjustable working time depending on the choice of the hardener

Respecting the ratio resin / hardener, the hardeners are mixable by weight, to achieve the most adapted reactivity for the application.

Glass transition : 75 - 81°C

The parts can be in service after 7 to 14 days @ 23°C for the hardeners **SD 2507**, **SD 2505** and **SD 2503**.

Post-cure @ a minimum of 40°C for a Tg above 55°C.

Developped for : ship building, aeronautic, automotive prototypes, tool making.

Other applications : putty for coating with microspheres, syntactic core material, casting volume depending on the hardeners.(see technical data sheet of **SD 4871** or **SD 597.20**)

Epoxy resin SR 1500

Aspect / color		Light yellow liquid
Viscosity (mPa.s)	@ 20 °C	2 100
	@ 25 °C	1 180
Density (g/cm ³)	@ 20 °C	1.13
Storage		Cristalization free

Hardeners SD 250x or SD 6131

Hardeners		SD 2507	SD 2505	SD 2503	SD 6131
Type of reactivity		"fast"	"standard"	"slow"	"very slow"
Aspect / color		Yellow liquid	Yellow liquid	Yellow liquid	Red liquid
Viscosity (m.Pas)	@ 20°C	1 800	280	180	80
	@ 25°C	1 400	210	125	55
Viscosity of the mix (mPa.s)	@ 20°C	1 700	800	700	650
	@ 25°C	1 160	550	510	470
Density (g/cm ³)	@ 20°C	1.09	1.00	1.00	0.98
Mixing ratio by weight		100 g / 33 g	100 g / 33 g	100 g / 33 g	100 g / 31 g
Mixing ratio by volume		100 ml / 35 ml	100 ml / 37 ml	100 ml / 37 ml	100 ml / 36 ml



Specific applications

SR 1500 / SD 2507 :

Thin laminate, low temperature curing (10 – 15°C)
Quick repairs or bondings
Putty for structural foam core, sandable coating.

SR 1500 / SD 2505 , SD 2503:

Standard laminating systems : all type of part sizes, tooling, fillet joints...

SR 1500 / SD 6131

Large parts and thick laminate, injection, casting of small volume
Long working time on the laminate
Post-cure temperature : 55°C minimum

Other formulations based on the SR 1500

SR 1500 i : Fire resistant M1

SR 1500 / SD 597.20.: Casting of large volume

Reactivities of the mixes SR 1500 / SD 250. and SD 6131

Systems		1500 / 2507	1500 / 2505	1500 / 2503	1500 / 6131
Gel time TECAM on 150 g mix :	@ 25°C	14'	26'	1 h 10'	5 h 30'
	@ 20°C	19'	54'	3 h 10'	8 h
Pot-life on 500 g mix :	@ 25°C	13'	24'	47'	6 h 10'
	@ 20°C	16'	35'	1 h	8 h 45'
Working time on 3 layers of E glass fabric of 300 g/m ² :	@ 25°C	1 h 15'	2 h 15'	3 h 30'	7 h
	@ 20°C	2 h	3 h 15'	5 h	9 h

Curing






SD 2507 and **SD 2505** have been developed to offer excellent mechanical properties after a post-cure at moderate temperature

	SD 2507 SD 2505	SD 2503	SD 6131
Time to wait @ 20°C before post-cure	2 to 4 hours	24 hours	48 hours
Minimum post-cure cycle	2 to 7 days @ 20°C	14 days @ 20°C	20 hours @ 55°C
Advised post-cure cycle	2 to 7 days @ 20°C	14 days @ 20°C	20 hours @ 55°C
	Or	Or	
	12 hours @ 40°C	24 hours @ 40°C	
	Or	Or	
	6 hours @ 60°C	16 hours @ 60°C	

Packaging (in Kg)

Kits	Resin SR 1500	hardeners SD 250x
260.00	1 x 200	6 x 10
43.00	1 x 33	1 x 10
15.60	1 x 12	1 x 3.6
4.30	1 x 3.3	1 x 1
1.30	1 x 1	1 x 0.3
	Resin SR 1500	Hardener SD 6131
320	240	8 x 9.3
40	30	9.3

Safety data- (EEC classification 67 / 548 / EEC Directive)

Reference	Symbol	Danger	Risk phrase
SR 1500		Xi : Irritating	36/38 51/53 43
		N : Dangerous for the environment	
SD 2503 SD 2505		C : Corrosive	21/22 34 43
SD 2507		T : Toxic	20 24/25 35 43
SD 6131		T : Toxic	45 48/20/21/22 37 43

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Mechanical properties on cast resin :

SR 1500 /	SD 6131				SD 2503		SD 2505			SD 2507			
	48 h AT + 24 h @ 40 °C	48 h AT + 20 h @ 50 °C	48 h AT + 16 h @ 60 °C	48 h AT + 8 h @ 80 °C	14 days AT	24hAT + 16 h @ 60 °C	14 days AT	24 h AT + 24 h @ 40 °C	24 h AT + 8 h @ 60 °C	14 days AT	24 h AT + 24 h @ 40 °C	24 h AT + 8 h @ 60 °C	
Tension													
Modulus of elasticity	N/mm ²	3160	3130	3000	2820	3350	2860	3100	2900	2900	3300	3200	3140
Maximum resistance	N/mm ²	67	69	81	78	77	71	77	74	74	80	80	80
Resistance at break	N/mm ²	67	69	81	75	72	65	71	68	68	74	72	74
Elongation at max.load	%	2.5	2.6	4.3	4.8	3.6	4.7	3.6	4.4	4.7	3.7	3.9	4.3
Elongation at break	%	2.5	2.6	4.4	6.2	5.4	8.0	4.5	6.0	7.4	4.5	4.7	5.6
Flexion													
Modulus of elasticity	N/mm ²	3360	3330	3070	3010	3300	2760	3200	3100	3100	3450	3400	3300
Maximum resistance	N/mm ²	111	119	120	124	125	123	115	115	117	123	121	123
Elongation at max. resistance	%	3.5	4.8	5.5	6.0	4.6	6.4	4.8	5.4	5.6	4.8	5.0	5.4
Elongation at break	%	3.5	5.6	7.9	7.6	7.2	7.5	7.7	8.0	7.9	7.8	8.1	8.4
Compression													
Compressive yield strength	N/mm ²	115	112	110	105								
Offset compressive yield	%	5.7	6.1	7.0	6.2								
Choc Charpy													
Resilience	KJ/m ²	15	16	23	28	12	30	25	30	26	19	27	24
Glass transition													
Tg1	°C	67	74	88	95	55	70	56	68	72	55	69	73
Tg1 max.	°C				99		76			76			75

AT : Ambient Temperature

Tests carried out on cast resin, without prior degassing, between steel plates.
Procedures carried out in accordance with AFNOR norms:

Tension : NF T51-034
Flexion : NF T51-001
Compression: NF T51-101
Charpy Impact Strength:: NF T51-501
Glass transition : DSC Tg 1 = 1° point at 10°C / minute