



SR 1620 Epoxy laminating system

Description

- This modified epoxy resin has been formulated to be crystallization free and low toxicity.
- The formulation bases of SR 1620 are bisphenol A and F
- This epoxy system has very good wet-out, degassing properties and excellent adhesion to all types of reinforcement (glass, aramid, carbon, polyester...)
- With a fast development of tack, this system is recommended for difficult hand-lay (sharp angles, fabrics hard to deform, vertical or over head substrate).
- After post-cure, temperature resistance above 100°C(82°C for the **SD 2713**).
- Hardeners **SD 2706**, **2625** and **2713** offer good mechanical properties at ambient temperature.
- **SD 2703** need a post-cure at 55°C minimum.
- Developed for ship building, aeronautic, automotive prototypes.

Epoxy resin SR 1620

Aspect / color		Yellow liquid
Viscosity (m.Pas)	@ 20 °C	1400
	@ 25 °C	800
Density (g/cm ³)	@ 20 °C	1.15
Storage		Crystallization free

Hardeners SD

Hardeners		SD 2706	SD 2625	SD 2624
Type of reactivity		"fast"	"standard"	"slow"
Aspect / color		Yellow liquid	Yellow liquid	red liquid
Viscosity (m.Pas)	@ 20°C	310	245	150
	@ 25°C	250	200	100
Viscosity of the mix (m.Pas)	@ 20°C		710	700
	@ 25°C		660	450
Density (g/cm ³)	@ 20°C	1.04	1.04	0.99
Density of the mix (g/cm ³)	@ 20°C		1.13	1.14
Mixing ratio by weight		100 g / 19 g	100 g / 19 g	100 g / 27 g
Mixing ratio by volume		100 ml / 21 ml	100 ml / 21 ml	100 ml / 31 ml



Fast hardeners SD 2706, SD 2625

Reactivity adapted for hand-lay up, press moulding or vacuum bagging, of thin parts or small size parts.
Fast hardening of the laminate at an ambient temperature of 20 to 30°C, convenient for fast repairs.
Good mechanical properties of the laminate at ambient temperature, excellent after post-cure.

Slow hardener SD 2624

Medium reactivity hardener, long working time.
Reactivity adapted to hand-lay, press moulding or vacuum bagging, of medium to large size parts.
Good mechanical properties of the laminate at ambient temperature, handling of the parts after 24 hours at ambient temperature.
Mechanical properties are optimised by a post cure at 50-55°C
Designed for tools making with a service temperature of 60-70°C, high performance composites.





Reactivity of the mixes SR 1620 / SD

Systems SR 1620 /...	SD 2706	SD 2625	SD 2624
Exotherm (°C) on 500 g ⁽¹⁾ or 1 Kg ⁽²⁾ mix: @ 20°C @ 25°C			
Time to reach the exotherm on 500 g ⁽¹⁾ or 1 Kg ⁽²⁾ mix: @ 20°C @ 25°C		30 mn ⁽¹⁾ 25 mn ⁽¹⁾	75 mn ⁽¹⁾ 35 mn ⁽¹⁾
Time to reach 50°C on 500 g mix: @ 20°C @ 25°C			
Maximum working time on 3 layers of E glass 300 g / m ² : @ 20°C @ 25°C		3 h 2 h 30	6 h 3 h 30

Polymerisation

	SD 2706 SD 2625	SD 2624
Wait @ 20°C before post-cure	2 to 4 hours	24 hours
Minimum post-cure cycle	7 days @ 25°C	24 hours @ 40°C
Advised Post-cure cycle	24 h @ 40°C or 6 hours @ 60°C	20 hours @ 50°C or 16 hours @ 60°C

Safety data

Reference	Symbol	Danger	Risk phrase
SR 1620		Xi : Irritating	36/38 43
		N : Dangerous for the environment	
SD 2706 SD 2625		C : Corrosive	21/22 34 43
SD 2624		T : Toxic	45 48/20/21/22 37 43

EEC Classification according to doc. 1 of directive 67 / 548 / EEC

Packaging (in Kg)

Kits	Resin SR 1620	Hardener SD 2706 / SD 2625
133.28	4 x 28	2 x 10.64
42.84	3 x 12	3 x 2.28
14.28	12	2.28
4.40	3.7	0.7
1.19	1	0.19
	Resin SR 1620	Hardener SD 2624
254	1 x 200	6 x 9
42	1 x 33	1 x 9
12.70	1 x 10	1 x 2.7
4.70	1 x 3.70	1 x 1
1.27	1 x 1	1 x 0.27

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Mechanical properties on cast resin

		SR 1620 / SD 2706	
Curing cycle		12 h @ AT + 24 h @ 40°C	
Tension			
Modulus of elasticity	N/mm ²	3 200	
Maximum resistance	N/mm ²	80	
Resistance at break	N/mm ²	74	
Elongation at max. resistance	%	4.2	
Elongation at break	%	5.2	
Flexion			
Modulus of elasticity	N/mm ²	3 200	
Maximum resistance	N/mm ²	121	
Elongation at max. resistance	%	5.2	
Elongation at break	%	7.5	
Compression			
Compressive yield strength	N/mm ²		
Offset compressive yield	%		
Charpy impact strength			
Resilience	KJ/m ²	46	
Glass transition			
Tg1	°C	69	
Tg1 max.	°C	90	

SR 1620 / SD 2625		
14 days @ AT	12 h @ AT + 24 h @ 40°C	12 h @ AT + 16 h @ 60°C
3 540	3 310	3 060
79	80	82
78	76	78
3.0	3.8	5.0
3.1	4.5	6.9
3 300	3 190	2 990
120	124	122
4.7	5.1	6.2
6.9	7.0	6.6
26	33	24
62	68	93
		97

SR 1620 / SD 2624			
14 days @ AT	12 h @ AT + 24 h @ 40°C	12 h @ AT + 20 h @ 50°C	12 h @ AT + 16 h @ 60°C
3 700	3 250	3 350	3 100
77	82	86	85
76	80	81	80
2.4	3.7	4.2	4.6
2.4	4.0	5.0	5.7
3 500	3250	3 300	3 050
127	125	130	127
4.7	5.1	5.3	5.9
7.2	7.9	7.0	7.3
18	27	33	28
60	69	77	89
			94

AT :Ambient Temperature

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

Tension: NF T 51-034

Flexion : NF T 51-001

Compression: NF T51-101

Choc Charpy: NF T 51-035

Glass transition DSC : Tg1: 1st point à 10°C / mn, Tg 1 max.: 2nd passage 180°C