SR *GreenPoxy* 56 / SD 7561

Transparent epoxy system
High carbon system of plant origin

SR *GreenPoxy* 56 resin is based on the latest innovations in green chemistry.
Resin is produced with a high carbon content of plant origin.

SR *GreenPoxy* 56 resin represents a significant technological breakthrough on the following points: purity, color, performance and guarantees on the availability of industrial tonnages.

SR *GreenPoxy* 56 molecular structure is bio-based at almost 51%. This carbon content of plant origin, is certified by measurements of Carbon 14 by an independent laboratory (ASTM D6866 or XP CEN / TS 16640).

Many other hardener couplings are possible to perfectly meet your needs.

Fields of application
- Contact laminating (mold or industrial part)
- Injection
- Filament winding
- Hot or cold press
- Little casting

Epoxy resin SR GreenPoxy 56

Appearance		liquid
Color		colourless
Gardner color		≤ 2
Viscosity (mPa.s)	@ 15 °C	2875 ± 575
	@ 20 °C	1600 ± 300
	@ 25 °C	950 ± 190
	@ 30 °C	588 ± 112
Density	@ 20 °C	1,1980
Refractive index	@ 25 °C	1,5351 ± 0,002
% Bio-based Carbon content		51 ± 2
Storage (months)	@ Ta	24

Hardener(s)

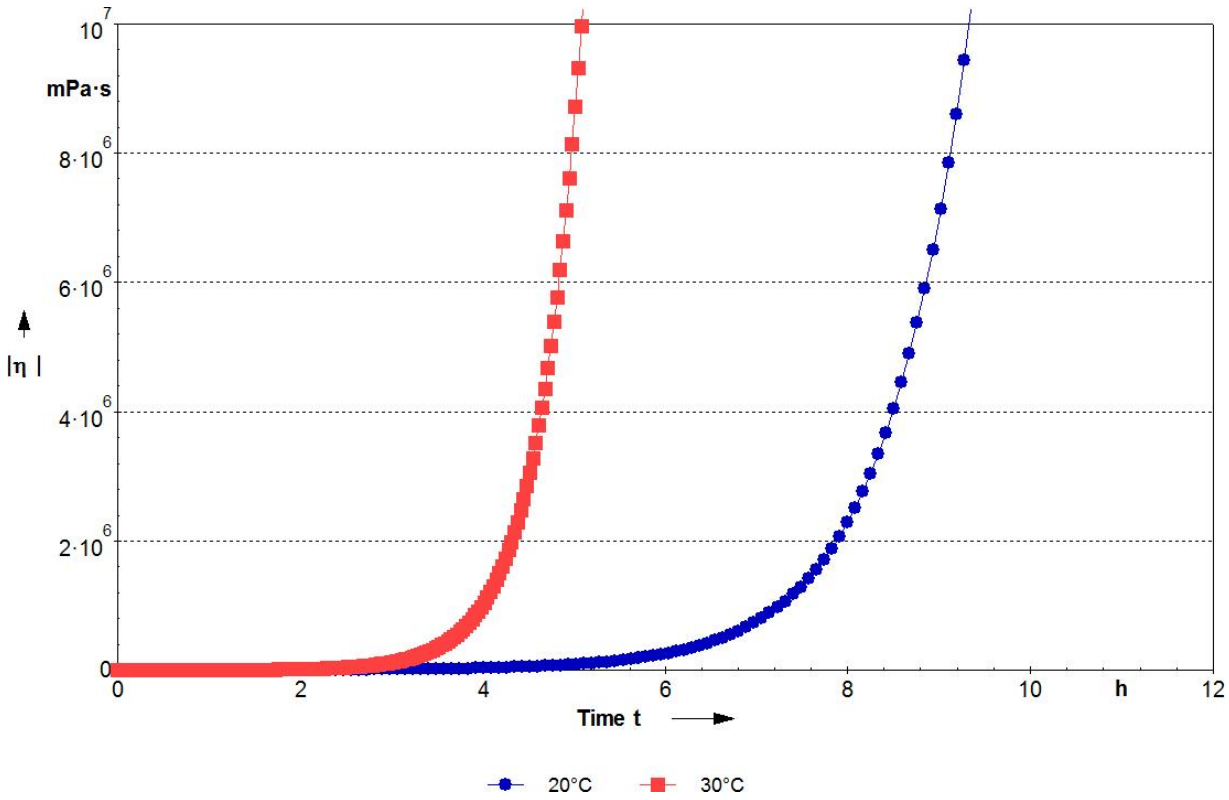
		SD 7561
Appearance		liquid
Color		colourless
Gardner color		≤ 2
Reactivity level		Slow
Viscosity (mPa.s)	@ 15 °C	80 ± 15
	@ 20 °C	60 ± 15
	@ 25 °C	45 ± 10
	@ 30 °C	32 ± 6
Density	@ 20 °C	0,9710
Refractive index	@ 25 °C	1,471 ± 0,002
Storage (months)	@ Ta	24

Mixe(s) SR GreenPoxy 56 / SD 7561

		SD 7561
Appearance		liquid
Color		colourless
Mixing ratio		
	By weight	100 / 36
	By volume	100 / 45
Density	@ 20 °C	1,1702
Initial viscosity	@ 20 °C	700
PP 50 mm - 10 s-1 (mPa.s)	@ 30 °C	400

Reactivity on a 1 mm thick layer

@ 20 °C & 30 °C



Mechanical properties on cast resin :

		SR GreenPoxy 56 / SD 7561		
Curing cycles →		24 h @ Ta + 24 h @ 40 °C	24 h @ Ta + 16 h @ 60 °C	24 h @ Ta + 8 h @ 80 °C
Tensile				
Modulus	N/mm²	3 290	3 160	2 980
Maximum strength	N/mm²	71	71	68
Breaking Strength	N/mm²	60	67	66
Elongation at max strength	%	3,6	4,3	5
Elongation at break	%	5,2	5,4	6,4
Flexion				
Modulus	N/mm²	3 360	3 230	3 010
Maximum strength	N/mm²	113	118	111
Breaking Strength	N/mm²	91	101	93
Elongation at max strength	%	4,4	5,3	6
Elongation at break	%	6,5	8,1	9,8
Shear				
Breaking Strength	N/mm²	46	53	47
Compression				
Modulus	N/mm²			
Yield strength	N/mm²	100	100	96
Offset compression yield	%	12,8	13,2	15,3
Charpy impact strength				
Resilience	kJ/m²	36	32	52
DSC glass transition				
TG1 onset	°C	67	79	78
TG1 max onset	°C			85
DTMA glass transition				
TG tan delta	°C			
TeiG onset G'	°C			
TmG midpoint G'	°C			
TefG endpoint	°C			
TG peak G ''	°C			

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

Measures undertaken according to the following norms:

Mechanical tests:

Tension:	*NF EN ISO 527-2:2012*
Flexion:	*NF EN ISO 178:2011*
Compression:	*NF EN ISO 604:2004 or NF EN ISO 844:2014 (foam product)*
Charpy impact strength:	*NF EN ISO 179-1:2010*
Shear Strength:	*ASTM D732–17 (Punch Tool)*
Interlaminar shrinkage strength:	*ASTM D5528-13*
Toughness (GIC et KIC) :	*ISO 13586:2000*
Water absorption:	*Internal. Polymerization according to cycle, machining, weighing, time spent in distilled water at 70 °C / 48 hours, weighing 1 hour after emerging,*

Thermal tests:

Glass transition DSC:	*NF EN ISO 11357-2:2014 -5°C to 180 °C under nitrogen gas*	
	T_{G1} or Onset:	*1st scan at 20 °C/min*
	T_{G1} maximum or Onset:	*2nd scan at 20 °C/min*
Glass transition DTMA:	*Temperature ramp 0 °C to 180 °C @ 2°C/min under normal atmosphere*	
	NF EN ISO 11357-1:2016	*T_G onset G'*
	ASTM D4065-12	*T_G peak G"*

Physical tests:

Gardner color:	*NF EN ISO 4630:2016*	*Visual method*
Refractive index:	*NF ISO 280:1999*	
Viscosity:	*NF EN ISO 3219:1994*	*Rheometer 50 mm, shear 10 s^{-1}*
Density on liquids:	*ISO 2811-1:2016*	*Pycnometer*
Density on solid:	*NF EN ISO 1183-3:1999*	*Helium Pycnometer*
Density on foam:	*NF EN ISO 845:2009*	
Gel time:	*Cross G' G"*	*Rheometer CP50 - Shear rate 10 s^{-1}*
Green Carbone content:	*ASTM D6866-16 or XP CEN/TS 16640 Avril 2014*	
TA:	*Ambient temperature (20 to 25 °C)*	