SR GreenPoxy 56 / SD 7561

Clear epoxy resin

High bio-based content

***SR GreenPoxy* 56** resin is out coming from the latest innovations in bio-based chemistry.

***SR GreenPoxy* 56** resin is produce with a high content of carbon from plant origin.
The bio-based Carbon content of our system is certified by an independent laboratory using Carbon 14 measurements (ASTM D6866 or XP CEN/TS 16640)

This is a significant technological advance on the following points:
Clarity, color, performances and guarantees of industrial tonnages availability.

***SR GreenPoxy* 56** is an epoxy resin which has up to 56% of its molecular structure coming from plant origin.
This percentage is function of the carbon origin contained in the epoxy molecule.
The final rate of the mix bio-based carbon content will depend on the hardener choice.

***SR GreenPoxy* 56 / SD 7561** is a very clear and colorless mix.

Applications

- Hand lamination
- RTM processes (infusion, injection…)
- Filament winding
- Hot or cold press
- Casting
- Bonding

Resin SR GreenPoxy 56

Aspect / colour		Clear liquid
Storage		2 years, crystallisation free
Viscosity (mPa.s)		
	@ 15 °C	2875 ± 575
	@ 20 °C	1600 ± 300
	@ 25 °C	950 ± 190
	@ 30 °C	588 ± 112
GreenPoxy® % bio-based Carbon content		50 - 58
Color (Gardner)		2 max
Density	@ 20 °C	1,1980 ± 0,0050
Refractive index	@ 25 °C	1,5350 + 0,0020

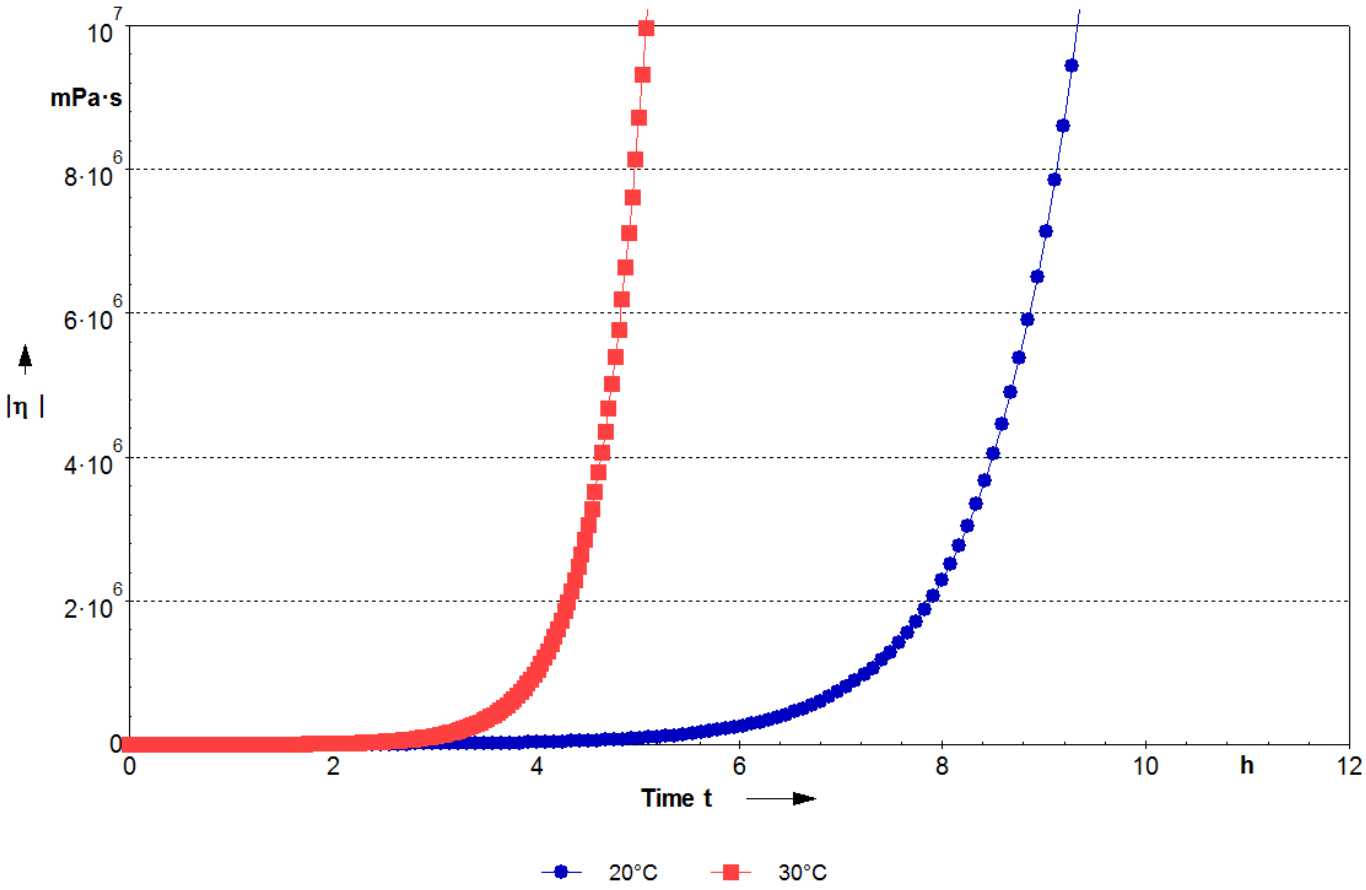
Hardener SD 7561

Aspect / colour		Liquid / clear
Typical reactivity		Slow
Viscosity (mPa.s)		
	@ 15 °C	80 ± 15
	@ 20 °C	60 ± 15
	@ 25 °C	45 + 10
	@ 30 °C	32 ± 6
% bio-based carbon content		0
Color (Gardner)		2 max
Density	@ 20 °C	0,9600 ± 0,005

SR GreenPoxy 56 / SD 7561 mix properties

Weight ratio	100 / 36
Volume ratio	100 / 45
Initial mix viscosity (mPa.s) *PP 50 mm – 10 s-1* @ 20 °C @ 30 °C	 700 400

Reactivity – 1 mm film viscosity evolution



Mechanical properties on pure casted resin

		SR GreenPoxy 56 / SD 7561	***SR GreenPoxy 56 / SD 7561***	***SR GreenPoxy 56 / SD 7561***
Curing cycle		24 h @ 23 °C + 24 h @ 40 °C	24 h @ 23 °C + 16 h @ 60 °C	24 h @ 23 °C + 8 h @ 80 °C
Tension				
Modulus of elasticity	N/mm^2	3 290	3 160	2 980
Maximum resistance	N/mm^2	71	71	68
Resistance at break	N/mm^2	60	67	66
Elongation at max load	%	3,6	4,3	5
Elongation at break	%	5,2	5,4	6,4
Flexion				
Modulus of elasticity	N/mm^2	3 360	3 230	3 010
Maximum resistance	N/mm^2	113	118	111
Resistance at break		91	101	93
Elongation at max. load	%	4,4	5,3	6
Elongation at break	%	6,5	8,1	9,8
Shear				
Resistance at break	N/mm^2	46	53	47
Compression				
Maximum resistance	N/mm^2	100	100	96
Elongation at max. load	%	12,8	13,2	15,3
Charpy impact strength				
Resilience	kJ/m^2	36	32	52
Glass transition				
Tg_1 onset	°C	67	79	78
Tg_1 onset maximum	°C			85

Measures undertaken according to the following norms:

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

Tension:	ISO 527 - 2
Flexion:	ISO 178
Charpy impact strength:	NF T 51-035
Shear Strength:	ASTM D 732 - 93
Compression:	ISO 604
Water absorption:	Internal. Polymerization according to cycle, machining, weighing, time spent in distilled water at 70 °C / 48 hours, weighing 1 hour after emerging,
Glass transition DSC:	ISO 11357-2: 1999 -5°C to 180 °C at 20 °C/min under nitrogen gas T_{G1} or Onset: 1st passage T_{G1} maximum or Onset: 2nd passage
Glass transition DTMA:	Temperature ramp 0 °C to 180 °C @ 2 °C/min ISO 11357-1 - T_G onset G' ASTM D4065 - T_G peak G''

Physical tests according standard:

Gardner color:	NF EN ISO 4630	Visual method
Refractive index:	NF ISO 280	
Viscosity:	NF EN ISO 3219	Rheometer 50 mm, shear 10 s^{-1}
Density:	NF EN ISO 2811-1	Pycnometer
Density solid	NF EN ISO 845	
Gel time:	Cross G' G''	Rheometer CP50 - Shear rate 10 s^{-1}
Green Carbone content:	ASTM D6866 or XP CEN/TS 16640 Avril 2014	

TA:	Ambient temperature

LEGAL NOTES:

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