

SR **GreenCast** 160 / SD 7160

Clear Casting Resin System



SR GreenCast 160 is an epoxy system with UV resistance enhanced, designed for production by casting of decorative objects, bottles prototypes, jewellery, river table...

- Very low reactivity allows high thickness without change of colour cast.
- Obtaining a polymer with high clarity, good brightness and colourless.
- Cures at room temperature, if necessary post cure from 40 to 80 °C.
- Very easy mixing & excellent degassing.

		SD 7160
Reactivity level		Slow
Initial viscosity (mPa.s)	@ 20 °C	360
	@ 30 °C	250
Pot Life (500 g)	@ 20 °C	17 h 00
	@ 30 °C	06 h 20
Mixing ratio	By weight	100 / 42
	By volume	100 / 50
Gel Time	@ 20 °C	52 h 00
	@ 30 °C	28 h 00
Demold time	@ 20 °C	56 h 00
	@ 30 °C	84 h 00

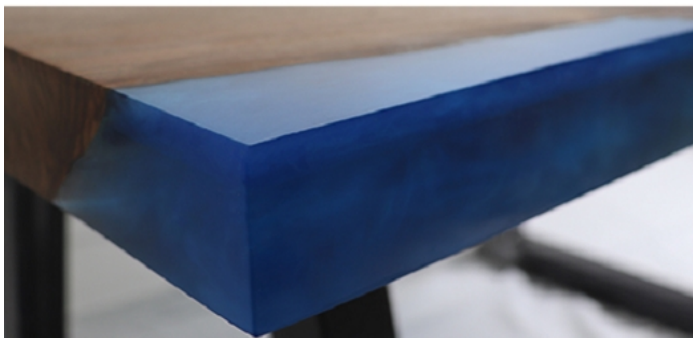
SR GreenCast 160 resin is out coming from the latest innovations in bio-based chemistry.
SR GreenCast 160 resin is produced with a high content of carbon from plant origin.
The bio-based Carbon content of our system is certified by an independent laboratory using Carbon 14 measurements (ASTM D6866 or XP CEN/TS 16640)

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

SR GreenCast 160 is an epoxy resin which has 40% 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.

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- Very low reactivity allows high thickness without change of colour cast.
- Obtaining a polymer with high clarity, good brightness and colourless.
- Cures at room temperature, if necessary post cure from 40 to 80 °C.
- Almost odourless.
- Very easy mixing.
- Excellent degassing.
- Excellent impact resistance and thermal shock.
- Good UV resistance



Epoxy resin SR GreenCast 160

Appearance		liquid
Color		colourless
Viscosity (mPa.s)	@ 15 °C	790 ± 160
	@ 20 °C	485 ± 100
	@ 25 °C	310 ± 60
	@ 30 °C	210 ± 42
	@ 40 °C	100 ± 20
Density	@ 20 °C	1,1700
Refractive index	@ 25 °C	1,5353
Bio-based Carbon content (%)		40
Storage (months)	@ Ta	24

Hardener(s)

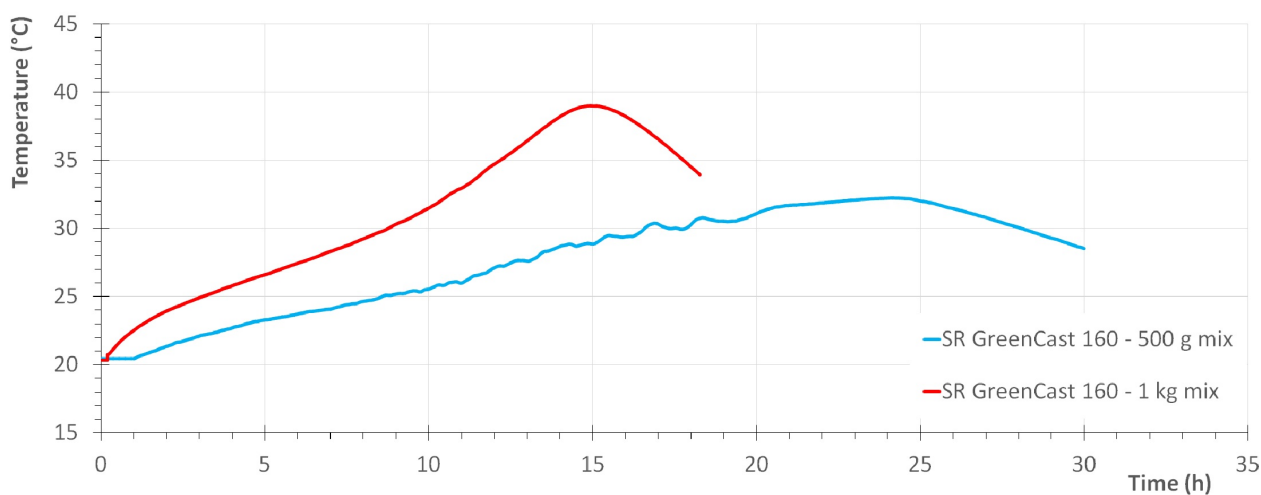
SD 7160		
Appearance		liquid
Color		colourless
Gardner color		≤ 1
Pt/Co Color Index		≤ 50
Reactivity level		Slow
Viscosity (mPa.s)	@ 15 °C	180 ± 30
	@ 20 °C	125 ± 20
	@ 25 °C	90 ± 15
	@ 30 °C	70 ± 10
Density	@ 20 °C	0,9700
Refractive index	@ 25 °C	1,459 ± ,002
Storage (months)	@ Ta	24

Mixe(s) SR GreenCast 160 / SD 7160

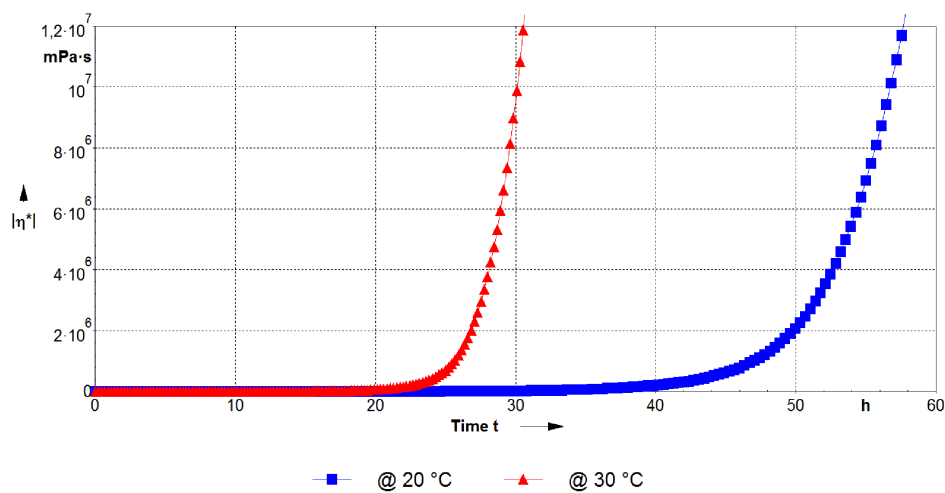
		SD 7160
Appearance		liquid
Color		colourless
Mixing ratio		
	By weight	100 / 42
	By volume	100 / 50
Density	@ 20 °C	
Initial viscosity (mPa.s)	@ 20 °C	360
PP 50 mm / 10 s ⁻¹	@ 30 °C	250

Reactivity for 500 g

	20 °C	30 °C	°C
Exothermic temperature (°C)	32	54	
Exothermic peak time	21 h 00	08 h 03	-
Time to reach 50 °C	-	06 h 20	-



@ 20 & 30 °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:	1 st 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)

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