

# Data sheet: vacuum casting resin SG95

Description			Similar to ABS
<b>Features</b>			<b>Excellent all-round properties, strong, optical properties</b>
<b>Suitable for</b>			<b>Snap fits, low temperature applications, colour matching</b>
Cured properties			Test / ISO standard where applicable
Colour	Colourless		
Transparency	Transparent		
Shore hardness	At 23 °C	82 D	868
	At 60 °C	77 D	
	At 80 °C	74 D	
Flexural strength	99 N/mm <sup>2</sup>		178
Flexural modulus	2400 N/mm <sup>2</sup>		178
Tensile strength	58 N/mm <sup>2</sup>		R 527
Tensile modulus	2521 N/mm <sup>2</sup>		R 527
Izod impact	12 kJ/m <sup>2</sup>		180
Yield strength	64.2 N/mm <sup>2</sup>		R 527
Elongation yield	6 %		
Elongation at break	25 %		R 527
Tear strength	Not measured		34
Thermal conductivity	0.208 W/mK		BS 874
Specific gravity	At 25 °C	1.21	
Coefficient of linear thermal expansion	7.5 × 10 <sup>-5</sup>		
Heat deflection temperature	72 °C		(test piece 110 mm × 12.7 mm × 6.4 mm)
Glass transition temperature	68 °C		
Optical properties	Refractive index 1.565	Transmissivity 90.75	
Haze 1.71	Diffused lights 1.55	Paralleled lights 89.2	
Processing information			Notes
Viscosity	Part A 1300 cPs	Part B 130 cPs	At 25 °C
Specific gravity	Part A 1.07	Part B 1.19	
Mix ratio A:B	100:150		By weight
Mixing time	45 s to 60 s		
Resin temperature	40 °C		Heating chamber
Mould temperature	70 °C		Heating chamber
Curing temperature	70 °C		Heating chamber
Curing time in mould	45 min		
Pot life	300 s		100 g at 25 °C
Post curing process	None		
Typical shrinkage	0.2 %		

All information is based on results gained from experience and tests and is believed to be accurate but is given without acceptance of liability for loss or damage attributable to reliance thereon. Users should always carry out sufficient tests to establish the suitability of any products for their intended applications.

# Handling procedure

## Casting procedure

- Shake unopened A and B component cans vigorously for 10 s to 15 s
- Pre-heat mold in oven at 70 °C to 75 °C
- Pre-heat unopened A and B component cans in oven at 70 °C for 2 hours, then place in oven at 40 °C to stabilise prior to use
- Weigh A and B components into separate cups, allowing for cup loss (the amount of resin left in cup A after tipping)
- Add colour pigment to cup A
- Place filled cups in the machine and attach mixing paddle to cup B
- Start vacuum pump
- Switch on mixer motor
- Wait 10 minutes after reaching maximum vacuum level before mixing
- Pour contents of cup A into cup B and mix as fast as possible without splashing
- Pour mixed resin into silicone mould and leak vacuum chamber before the end of the pot life
- Place filled mold in oven to cure resin
- For full instructions on casting procedures refer to *Vacuum Casting Technique: a guide for new users*, available at [www.renishaw.com](http://www.renishaw.com)

## Special notes

- Exact mould temperature is important
- Exact resin temperature is important
- Use no more than 2 % of total weight colour pigment

## Product information

- **Pot life**  
Resin SG95 can be supplied with a pot extender component that extends the pot life to up to 10 minutes. Please contact Renishaw for details.
- **Mould life**  
Mould life can be increased by using the correct Renishaw release agent and demoulding the casting immediately after curing.
- **Storage**  
Store unopened cans at > 20 °C  
Protect against frost  
Store opened cans in oven at 40 °C with caps on  
Both components are sensitive to humidity.
- **In case of crystallisation of B-component**  
Place cans in oven at 70 °C for 2 hours to 4 hours and stir resin afterwards.



Please follow the procedure for preparing the vacuum casting system as described in the system operation manual!



Always observe the instructions in the Safety Data Sheets of the product and always work in accordance with the safety instructions of the materials manufacturer! Safety Data Sheets can be found at [www.renishaw.com](http://www.renishaw.com)



Wear suitable respiratory protection, safety gloves and safety goggles during the entire filling procedure in accordance with the Safety Data Sheets.

