

# Data sheet: polyurethane resin 5171

[www.renishaw.com/additive](http://www.renishaw.com/additive)

## Specification

Description		Simulates PP/PE
Features		High temperature resistant, flame retardant
Suitable for		Under bonnet mouldings
Cured properties		Test / ISO standard where applicable
Colour		Amber
Transparency		Opaque
Shore hardness At 23 °C At 60 °C At 80 °C	70 D ± 5 D	ISO 868
Flexural strength	44 MPa	ISO 178
Flexural modulus	1032 MPa	ISO 178
Tensile strength	28 MPa	ISO 527
Notched izod	3 J/m <sup>2</sup>	ISO 180
Elongation at break	70%	ISO 527
Specific gravity	1.23 g/cc	
Heat deflection temperature (test piece 110 mm × 12.7 mm × 6.4 mm)	110 °C	0.46 MPa
Processing information		Notes
Viscosity	Resin	200 cPs
	Hardener	1050 cPs
	Mixed	700 cPs
Specific gravity	Resin	1.27 g/cc
	Hardener	1.23 g/cc
Mix ratio A:B	50:100	By weight
Demould time	60 min	
Resin temperature	40 °C	Heating chamber
Mould temperature	70 °C	Heating chamber
Curing temperature	70 °C	Heating chamber
Curing time in mould	60 min	
Pot life	750 s	100 g at 25 °C
Post curing process	None	
Typical shrinkage	0.1 - 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 mould in oven at 70 °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 mould 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

- **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  
All components are sensitive to humidity.
- **In case of crystallisation of B-component**  
Place cans in oven at 70 °C for 2 hours then transfer to 40 °C oven to stabilise prior to use.



Please follow the correct procedure for use of your vacuum casting system, as set out in its operating instructions.



Always follow the instructions in the Product Safety Data Sheets 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 Product Safety Data Sheets.

For worldwide contact details, please visit our main website at [www.renishaw.com/contact](http://www.renishaw.com/contact)

