

Data sheet: polyurethane resin 5175

Description		UV stabilised, water clear, rigid resin
Features		Excellent optical properties and UV protection
Suitable for		Vacuum casting
Cured properties		Method
Colour	Water clear	
Transparency	Transparent	
Shore hardness	80 ± 5 D	ISO 868
Tensile strength	72 MPa	ISO 527
Tensile modulus	1827 MPa	ISO 527
Flexural strength	110 MPa	ISO 178
Flexural modulus	2379 MPa	ISO 178
Izod impact	5.9 kJ/m ²	ISO 180
Linear shrinkage	0.1 - 0.2 mm / mm	
Elongation at break	8%	ISO 527
Heat deflection temperature (0.46 MPa)	95 °C	
Heat deflection temperature (1.82 MPa)	91 °C	
Processing information		Notes
Mix ratio A:B Resin : hardener (parts by weight)	57:100	
Mix ratio A:B Resin : hardener (parts by volume)	59:100	
Viscosity		At 25 °C
Resin	1300 cPs	
Hardener	450 cPs	
Mixed	650 cPs	
Specific gravity		
Resin	1.10 g/cc	
Hardener	1.13 g/cc	
Gel time at 25 °C	540 s	
Demould time	90 min	Demould time is always mass dependent

Please note: cans should not be stored at 40 °C or above as this will cause the material to yellow.

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

Special notes

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

For worldwide contact details, please visit our main website at www.renishaw.com/contact

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.



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

