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Data sheet: vacuum casting resin 5170

Description			**Rigid, high temperature**
Features			**Tough, impact resistant material, good stability at high temperatures**
Suitable for			**Under bonnet, engine covers**
Cured properties			**Test / ISO standard where applicable**
Colour		Amber	
Transparency		Opaque	
Shore hardness	At 23 °C At 60 °C At 80 °C	80 D Not measured Not measured	ASTM D-2240
Flexural strength		103 N/mm^2	ASTM D-790
Flexural modulus		2245 N/mm^2	ASTM D-790
Tensile strength		72 N/mm^2	ASTM D-638
Tensile modulus		Not measured	ASTM D-638
Izod impact		64 J/m	ASTM D-256
Yield strength		Not measured	
Elongation yield		Not measured	
Elongation at break		15 %	ASTM D-638
Tear strength		Not measured	
Thermal conductivity		Not measured	
Heat deflection temperature		130 °C	ASTM D-648
Glass transition temperature		Not measured	
Processing information			**Notes**
Viscosity	Part A Part B Mixed	1150 cPs 1000 cPs 1000 cPs	At 25 °C
Specific gravity	Part A Part B	1.20 1.19	At 25 °C
Mix ratio A:B		55:100	By weight
Mixing time		45 s	
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		180 s	100 g at 25 °C
Post curing process		None	
Typical shrinkage		0.2 % to 0.5 %	ASTM D- 2566

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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
- 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

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
  Both 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 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

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

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