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Data sheet: vacuum casting resin 9012

Description			**Simulates ABS**
Features			**Compliant to both Dry and Wet food FDA requirements**
Suitable for			**Dry and wet food use**
Cured properties			**Test / ISO standard where applicable**
Colour		White	
Transparency		Opaque	
Shore hardness	At 23 °C At 60 °C At 80 °C	77 D 74 D 68 D	868
Flexural strength		51 N/mm^2	178
Flexural modulus		1310 N/mm^2	178
Tensile strength		40 N/mm^2	R 527
Tensile modulus		Not measured	R 527
Izod impact		Not measured	180
Yield strength		Not measured	R 527
Elongation yield		Not measured	
Elongation at break		25 %	R 527
Tear strength		Not measured	34
Thermal conductivity		Not measured	BS 874
Heat deflection temperature		90 °C*	(test piece 110 mm × 12.7 mm × 6.4 mm)
Glass transition temperature		108 °C	
Processing information			**Notes**
Viscosity	Part A Part B	1500 cPs 150 cPs	At 25 °C
Specific gravity	Part A Part B	1.10 1.12	At 25 °C
Mix ratio A:B		29:100	By weight
Mixing time		30 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		120 min	
Pot life		360 s	100 g at 25 °C
Post curing process		*4 hr to 5 h at 70 °C gives heat deflection temperature of 90 °C	
Typical shrinkage		0.5 % to 1 %	

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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

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.

Approval for food use can be engineered by observing the FDA standards, including, but not limited to ASTM test methods: D968-81; 21CFR177.1680; 21CFR177.2600. Further details available on request.

Please follow the correct procedure for use in 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.

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