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Data sheet: vacuum casting resin 8891

Description					**Low viscosity flexible rubber**
Features					**Adjustable hardness. Pigmentable.**
Suitable for					
Cured properties					**Test / ISO standard where applicable**
Colour		White			
Transparency		Translucent			
Shore hardness	At 25 °C	20 A to 90 A			
Mixing ratio	Tear strength (N/mm)	Tensile strength (MPa)	Pot life (sec)	Elongation (%)	Hardness (Shore A)
A100:B100:C0	34	17	240	270	90
A100:B100:C20	27	12	200	260	80
A100:B100:C50	20	8	200	230	70
A100:B100:C90	16	6	200	290	60
A100:B100:C120	12	5	220	290	50
A100:B100:C170	10	4	250	310	40
A100:B100:C200	9	3	270	310	30
A100:B100:C300	7	2	360	330	20
Processing information					**Notes**
Viscosity	Part A	470 mPa.s			At 25 °C
	Part B	170 mPa.s			
	Part C	90 mPa.s			
Specific gravity	Part A	1.0			At 25 °C
	Part B	1.16			
	Part C	0.99			
Mix ratio A:B:C		100:100:0 to 300			Parts by weight
Mixing time		30 s to 60 s			
Resin temperature		Part A 40 °C			Heating chamber
		Part B 40 °C			
Mould temperature		70 °C			Heating chamber
Curing temperature		70 °C			Heating chamber
Curing time in mould		30 min to 60 min at 70 °C			
Pot life		200 s to 360 s			100 g at 25 °C
Post curing process					Secondary curing of 24 hrs at 25 °C can be done if required

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Chemical attack data

Attack material and concentration	Weight change ratio		
	Shore A90	Shore A60	Shore A20
Sulphuric acid 10 %	+5.2	+1.6	-4.5
Hydrochloric acid 10 %	+16	+10.2	+2.3
Sodium hydroxide 10 %	+4.1	+3.5	-3.6
Ethyl alcohol	+22	+3.2	-16
Ethyl acetate	+14.9	-7	-28.9
Acetone	+9.1	-11.5	-35.6
Toluene	+36	+16.3	+23.8
Hexane	+4.9	-13.5	-35.1
Tetrahydrofuran	+47.6	+16.8	Swelling: unmeasurable
Water	+6.8	+4.7	-6.1
Brine 10 %	+3.2	+2.6	-2.6
Kerosene	+16.7	+0.2	-20.2
Propylene glycol	+6	+4.8	+1
Vegetable oil *1	+4	-12.1	-31.2
Vegetable oil *2	+4.7	-10.4	-28.2
Silicone oil *3	+3.3	-11.3	-30.1
Gasoline	+21.3	+2.7	-21.1

Notes:

1. Test piece dimensions: 50 mm (1.96 in) (W) × 25 mm (0.98 in) (L) × 3 mm (0.11 in) (T)
2. Dipped for 7 days at 23 °C
3. Wipe up and leave test piece for 2 hours at room temperature and measure data
4. *1 Rapeseed oil, *2 SAE 10W-30 API SL and *3 Dimethyl silicone oil

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Handling procedure

Casting procedure

- Shake unopened parts A, B and C cans vigorously for 10 s to 15 s
- Pre-heat mould in oven to 70 °C
- Coat the mould with release agent
- Pre-heat part A and B cans in oven at 40 °C for 2 hours prior to use
- Weigh parts A, B and C into separate cups, allowing for cup loss (the amount of resin left in cup after tipping)
- Combine parts B and C together into the same cup
- Add colour pigment to cup A if required
- It is preferable to pour part A into part B
- Place filled cups in the machine and attach mixing paddle to cup B
- Start vacuum pump
- Switch on mixer motor
- Pour contents of cup A into cup B and mix for 30 s to 60 s as fast as possible without splashing
- Pour mixed resin into mould
- Place the filled mould in to an oven to cure the resin
- For full instructions on casting procedures refer to **Vacuum casting techniques user guide**, H-5800-0660, available at www.renishaw.com

Special notes

- Exact resin and mould temperature are important
- Use no more than 1.5 % 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**
  Seal opened cans with nitrogen or dry air
  Store out of direct sunlight in a dry atmosphere
  Continuous heating and cooling of component B will accelerate decomposition
  All components are sensitive to humidity and moisture.
- **In case of crystallisation of B-component**
  Place cans in oven at 70 °C for 1 to 2 hours, allow to cool and agitate before use.

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.

H-5800-3396-01

Issued 05.18 Part no. H-5800-3396-01-C