***** Hei-Cast 8571A/8570B *****

1. Overview

Hei-Cast 8571A/8570B is a polyurethane resin material developed for prototype production of PE and PP.

(1) It is highly curable and can be demolding at 60°C for 30 minutes even in thin-walled products.

(2) It does less damage to silicone mold.

2. Basic characteristics

Item		Values		Notes
Appearance	A Component	8571A C	Colorless	Polyols
		8571A BLACK	Black	
	B Component	8570B	Pale yellow turbid	Isocyanates
Product Color		Milky white/black		
Viscosity (mPa･s,25℃)	A Component	800		BM type viscometer
	B Component	300		
Specific gravity (25℃)	A Component	1.12		Standard pycnometer
	B Component	1.18		
Mixing ratio	A:B	100:200		By weight
Pot life	25℃	5 min 45 sec		Resin 100 g
	35℃	4 min.		
Product specific gravity		1.21		JIS K 7112
Demolding Time		30 min.		Mold temperature 60°C or higher (0.5-1mm thickness)

3. Basic physical properties

Item		30 minutes cure	60 minutes cure	Notes
Hardness	Type D	82	84	JIS K-7215
Tensile strength	MPa	49	51	JIS K 7113
Elongation	%	40	30	
Flexural strength	MPa	58	59	JIS K 7171
Bending modulus	MPa	1490	1400	
Impact value	kJ/㎡	14	15	JIS K 7110 Izod V Notch
Shrinkage rate	%	0.4	0.4	In-house standards
Deflection temperature under load	℃	78	83	JIS K 7191(1.80 MPa)
		83	92	JIS K 7191(0.45 MPa)

NOTE) Test specimen curing conditions: Mold temperature 60°C 60°C x 30 min + 25°C x 24 h

Mold temperature 60°C 60°C x 60 min + 25°C x 24 h

This physical property value is representative of our measurements and is not a specification value. The physical properties of the product vary depending on the shape and molding conditions. Please use the product after thoroughly checking it.

4. Vacuum casting method

(1) Pre-degassing

Perform preliminary degassing in the degassing chamber for about 5 minutes.

Be sure to degas only the amount used.

It is recommended to be degassed at 40°C to 50°C of the liquid temperature.

(2) Resin temperature

Keep the component temperature at about 35°C to 45°C for both A component and B component during casting.

If the liquid temperature is high, the pot life will be shortened, and if it is low, it will be longer.

Extremely low liquid temperatures can lead to poor mixing or poor curing.

(3) Mold temperature

Keep the silicone mold temperature between 60 and 70°C in advance.

If the mold temperature is low, curing failure may occur, resulting in deterioration of physical properties.

Also, the mold temperature affects the dimensions of the product, so please manage it thoroughly.

(4) Casting

Set the container so that A component is added to B component.

Stir and defoam the B component occasionally for about 5 to 10 minutes while the working room is evacuated.

Add A component to B component, stir for 40-60 seconds, and quickly pour into the silicone mold and do the leak.

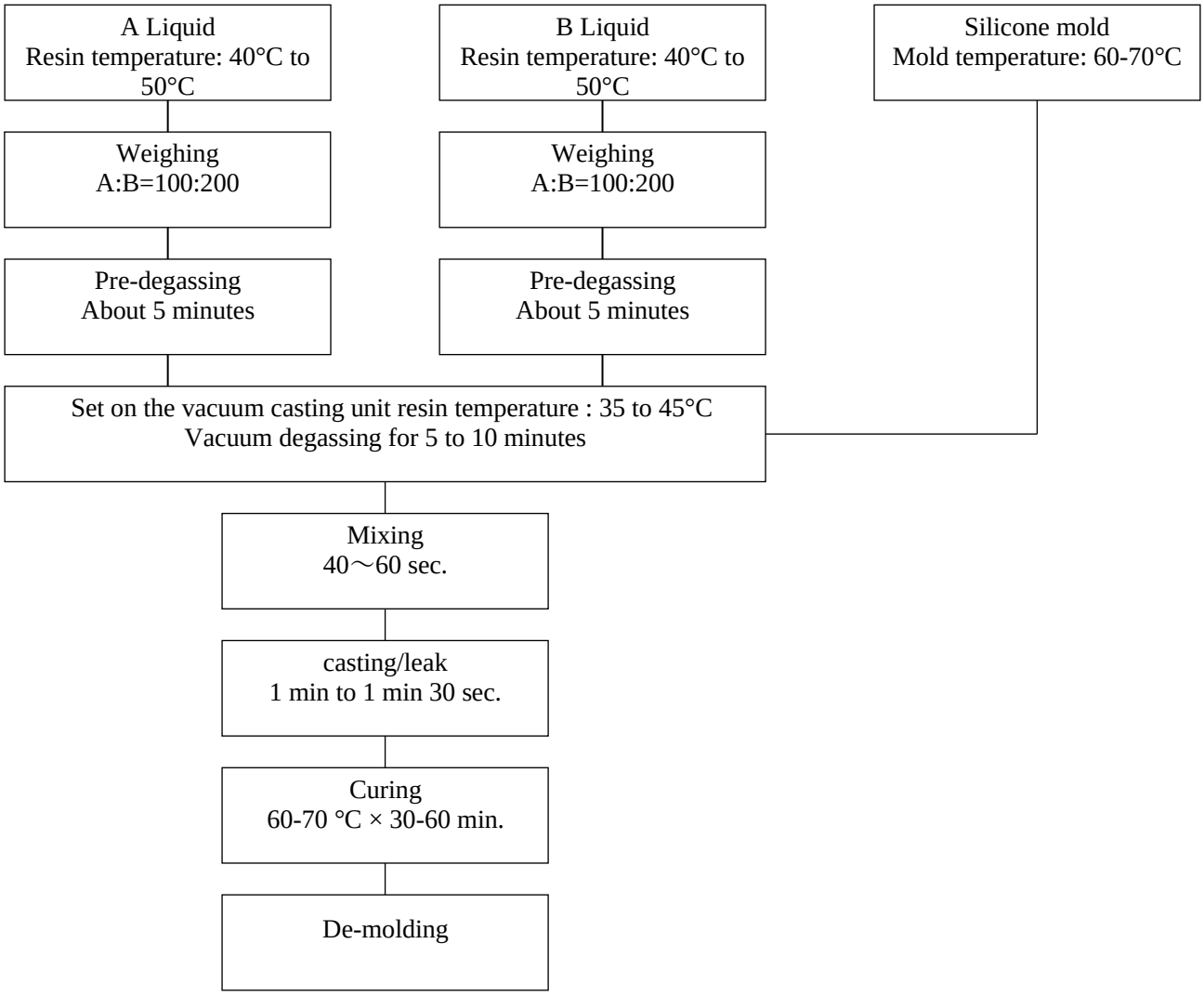
Do the leak in 1 minute to 1 minute 30 sec after starting mixing.

(5) Curing conditions

Place it in a thermostatic chamber of 60-70°C, and then demolding it after 30-60 minutes of curing.

If necessary, perform secondary curing at 70°C to 80°C for 2 to 3 hours.

5. Vacuum casting flow chart



6. Handling precautions

(1) Both A component and B component dislike moisture. Avoid not only water mixture but also long contact with moisture. Always seal them after use.

(2) If moisture gets into A component, many bubbles will be generated in the cured product.

(3) B component may react with moisture and become cloudy or hardened. Do not use such material that is spoiling transparency extremely or hardened, as they may cause deterioration in physical properties.

(4) If B component is stored at 5°C or below for a long period of time, some or all of it may freeze and solidify. Warm the material and dissolve at 60°C to 70°C for 1 to 2 hours. Mix evenly before use.

(5) If B component is heated at 50°C or above for a long period of time, it may deteriorate and the container may swell by internal pressure. When the material which freezes is stored at room temperature, the deterioration will be accelerated. Fully melt and store at 20 to 25°C.

7. Safety and health precautions

(1) B component contains 1% or more of 4,4'-diphenylmethane diisocyanate. Provide a local exhaust ventilation system in the work area and be careful of ventilation.

(2) Be careful not to touch the ingredients directly with your hands or skin. In case of contact, wash

them off immediately with soapy water. Leaving it in contact for a long time may cause rash.

(3) If the ingredients get into the eyes, immediately wash the eyes with running water for 15 minutes and consult an ophthalmologist.

(4) Provide a duct so that exhaust air from the vacuum pump is discharged outdoors without fail.

8. Fire Defense Law Hazardous Materials Classification

A component : Dangerous Substances, Group 4, Class 4 Petroleum

B component : Dangerous Substances, Group 4, Class 4 Petroleum