



Prepolymer HC-8535

1. Characters: Polyether type low hardness products. The advantages of the product are low viscosity, easy for processing, long operating time, and good rebound.

2. Applications: It is mainly used to produce polyurethane elastomer products with general requirements. Mainly it is used for mold adhesive, paper feeding wheels, cushion block gaskets, etc.

3. Product Index:

HC-8535	Unit	Testing Data	Testing Standard
Appearance (20°C)	-	Viscous liquid	
NCO%	%	2.3±0.2	HG/T 2409
Viscosity (at 80°C)	mPa·s	600±100	GB/T 12009.3

This prepolymer should be stored in a low temperature and dry place to avoid moisture, high temperature, etc.

The shelf life of unopened prepolymer is twelve months.

4. Casting Processing Way:

Item	Unit	HK-0089	HK-1070
Pre-heating temp.	°C	70±5	70±5
Pre-heating time	Hour	4~6	4~6
Chain Extender	-	HK-0089	HK-1070
R value	Isocyanates/Chain Extenders	1.05~1.1	1.05~1.1
Mix prepolymers temp.	°C	70~80	70~80
Mix chain extender temp.	°C	25~30	25~30
Ratio	Prepolymer/Chain Extender	4.6	50~55
Casting mold temp.	°C	100	100
Oven temp.	°C	100	100
Pot life	Minute	4~6	8~12
Demold time	Minute	30~50	60~90
Post cure time (100°C)	Hour	12~16	12~16

The above test results are based on a 100g sample molded in a rectangular flat plate.

The demolding time depends on the size and shape of the casting parts. If the product is large or the mold shape is complex, the post cure time should be appropriately extended.



5. Properties of Finished Parts

Item	Unit	Testing Standard	HK-0089	HK-1070
Appearance (25°C)	—	—	Light yellow	Light yellow
Hardness	Shore A	GB/T 531.1-2008	60±5	32±5
Density	g/cm ³ (25°C)	GB/T 533-2008	1.04	1.03
100%Modulus	MPa	GB/T 528-2009	1.1	0.7
300%Modulus	MPa	GB/T 528-2009	2.4	1.6
Strength at break	MPa	GB/T 528-2009	5.2	3
Elongation at break	%	GB/T 528-2009	720	460
Angle Tear Strength	kN/m	GB/T 529-2008	30	12
DIN Abrasion	mm ³	GB/T 9867-2008	98	-
Resilience (Impact rebound)	%	GB/T 1681-2009	64	60

6. Processing way:

- (1) Pre-heat the prepolymer at 70~75°C for 2~4 hours until it is completely melted. Put prepolymer in clean and dry container, heat it at temperature 80~85°C, and degas under the vacuum degree -0.1MPa until no bubbles can be seen from the surface of the materials;
- (2) Control the temperature of the evacuated prepolymer at 70-80 °C, add chain extender, and stir evenly. Pay attention to the operational time; Pigments can be added together with chain extenders;
- (3) Within the operating time, secondary vacuum defoaming can be carried out, and the defoaming time should be controlled to be less than 1 minute until there are no obvious bubbles;
- (4) Inject the mixed material into the pre heated mold coated with polyurethane special release agent, control the mold temperature at 100 °C, and pay attention to avoid getting too many bubbles when pouring. After the bubbles float, use flame to break them; The control gel point that needs to be molded with a vulcanizing press is pressurized before the surface is not sticky but not completely hardened;
- (5) Generally speaking, the larger the product, the longer the demolding time. Please extend the demolding time appropriately;
- (6) After demolding, the product should be placed in a 100 °C oven for further secondary vulcanization for 12-16 hours until the physical properties fully meet the requirements.



7. Notes:

1. Store the prepolymer to avoid moisture, high temperature and light protection; please use it up as soon as possible after opening the prepolymer, and seal it immediately after use; if possible, please fill it with N₂ and seal it;
2. The bonding of prepolymer and metal and other products requires surface treatment and primer coating, please consult the company's technical staff;
3. The prepolymer has a slight pungent odor, the environment should be ventilated as much as possible, and the operation should be protected to avoid spilling or pollution and avoid inhalation.

All technical data and using suggestions provided by our company, and typical values based on our company's experimental conditions and working environment, non- product guidelines. Since we don't well know the users' processing control and the application of finished parts, so it is responsibility and more necessary for users to test the processing way and properties of finished parts, so that to verify whether it is suitable for the user's own process and purpose.