

Pollinator™ Series Cast Polyurethane

Two component polyurethane system for rigid parts

Key Properties

- Excellent physical properties and machinability
- High biobased carbon content by ASTM D6866
- No added mercury, tin, MOCA, or TDI

Applications

- For room temperature or heat cure
- Hand-batch or metered mixing

Liquid Properties

	Units	Side A	Side B
Mix Ratio	pbw	62	100
	pbv	50	100
Density	g/cm ³	1.22	0.98
Viscosity at 77°F (25°C)	cP	650	1,400
		Mixture	
		800	

Cure Details

Pot Life	min	15
Gel Time	min	40
Demold Time	hrs	18
Full Cure Time	weeks	2
Shrinkage	%	1

Physical and Mechanical Properties

Biobased Content	%	Natural (Unpigmented)	<i>Spirulina</i> Blue
		56	56
Appearance	visual	beeswax yellow	celadon green
Color	Pantone	4024C	559C
Shore Hardness	D	78	70
Tensile Strength	MPa	37.9	14.9
Elongation at Break	%	9.85	46.83
Flexural Strength	MPa	1360	531
3pt Flexural Stress	(MPa)	58.61	16.32
Flexural Strain at Break	(%)	18.27	Yield

Processing Recommendations

Storage

Store A and B side bags in a dry, well-ventilated place away from high heat, flame, and direct sunlight. We recommend storage between 70-90°F (18-32°C). If the A or B side bags are stored at temperatures below 70°F, then ensure they have sufficient time to warm to 70°F before use. Protect A and B side bags against physical damage and humidity. All liquid polyurethanes are moisture sensitive and will absorb atmospheric moisture; store and use in a low humidity environment (below 50% RH).

Preparation

Clean and dry all tools and surfaces before using. Before handling A and B side materials, wear safety glasses, long sleeves, and gloves to minimize skin exposure. Partially used containers should be tightly resealed and used as soon as possible. Dispose of used containers appropriately.

Mixing, Measuring, and Pigmenting

Mixing, measuring, and pigmenting should be conducted in a well-ventilated area. If working indoors, wear a respirator rated for organic vapor.

When you first handle the kit, the contents of the B Side bag will be visibly separated. This is normal. To resuspend, massage the B Side bag. Slosh, shake, and agitate the bag until the material is no longer separated and is uniform in color. This should take about two minutes of vigorous agitation. Keep going until all sediment is suspended.

If Pigmenting:

Add pigment or colorants to the B side. Mix thoroughly.

Combine A and B sides in a mixing vessel at the ratios indicated by weight or volume.

If mixing by hand, work with final amounts <300 mls. Stir the A and B sides together for at least 1 minute.

For >300 mls, we suggest mixing with a hand drill using a small paint mixer.

Additional Processing Details

Demolding Time & Initial Cure: For most applications, room temperature curing at 73°F (23°C) for 18 hours is adequate. Low mass or thin-walled castings will take longer to cure than castings with higher mass concentration.

Full Cure: Most castings will reach ultimate physical properties at room temperature in ~7 days.

Performance - Cured castings of the Pollinator Resin are rigid and durable. They resist moisture, moderate heat, solvents, dilute acids, and can be machined, primed/painted or bonded to other surfaces (any release agent must be removed).

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For Questions or Quotes

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