



Product Datasheet

Urethane Elastomer System

BC8321

Version: 021014

Applications

BC8321 is used to make soft molds of detailed masters that contain deep undercuts. Some of the most common uses are concrete form liners and to make molds for point-of-purchase displays, rapid prototypes, special effects, taxidermy, and sculpture reproductions. BC8321 Softener Part C can be used to reduce the hardness below 10A.

Characteristics

BC8321 is a two-part polyurethane molding system. BC8321 is mixed one-to-one by volume (or **100 Iso Part A** to **98 Curative Part B** by weight) and cures at room temperature. BC8321 contains no fillers and cures to a soft (Shore A19 ± 2), dark purple rubber.

Instructions for Use

Prepare Master and Mold Housing

First, clean and dry your master thoroughly. If the master has a porous surface (clay, concrete, plaster, etc.) or is made of sulfur-based clay, you must seal it. You can use polyurethane varnish, polyurethane sealant, or paste wax to seal your master. Next, anchor your master and seal the base so that BC8321 does not leak under your master. A hot glue gun works to anchor and seal the base at the same time. Also, you should seal all of your mold housing connections with sulfur-free clay or hot glue. Then, apply an appropriate release agent to the master and interior of the mold housing. A silicone-based release is recommended, but always test before use. Apply release agent sparingly, while coating all surfaces of the master. Too much release agent may cover the details of the master or pool in low spots. You should allow the release agent to dry thoroughly before pouring your mold.

Measure Iso Side A and Curative Side B

Note: BC8321 provides approximately 30-35 minutes for you to mix and pour the mold before it begins to gel.

Make sure that Iso and Curative are at room temperature before mixing them. Please note that in cold weather it may take up to 24 hours for the Iso and Curative to reach room temperature. Using two clean, dry, plastic containers of equal size, measure equal volumes of the Iso Part A and Curative Part B.



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Mix Iso and Curative

After you prepare the master and mold housing and measure the Iso and Curative, you are ready to pour the Iso and Curative into another clean, dry, plastic mixing container. Scrape the Iso and Curative containers to move all of the material into the mixing container. Combine the two ingredients for several minutes until no color striations are visible. Be sure to scrape the sides and bottom of the mixing container while mixing the two ingredients. You must mix the Iso and Curative completely so that BC8321 will cure correctly. If air bubbles form during mixing, you should vacuum degas the mixture for several minutes to remove them.

Pour Mold

To ensure that no air bubbles form over the details of your master, you can brush a thin base coat onto the master and then pour the rest of the mixed BC8321. The best way to pour a mold is to tilt your mold slightly and pour into one spot at the corner of the mold, allowing the material to cover your master slowly like the flow of lava. When you have finished pouring the mold, you may lightly spray release agent on the top of BC8321 to break any air bubbles that have risen to the surface.

Demold and Cure Mold

Once you have poured your mold, allow the mold to cure 16 hours before demolding. To prolong the life of the mold, allow it to cure for 3–4 days before use.

Properties:

The following table lists the properties of the Iso, Curative and Softener of BC8321 before they have been mixed.

Property	Iso Part A	Curative Part B	Softener Part C
Color	Clear to Light Amber	Dark Purple	Clear
Mix Ratio by Weight	100	98	variable
Mix Ratio by Volume	1	1	variable
Shelf Life	6 Months	6 Months	12-months
Specific Gravity @ 75° F (24° C)	1.02	0.99	0.98
Density @75°F (24°C)	8.50 lb/gallon	8.25 lb/gallon	8.20 lb/gallon
Viscosity @ 75° F (24° C), CPS	700	400	140



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Mixed Iso (Part A), Curative (Part B)

The following is a list of the properties of BC8321 after the Iso and Curative have been mixed. Note that BC8321 Softener Part C has been formulated to not adversely affect the pot life or gel time.

Property	Time	Temperature
Mix Time*	1-2 Minutes	75° F (24° C)
Pot Life (working time)*	30-35 Minutes	75° F (24° C)
Gel Time*	45 +/- 5 Minutes	75° F (24° C)
Cure Time*	24 Hours	75° F (24° C)
Demold Time*	24 Hours	75° F (24° C)

*Mix time, pot life, gel time, cure time, and demold time vary depending on mass and component temperature.

Cured BC8321

The following table lists the general properties of BC8321 after it has cured.

Property	Cured Product Part A + Part B	Cured Product Standard mix + 50 pbw Part C *
Color	Dark Purple	Dark Purple
Elongation, %	>1000	>1000
Shore Hardness	A19 ± 2	A14±± 2
Tear, Die C, PLI	70	60
Tear, Split, PLI	14	14
Ultimate Tensile, PSI	260	150

*100 parts Part A, 98 parts Part B and 50 parts Part C.

Storage and Handling

Keep the BC8321 Part A and Part B containers tightly closed when not in use and store at temperatures between 70–80° F (21–26° C). Do not expose the Iso or Curative to moisture! If moisture contaminates BC8321 components, it will not cure properly. If these storage requirements are met, BC8321 carries a shelf life warranty of six months in original unopened containers.



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Be sure to read the *Material Safety Data Sheets* that come with BC8321.

When working with this material please observe the following safety precautions.

- Wear safety glasses, chemical-resistant rubber or plastic gloves and an apron.
- Avoid contact with skin.
- In the case of skin contact, wipe affected area with isopropyl alcohol, followed by thorough washing with soap and water.
- In the case of eye contact, flush eyes with water for 15 minutes and consult a physician.
- If swallowed, drink one to two glasses of water and seek medical attention immediately.

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