ALUMILITE Technical Data Sheet

Amazing Clear Cast

80D Clear Epoxy

Product Description:
Alumilite's Amazing Clear Cast is a clear casting and coating system that cures to a rigid, durable, clear plastic. Use Amazing Clear Cast for coating or finishing applications such as bar tops, floors, taxidermy scenery, lenses, and all sorts of other clear casting or coating applications. Amazing Clear Cast is an easy to use, 1:1 mix ratio system that cures overnight which allows time for air bubbles to evacuate prior to curing. Amazing Clear Cast can be colored with Alumilite dyes, alcoholic inks, or other non-water base colorants. Complies with FDA CFR 177.2600

Physical Properties:

Color	Clear
Mixed Viscosity (cps)	2,600
Hardness, (ASTM D-2240) Shore D	80
Specific Gravity	1.08
Shrinkage (in/in)	.003
Tensile Strength (ASTM D-638) (psi)	8,000
Elongation (in/in)	1-3%
Heat Deflection (ASTM D-648) (Degrees F)	N/A
Izod Impact (ASTM D-256) (lb/in)	2.26
Compression (psi)	27,000
Temperature Resistance	Not recommended beyond 130°F

General Properties:

Color	"A" Side	Translucent Lt Blue
	"B" Side	Clear
Mix Ratio		1:1 by vol.
Shelf Life		1 year
Open Time at 75 Degrees F (100g mass)		45-60 minutes
Demold Time at 75 Degrees F (100g mass)		18-24 hours
Full Cure Schedule		72 hours

Packaging: 8, 16, 32 fl.oz.
2 gal
10 gal
Drum Kit

General Instructions

(See Bar top Coating Instructions Below)

Before Starting
Make sure your work area is appropriate for measuring, mixing, and pouring casting resins that can and will stain any porous materials such as carpet and clothing. Also make sure to use and store materials in an area where children cannot reach or access.

Open time & Mixing
Amazing Clear Cast has work time of 30-40 minutes based on 100 gram sample at 70°F. Larger amounts of mixed resin will shorten your work time as will warmer ambient temperatures. Mixing large volumes similar to 1 gallon volumes, you can expect the open time to be cut in half.

The mix ratio of the Amazing Clear Cast is 1:1 by Volume. Using a graduated mixing container, measure out equal parts per side. Varying the mix ratio will alter the cure and change the physical properties in a negative ways such as tackiness or uncured surfaces. When mixing multiple batches, it helps to have a dedicated side A and side B measuring cup, which are then added to a larger mixing container. After the materials have been poured together, mix thoroughly (keeping the stir stick in contact with the bottom of the cup - reduces air from being introduced into your resin) for approximately 3-5 minutes. Make sure to scrape the sides and the bottom of the mixing cup and continue to mix until no swirls are seen. Once no swirls are seen, mix for an additional 2 minutes. Because of the differences in viscosity between the two parts, mixing takes extra time.

Vacuum Degassing
For instances where large surface areas are being coated and drill mixers will be used for mixing, vacuum can be used to remove air from the resin before pouring onto surface. Vacuum puts negative air pressure on the material and expands the air bubbles to a large size which gives them the buoyancy to float to the top and pop. Once mixed thoroughly and placed under vacuum, the air bubbles will come up and then go back down. Once the bubbles go back down under full vacuum and begin to clear up, you may remove the mix container from the vacuum chamber and pour onto surface

Color – Dyes & Painting
Amazing Clear Cast can be dyed or pigmented using non-water base dyes. Alumilite offers a line of translucent dyes in standard colors that react/crosslink chemically with the resin to achieve beautifully translucent cast pieces with no worry of leaching or color ever coming out of the cured piece. Alumilite's Flourescent, White, and Black are not completely transparent as they contain some filler. When used in small quantities, they do not affect the transparency of the piece. However, if used in higher percentages, they can add opacity to the cast piece. Use very small amounts of dye to achieve bright translucent colored castings. If you are looking to use a dye, pigment, or filler that you have not used before, we highly recommend making a small test sample to ensure compatibility before using in resin.

Color Stability - Yellowing
As with all epoxy chemistry, ACC will develop a yellow hue over time. While there are UV inhibitors in our system that help it resist longer than some competitor products, a yellow hue will still develop over time. Many times this is not ever noticed based on the underlying surface color and the relative thin layer. Applications where ACC is applied over bright white surfaces or when pouring thicker layers, yellowing may be more evident. We generally do not recommend ACC for outdoor applications, as the UV exposure will cause the resin to develop a yellow hue rather quickly . There are some instances where it may be reasonable such as adding Alumilite dye or Alumidust to color the resin, which often times negates or minimizes the yellowing. Also applying it over certain toned wood surfaces that have more yellow and orange hues to it would make the yellowing less noticeable.

Shelf Life
ACC has a shelf life of 1 year. Once ACC is opened, this time can be shorter based on moisture contamination from humidity. Amazing Clear Cast B side will naturally yellow over time and when exposure to air. While this can cause a yellow hue to cured coatings, it does not have an effect on the ultimate cure of the product.

Work Area & Clean Up
Cover any surfaces including floors with plastic sheeting, cardboard, or plywood to prevent damage from spilled resin. To clean up unmixed or still liquid material, use rubbing alcohol on a rag or paper towel to quickly clean and remove. Once cured, resin is extremely durable, chemical resistant and nearly impossible to remove.

Bar top Coating Instructions

See next page.

Bar Top Coating Application Instructions

Products used in this application:

* Amazing Clear Cast
* Measuring & Mixing Containers
* Strong & Flat Ended Stir Stick
* Plastic Drop Cloth
* Latex-free Gloves, protective Eyewear
*Paper Towel
* Aluminum Tape
*Good Quality Disposable 2 inch Paint Brush or Foam Applicator
* Propane Torch or Fine Mist Spray Bottle with Isoprolyl Alcohol
* Cutting Blade or Palm Sander

ALUMILITE
Mold Making & Casting Materials
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Amazing Clear Cast Resin

Open Time: 30-40 min*
Cure TIme: 24-48 hrs*
Approx. Coverage: 2 gallons of mixed Amazing Clear Cast = 26 sq.ft. in a 1/8" thickness
(*Open time & cure time schedule will vary based on temperature and humidity)

- ***Read all instructions & safety information prior to use.***
- ***Available in 2gal, 10 gal, or 110 gal kits***
- ***FDA CFR 177.2600 Compliant***

****Not Recommended for Outdoor Applications****

SURFACE SEALING: The level of surface prep will depend on the surface being coated. For wood surfaces, we recommend using a sealer such as Mod Podge, which goes on white but dries clear or you can also apply a skim coat of Amazing Clear Cast to the surface 4-6 hours prior to your flood coat. This seals porosity and reduces the amount of air bubbles that can rise out of surface. If any crevices, knots, or holes exist, they should be pre-filled with Amazing Clear Cast and allowed to cure prior to surface coating. Deep or large crevices may require multiple pours of no more than 1/2 inch per pour.

Encapsulations: If encapsulating photos, Mod Podge should be used to glue photo down during the sealing process and should also be coated over top of picture to prevent bleeding of the photo. Remember Mod Podge dries clear and wil not effect the clarity of the picture once coated with Amazing Clear Cast. When encapsulating anything porous, always seal with Mod Pog. Any light items need to be glued down to prevent them from floating to the surface. If you think it might float, glue it down with super glue or clear hot melt glue.

Note: When pouring Amazing Clear Cast over a surface, any gaps, holes, or crevices will be filled with resin. To prevent using excess resin that will flow into, around, and under these areas, we recommend sealing these up with a clear silicone caulk, clear hot melt, or Alumilite Synthetic Clay that will fill these voids.

When to use Aluminum Tape: Most table tops and even bar tops do not contain a lip or border to contain the resin. Aluminum tape allows you to create a temporary dam to contain the resin until it thickens slightly to achieve a thicker & uniform coating when flowing over the edge. The tape can also be left in place during cure if edge coating is not desired, although the inside of the tape must be coated with Alumilite Rubber to Rubber mold release to prevent bonding to the resin. Sharp edges that are formed when the Amazing Clear Cast cures can be sanded, trimmed, or routed to a smooth finish. These edges can be polished to return gloss if desired or a light coat of resin brushed on.

Note: Un-level surfaces can cause resin to pool and ultimately use more resin. In some extreme cases, a uniform coating will not be achieved resulting in thin and thick areas. Pooling resin will create pressure on the tape that can cause the tape to release prematurely. To prevent this, apply tape to a clean surface and press firmly to form a good bond. A supporting piece of trim could also be applied on the outside perimeter to support the tape.

Environment: Prior to pouring your Amazing Clear Cast, thoroughly vacuum the surface and the room where the resin is being applied. Dust in the environment can become air-born and settle onto the surface of the resin. Temperature of the room, surface, and resin will effect how the resin self levels and ultimately cures. Ideal application temperature is 70-80°F. If resin is cold, place resin bottles with caps tightened into a sink or bucket filled with warm water for 10-20 minutes. Temperature of resin should within the 70-80°F range as well. Protect floors/environment with plastic sheets.

Coverage & Application Thickness: A thick coat such as 1/8" thick coating per 1 square foot requires 10 fl oz of volume. This is a good volume estimate to use for your coating project however it does not consider uneven surfaces, edges, absorption, or waste. A thinner coating such as 1/16" will require half the volume per square foot (approximately 5 fl. oz.). Therefore, an approximate coverage of 1 gallon of mixed Amazing Clear Cast is 13 sq.ft. in a 1/8" thickness or 26 sq. ft. for a 2-gallon kit at the same thickness.

Application thicknesses greater than 3/8" in a single pour may shrink, discolor, pull away from surfaces, and/or warp. Where thicker coatings are desired, it is recommended to pour multiple coats. Additional coats can be applied no sooner than 3-4 hours and no longer than 12 hours for optimum adhesion.

Measuring & Mixing: The Amazing Clear Cast has a mix ratio of 1:1 by volume. Therefore use measuring cups with graduations on the side or make your own fill line at the same level on each measuring container. In separate containers, measure out equal amounts of Part A and B. Combine both sides into a large mixing container that has a flat bottom and flat sides to adequately mix resin. Begin mixing resin slowly, ensuring to scrap the sides and bottom. You should also scrap off your stir stick on the lip of the mixing container to dislodge any unmixed resin from the stick. Continue stirring slowly, not to incorporate any more air into the system as possible. Once all striations have dissolved, mix for another 2-3 minutes to ensure adequate mixing. Note: Failure to mix 1:1 by volume or mix thoroughly will result in tacky/soft spots and/or cause the resin not to cure properly.

Vacuum Degassing (if available): Once Amazing Clear Cast has been thoroughly mixed, if you have vacuum degassing equipment, we recommend degassing prior to pouring to minimize air bubbles. If you do not have this equipment, proceed to next step.

Pouring: Once you have properly mixed Amazing Clear Cast, you are ready to pour. Slowly pour resin onto the surface going from side to side (or in a circular pattern if pouring onto a circular shape). Pour strips of resin close enough so that they will self level into one another. If you have areas that do not flow together, simply pour more material in area. Continue this process of mixing and pouring until project has been fully coated. For large applications, it is helpful to have one person measuring and mixing while a second person is pouring and keeping an eye on the surface.

Recesses or encapsulations: Areas of recess or encapsulation should be filled very slowly and poured first. Watch for trapped air bubbles in corners, in the detail of objects, etchings, carvings, or crevices. Ease them out by using a tooth pick or other pointed instrument. Do not pour second coat until 3 or 4 hours later.

Note: We recommend turning off furnaces/fans/air conditioners as long as possible until product has fully cured. This reduces the amount of dust circulating in the air that can settle onto the surface. This may not be possible in cooler/winter climates as a minimum room temperature of 70°F should be maintained to assist with curing.

Popping air bubbles: Amazing Clear Cast cures slowly to allow air bubbles to rise to the surface and pop. To help pop them at or near the surface, you can spray a mist of isopropyl alcohol (93%) over the surface during the first hour after application. You can purchase a fine mist spray bottle under Tools & Equipment. Another option is waving a a propane torch over the surface. The flame should never come in contact with the resin, only the heat from the torch. Do not use alcohol in conjunction with a propane torch or the presence of any flame or ignition source!

Edges: For those that choose not use use tape, pour enough resin onto surface to allow resin to flow over the edges to coat them. A good quality disposable or foam applicator can be used to distribute resin over the surface of the edges. We recommend brushing in one direction only. Excess material may continue to fall from the edge onto the protected floor. A brush or foam applicator can be used to remove excess material from the under edge as well. Painters tape can be used on the underside if resin is not wanted on this area, although it must be removed once resin stops flowing or it may bond to surface.

Aluminum Tape: If Aluminum tape was used, the tape can be removed when resin has thickened slightly, but still flows. Again, use a brush or foam applicator to assist in uniform coverage and removal of excess resin if needed.

Cure: Amazing Clear Cast cures in 24-48 hours. Thinner layers will cure more slowly than thicker layers. As a general rule, the warmer the room, the quicker it will cure.

Removing Drips: Drips off edges can be easily removed with a sharp blade once resin has solidified, but not totally hardened. This usually occurs in 6-10 hrs. If the resin has fully cured and is too hard to remove with a blade, a palm sander can be used. This will create dust, therefore make sure that entire resin surface is completely cured/tack-free. In addition, use a shop vac to collect residual dust during sanding and cover newly pour surface if possible.