✓ TopMark Products
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TOPMARK WATERCLEAR TIPS

MOULDS

All BJB WC series products produce most optimum results when cast into platinum based (addition cure) silicone moulds. Some clients have had success in casting the 80 Shore D water clears (never any of the lower durometer products) by baking out their tin based systems overnight at 66°C or utilising a well aged mould. This allows the methanol that causes the inhibition to dissipate.

For best results from silicone moulds, we recommend allowing the mould to fully cure, rinsing the mould in a light solutionof dishwashing detergent and warm water, then rinsing well with warm water anddrying well before casting. Avoid scrubbing the mould as it could affect the surface detail on your mould.

Other mould mediums may be utilised but keep in mind that the surface of the mould will be duplicated. You cannot obtain a glossy part from a rough mould. It is also important to remember that keeping the mould and WC temperatures close to each other will help eliminate inhibition and chill marks.

RELEASE

Most mould releases will cause fogging or clouding of the part surface with the WC series. We have seen excellent surface clarity when using J-Wax. We recommend that testing be done prior to any application of a release agent.

VACUUM vs PRESSURE

While both of these processes work well separately for eliminating air bubbles in the part, using both will often produce the best results. Vacuum will generally eliminate 97% of the air and low pressure of 40-60psi can diminish the remaining amount.

VACUUM

When using vacuum it is best to de-air the material after mixing parts A&B together before casting the part. In most instances you will see the material continue to

bubble under vacuum. An easy rule of thumb for pulling vacuum is to mix A&B, pull vacuum, break, wipe sides with a stir stick, and pull vacuum again. This should break the surface tension and eliminate continued bubbling. We offer AF4 for assisting in de-aeration during vacuum.

PRESSURE

Generally using 50-70psi works best when using pressure without utilising vacuum first. It is important to add pressure gradually when using silicone moulds. Putting the pressure on too fast will very often distort the mould. When using pressure it is important to take temperature into consideration. The temperature in most pressure tanks is less than 25°C and will often cause the material to cure slowly or to inhibit a through cure, especially if cast in a thin section. We try to recommend that the client utilise a heater band on the pressure vessel when possible.

CURING

The flexible water clear products can be cured with elevated heat for a faster demould times. However, heat curing has proved to compromise the finished physical properties - mainly tear strength and elongation. Slightly elevated temperatures (26-30°C) will assist in giving thin section a "kick" for curing but any addition temperature would be detrimental to the finished properties.

POLISHING

Everyone has their own method and what works for one person doesn't always work for another... This is what works for TopMark Products:

1. Wet sand the part with 600, 1500, then 2000 grit wet/dry paper.
2. Buff the part with Schlegel #1 buffing pad and 3M Perfect-it rubbing compound #05973
3. Finish with Schlegel #2 pad and 3M Perfect-it foam polishing glaze #05996

TROUBLE SHOOTING TIPS

Surface is Tacky:

1. Did the part see adequate amount of time in the mould?
2. Was a tin based silicone mould used?
3. Were thin walls (3mm or less) given a "heat boost"?

Part is Foggy:

1. Was it cast cold (under 25°C)?
2. Was a suspicious release agent utilised?
3. Was another material cast into the mould before the WC?

Shrinkage:

1. Was the part cast in a two-part mouldwith risers?
2. Was part mass cast without risers?

Part Shatters from Mould:

1. Was the mould cold when the part was cast?
2. Was the material preconditioned (warmed)?
3. Was the part left in for full-recommended time before demoulding?

Optimal results occur when the material is processed and postcured as stated on the technical data sheet, especially when the cast is done in a thin wall section. Casts done 3mm or less will require slight temperature increase to promote internal exotherm.

Clear casts that come from a mould looking "cloudy or hazy" have most likely been cast at a lower than ambient temperature (25°C), have been cast in a mould that has not finished curing, or has been used with a release that would cause the cloudiness. Determine temperature of materials with a thermometer, not the thermostat for your room!

Shrinkage will occur with large cast parts, even when utilising the longer work life materials in thicker masses. Closed moulds with feed gates are highly recommended in these applications.

The WC series of polyurethanes can all be tinted to translucent colours or pigmented for opacity.