



## **TorZo Fabrication Guide: Orient, Durum, Hemp**

### **Material Composition and Handling**

All TorZo products, including Orient, Durum and Hemp are infused with an acrylic resin material that can be cut, machined and sanded with standard tooling. Even with this infusion process, material composition is still between 50-75% cellulose based.

Similar to other surface materials, including wood, rock, granite, and all other 100% acrylic resin based materials, TorZo recommends the fabricator wear a dust mask to prevent inhalation of any fine particles generated during the fabrication process. The MSDS is available online at [www.torzosurfaces.com](http://www.torzosurfaces.com) or can be provided by the distributor.

Material should be kept flat at all times, with a top and bottom cover sheet, to prevent the introduction of “bowing” to the panels.

Material should be kept clean from particles that could cause small nicks or scratches to the material surface during the fabrication process, and/or be included into a surface coating if coating is to be conducted post fabrication.

Material should be kept from all contact with water prior to fabrication. This will prevent any discoloration or warping due to water spot damage.

### **Material Properties**

All boards are sanded to 220+ grit and have a tolerance of +/- 1/5,000 inch. Hence material thickness is relatively uniform.

TorZo materials can have a certain amount of flex associated with the sheets. It is recommended when fabricating tabletops and countertops with the thinner materials that the fabricator glue the material to a 3/4” plywood or MDF template backer board in order to insure a flat surface.

The Orient, Durum and Hemp surface panels have gone through a UV fill and sand process, to fill the voids associated with the raw composite board materials used for our products. **It is important to have a full fill finish to provide maximum protection of the surface.**

## **Cutting**

Material can be cut using standard carbon tip blades. Avoid feeding the material too fast to prevent binding or too slow to prevent burning.

## **Machining**

Material can be routed using standard carbide router tips. Material can be hand routed or routed on a C&C machine. Also, standard V-groove units with carbide tips can be used for drop edge applications.

Following the fabrication process the material should be sanded (see below) before the coating process.

## **Sanding**

We recommend that the material be very lightly sanded using a random orbital sander to a 320 grit finish. This will fully eliminate sanding marks left by the belt sanding process.

Care should be taken **NOT** to over sand the ***Orient, Durum*** or ***Hemp*** material. If too much material is sanded off, then the filler material that has been processed into the material to fill voids during a manufacturing step will be removed resulting in surface cratering.

If material has been over sanded, no amount of sanding will eliminate or remove the voids associated with the material.

## **Gluing**

Due to the water resistance of the material, the manufacturer does not recommend any moisture cure adhesive.

TorZo recommends using a solid surface epoxy or like product for edge gluing, including mitered edging, or seaming applications. Gorilla Glue polyurethane adhesive or like products will also work well. Titebond II-III type adhesive products will also work but you need to allow for the longer dry times

TorZo recommends using a backer board for all horizontal applications using Orient, Durum and Hemp product. Liquid Nails, contact cement or a silicon adhesive will work great for horizontal application. Willamette Valley has a zero VOC adhesive similar to Liquid Nails called Extreme. This product works equally well.

## **Mitered Edge Application**

All TorZo Surfaces surface products are capable of incorporating a mitered edge technique. CNC machines are great for this application, especially for larger jobs.

A clear solid surface 2-part epoxy system can be used to glue the drop edge pieces together. The clear epoxy system actually takes on the color of the panels being glued and thus eliminates or minimizes glue lines. Gorilla Glue polyurethane adhesive or like products will also work.

### **Under Mount Sealing/Installation Instructions**

Currently, TorZo Surfaces **does not recommend** the **Durum** product line for under mount sink applications. The porous nature of the material core makes the sealing of the exposed edges in water environments very tricky and difficult. TorZo Surfaces recommends top mounted sink applications instead for the Durum product line.

### **Sink & Faucet Sealing/Installation Instructions**

For undermount sink applications, it is important to fill the exposed edges with a clear, or best color match epoxy. Then sand smooth and coat with the same sealer and top coat system that is being applied to the surface.

Installing a top sink mounted bowl would be identical to installing the faucet. After cutting out the hole with the appropriate size cutting bit, apply a liberal amount of silicon caulking on the exposed edge and then install the sink bowl, faucet, etc

### **Seaming Application**

The Orient, Durum and Hemp surface products can be seamed. For seams finished in the fabrication shop, and using the recommended backer template, simply glue the two edge faces together using a solid surface epoxy that best matches the TorZo color product being used. Because of their “busy” look the seamed area will hardly be noticeable.

For cases where the seaming will be done at the installation site, then TorZo recommends using a “dry” seam technique. For these situations, TorZo recommends using a “dog bone” clamp assembly, similar to what is used for prefab counters tops, can be used to butt the edges up. After fabrication is complete, bring the edges together without applying any adhesive to the edges, sand the seamed area smooth and then complete the sealer and top coat spray coats. Once the fabricated piece has dried, it can be transported to the installation site in pieces and assembled on site.

### **Finishing**

As mentioned above, it is important, especially for horizontal applications, to provide a full fill finish in order to maintain maximum protection of the surface. If any voids (pits) exist after spray coating the piece, then re-sand the coating and fill these areas using a best match epoxy filler, wood filler or a mix of super glue and residual dust from the Orient/Durum/Hemp product itself. Apply directly into each void before applying the sealer and top coat system.

TorZo recommends a minimum of two top coat applications for high wear applications such as countertops, vanities and tabletops. TorZo recommends using any conversion varnish, lacquer or polyurethane coating that has good hardness and durability.

If dealing with a larger number of voids related to over sanding, the fabricator can follow the void fill instructions outlined in the Tiikeri/Seeta fabrication guide. This includes using either a polyester fill and seal coat or a 2-part epoxy clear polymer system before applying the top surface coat. TorZo has tested two different polyester products which are listed below, and one 2-part epoxy polymer system, all of which have been listed below. The advantage of the 2-part polymer system is that it is a zero VOC product which is great for LEED based projects, and is readily available. Note; there may be other like systems that work equally well.

Before applying any coating, it is important to lightly sand and wipe the material clean with a damp rag using mineral spirits. This will remove residual sanding dust and other type particle. Typically, polyurethanes, conversion varnishes or lacquers can be used as the top coat.

***Polyester Fill and Seal products***

Sherwin Williams – PU-386 polyester basecoat

Lorchem – Polyester basecoat (low VOC)

***2-Part Epoxy Polymer system***

Environmental Technology Inc. – Crystal Sheen

**Note:** In order to ensure product performance, TorZo Surfaces requires a single coat spray application for the back or underside of any fabricated projects. The reason for this is two fold: During our manufacturing process, we make sure to keep the boards balanced. What we do to one side, we do to the other. This includes the sanding step as well as the fill and sand step, when applicable. Second, the idea is to seal all six sides, regardless of the application (low wear vertical or high wear horizontal).