



TorZo Fabrication Guide: Hemp

Material Composition and Handling

All TorZo products, including 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 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 transaction tops, tabletops or countertops with the Hemp panels that are $\frac{1}{2}$ " or thinner, that the fabricator glues the material to a $\frac{3}{4}$ " plywood or MDF sub-deck in order to insure a flat surface.

The Hemp panels have gone through a UV fill and sand process in order to fill surface voids associated with the raw hemp board. This helps simplify the fabrication process, especially for horizontal applications **where it is important to have a full fill finish to provide maximum protection of the surface.**

The Hemp panels have been balanced; meaning what processing has been done to one side has been done to the other. Both sides have been sanded and have the fill/sand step. This allows either side to be selected as the good side.

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 lightly sanded (see below) before the coating process.

Sanding

We recommend the Hemp material be sanded using a random orbital sander to a 220-320 or higher grit finish. This will fully eliminate sanding marks left by the belt sanding process.

Care should be taken **NOT** to over sand the Hemp material. If too much material is sanded off, then the filler material used to fill surface voids will be removed, resulting in the reintroduction of surface voids.

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

Gluing

TorZo recommends using a solid surface epoxy or like product for edge gluing, including the mitering 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

As stated above, TorZo also recommends using a $\frac{3}{4}$ " sub-deck for all horizontal applications using Hemp panels that are $\frac{1}{2}$ " or thinner. Liquid Nails, contact cement or silicon adhesive will work great for horizontal applications.

Mitered Edge Applications

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 similar products will also work.

Sink & Faucet Sealing/Installation Instructions

TorZo Surfaces **does not** recommend the Hemp product line for sub-mounted sink applications due to the coarse core of this agricultural based composite material.

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

For cases where the seaming will be done at the installation site, a dry seam technique is recommended. For these situations, TorZo suggests using a dog bone clamp assembly; similar to what is used for prefab counters tops. 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 topcoat 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 **imperative** for horizontal applications to have a full fill finish in order to maintain maximum protection of the surface. Though TorZo does include a fill/sand step to the manufacturing process, **there may still be a few surface voids that need to be filled for horizontal applications**. These minor surface voids can be filled using any type of “best color match” wood filler or solid surface epoxy.

TorZo recommends a minimum of one sealer coat and two topcoat applications for high wear applications such as transaction tops, countertops, vanities or tabletops. **TorZo recommends using a conversion varnish or polyurethane type coating that has good hardness and durability for high wear applications**. For low wear applications such as casework, a lacquer finish will work just fine. .

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.

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).