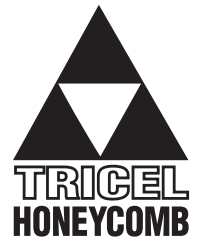
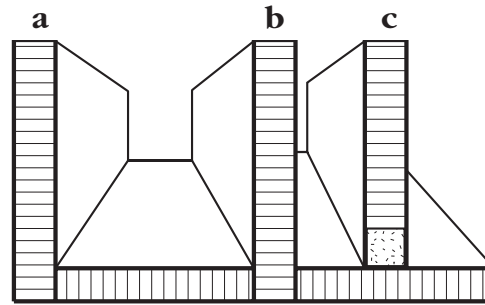


# Tripnel Marine Technical Bulletin



**Figure 1**

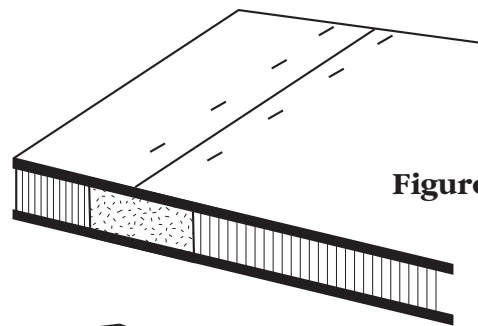
Cabinet joints can be accomplished by four methods: a) rabbet one panel to the proper thickness of joining panel and epoxy joint b) dado to thickness of joining panel and epoxy in place c) epoxy in place a cleat and rout the core out of adjoining panel to proper depth and epoxy in place. Another method not shown (corner connection) is to rout both panels, install blocking, fastening panels together by preferred method.



**Figure 1**

**Figure 2**

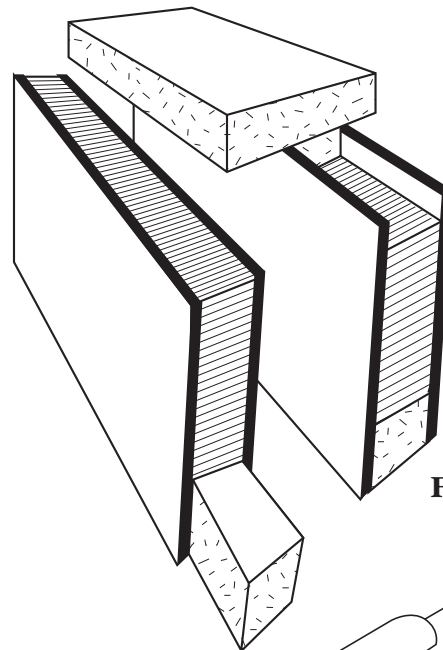
To join two panels, as in bulkhead applications, rout the core from both panels to be joined to a minimum depth of the core thickness. Install and epoxy in place a solid wood spline, sized to the core thickness and two times the core thickness wide. Use staples as shown for clamping pressure and remove staples once epoxy has cured.



**Figure 2**

**Figure 3**

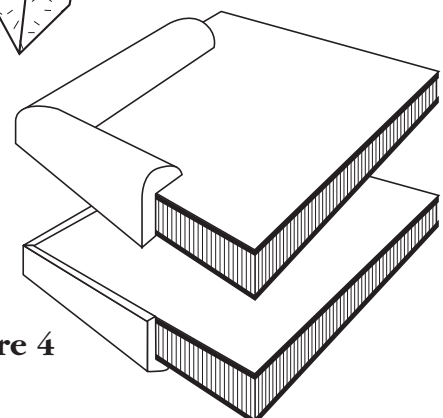
To install bulkheads at sole, first attach a cleat to the sole. This can be done by any preferred method. Rout out the core (top and bottom) of the bulkhead and install same over cleat, bonding in place with epoxy. The upper cleat is fashioned into a "T" and epoxied into top of bulkhead, then attached to upper deck (by preferred method). If bulkheads are to be installed after upper deck is in place, they then should be shortened enough to allow the bulkhead to be tilted into place and bonded to upper deck.



**Figure 3**

**Figure 4**

Another type of close-out is a "J" molding shown here for a drawer front or door. For a door, the close-out shape should be thick enough to give screw holding power for the hinges or other hardware. Note that no wood blocking is required in this application.



**Figure 4**

### Figure 5

Panel close-out can be accomplished by dadoing a wood block to the thickness of the panel and then finishing the edge of the block to the desired form, then bond to the panel with epoxy. The illustration shows a typical edge close-out for a table top.

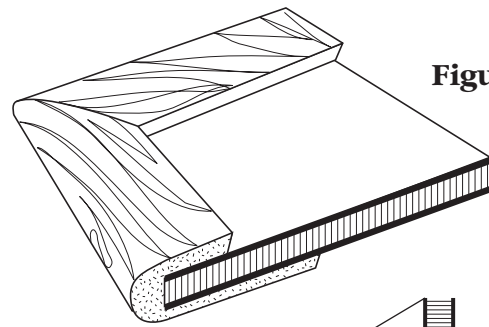


Figure 5

### Figure 6

Two forms of “C” moldings are illustrated for a door frame. No wood blocking is required when the moldings are epoxied in place. The stiles and rails are external “C” moldings which are epoxied to the panel to complete the door. Hinges are attached to the “C” molding door frame which are made thick enough to accommodate the necessary screw holding power.

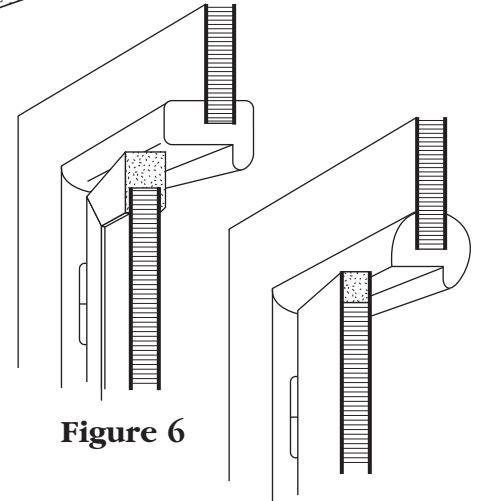


Figure 6

### Figure 7

Another “C” molding door installation is shown here, but in this example the door panel rails and stiles are installed by routing out the core material and bonding in solid wood blocking with epoxy. The wood blocking size is determined by the length of screws and lockset being used.

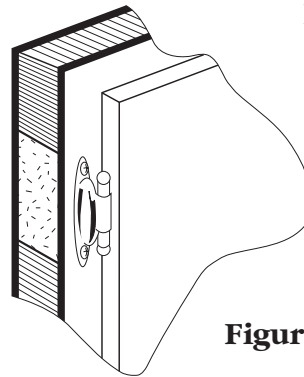


Figure 7

### Figure 8

Wood blocking must be installed by routing out the core and epoxying the blocking in place for most hinge applications. Whenever screw holding power is required, wood blocking or other methods must be employed.

Figure 8

### Figures 9 & 10

Honeycomb can be removed for blocking with a table saw or laminate trimmer. The most efficient method is to use a laminate trimmer (complete kit with carrying case available for \$450.00), fitted with an adjustable jig, with correct router bit. A table saw can also be used with either a single or dado blade, calibrated to correct core thickness. No further machining needed prior to bonding wood blocking in place.

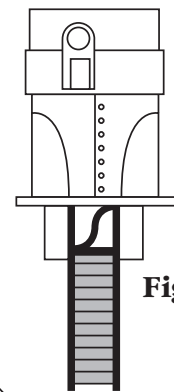


Figure 9

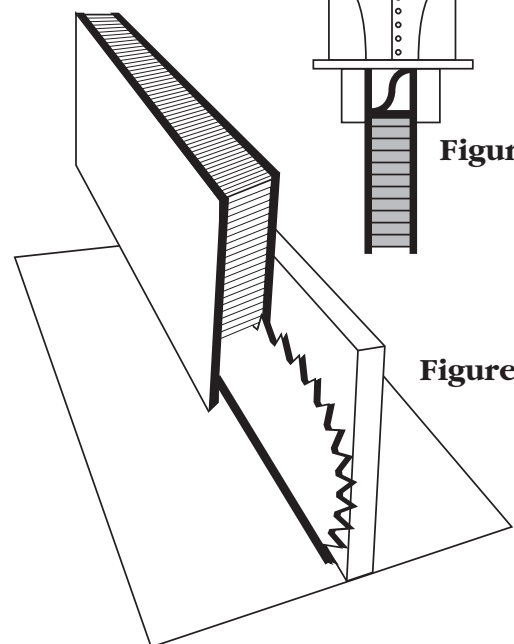


Figure 10

### Figure 11

To determine the correct spacing of kerfs for a curved panel, after deciding desired radius, mark radius and make saw kerf at this point. Fasten stock to a flat surface and raise stock until top of kerf is closed. Measure distance between raised stock and surface at the radius mark. This is the distance between saw kerfs to produce desired radius. Spread thickened epoxy into kerfs, bend to desired degree of curve, and clamp. Excess epoxy can be troweled off if back of panel is exposed or is to be finished.

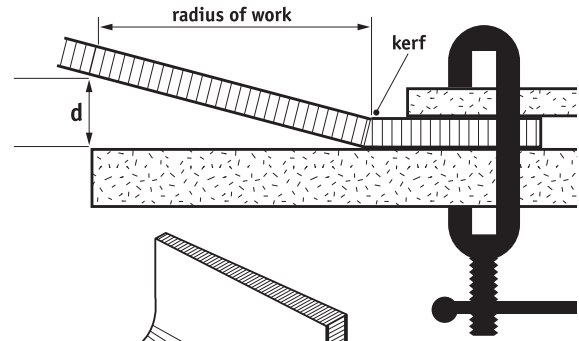


Figure 11

### Figure 12

Outside corners can be fabricated by saw kerfing as described above. This method can be used for cabinetry, bulkheads, and many other areas as required by the design. After saw kerfing, the voids are filled with thickened epoxy, bent into desired radius, and clamped until the epoxy has cured. If the inside radius is to be veneered, we recommend the excess epoxy be removed before it is cured.

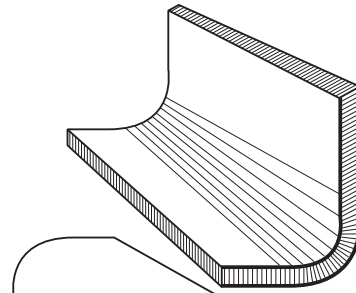


Figure 12

### Figure 13

Inside corners can be fabricated by saw kerfing the outside of the corner and epoxying in place another skin on the outside face. Clamp to the desired radius and wait for the epoxy to cure.

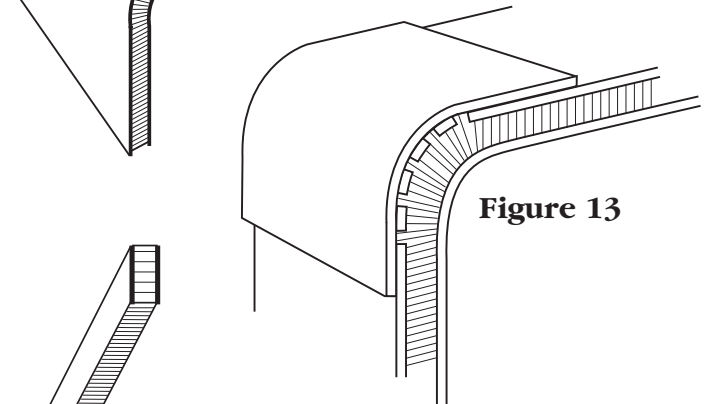


Figure 13

### Figure 14

Utility raceways can double as cornices in salons and staterooms by inserting a shelf in the inside face of a radiused panel as shown. Overhead lighting can be installed in the underside of the cornice. Openings cut into the vertical face allow for cubbie holes, or cabinet doors can be installed if desired.

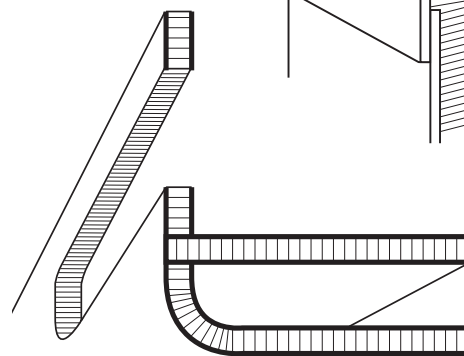


Figure 14

### Figure 15

Overhead cabinets in the salon and staterooms can be fabricated as shown using the outside corner method. Blocking must be installed for close-out of the opening. The previously mentioned methods for closing out the cabinet doors can be applied for this application.

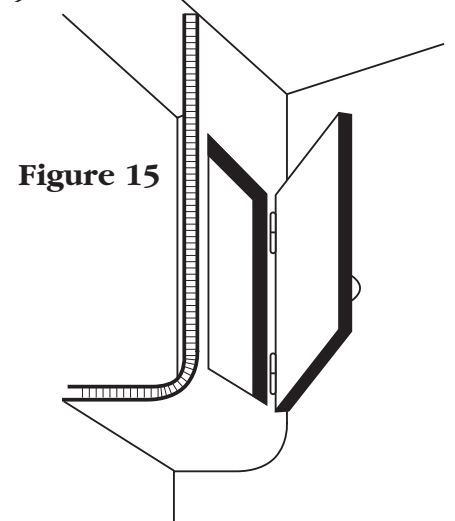
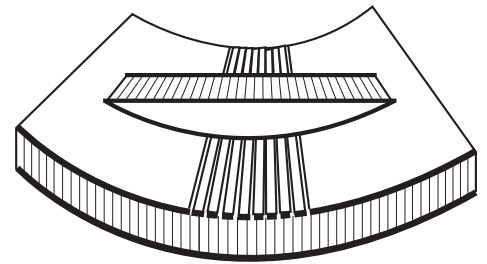


Figure 15

**Figure 16**

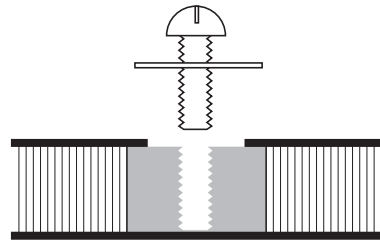
When feasible, another method of forming a curved surface is to use a gusset to hold the curved shape. Simply fabricate the gusset to the desired radius and epoxy in place on the inside of the kerfed section. The number of gussets required is determined by the load requirement for a particular application.



**Figure 16**

**Figure 17**

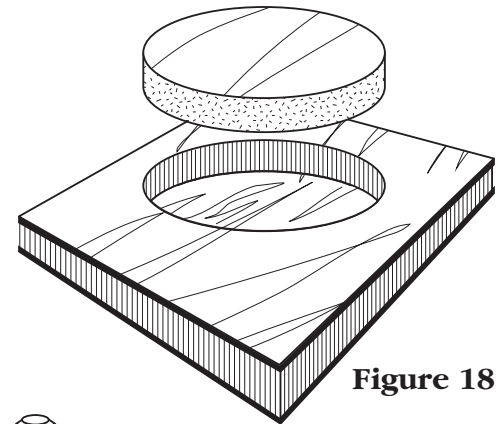
When a single fastener is required, a 1/2" hole is drilled through the face skin. The core material should be removed to a diameter of approximately 3/4-1" and filled with thickened epoxy. After the epoxy has cured, the plug can be drilled for a self tapping screw or drilled and tapped for a standard 1/4" bolt.



**Figure 17**

**Figure 18**

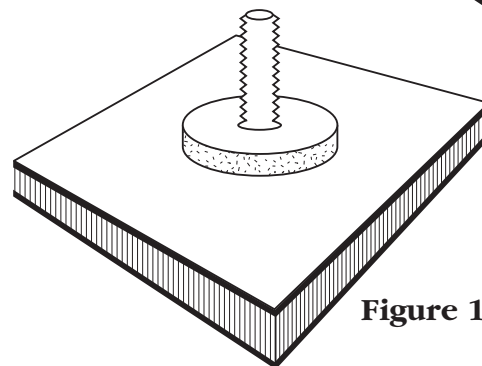
When multiple fasteners are required in a small area, a hole saw is used to cut through the first skin and core material. Remove the core material and first skin. A solid wood plug of the correct thickness can be made using a slightly larger hole saw to match the diameter of the hole already cut. The plug is then epoxied in place.



**Figure 18**

**Figure 19**

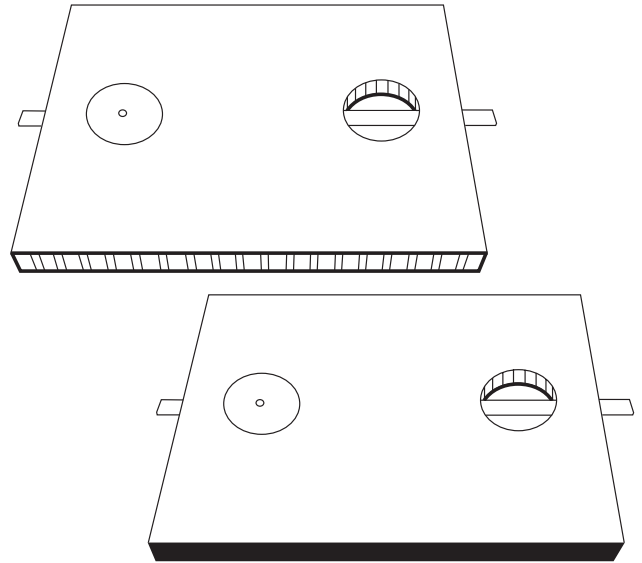
Another method of attachment to hollow core panels is a commercially available surface mounted fastening system as illustrated here.



**Figure 19**

**Figure 20**

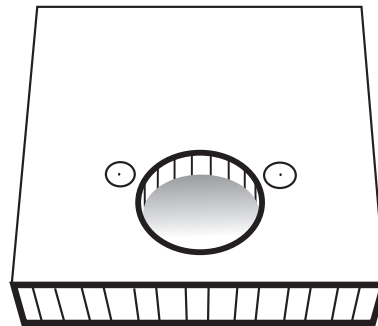
Wiring can be run through the honeycomb core after the panel is installed. Drill a series of holes, saw through one skin and punch the wire through the honeycomb core. Fill holes and sand smooth for finished application. For closing out the edge, fill the exposed honeycomb core with thickened epoxy. After curing, the epoxy is trimmed smooth and edge banding applied.



**Figure 20**

**Figure 21**

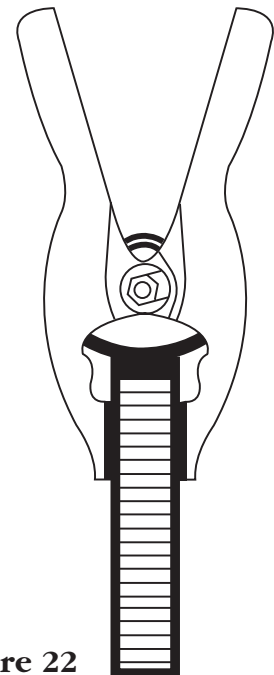
European hinges can be installed in honeycomb cabinet doors without wood blocking. Drill the required three holes through one skin and fill the smaller holes with thickened epoxy using a syringe. After epoxy has cured, drill two pilot holes for attaching screws.



**Figure 21**

**Figure 22**

Edge banding, about 1/8" thick, is installed using a foaming polyurethane adhesive applied along the honeycomb core with a bead of 1/8". (Note: A fine spray of water will catalyze the adhesive.) Install edge banding and clamp into position or use masking tape.



**Figure 22**



# MARINE PANEL PRODUCTS

## **TRIPANEL MARINE (TPM)**

Tricel Honeycomb faced with 1.5mm Okoume plywood

Applications: doors, cabinets, joinery work, ceilings, berth decks

Available in 48 X 96 X .500, .750, 1.000

## **TRIPANEL XTERIOR (TPX)**

Tricel Honeycomb faced with 5.2mm Lauan plywood

Applications: Joinery bulkheads, doors, joinery work, berth decks

Available in 48 X 96 X 1.000, 1.250, 1.500

## **TRIPANEL/125LPDF (TP/125LP)**

Tricel Honeycomb faced with 2.7mm Lauan plywood

Applications: Joinery bulkheads, doors, joinery work, berth decks

Available in 48 X 96 X .750, 1.000, 1.500

## **TRIPANEL MARINE ACOUSTIC OKOUME (TPMAO)**

Tricel Honeycomb faced with 4.0mm Okoume plywood/

4.0mm CDM / 4.0mm Okoume plywood (STC 29)

Applications: bulkheads, soles, hatches, doors

Available in 48 X 96 X 2-3/8

## **TRIPANEL MARINE ACOUSTIC LAUAN (TPMAL)**

Tricel Honeycomb faced with 2.7mm Lauan plywood /

4.0mm CDM / 2.7mm Lauan plywood (STC 28)

Applications: Bulkheads, doors

Available in 48 X 96 X 2-1/4

## **TRIPANEL ACOUSTIC SOLE (TPAS)**

4.0mm CDM faced with 4.0mm, 6.0mm or 9.0mm Okoume plywood

Applications: sole liners

Available in 48 X 96 X 12mm, 16mm, 22mm

**\*Custom panel lamination available on request**

For more information contact:

**TRICEL HONEYCOMB CORPORATION** 2100 Swanson Ct. Gurnee, IL 60031

Phone 800-352-3300, 847-336-1321, Fax 847-336-1311 [www.tricelcorp.com](http://www.tricelcorp.com)