

# TECHNICAL SOURCE GUIDE

## A Solution for Easy (and Cheap) Fluted Columns and Corinthian Capitals

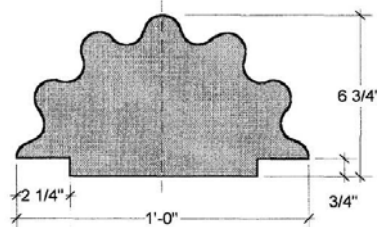
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edited by Tim Francis

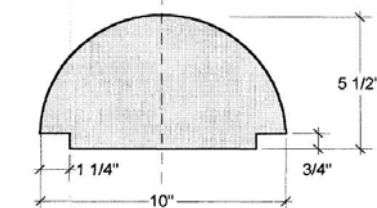
A recent production of Tartuffe called for a dozen half-round fluted columns twelve inches in diameter and 7'-6" tall. Eight of these columns had Corinthian capitals. Previous column-making forays had involved the tedious application of furring strips and cove molding over a round armature coupled with endless puttying and sanding. Dissatisfied with this method, especially when the final product was often too fragile and heavy, I looked for a new fabrication technique. I considered the vacuformed flutes available in 48"x144" sheets from CBS TV Plastics, but at \$575 plus shipping and crating for six panels, this was too expensive.

A solution for the columns presented itself while walking down the roofing materials aisle at a local home center. While still toying with the vacuformed plastic over a wood frame method, I noticed corrugated roofing panels made from PVC. These panels promised light weight, flexibility, and a low price-\$7.50 for a sheet 2'-8" wide by 8'-0" long. I found these would roll into a tube eight inches in diameter without cracking and they could be stapled and glued with standard construction adhesives. They proved perfect for our needs since scenic paint sticks to them with little trouble, and the flutes appeared properly proportioned. The materials for the 7'-6" units we built cost about \$10 each, including the lumber.

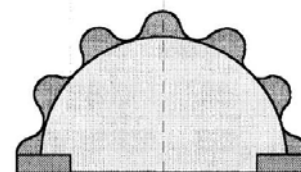
These columns were very quick to build, and ended up both strong and light in weight. A wooden frame of 1x2 and plywood half circles fully supported the shape along the edges, at each



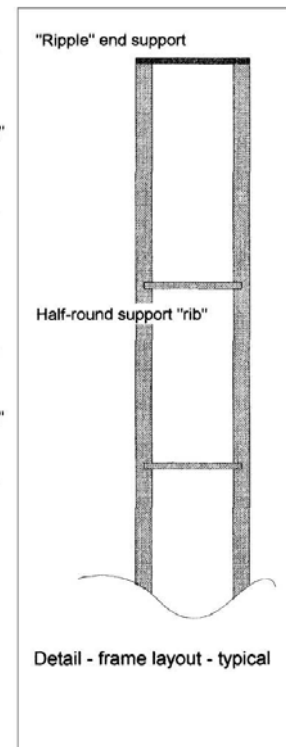
End support -3/4" ply  
2 per unit, one each end



Support ribs -3/4" ply  
place every 24 to 30 inches



Assembled Section view  
Note: 1x2 pine frame members  
on each edge



Drawing by Ken Bunne	
FSU SoT	Column frames
Date: 6/2/98	# 1

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end, and provided bracing ribs on two-foot centers. Although the corrugated end shapes required a reasonable amount of time and skill to create, the simple half-circular ribs needed to act only as a "toggle" between the 1x2 stiles and keep the PVC panel from being dented during the painting, transport, and installation. We used Liquid Nails adhesive where the PVC touched the ribs and then held the panel in place with 1/2" crown pneumatic staples while the adhesive dried.

A few notes on construction:

- At first we used staples at the deepest point of all flutes at each rib, and every nine inches along the side frames. These proved to be difficult to hide and were unnecessary in the long run. The better way is to use a minimum number of mechanical fasteners to keep the PVC in place while the adhesive dries, and then remove them later if they seem too noticeable.
- These particular PVC panels are available in several colors, choosing one that comes close to the base paint color makes sense since paint may scratch off the plastic in some circumstances. The panels are available in 8-, 10- and 12-foot lengths.
- The 12" diameter here is about as small as you can go before the flutes start to look out of proportion, but the 32" width will fit up to a 20" diameter half-round column.

Now, on to the capital problem. A complete set of plaster or resin capitals from an architectural supply house was outside our budget, so I intended to purchase just one of the capitals and to cast copies from expanding foam. But, while shopping at a local home decorating store, I found decorative plaster pedestals in various architectural styles. One variety looked like two Corinthian capitals stacked one above the other. The price was right, at \$80 I could get four half-round 11-1/2" diameter capitals from one pedestal.



**Plaster pedestal is cut in half.**



**Each half is cut in half lengthwise.**



**Plywood backings are attached with Liquid Nails.**

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Using a hand saw and a lot of care we managed to cut through the hollow plaster pedestal horizontally to create two full capitals. Then we marked the vertical cuts and similarly split each "capital" in half. Since making a perfectly straight and true cut with a handsaw proved difficult, we shaved away any high spots by attaching coarse sandpaper to a flat table surface and simply working the cut face across it until true.

With the cut surfaces successfully smoothed, we traced the profile onto 1/4" plywood and cut it to shape on the band-saw. This plywood backing, which we glued on the flat side of the half-capital provided a place to attach the piece to the rest of the scenery. We had the best luck with Liquid Nails, but found it is very important that the glue surface be absolutely dust free. Once the glue was dry we used a band saw to trim the bottom of each capital square to the plywood back and visual centerline. The painters had no trouble blending the plywood edge with the plaster using a little joint compound. We also found some of these cheap plaster pedestals have weak spots or surface defects, but these could also be filled with plaster or joint compound. We had one of our eight capitals crack during the moving/painting/installation process. The solution was to make an epoxy and wire mesh patch for the inside of the unit and to fill the visual crack with joint compound.

The capitals worked well with the fluted columns though they were a bit heavy. Our solutions for both the columns and the Corinthian capitals met all the challenges quite well-they were cheap, easy to execute, strong, and provided the designer with an architectural element that required very little compromise. Hopefully other T.D.s will find these materials close to home, reasonably priced, and will be ready to give this method a try.

## Manufacturer contacts:

Roofing panels  
Suntuf, Inc.  
45 Dixon Ave., Amityville, NY 11701  
tel: 800-999-9459 / 516-841-0490; fax: 516-841-0498

Plaster pedestals  
Outwater Plastics Industries  
4 Passaic St., Wood-Ridge, NJ 07075  
tel: 800-OUTWATER; fax: 800-888-3315

Thank you for taking time to read this "classic" Technical Source Guide! Because it has been published a relatively long time ago, addresses (physical & web) and any phone numbers, might not be current!

Technical Source Guide #33 – FLUTED COLUMNS & CORINTHIAN CAPITALS

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