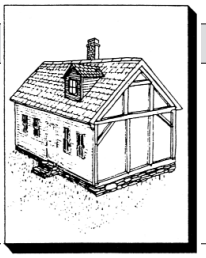
Gutter Talk



by John Leeke

Since I last wrote about gutters ("Refurbishing Wood Gutters," *JLC*, 9/88) a few readers have written to me about their experiences with unusual gutters.

Curved Wood Gutter

Steven K. Riemer from Boston writes: "This English Tudor house has a curved wood gutter that surrounds the turret. It is deteriorated and needs to be replaced. The replacement would have to match up with the connecting straight gutters. 'Normal' gutter companies are not equipped to handle this. It is obvious that considerable skill is needed to replace a curved gutter."

Welcome to the field of house restoration where the "abnormal" is commonplace. I've never had to work on a curved gutter, so I contacted Ed Turbak at Center Lumber (85 Fulton St., Paterson, NJ 07509; 201/742-8300) about Steve's problem.

Center Lumber specializes in curved moldings. Ed hadn't done curved gutters before either, but figured making gutters wasn't much different than making a very large curved molding. We came up with the following solution.

Ed suggested a three-step process to fabricate several 3 to 4-foot-long sections (see Figure 1). First, glue up blanks of Honduras mahogany, and cut them to the tower's radius on a band saw. You'll most likely be using 2x12 or 2x14 stock, and gluing two or three thicknesses together.

You may not have thought of mahogany for exterior woodwork, but I've found it to be stable and decay resistant. Stay away from red or Philippines mahogany; these varieties of mahogany aren't as dense or decay resistant.

Mahogany can cost less than clear heartwood pine and is easier to machine than old-growth redwood. Woodworking books rank it high on the list for "machinability," and it doesn't splinter like redwood.

When you glue and clamp the blanks, you'll need a Type I waterproof adhesive. Ed thought the resorcinol glue he usually uses would be adequate, but I've seen rigid, brittle resorcinol adhesive break down on exterior wood that moves a lot. Considering the expense of custom curved gutters, I think the minor additional expense of flexible epoxy adhesive is justified.

Next, cut the trough of the gutter with a special shaper setup. Fasten two "shoes" to the shaper table. These are curved blocks on each side of the cutter head that stabilize the curved blank as it "rocks" past the vertical cutter. The equipment limits the depth of this cut to 2 or 2 1/2 inches. This makes a small trough, but it would probably be adequate for a 12-foot-diameter conical roof.

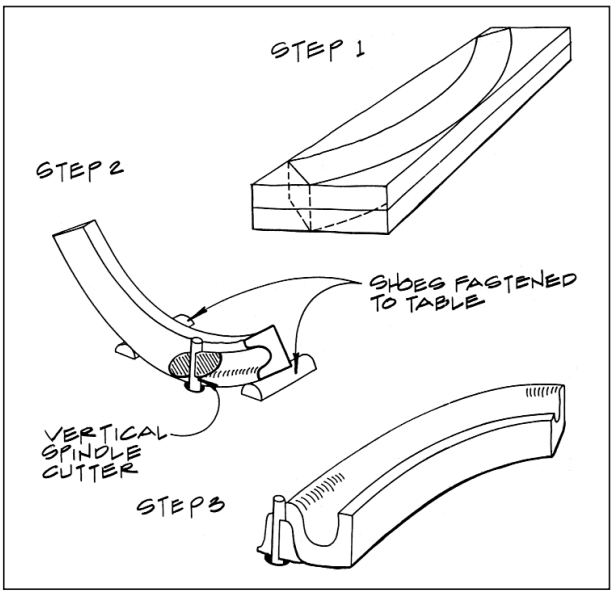


Figure 1. *Step 1: glue up 2x14-inch mahogany and cut out blanks on a band saw. Step 2: fasten half-round dowel "shoes" to shaper table. Cut trough on shaper, "rocking" it on edge past the cutter. Step 3: cut the front "ogee" profile with the blank flat (bottom side down) on the shaper table.*

Finally, cut the "S" profile by laying the blanks flat on a shaper table.

The final result should be eight to ten unassembled segments. The segments still need to be cut to length and fit in place at the site. If the trough is shallower than the existing straight gutters, you must hang the tower gutter at a steep enough slope to be sure the water flows from it to straight gutters.

Ed estimates the cost of fabrication at $3,900. Milling and hanging these gutters may seem like a lot of money and effort, but as the old saying goes: "curves cost money."

Copper Versus Wood

Peter Taggart, a restoration contractor (Woodward & Thomsen Co., Portland, Maine; 207/774-9298), came up with these estimating figures for three different gutter materials, which may be useful the next time you're asked to price various options for replacement gutters.

These costs are for straight gutters and include materials and installation:

- $10.20 per linear foot for 5-inch half-round copper gutter and downspout
- $12.78 for 4x5-inch treated Douglas fir wood gutter
- $25 to $30 for 4x6-inch custom copper with integral flashing that runs 12 inches up the roof; includes 1/8 x 1-inch heavy strap hangers and gable end returns.

Extruded Aluminum

Aluminum as an architectural material has two important advantages over other metals: It is inexpensive, and corrosion is limited to an outer layer that protects the remaining metal.

But I've never considered aluminum as a long-lasting material for gutters. The metal is thin and soft. An aluminum gutter eventually gets beaten up by ladders, tree branches, or ice dams. Aluminum gutters always struck me as a sacrificial attachment that needs to be replaced every 20 or 30 years, rather than a permanent element of the architecture. However, William F. O'Neill, an architect in New York City, has found aluminum gutters that promise to last much longer.

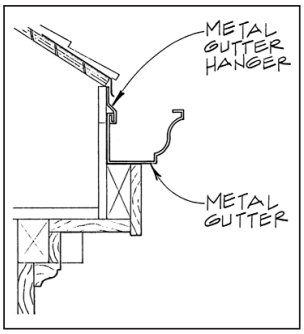


Figure 2. *This cornice incorporates an extruded aluminum gutter with twice the wall thickness of normal aluminum stock gutters. Note how the gutter is set back into the cornice so it appears to be a crown molding. The hook-shaped hanger strip is also made of extruded aluminum.*

Extruded aluminum gutters have a wall thickness of .070 inch. That is more than twice the wall thickness of standard .032-inch gutter stock—as thick as 45 pages of the magazine you're reading right now.

This special stock is available only in one size and style—a 5-inch ogee. Fortunately, this style can be worked into traditional cornice design for an appropriate visual effect (see Figure 2).

O'Neill used this cornice design on the restoration of a 1920s Colonial Revival house. The supplier for this gutter stock is Passaic Metal Products (5 Central Ave., Clifton, NJ 07015; 201/546-9000). The gutter costs $2.50 per linear foot and comes in 30-foot lengths. The manufacturer no longer makes matching fittings, but Jeff at Passaic Metal says standard .032-inch end caps and outlets are compatible. ■

John Leeke, of Sanford, Maine, restores and maintains historic buildings. He also consults with contractors, architects, and owners working on older buildings. If you have questions on restoration topics, you can contact him c/o JLC, *RR#2, Box 146, Richmond, VT 05477.*