

Backfill

Fine Foambuilding

After supplier quotes for the 1,000 ornamental balusters in a planned luxury home's porch railings (1) came in at \$150 apiece, BOJ Construction of Boston decided to look elsewhere — namely in-house. With the help of outside mentoring and some hands-on training in how to work with molded high-density polyurethane foam, the company's craftsmen launched their own production.



From a casting of a lathe-turned baluster prototype (2) they created a two-part silicone mold. The mold is filled with liquid urethane (3), closed, and set in a sturdy LVL press (4). The press resists the considerable pressure exerted as the closed-cell foam expands inside the mold; with nowhere to expand to, the foam cures at a density close to that of mahogany. Complete curing takes about 15 minutes. One-inch-diameter aluminum tubes cast in the core give the cured balusters lateral stiffness (5).

The final cost per baluster worked out to about 50 percent of that quoted, with equipment and setup costs running around \$4,000. BOJ has since used the technology to reproduce carvings, corbels, and moldings for its historic restoration work and now accepts custom commissions from other builders. — *Dave Holbrook*

