Plastic Tub-Shower Units

by Paul Spring

Although plastic tub/shower combos and shower stalls are widely used in new construction and remodeling because of their convenience and price advantage, many plumbing contractors and GCs know little about them. Some simply choose a model from whatever line their supplier carries, while others avoid using these products because they had problems with earlier versions, or have heard horror stories about failed finishes.

Yet there is a much wider range of quality and price in these products than most builders realize, and a number of new materials to choose from. Here's an overview of what's available to help you sort through the differences, along with some important installation tips to make sure you're not leaving a problem behind.

No Longer One Material

Tub/shower combos (as well as shower modules and bath surrounds) can be made from a half dozen polymer plastics; the two most common are the original *gelcoat* product, and its more expensive challenger, *acrylic*. These two represent the broad middle of the market, with gelcoat at the lower end and acrylic at the upper. Both of these surfaces are used with substrate materials to form a structural laminate. The greatest demands are on the surface layer: It has to be glossy, scratch resistant, repairable, and shouldn't stain or fade. That's a tall order, and each material presents different tradeoffs.

Gelcoat. A pigmented polyester resin, gelcoat is sprayed on a mold in a thin layer (about 1/64 inch when dry). Once it's cured, fiberglass (technically called FRP, or "fiberglass reinforced plastic") is applied to the back in several applications that add up to about 1/8 inch. This provides strength and most of the bulk. (It also lends its name: Gelcoated units are often referred to as "fiberglass" even though fiberglass is also used as the backing material for acrylic tubs.)

Gelcoat isn't as hard as acrylic, and will scratch and dull over time (most manufacturers suggest a coat of automotive wax to protect it and keep it shiny). It's also not as stain resistant, and is susceptible to caustics such as drain lye. However, gelcoated units are less expensive than acrylic-faced ones by approximately half, and can be restored to original appearance by trained repairmen at the local level.

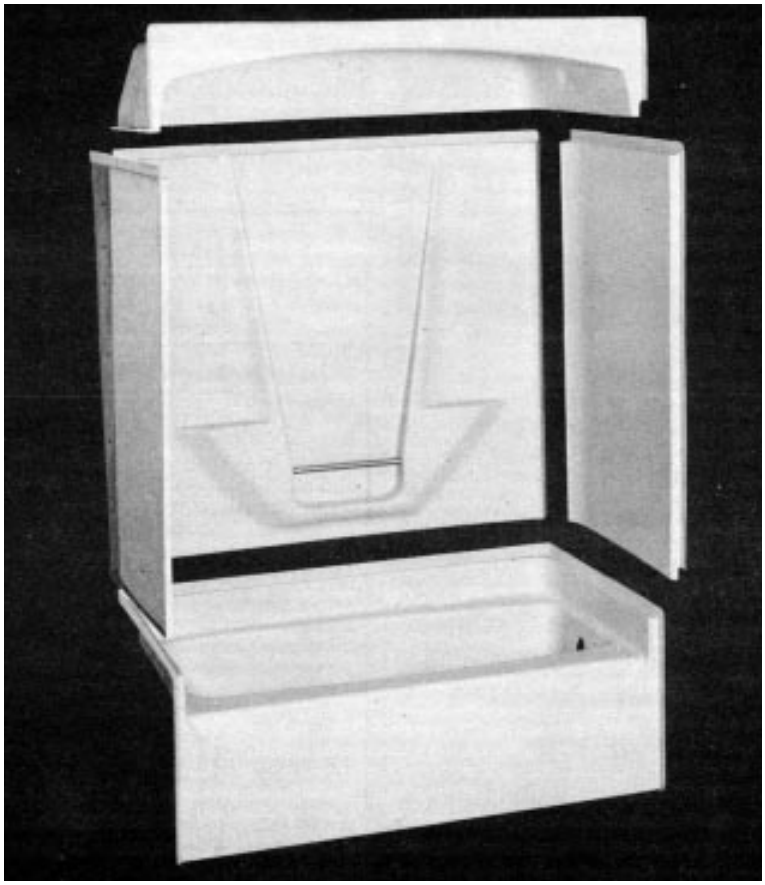
Acrylic. The lamination of an acrylic tub/shower is similar to that of gelcoat, except that the acrylic begins as a thick sheet (1/4 inch for tubs; 3/16 inch for tub/shower modules) which is heated and vacuum-molded to a form. Then a fiberglass-reinforced laminate is applied to the back for strength.

Although acrylic is known for its durability and high gloss, petrochemical solvents will dull the surface. Repairs have to be made by a factory-trained technician, who may be hard to come by. Further, acrylic tub repairs below the water line may not last the life of the unit.

Both acrylic and gelcoated laminations use additional materials, called "inclusions," for bulk and rigidity. These can include corrugated paper, foam, balsa or other types of wood and wood composites, and chemical (syntactic) and mineral fillers. Although the industry is full of claims and counterclaims about which material is best, most achieve the goal of a strong, lightweight section that won't delaminate over time.

Other plastics. The other materials that can be used for tub/shower combinations aren't susceptible to delaminating because they're monolithic. These account for both the very lowest end of the market (high-gloss ABS and acrylic-fortified PVC), and the high end (sheet-molded compounds, or SMCs).

SMCs are made from chopped glass fibers, polyester resins, and fillers that are compression-molded into a very strong, rigid product with color throughout. This allows tub supports and even interlocking pins for joining panels to be molded in. Sterling (1375 Remington Rd., Schaumburg, IL 60173; 708/843-5400) has had real success with their brand name SMC product — Vikrell — despite a relatively high price tag.



Remodeling combos, like this domed, five-piece unit from Aker Plastics, fit through any doorway, but have to be assembled in place with fasteners and caulk.

All plastic bath fixtures are not alike: in most cases, you get what you pay for

Shapes, Sizes, and Features

All manufacturers offer numerous colors with both acrylic and gelcoated modules. Color does raise the price of the unit by $20 to $50; white remains the most popular. Most tub/showers also come with a slip-resistant floor, and a choice of the drain on the left, right, or in some cases, center.

Models. The classic tub/shower is one-piece, such as Lasco's (Phillips Industries, 3255 E. Miraloma Ave., Anaheim, CA 92806; 714/993-1220) gelcoated unit (see Figure 1, next page), but all manufacturers offer "remodeling" units that are designed to fit through standard door openings ranging from 2'-4" to 2'-8". These are broken down into two or more pieces (the tub counts as one) that lock, bolt, screw, or caulk together. The tubs themselves typically rely on a simple nailing flange or require a 1x ledger for support. Some, however, use a system of clips that attach to the tub rim and nail to the studs.

Both for ease of installation and watertightness, the fewer pieces the better. It pays to examine both the joining system and how the pieces are configured. For instance, some four-piece systems (a tub and the three walls of the surround) join right at the tub's rim. But many others, such as the one made by Aker Plastics (1001 N. Oak Rd., Plymouth, IN 46563; 219/936-3838), make the break about 6 to 8 inches above the tub (see photo, left).

Most gelcoated and acrylic units require fasteners and caulking as well as their own system of overlaps to make the connections between the panels watertight. Even systems that claim not to need caulking to prevent leaks sometimes suggest

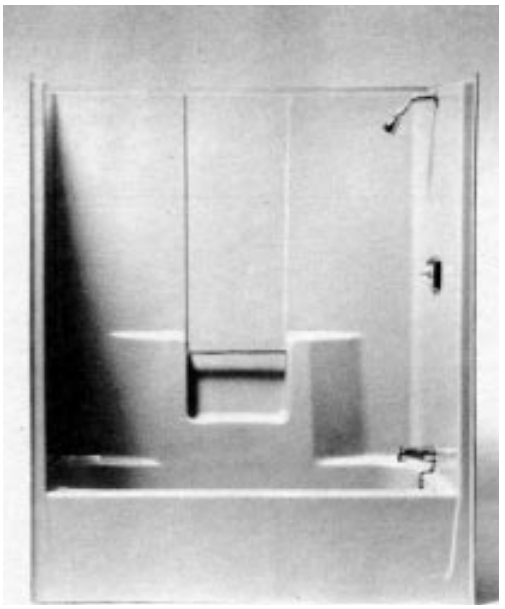


Figure 1. *This single-piece, gelcoated unit from Lasco is designed for new construction. Measuring 60 inches wide, 72 inches high, and 32 inches front-to-back, it can accommodate a matching dome to create an enclosed module.*

using a bead of silicone at corner seams to fill in where soap scum and mildew could accumulate.

SMC units by Swan (One City Centre, Suite 2300, St. Louis, MO 63101; 314/231-8148) and Sterling rely on proprietary systems of factory-installed clips and receiving channels, or molded, interlocking "pins" that allow panels to snap together in a watertight seal without the use of caulk.

Tub/showers that incorporate accessible design for the handicapped and elderly are also produced in both one-piece and remodeling configurations. These are usually equipped with larger diameter (1 1/4 to 1 1/2 inches) grab bars in code-required locations, and often include removable seats. Bathease (111 Parker Street, Suite 300, Tampa, FL 33606; 813/253-2222) takes the concept one step further by hinging a section of tubwall to create a door for easy access. In addition to the positive pressure of the water, a stainless locking mechanism and an inflatable gasket keep the tub full and the floor dry (see Figure 2).

Tub/showers that incorporate accessible design for the handicapped and elderly are also produced in remodeling configurations

Sizes. The typical tub/shower unit is 60 inches wide, 72 inches high (domed units average 84 inches), and between 32 and 36 inches front-to-back. The tubs themselves are typically in the 30 to 40 gallon range. A net 30-inch unit is considered narrow, but there are units that measure just 54 inches wide and 27 inches front-to-back, though there's not much tub left at these dimensions.

But the tub/shower is not just for the multi-family market, where they're generally shoe-horned into place. For instance, Aqua Glass's (P.O. Box 412, Adamsville Industrial Park, Adamsville, TN 38310; 901/632-0911) top-of-the-line acrylic module measures 72 inches wide, 96 inches high, and 42 inches deep (see Figure 3). It contains seven whirlpool jets, a steam generator, two dome lights, two fixed shower heads, a hand-held shower, a control panel, and luxury doors. The tub holds 65 gallons of water and the unit weighs 400 pounds dry. (The average gelcoat unit weighs in at around 150 pounds; acrylic runs a bit more at 200 pounds.)

Accessories. Most tub/shower designs incorporate at least one soap dish; some sport up to four ledges and niches. These not only provide depth and interest to an otherwise flat wall, they help stiffen the panel to keep it from deflecting (called "oil canning" by manufacturers).

Most units also have a built-in central grab bar that averages 12 to 18 inches long. Although the standards are voluntary, major manufacturers design these 3/4-inch to 1 1/4-inch stainless steel or clear acrylic bars to meet ASTM Consumer Safety Specifications. That means they'll support a 250 pound load. Check for certification to be sure.

Also check the plans carefully before ordering and installing a tub/shower to make sure they don't call for larger-diameter, contractor-supplied grab bars bolted to shower walls. Although most units can accommodate these, they often have to be backed up with solid material at these points. Some manufacturers instruct you to do this yourself just prior to installation; others will incorporate the backing in the fiberglass if you specify it on your order. But ignoring this need could mean tearing the unit out later on in order to retrofit it.

Bells and whirlpools. Many tub/showers can be fitted with a whirlpool, but don't assume it. With most manufacturers you'll need at least 32 inches front-to-back and a 19-inch to 21-inch deep bathing well to incorporate one. These units need a removable skirt or access panel for servicing the motor and jets, and enough room to accommodate the plumbing and electricals.

Still another luxury is a steam generator; this requires a domed unit with tightly sealed doors. Acrylic is the best finish for steam since gelcoat can develop pinhole blisters after a few years.

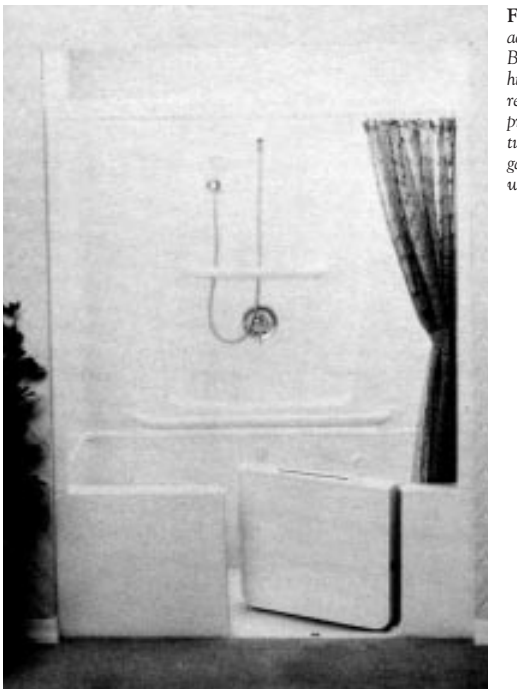


Figure 2. *This accessible design from Bathease includes a hinged "door" that relies on the water pressure inside the tub, and an inflatable gasket, to keep water in.*

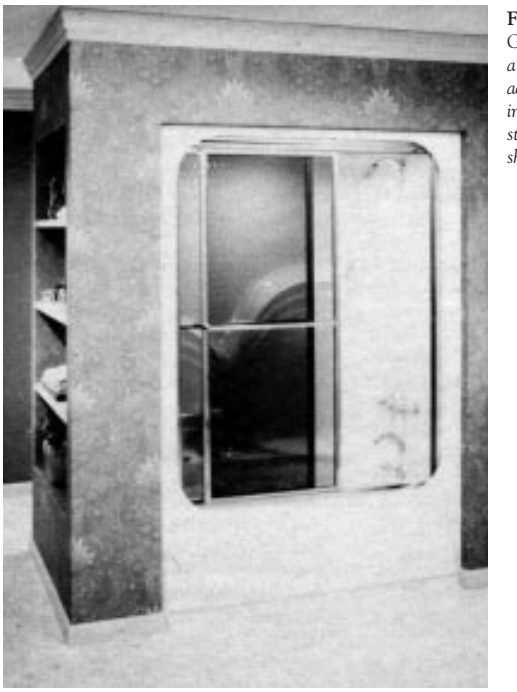


Figure 3. *Aqua Glass's Maxima II is a 72-inch-wide acrylic unit that includes a whirlpool, steam unit, and shower all in one.*

Judging Quality and Price

Although there is a wide range of quality in tub/shower units, pricing is a fairly good indicator in this industry — you typically get what you pay for.

Standards. There are also minimum standards most manufacturers subscribe to: ANSI Z124.1 for tubs, and ANSI Z124.2 for showers. These standards dictate minimum finish thickness and durability as well as structural integrity. Whether a manufacturer goes beyond these standards is often hard to determine. And with both acrylic and gelcoat, the quality of the workmanship is as important as the type and thickness of the material. With either, you should examine the finish for blisters, delamination, dull patches, crazing (especially in corners), and thin sections that allow light to pass through.

When it comes to structural integrity, the good units don't rack

Some Installation Tips

In general, the installation literature of most manufacturers is pretty good, and the procedures are straightforward. However, here are a few tips garnered from conversations with plumbers, contractors, and manufacturers:

- Inspect any plastic tub or shower module with care before accepting delivery; most damage happens in transit.
- Leave the unit in its packing with the 1x4 in place across the opening as long as possible. Check with the supplier to make sure it can be stored outside; some can't because the inclusions they use will absorb moisture.
- The framed "pocket" that the unit slides into should be about 1/8 inch oversize. Don't ever force a module into place; the stress you put on it can show up in the finish a few years later.
- None of these units acts as a firestop. Check to see if you need drywall behind the surround.
- *Always* drill for plumbing from the finished side, and use masking tape so you don't scratch the finish.
- Use galvy roofing nails (1 inch to 2 inches long) for fastening a gelcoat unit to the studs, predrilling if necessary.
- Consider using screws (#8s by 1 1/2 inches) for acrylic, which doesn't repair easily if you should happen to miss with a hammer.
- While checking for plumb and level, tack the corners of the tub first, and then nail in from each side at the top of the wall surround to make sure you don't permanently rack the unit.
- It isn't necessary to "bed" any of these units in plaster to meet minimal standards. However, if you shim beneath them, or better yet, set them in drywall mud, clean mortar, or industrial casting plaster, it will eliminate much of the "give" that some consumers find objectionable. It will also cut down substantially on the chances of having a problem later on.
- If the module includes a whirlpool, "wet setting" is important in reducing vibration and noise.
- However, don't use sand (you can't contain it), or foam (some of them will break down after a while).
- Some manufacturers also recommend using panel adhesive and 1xs or plywood to shim the walls of the surround to the existing walls, creating a more solid feel.
- Take the time to use 1/8-inch furring beside the nailing flanges so the drywall stays flat.
- Stay out of the bathing well when installing; damage below the waterline is more than a cosmetic issue.
- Make sure you follow the particular manufacturer's installation instructions; warranties are strictly enforced along these lines.
- If you're going to remove the sticker from the unit, make sure it and any other maintenance literature are handed to the homeowner in a folder they'll keep for reference.

— *P.S.*

quite as easily, and you can tell a lot from lightly bouncing on the bottom of a tub that's fixed in place. All tub bottoms incorporate support (from plywood, composite board, balsa, or softwood slats) with polyester resin and fiberglass, but some are less bouncy than others.

But the best gauge for quality is still the manufacturer's track record. Not all the units out there are good ones, and not all companies are on top of quality control. Take the time to ask your supplier which lines have the least problems. And then find out how well these manufacturers and distributors have dealt with the complaints that have come up.

Cost. An average one-piece, tub/shower unit runs about $200 to $250 in gelcoat; a similar acrylic unit will cost about twice that. If you're looking at a unit that runs a lot less than others, find out why.

Larger acrylic units with luxury features, from manufacturers like Kohler (Kohler, WI 53044; 414/457-4441), can cost well over $1,000. And multipiece, remodeling units run about 30% more than comparable one-piece modules. You can expect to pay a bit less for locally or regionally produced brands because they don't have the transportation costs of some national manufacturers. It should also be easier to get some attention on site from a local manufacturer if the unit is defective or needs in-place repair. However, you should check into the financial health of any manufacturer; a warranty becomes nothing more than scratch paper if the company goes out of business.

Warranties. Warranty periods tend to be all over the map, though there's a definite middle ground. A few manufacturers have stayed with only one year, while Sterling warranties Vikrell for 10 years in a residential setting, and Swan offers 20 years on its tub and surround. More typical are companies that warranty their gelcoat products for three years, and their acrylic units for five. ■

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