



# Linear Drains

## for Custom Showers

These sleek drains open shower-design possibilities, but at a cost

BY JUSTIN FINK

**T**here are no two ways about it: A site-built shower is one of the best parts of a custom bathroom. By shedding the constraints of a factory-made tub or shower unit, you expand design options. You can get creative with the shower's size, layout, and door location, and you can include features such as niches and benches. Custom showers have always been held back, though, by the four-way fall required with a traditional, centrally located drain. Linear drains offer several design options that were previously difficult, if not impossible.

These drains may change your installation methods, though. If you're comfortable with PVC membrane, a mortar bed, and a traditional clamp-down shower drain, rest assured that several companies make linear drains that essentially sit on top of a standard clamp-style shower drain. There are also several options for more modern waterproofing methods. Many linear drains are intended for a "thin bed" installation, where the waterproofing layer is just below the finish tile rather than under a thick bed of mortar. Many times, the drain is designed to be part of a larger system of available waterproofing components.

Along with requiring some new installation methods, linear drains also cost more, and that can be a barrier. Compared to a conventional \$15 clamp-style shower drain, a 30-in. linear drain sells for about \$500. The argument made by manufacturers is that the savings comes in reduced labor for the tile installer because it's faster and easier to create a one-way slope.

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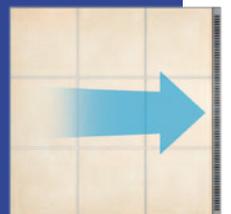
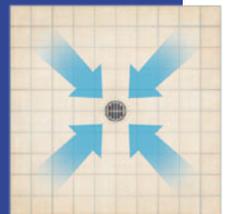
Justin Fink is a senior editor. Drawings by Christopher Mills.

### DOWN THE DRAIN

With a conventional shower drain, the surrounding shower pan has to be sloped toward the center from all directions, referred to as a four-way fall. Installers are limited to tiles that are 4 in. or smaller to cover the slope smoothly on all four sides.

Linear drains at the perimeter of the shower pan offer three big advantages over a centrally located drain: (1) The four-way fall is replaced with a much simpler one-way slope; (2) large-format tiles can be installed; and (3) a barrier-free shower

is easier to build because the linear drain can be placed at the entry, where a curb would normally separate the wet area from the rest of the bathroom.



# 4 INSTALLATION STYLES

Aside from fit and finish, the difference among drains is in how they install and how they integrate into the waterproofing used in the shower pan. The first step in choosing a drain is determining how the shower pan will be built.



Fit and finish. Grate designs and finishes vary by manufacturer, from simple stamped plates to heavy-gauge wedge wire. Many also offer a "tile-in" version (left) that allows you to tile the top of the linear-drain grate so that it matches the rest of the shower floor. This often is the least expensive linear-drain option.

## 2 CLAMP RING

This style of drain is a marriage of techniques both old and new. Setting the PVC or ABS drain body is a cinch: Attach it to the subfloor with screws, tying into the plumbing with a traditional solvent-weld connection. The mortar bed or factory-made pan slopes toward the drain, and the waterproofing membrane is laid on top, overlapping the drain body. With the membrane in place, a ring is clamped down with screws, creating a mechanical seal between the shower pan and the drain body just as with an old-school clamp-down shower drain.

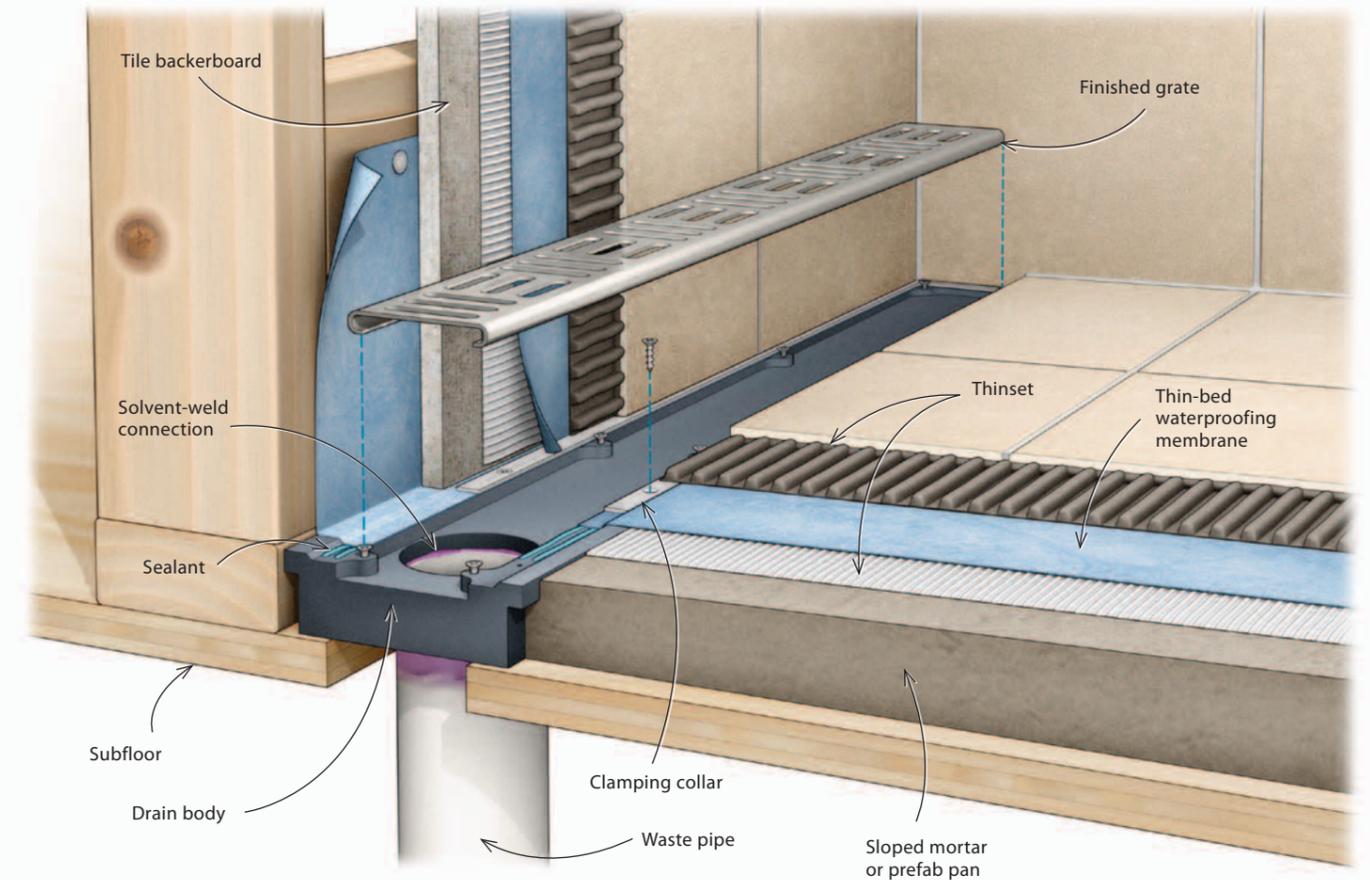
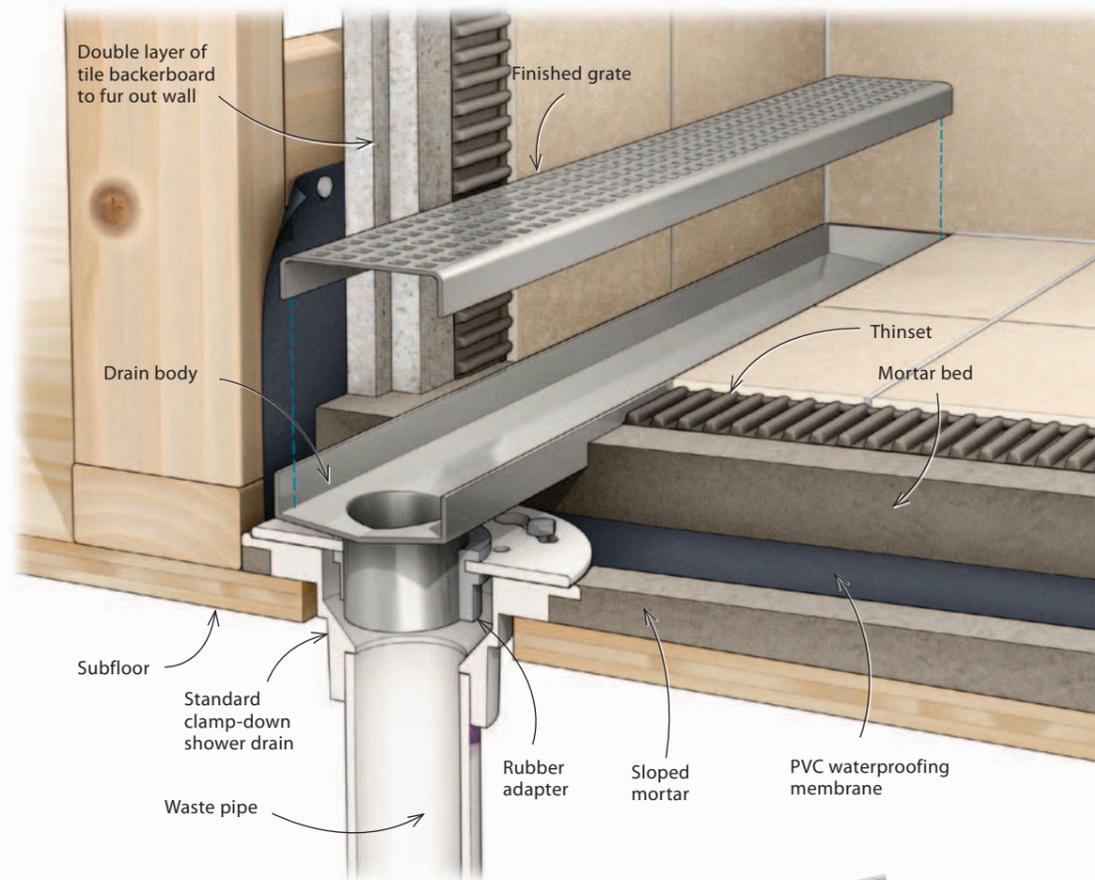
AVAILABLE FROM The Noble Company

## 1 EXTENSION STYLE

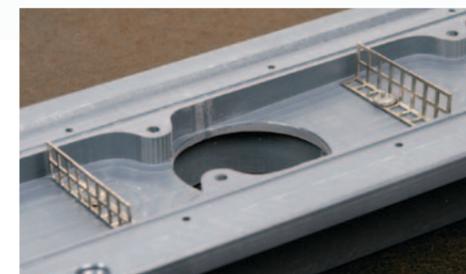
There is some variation in the installation process, but all the linear drains in this category are essentially an extension of the common clamp-down shower drain. Depending on the brand, the connection is made either with a threaded tailpiece attached to the linear-drain body or a rubber adapter that bridges the gap between the clamp-down drain and the linear-drain body's rigid tailpiece.

The appeal of this old-school-style installation is the reduced learning curve for tilesetters used to working with traditional mortar beds and PVC membranes. The waterproofing materials are less expensive, but don't forget that the mortar bed under the PVC membrane still needs to be pitched evenly from all directions toward the drain just as in a traditional shower. Also, these drains often require a thicker mortar bed compared to the other drain-body and connection options.

AVAILABLE FROM California Faucets, Jacló, Infinity Drain, Shower Grate Shop



Size it on site. Sometimes plans change or the plumber puts the drainpipe in the wrong spot, so it's nice to have the option of a linear drain that you can size and reconfigure on site. Infinity Drain makes site-sizable kits that allow you to cut the drain body to the required length and locate the drain outlet anywhere along its length. The pieces then are either solvent-welded together (for a PVC drain body) or joined and sealed with Sikaflex sealant (for a stainless-steel drain body).



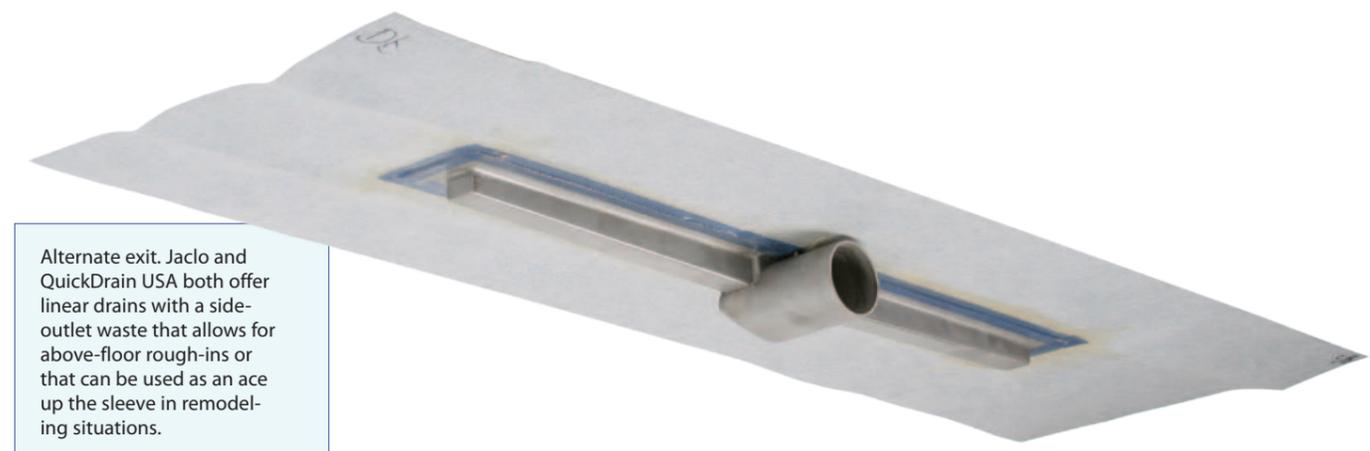
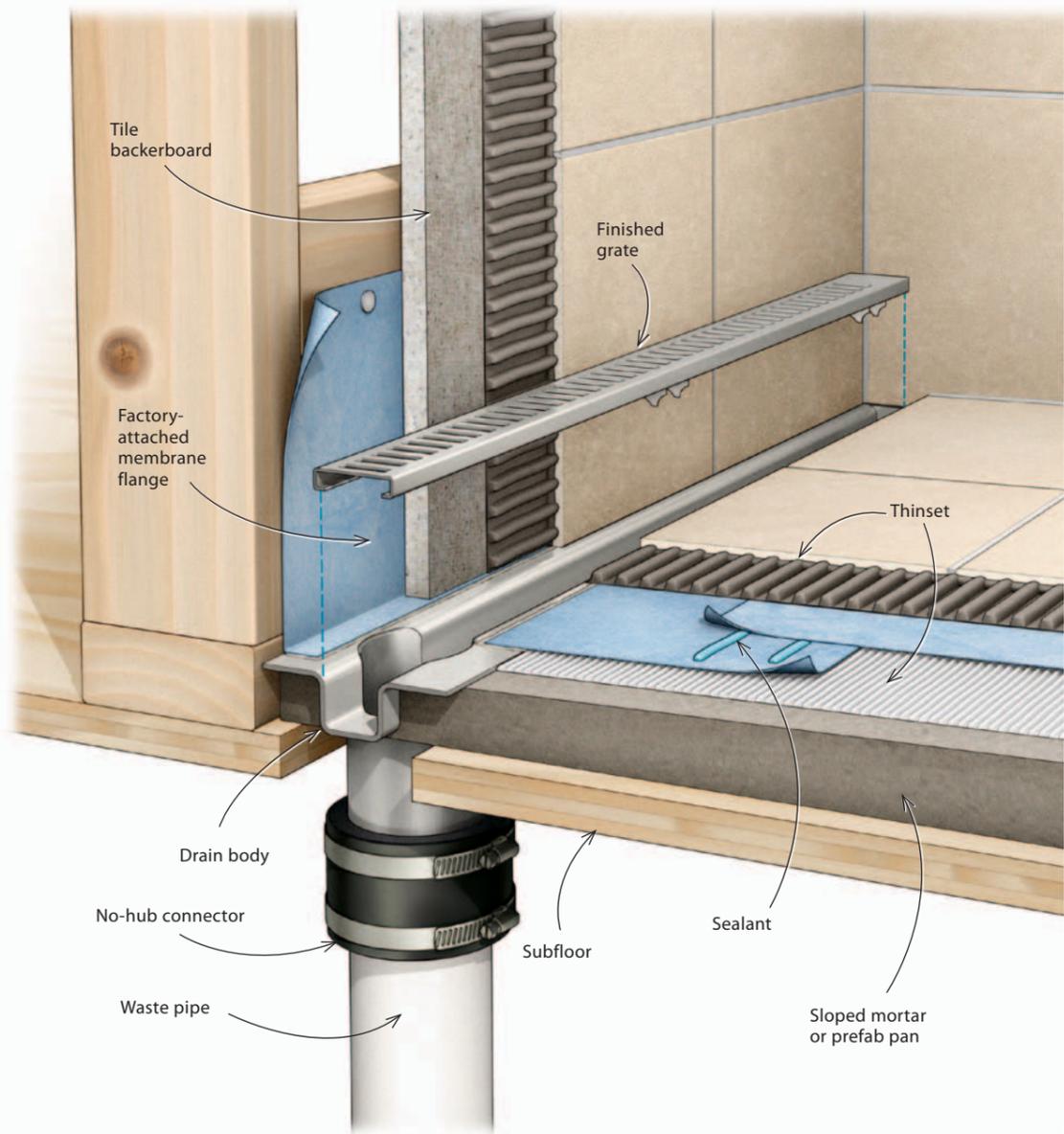
Preclog cleanout. Every linear drain has a decorative grate that can be removed to allow the drain body to be cleaned or unclogged. The Noble Company's Free-Style drains up the ante with a pair of strainers that help to catch debris before it hits the outlet pipe and leads to a clog worthy of a plumbing snake.

### 3 BONDED FLANGE

This drain is designed as part of a foolproof start-to-finish kit that takes you from a blank slate to a shower pan that's waterproof and ready for tile. These systems typically include a trim-to-fit factory-sloped pan, a fleece-backed thin-bed waterproofing membrane (such as Schlüter's Kerdi), and a compatible drain with a skirt of membrane factory-sealed to the top edges of the drain body. Waterproofing these assemblies is as simple as adhering the flange on the drain to the membrane on the pan.

The downside to these systems is that they are more expensive than an old-fashioned mud job. The upside is that they open the door to nonpros who want to feel confident that the finished pan won't leak. Even though many manufacturers don't spend a lot of time promoting it, their bonded-flange drains can be integrated into more traditional (and less expensive) mortar-bed installations, too.

AVAILABLE FROM ACO, QuickDrain USA, Schlüter



Alternate exit. Jaclo and QuickDrain USA both offer linear drains with a side-outlet waste that allows for above-floor rough-ins or that can be used as an ace up the sleeve in remodeling situations.

### 4 METAL FLANGE

Instead of a traditional PVC membrane or even a modern thin-bed membrane, a metal-flanged drain body is designed to work with a liquid waterproofing membrane such as Laticrete's HydroBan. After the drain is in place, a double layer of liquid is rolled onto the walls and floor of the shower; it also bonds directly to the drain body to create a waterproof seal. These systems install easily—if you can paint, you can use a liquid membrane—but as with fleece membranes, the waterproofing layer is far more expensive than the PVC membrane used with a mortar-bed installation.

AVAILABLE FROM Laticrete, Infinity Drain



Custom may come standard. A few linear-drain makers fabricate custom drains to suit specific needs, but this is often limited to large orders. For Shower Grate Shop, every drain is made to order. You can specify length and width as well as outlet location and diameter. Plus, you don't have to wait for a quote; the pricing on the online order form updates as you tweak the specs.

