



# DEVIL'S DETAIL

## INTRODUCTION

Whether for single- or multi-family construction, hotels, spas, or fitness centers, bathrooms must provide a balance of aesthetics and functionality. As glass has grown in popularity across all types of construction, there has been an increase in the use of glass in bathrooms. Natural light, open views, and a clean aesthetic provided by glass can be challenged in bathroom designs by smaller spatial configurations and functional requirements such as shower door swings and ease of accessing shower controls.

National Outside Sales Manager for leading shower door manufacturer, DreamLine, Michael Burke knows shower doors and the associated challenges of designing and installing bathroom glass. He regularly conducts lunch-and-learn sessions about bathroom and shower glazing. As one of the last items to be installed in a project, bathroom glass can either be the final, elegant touch or a headache that impacts budget and schedule.

## COMMON PROBLEMS

*The elevator is too small to transport the glass panels.*

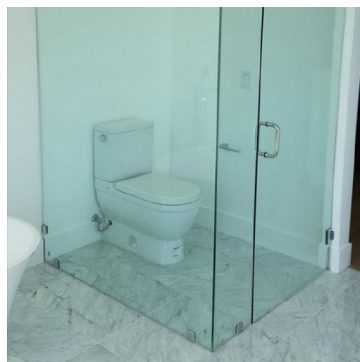
*There's not enough wall framing to support the frameless glass system.*

*The walls are out of plumb beyond the framed system's tolerances.*

*The shower door swing conflicts with the vanity, toilet, or towel bar.*

To avoid these and other issues, Burke recommends careful consideration of existing conditions and thoughtful space planning in advance. "I also wish architects and designers got manufacturers involved earlier," he adds. "When we are involved early, we can make product recommendations that work for the applications they want."

AGI encourages getting member glazing contractors involved early. This involvement can positively affect schedule, budget, and overall satisfaction. When a project requires custom solutions, glaziers can work with a manufacturer such as DreamLine and the design team to overcome construction constraints or other project challenges to meet aesthetic and functional requirements.



*Left: Read on to be sure your bathroom glazing projects don't end up like these epic fails (left image courtesy Reddit SexySmileyQueen, 2016; right image from FAILblog)*



## SHOWER GLAZING TERMS

**Hinged Door:** Attached directly to the wall or stationary glass and opens like an interior door in your house. Hinges attached directly to walls require studs behind the finished walls.

**Pivot Door:** Has a pivot assembly that is attached to a wall profile system that is attached to your finished wall. The pivot assembly attaches to the glass at the top and bottom much like a refrigerator door. It does not require studs behind the finished walls for installation.

**Bypass:** A shower system that uses two sliding pieces of glass. The doors slide on a track behind or in front of each other for access to the shower from either side.

**Wall Profile:** A metal channel that the stationary panel slides into after the glass profile has been attached. The ability to make adjustments for width and out-of-plumb conditions comes from the depth of the wall profile and how far in you slide the stationary panel. The ability to adjust for width and out of plumb is within the wall profile system or the U-channel, depending on the model.

**U-channel Profile:** A 1" wide metal channel. The U-channel system holds the stationary panel and only allows for 1/2" of width and out of plumb adjustment while offering a more frameless look. The ability to adjust for width and out of plumb is within the wall profile system or the U-channel, depending on the model.

**Frameless Glass:** Generally refers to any shower door that doesn't have metal adhered to the edge of the glass. Frameless doors can have brackets on stationary panels, hinges, handles, a header, or a U-channel on the stationary panel.

**Semi-Frameless:** Tempered glass panels with the ability to adjust for out-of-plumb conditions. These feature a framed perimeter but are considered semi-frameless as the glass panels themselves do not have frames.

Visit <https://dreamline.com/content/glossary> for additional terminology related to shower glazing.

## GLASS SIZE & THICKNESS

Keep in mind that shower glass is often one of the last items to be installed in a project. Make sure you can get the glass pieces into the room. Can the glass fit up the stairs, into the access elevator, or into the finished space? Consider also the glass thickness within the application. Generally, minimum shower glass thickness is 3/8" for a frameless enclosure. But depending on the size and configuration of the shower, thicker 1/2" glass may be required. Be wary; 1/2" glass often has fewer color and pattern options available.

## GLASS PLACEMENT

Think about the room configuration and what is on the wall and adjacent to the shower glass. Both pivot and hinged doors open into the room and feature a door swing that should be factored into the design. Will the door swing conflict with other items in the room? Will it clear nearby items such as the toilet, vanity, or towel bars? You may need to incorporate a narrow stationary glass panel to clear a wall- or floor-mount tower bar/rack. If the design does not incorporate a door, does it include a stationary panel to adequately protect the room from shower spray?

## SHOWER CONTROLS

No one wants to get that first blast of cold water when the shower is turned on. Consider control placement to avoid that. Controls could be placed on a wall opposite or adjacent to the shower head. If you have a stationary panel to protect the bathroom from shower spray, will a guest need to reach around the panel to access the controls? A bypass slider could be a simple way to provide control access.

## DOOR HANDLES

Designers should confirm that protruding door handles won't confuse or conflict with other items in the room. Handles provide a visual cue so that a person unfamiliar with the shower door operation (such as a guest in a hotel room) understands how or whether to pull or slide a door. Doors that pull open are relatively easy to understand, but consider handle conditions on sliding doors. A protruding handle on a slider might encourage someone to pull rather than slide, especially in the case of a framing system that may not offer other visual indicators. With enough force, pulling on a slider door could cause the glass to burst. Flush pulls inside the glass might be more conducive to indicating a door is a slider and avoid the risk of inadvertent damage or injury.

## WALL CONDITIONS

Consider whether the bathroom walls are straight and plumb. Both conditions are necessary for frameless glass shower systems. While a framed system offers the frame profile to hide some inconsistencies in the wall, frames cannot visually correct significant wall problems. A combination of wall profiles and U-channels can help glass sit flush. There is a certain degree of adjustability with doors and anchorage systems. For example, the ideal solution for a true pivot door is when the walls are out of plumb and you need more than an inch of adjustability.

Be sure to anticipate wall conditions (especially in building renovation projects) and ensure the manufacturer's system tolerances provide enough flexibility for installation. Understand also how connecting hardware will look and function. Check if your desired system will require glass-to-glass metal clips or metal U-channels, or if it will require a metal header or support bar.

For significant wall issues, the project may require custom glass that is measured and cut to fit. While this may be an easy task for a trained glazier, it may be cost- and schedule-prohibitive on a project with a large amount of custom glass or when compared to an off-the-shelf solution. Consider that in some instances, you may not be able to use off-the-shelf manufacturer products, even ones that have some degree of customization. Factor in the manufacturer setup fees and limits in discounts for quantity orders if the manufacturer must custom-fabricate each piece of glass. In these cases, it is best for the design team to collaborate with the glazing contractor and manufacturer early to get the maximum value.

## WALL SUPPORT

A hinged door relies on the structure of the adjacent wall and its framing system to support the glass door swing. A common problem during installation is discovery that there is a lack of a supporting wall stud. This may be resolved with lighter glass (for example, 5/16" glass might be able to be anchored into the wall). Or, the system may need to shift to a slider because there isn't enough strength to support the swing. Worst-case scenario, the wall would need to be opened to add more framing to maintain the original strength glass and framing system. Any of these failures to anticipate framing and anchorage may mean last-minute changes that significantly impact cost, schedule, aesthetics, and functionality.

## SHOWER GLASS

Glass shower enclosures and door systems come in a variety of aesthetic styles and formats. All images provided courtesy of DreamLine.



Fixed panel shower glass



Frameless glass system with sliding bypass door



Frameless glass system with hinged door

Special thanks to Michael Burke and Carli Meehan for their assistance.



Bifold bypass doors



Semi-frameless bypass doors

## RECOMMENDATIONS

To avoid shower glass installation problems and to achieve the perfect balance of form, function, and financial value, Burke recommends early assessment of building conditions and collaboration among stakeholders. Make sure the bathroom designer or interior designer communicates with the base building architect and that both work with the glazing contractor and/or manufacturer to understand product choices, custom options, and best practices. When glazing contractors and manufacturers get involved early, they can make product recommendations and advise on customization and can ensure the finished project looks and performs as expected.

## DREAMLINE

Information for this Devil's Detail was provided by Michael Burke and the team at DreamLine. DreamLine is a leading global manufacturer and distributor of high quality shower doors, tub doors, shower enclosures, and acrylic shower bases. The company is passionate about smart and visionary design delivering affordable luxury bathroom solutions to the bath and shower marketplace. DreamLine has achieved worldwide accolades for off-the-shelf and custom shower door solutions with sleek modern style and impressive value. The company's philosophy is structured to ensure customer satisfaction, exceptional quality, and overall excellence in products and team members. DreamLine has the ultimate solution for any shower project. For additional information, visit <https://dreamline.com>.

## About the Devil's Details

The AGI educational series illustrates and describes common glazing challenges as a means to communicate best practices for the design and construction industry, not as a sole source for design guidance. AGI recommends design professionals consult with an AGI contractor regarding specific project challenges. AGI contractor profiles may be accessed at [www.theagi.org](http://www.theagi.org). To share a devilish detail of your own, contact [info@theagi.org](mailto:info@theagi.org).