

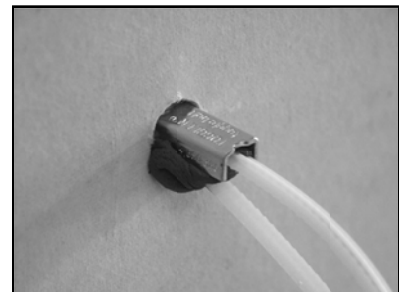
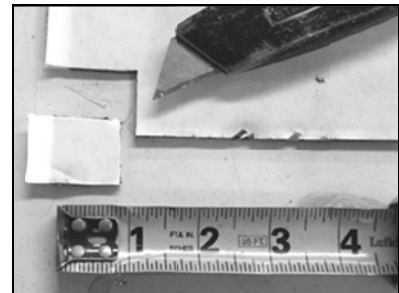
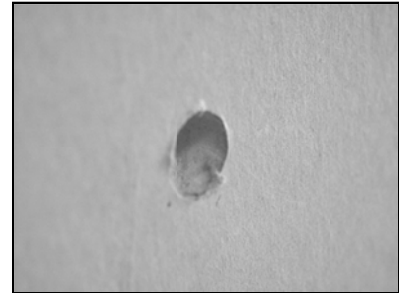
FIRE PUTTY INSTALLATION

For 3M Fire Barrier MPP+ 4" x 8" Moldable Putty Pad usage in conjunction with Hilti 1/4"-20 Toggler® Fasteners

The following installation instructions are to be used for handrail installations with Hilti 1/4"-20 Toggler® fasteners under OSHPD jurisdiction or wherever fire wall ratings are a concern.

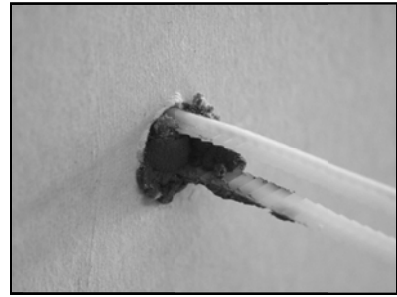
Procedure

1. Per the standard Toggler® fastener installation instructions, drill a 1/2" diameter hole through the drywall and steel stud substrate.
2. Cut a 1" x 1" square from the 3M Fire Barrier MPP+ 4" x 8" Moldable Putty Pad and remove the liner from both sides.[▲]
3. Pack the putty between and around the plastic straps of the Toggler fastener, just below the 2" wide metal channel.
4. Hold the metal channel flat alongside one of the plastic straps and slide the channel through the hole in the wall.

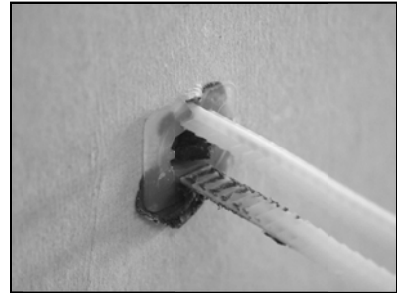


[▲] The amount of putty required was calculated based on volume. A 1/2" diameter hole in 5/8" thick drywall is a volume loss of 0.123 in³. Dividing this value by the 1/8" thickness of the moldable putty pad yields a required area of 0.982 in² or approximately a 1" x 1" square. This is actually more than adequate considering the volume that will later be occupied by the 1/4"-20 bolt that will be installed through the Toggler® to anchor the handrail to the wall.

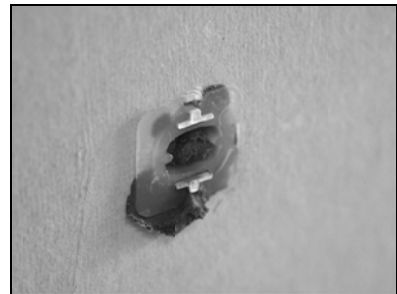
5. Pull the plastic straps of the Toggler® toward you until the channel rests flush against the steel stud on the inside of the wall.



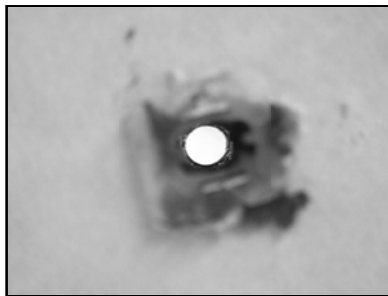
6. Slide the plastic cap of the Toggler® along the straps until the cap is flush with the wall. This will sandwich the putty to conform to the perimeter of the hole in the drywall.



7. Snap the plastic straps off of the Toggler® so that they are flush with the flange of the cap.

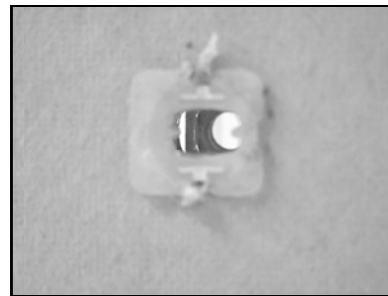


8. When the fastener is installed through the handrail bracket and into the wall, the putty will be further compressed in the hole, providing a tight seal. The photos below compare Toggler® fasteners installed with and without the putty to illustrate the seal provided when following these instructions.



Toggler® installed with 3M
Moldable Fire Putty

A 1/4"-20 bolt had been installed and removed from the Toggler® prior to taking this photo.



Toggler® installed without
3M Moldable Fire Putty

Notice that not only can you see through the 1/4"-20 hole, but you can also see between the channel and the side of the 1/2" diameter hole in the drywall.