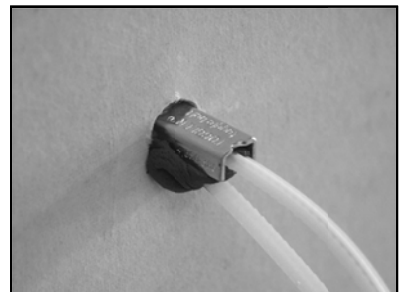
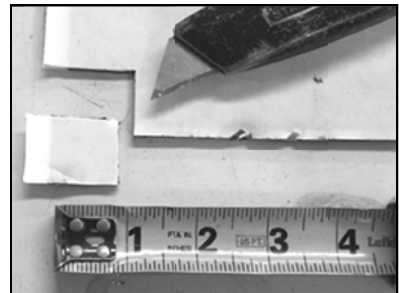
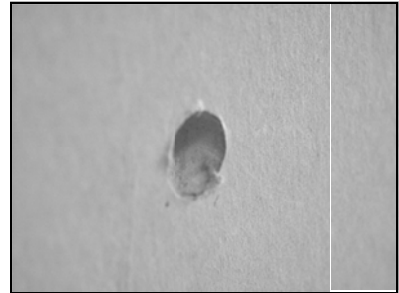


FIRE PUTTY INSTALLATION

For 3M Fire Barrier MPPP+ 100mm x 200mm Moldable Putty Pad usage in conjunction with HTB-2 M6 Toggle Bolt.

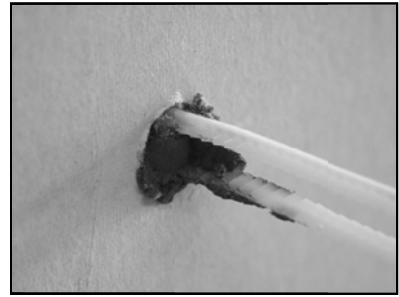
Procedure

1. Drill a 13mm diameter hole through the drywall and steel stud substrate.
2. Cut a 25mm x 25mm square from the 3M Fire Barrier MPPP+ 100mm x 200mm Moldable Putty Pad and remove the liner from both sides.♣
3. Pack the putty between and around the plastic straps of the HTB-2 M6 Toggle Bolt, just below the 50mm 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.

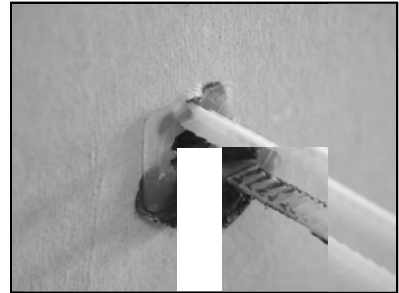


♣ The amount of putty required was calculated based on volume. A 13mm diameter hole in 16mm thick drywall is a volume loss of 2cm³. Dividing this value by the 3mm thickness of the moldable putty pad yields a required area of 6.3cm² or approximately a 25mm x 25mm square. This is actually more than adequate considering the volume that will later be occupied by the M6 bolt that will be installed through the HTB-2 Toggle Bolt to anchor the handrail to the wall.

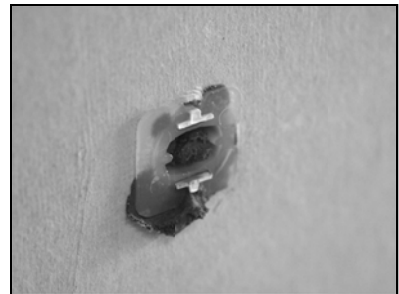
5. Pull the plastic straps of the HTB-2 Toggle Bolt towards you until the channel rests flush against the steel stud on the inside of the wall.



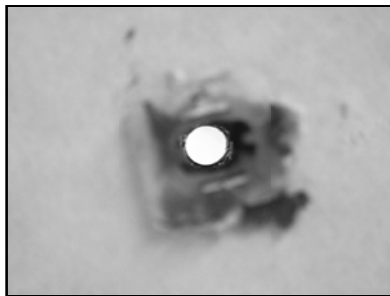
6. Slide the plastic cap of the HTB-2 Toggle Bolt along the straps until the cap is flush with the wall. This will sandwich the putty to conform to the perimeter of the hole in the drywall.



7. Snap the plastic straps off of the HTB-2 Toggle Bolt so that they are flush with the flange of the cap.

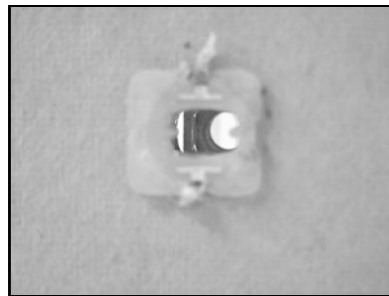


8. When the fastener is installed through the handrail bracket and into the wall, the putty will be further compressed in the hole, providing a tight seal. The photos below compare HTB-2 Toggle Bolt installed with and without the putty to illustrate the seal provided when following these instructions.



HTB-2 Toggle Bolt installed
with 3M Moldable Fire Putty

A 1/4"-20 bolt had been installed and removed from the HTB-2 Toggle Bolt prior to taking this photo.



HTB-2 Toggle Bolt installed
without 3M Moldable Fire Putty

Notice that only can you see through the M6 hole, but you can also see between the channel and the side of the 13mm diameter hole in the drywall.