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Fill Your Needs.

How to seal wall and floor
penetrations with
3M Fire Protection Products.

Holes or gaps affect the fire rating of a floor or wall. Properly filling these penetrations with approved products will restore the original rating.

3M Fire Protection Products, when installed as described here, block the passage of flame, hot air, smoke and gases through wall and floor openings.

The installation process has 3 basic steps:

- 1) Trimming the barrier sheet to fit the opening
- 2) Affixing the sheet
- 3) Sealing seams and gaps

Required materials

- 3M Fire Barrier CS-195 + Composite Sheet
- 3M Fire Barrier Moldable Putty +
- Cardboard
- Fender washers, 1/4-in. (6,4mm) x 1 1/4-in. (31,8mm)
- Steel strip, 2-in. (50,8mm) wide, 28-gauge (0,4mm)

- Stirrups, industry approved type
- Stirrup fasteners (Ram Set®, Tapcon® type)
- Cover plate, 10-gauge (3,4mm) steel, industry standard
- Mechanical fasteners, 1/4-in. (6,4mm)
- Sheet metal screws, 1/4-in. (6,4mm)
- Dry wall screws, 2-in. (50,8mm)

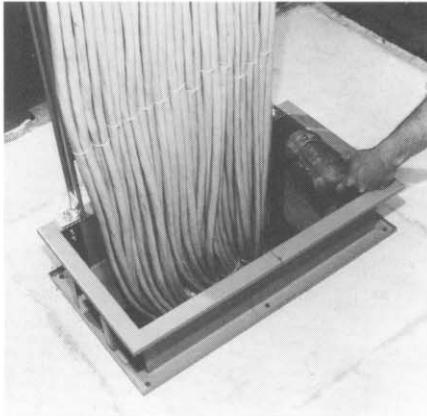
Tools

- Marking pen or pencil
- Sabre saw or nibbler
- Electric drill, 1/4-in. (6,4mm)
- Drill bit (for steel), 3/16-in. (4,8mm)
- Contour gauge

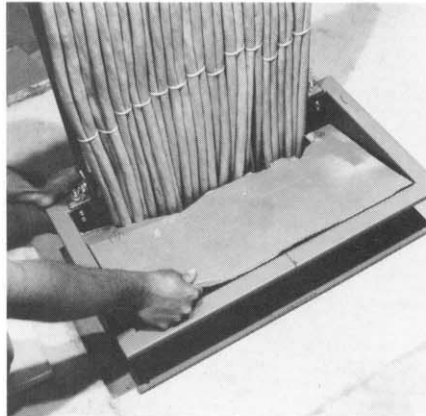
Conditions

Materials should be applied to a clean, dry surface.

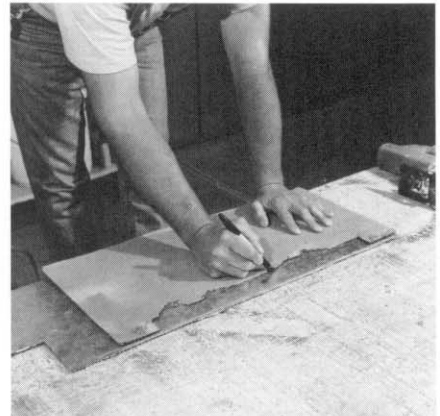
Installing Floor Penetration Seals



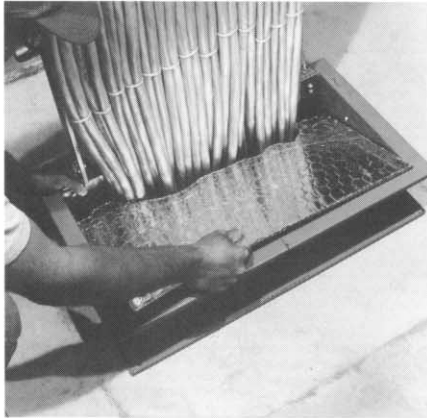
1. Mechanically fasten a minimum of five industry approved stirrup supports to the concrete substrate or steel sheathing frame. Use only engineering-approved fasteners such as Ram Set® Tapcon®, etc.



2. If a contour gauge is unavailable, use a cardboard template and trace around the cables using a marking pen or pencil.



3. Place the template onto a 3M Fire Barrier CS-195 + Composite Sheet and trace the cable outline. (Save the template for the top seal.)



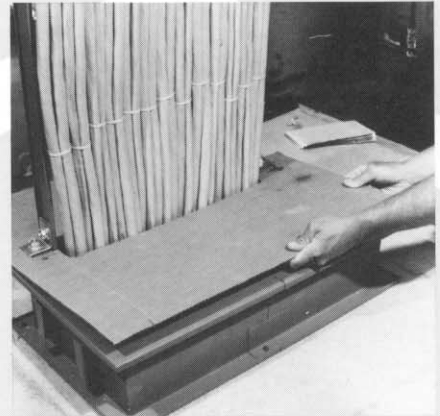
4. Using a sabre saw or nibbler, cut the CS-195 + Composite Sheet. Install with the foil/wire mesh side of the sheet facing toward you. Be sure to cut so the sheet will clear the cable. A ¼-in. (6,4mm) to ½-in. (12,7mm) gap between the CS-195 + Composite Sheet and cable bundle is acceptable.



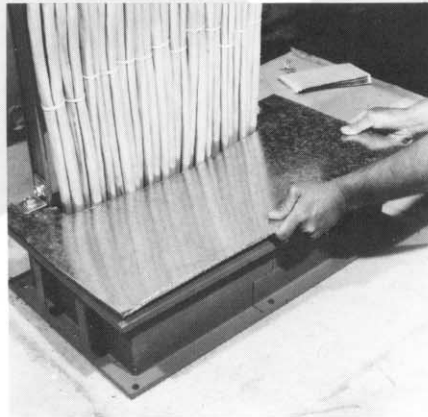
5. Mechanically fasten a CS-195 + Composite Sheet to the stirrup legs in the bottom of the opening. Use ¼-in. (6,4mm) sheet metal screws.



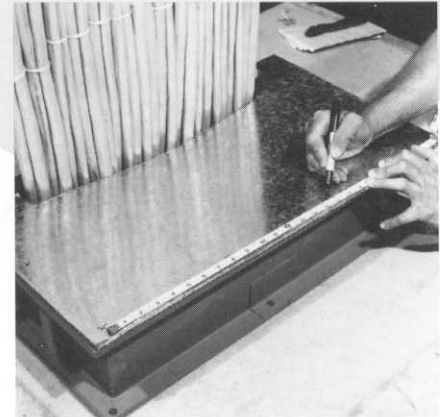
6. Press 3M Fire Barrier Moldable Putty + in the void between the cable bundle and CS-195 + Composite Sheet, and all around the opening where the sheet meets the floor or ceiling. Also work Moldable Putty + between individual cables. Moldable Putty + should be applied to a nominal 1-in. (25,4mm) depth.



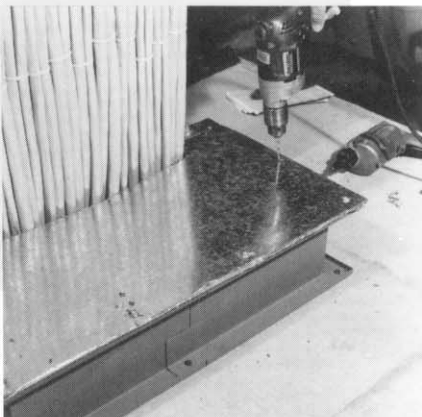
7. Again using the cardboard template, outline the top sheet of CS-195 + Composite Sheet and the industry standard 10-gauge (3.4mm) steel cover plate. The foil/wire mesh side of the sheet should face toward the opening.



8. Cut both the CS-195 + Composite Sheet and the steel cover plate. Be sure to allow a 1/4-in. (6.4mm) to 1/2-in. (12.7mm) gap between sheet, plate and cable bundle.



9. Place the top CS-195 + Composite Sheet and steel plate over the opening, and mark pilot holes on no greater than 8-in (203.2mm) centers. Remember the foil/wire mesh side of the sheet should face toward the opening.



10. Drill 3/16-in. (4.8mm) pilot holes through the steel sheet and the CS-195 + Composite Sheet. Attach steel sheet and CS-195 + Composite Sheet together and to the steel riser or floor with 1/4-in. (6.4mm) mechanical fasteners.

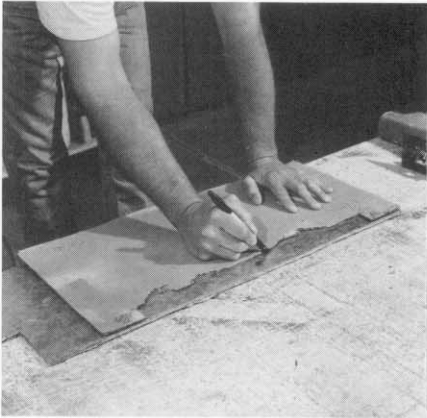


11. Press 3M Fire Barrier Moldable Putty + into the voids between the cable bundle and the CS-195 + Composite Sheet, and work it in between individual cables. Moldable Putty + should be applied to a nominal 1-in. (25.4mm) depth.

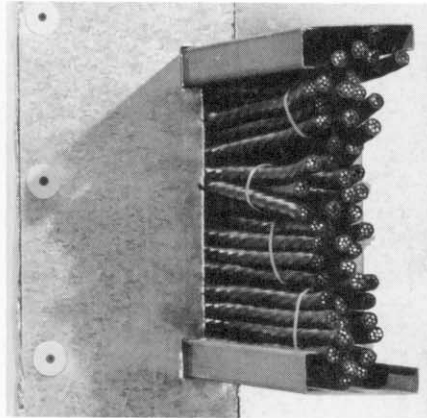


12. Also press 3M Fire Barrier Moldable Putty + into the voids along the back side of the penetration seal, and work it in between individual cables. Moldable Putty + should be applied to a nominal 1-in (25.4mm) depth.

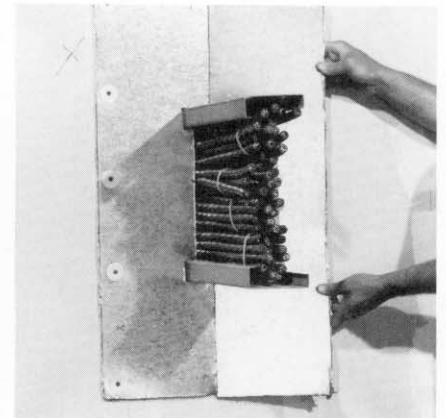
Installing Wall Penetration Seals



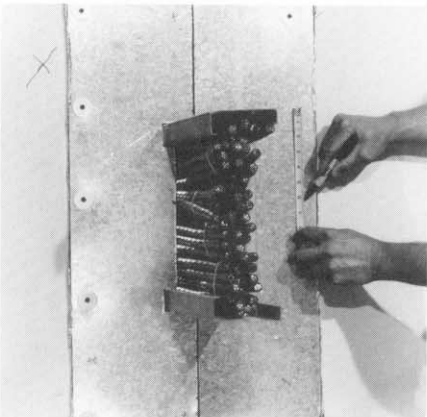
1. If a contour gauge is unavailable, use a sheet of cardboard to make a template by tracing around the cable tray and cable bundle to be protected. Use the template to trace a pattern onto the 3M Fire Barrier CS-195 + Composite Sheet. Use a sabre saw or nibbler to cut this sheet.



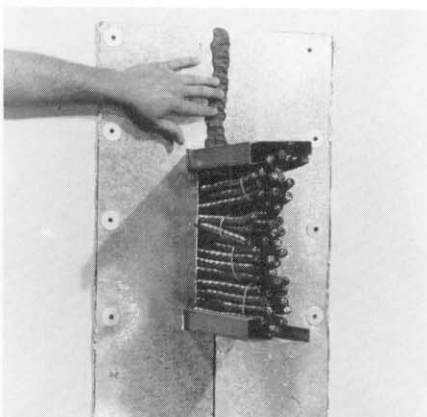
2. CS-195 + Composite Sheet is installed in two sections to fit around the cable tray and cable bundle. Be sure to cut so the sheet will clear the cable. A 1/4-in. (6,4mm) to 1/2-in. (12,7mm) gap between the CS-195 + Composite Sheet and cable bundle is acceptable.



3. Place a section of CS-195 + Composite Sheet against the dry wall **with the foil and mesh side toward the wall.**



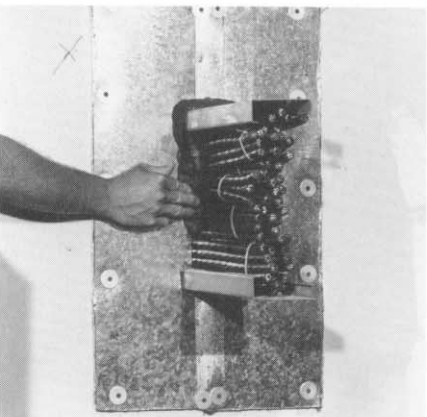
4. Use 2-in. (50,8mm) Type S dry wall screws and 1/4-in. x 1 1/4-in. (6,4mm x 31,8mm) fender washers to mechanically fasten each of the two sections of the CS-195 + Composite Sheet to metal studs at no greater than 6-in. (152,4mm) on center.



5. Cover the seam between the two sections of CS-195 + Composite Sheet with 3M Fire Barrier Moldable Putty +.



6. Apply a 2-in. (50,8mm) wide, 28-gauge (0,4mm) steel strip over the Moldable Putty +. Be sure the metal strip extends the full length of the seam. This includes the seam above and below the cable tray. Use 1/4-in. (6,4mm) sheet metal screws to secure this metal strip to the CS-195 + Composite Sheet.



7. Press Moldable Putty + into the void between the CS-195 + Composite Sheet, cable tray and cable bundle. Also work Moldable Putty + between individual cables. Moldable Putty + should be applied to a nominal 1-in. (25,4mm) depth.



Warranty and Limited Remedy.

This product will be free from defects in material and manufacture for a period of ninety (90) days from date of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. If this 3M product is proved to be defective within the warranty period stated above, your exclusive remedy and 3M's sole obligation shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product.

Limitation of Liability.

Except where prohibited by law, 3M will not be liable for any loss or damages arising from the use of this 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



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