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Fire Retardant "HOT LINE" 1-800-913-9385

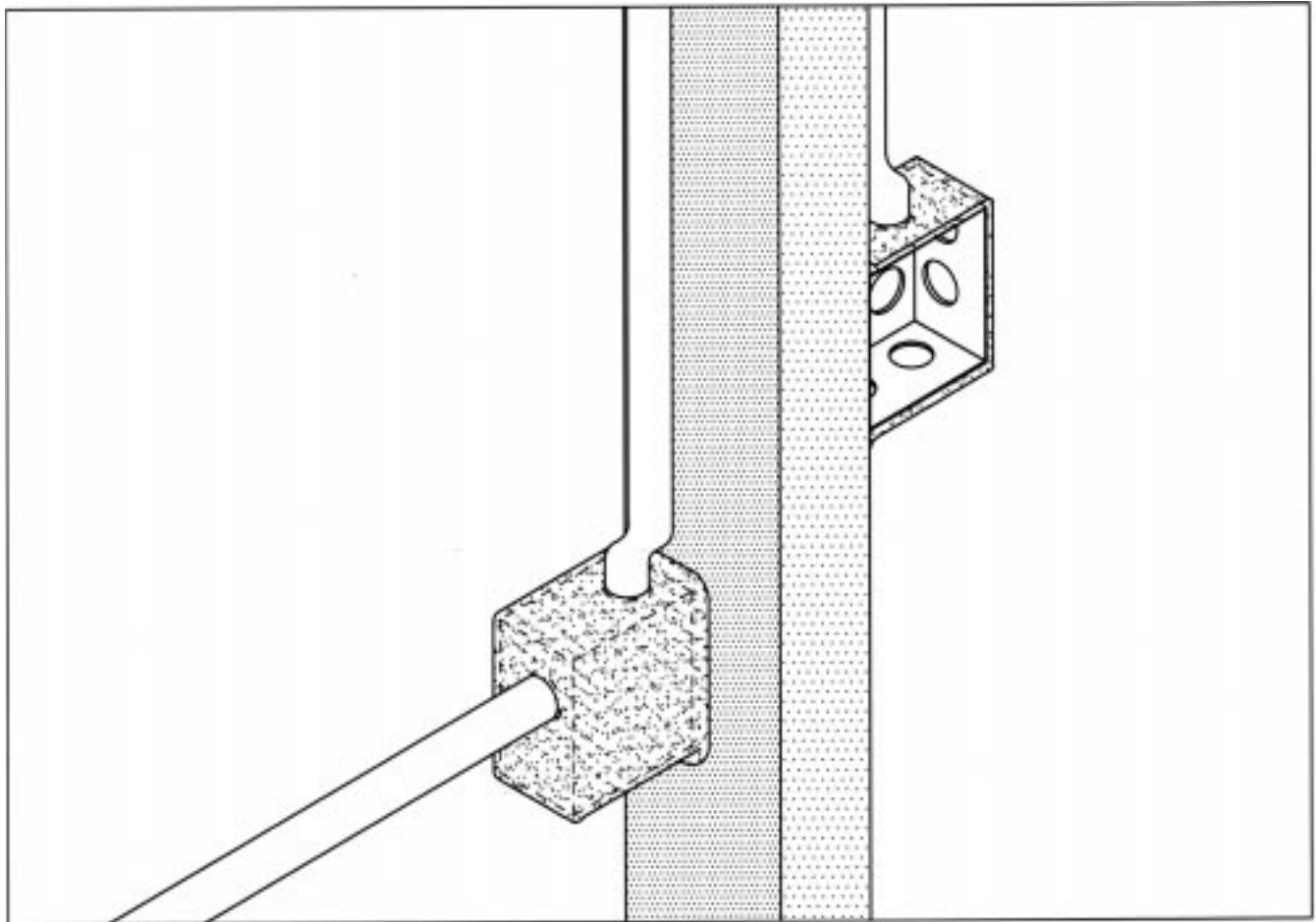
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3M

Fire Barrier Moldable Putty+ Pads

Protecting Metallic and Non-Metallic Electrical Boxes



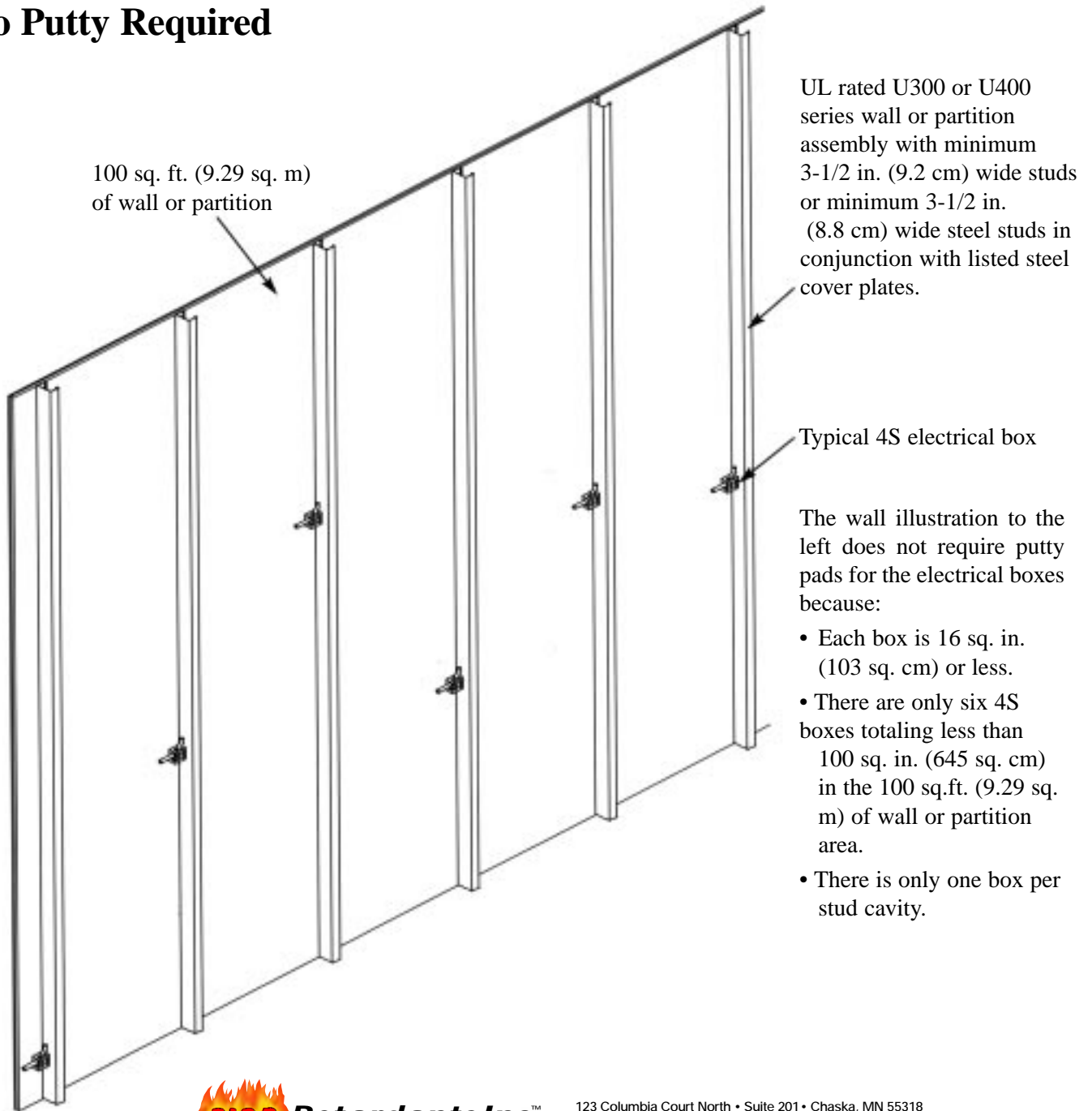
This information brochure highlights requirements for UL listed, fire-rated electrical boxes located in some UL U300 and U400 fire-rated wall and partition designs. The information contained herein is intended to help in understanding codes (UBC, SBCCI, BOCA and NEC) and when to use 3M[™] Fire Barrier Moldable Putty+ Pads per Underwriters Laboratories, Inc.® "Wall Openings Protective Material" (CLIV) listing.

What Does the Code Mean?

1997 UBC Code Guidelines

Section 709.7 Exception: 1. - Steel electrical boxes that do not exceed 16 sq. in. (103 sq. cm) in area, provided that the area of such openings does not exceed 100 sq. in. (645 sq. cm) for any 100 sq. ft. (9.29 sq. m) of wall area. Outlet boxes on opposite sides of the wall shall be separated by a horizontal distance of not less than 24 in. (60.9 cm). Membrane penetrations for electrical outlet boxes of any material are permitted, provided that such boxes are tested for use in fire resistive assemblies and installed in accordance with the tested assembly.

No Putty Required



The wall illustration to the left does not require putty pads for the electrical boxes because:

- Each box is 16 sq. in. (103 sq. cm) or less.
- There are only six 4S boxes totaling less than 100 sq. in. (645 sq. cm) in the 100 sq.ft. (9.29 sq. m) of wall or partition area.
- There is only one box per stud cavity.

When Putty Pads Are Used

Three Reasons to Use Putty

Putty pads are used to protect metallic and non-metallic electrical boxes for the following three reasons.

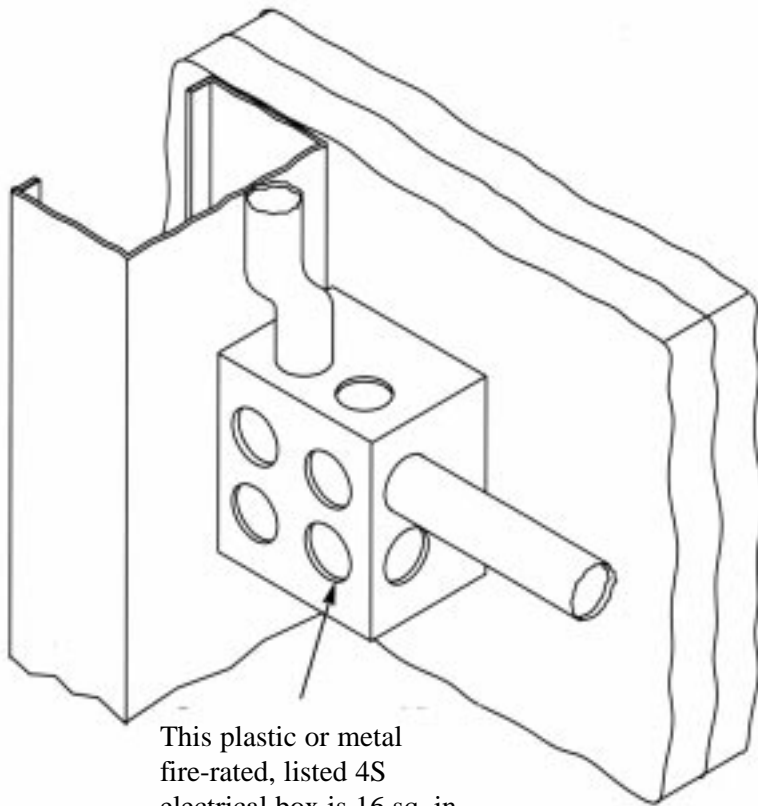
Size of Box

If the aggregate area of the boxes exceeds 100 sq. ft. (645 sq. cm per 9.29 sq. m) of wall, all the boxes must be protected using putty pads.

Spacing Between Boxes

If the horizontal spacing between boxes is less than the required 24 in. (60.9), the boxes must be protected using putty pads.

Size of Box



This plastic or metal fire-rated, listed 4S electrical box is 16 sq. in. (103 sq. cm) or less.

No Putty Required

- Each 4S electrical box is 16 sq. in. (103 sq. cm) or less.
- Each 4S electrical box must be UL fire-rated and listed for use in a fire-rated assembly.

Putty Required

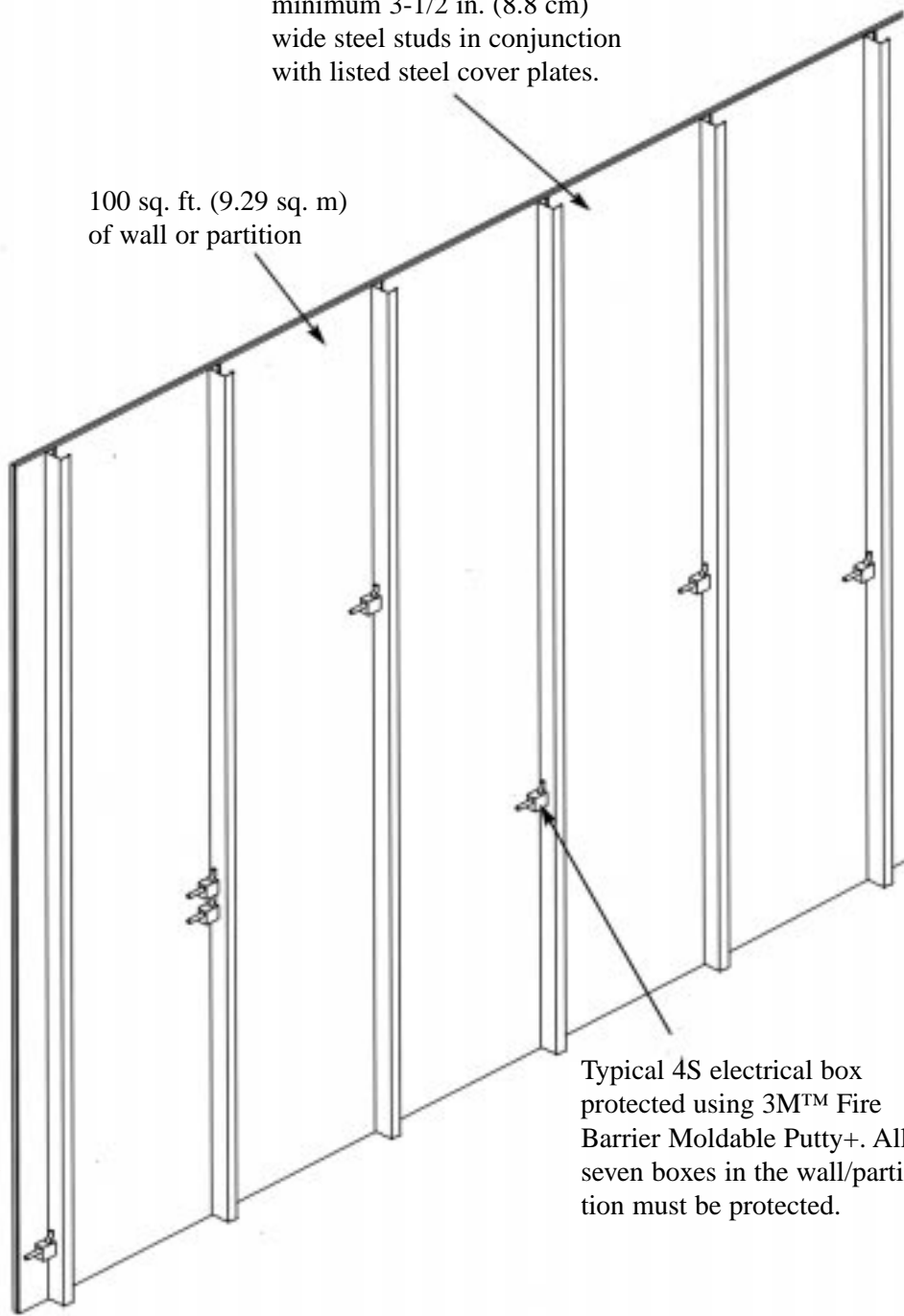
- Boxes exceeding 16 sq. in. (103 sq. cm) must be protected using putty pads. See back page for step-by-step instruction for applying putty pads to a typical electrical box.

Aggregate Area of Boxes

Putty Required

UL rated U300 or U400 series wall or partition assembly with minimum 3-5/8 in. (9.2 cm) wide studs or minimum 3-1/2 in. (8.8 cm) wide steel studs in conjunction with listed steel cover plates.

100 sq. ft. (9.29 sq. m)
of wall or partition

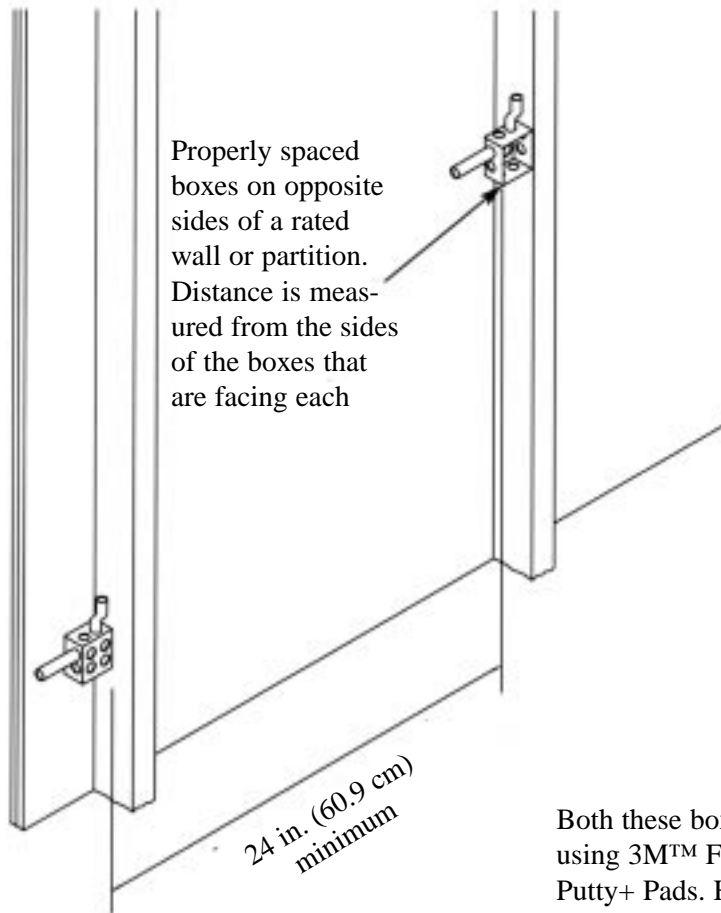


Typical 4S electrical box protected using 3M™ Fire Barrier Moldable Putty+. All seven boxes in the wall/partition must be protected.

- Seven boxes are present within the 100 sq. ft. (9.29 sq. m) of wall. The aggregate area of all boxes exceeds the maximum 100 sq. in. per 100 sq. ft. (645 sq. cm per 9.29 sq. m) of wall or partition.
- This configuration requires all seven boxes to be protected using 3M™ Fire Barrier Moldable Putty+ Pads.

Spacing Between Boxes

No Putty Required

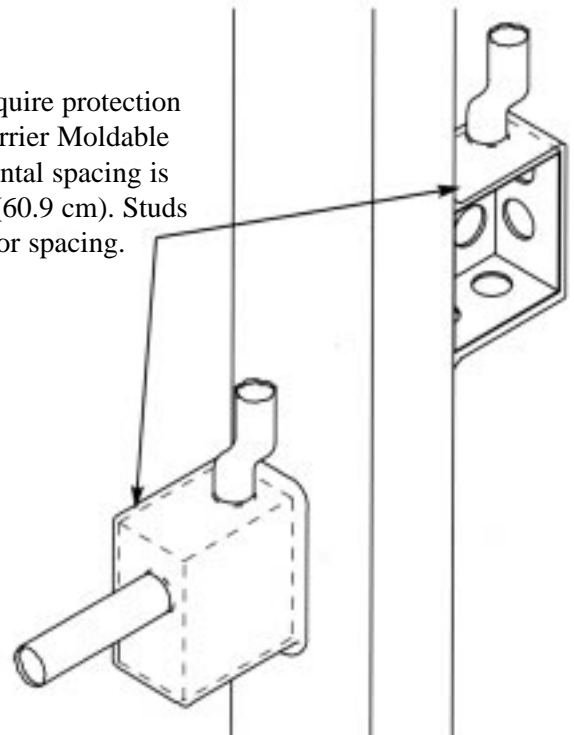


- Separation of boxes by a stud does not satisfy the 24 in. (60.9 cm) spacing requirement.
- Spacing is the indicator for determining if boxes on opposite sides of a rated wall or partition need to be protected. Vertical distance and studs are not considered for spacing.

- Boxes on opposite sides of a rated wall or partition must be spaced 24 inches (60.9 cm) minimum horizontal. Reduced spacing is allowed if boxes are protected with 3M™ Fire Barrier Moldable Putty+ Pads, provided boxes are not back to back.
- Vertical distance is not considered.

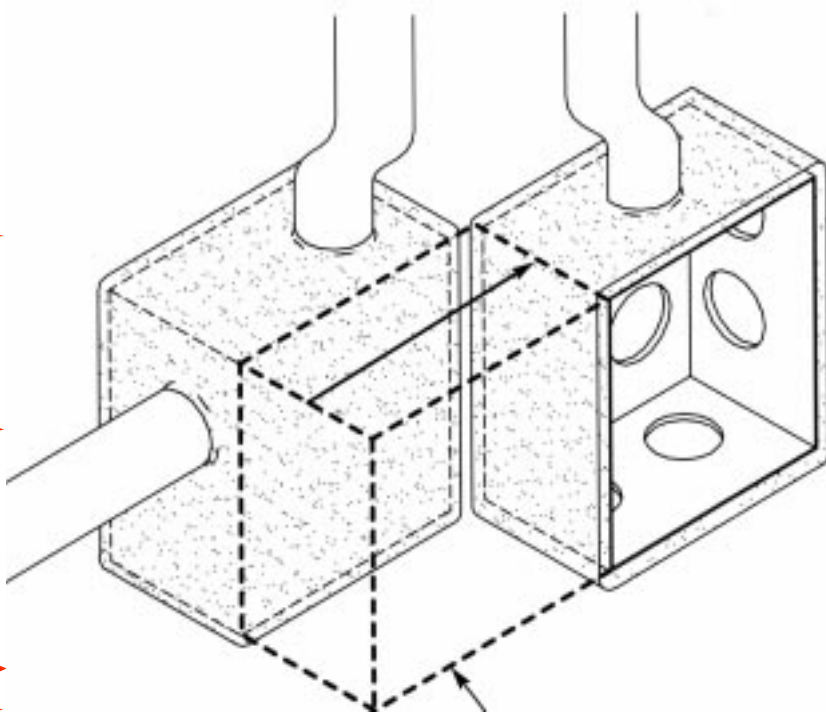
Putty Required

Both these boxes require protection using 3M™ Fire Barrier Moldable Putty+ Pads. Horizontal spacing is less than 24 inches (60.9 cm). Studs are not considered for spacing.



Spacing Between Boxes – Continued

Putty Required



No overlapping of backs anywhere in the area identified by dashed lines.

- The 24 in. (60.9 cm) minimum required spacing can be reduced if the boxes are protected using putty pads, provided the boxes are not installed back to back nor any portion of the backs are overlapping as shown in the drawing to the left.
- In addition, to facilitate application of the putty, the box corners should have sufficient space between them to allow application of the putty pads to each box.

Using Putty Pads... Who Makes The Call?

Putty pads are a tested method for overcoming some of the limitations suggested by the NFPA Life Safety Code.

Adherence to these limitations is at the discretion of the local authority having jurisdiction (AHJ).

The bottom line? Check with your local inspector before installing putty pads.

3M UL Listing (CLIV)

Wall Opening Protective Materials

MINNESOTA MINING & MFG CO December 12, 1998 R9700 (NBK)

3M Center
St. Paul, MN 55144

Type MPP-4S+ moldable putty pads for use with max 4-11/16 by 4-11/16 in. flush device UL Listed **Metallic Outlet Boxes** in 1 and 2 hour fire rated gypsum wallboard wall assemblies framed with mm 3-5/8 in. wide wood studs or 3-1/2 in. wide steel studs and constructed as specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP-4S+ moldable putty pads for use with max 12 by 4-1/2 in. flush device UL Listed **Metallic Outlet Boxes** in 1 hr fire rated gypsum wallboard wall assemblies framed with mm 3-5/8 in. wide wood studs or 3-1/2 in. wide steel studs and constructed as specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP-4S+ moldable putty pads for use with max 4 by 3-3/4 by 3 in. deep UL Listed **Non-metallic Outlet Boxes** manufactured by Carison Electrical Products, made of PVC and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. For use in fire rated gypsum wallboard wall assemblies framed with mm 3-5/8 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP-4S+ moldable putty pads for use with max 4-1/16 by 3-5/8 by 3-1/8 in. deep UL Listed **Non-metallic Outlet Boxes** manufactured by Thomas & Betts Corp, made of phenolic and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. For use in 1 hr fire rated gypsum wallboard wall assemblies framed with mm 3-5/8 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP-4S+ moldable putty pads for use with max 4 by 3-9/16 by 3-3/16 in. deep UL Listed **Non-metallic Outlet Boxes** manufactured by Thomas & Betts Corp, made of polycarbonate or PVC and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. For use in 1 hr fire rated gypsum wallboard wall assemblies framed with mm 3-5/8 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory.

Moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) including nailing tabs and completely seal against the stud within the stud cavity. An additional ball of the putty material used to plug the end of each electrical metallic tube or conduit at its connection to the box. A mm 1/8 in. thickness of putty material is required on the exterior surfaces of flush device boxes in 1 and 2 hr fire rated Wall and Partition Designs. When the moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the outlet boxes are not installed back to back.

LOOK FOR CLASSIFICATION MARKING ON PRODUCT

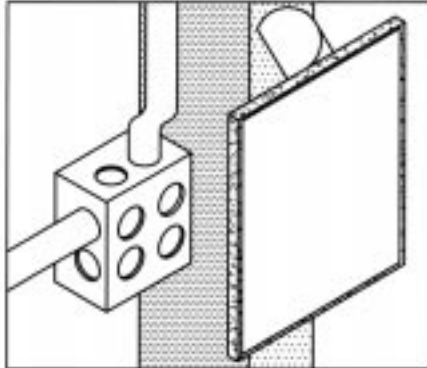


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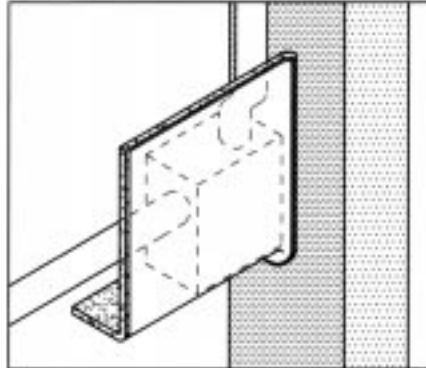
Typical Moldable Putty Application Steps

Refer to the Wall Opening Protective Material (CLIV) listing on the previous page for application details.

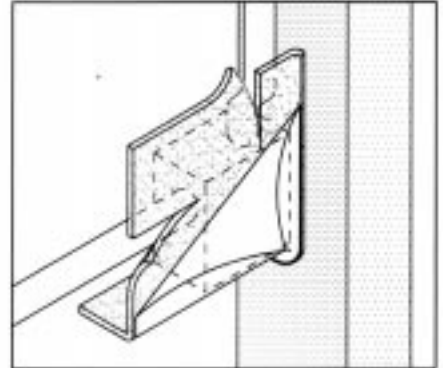
To ensure adequate adhesion, clean all surfaces removing dust, grease, oil, loose materials, rust or other substances. No special skill or tools are required.



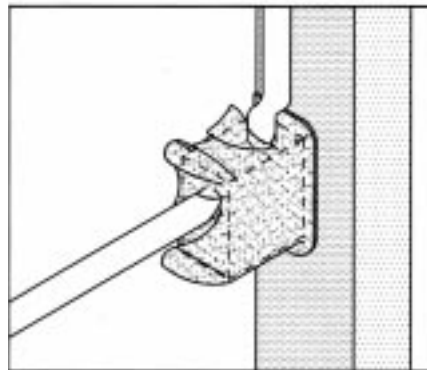
Step 1: Remove liner from one side of



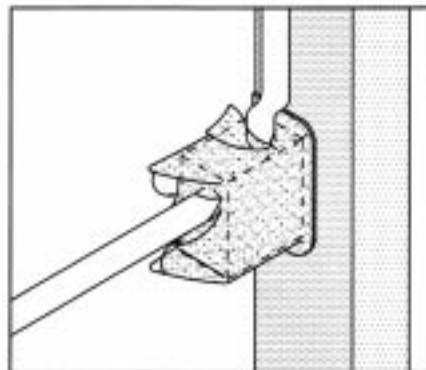
Step 1: Apply pad to bottom then backside of box, partially overlapping the stud.



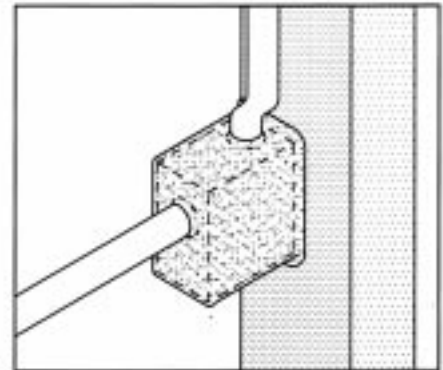
Step 1: Cut slits in pad to provide a snug fit around conduits or cables. Remove remaining liner from pad.



Step 4: Fold pad over top and side of box allowing excess putty to form pleats at the corners.



Step 5: Pinch pleat material together and fold against the vertical side of box or trim excess off as desired.



Step 6: Ensure pad is pressed firmly to surface of top, bottom and sides of box.

Important: Putty pad must be applied to a minimum depth of 1/8 inch (3.2 mm) (one layer of pad) over the entire exterior surface of the box for both 1 and 2 hour applications. Additional moldable putty may be packed into inside of conduit fittings to prevent passage of smoke through the conduit system.

3M™ Fire Barrier Moldable Putty+ (MPP)	Size	Cubic Inches (cm)	Units per Carton
MPP-4S+	1/8 in. x 7 in. x 7 in. (3.2 mm x 178 mm x 178 mm)	6.12 (100.2)	20
MPP-5S+	1/8 in. x 9.5 in. x 9.5 in. (3.2 mm x 241.3 mm x 241.3 mm)	11.3 (185.1)	20

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.

3M

Specified Construction Products Department



Through-Penetration Firestop Device (XHJI) Classified by Underwriters Laboratory, Inc. See UL Fire Resistance Directory and R9700, 9-27-96 for details.

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