

BARTKOWSKI AND MCDONALD PRESENT...

## THE BARTKOWSKI REPORT

### PUTTY PADS – RULES AND USES

We stated in our last issue that we would continue our discussion on Construction Joint Firestopping by studying two more U.L. Tested System Designs and build a sample submittal using the Fire Protection Worksheet Template.

Well, we're going to push that topic to the rear for now, as I believe this issue's topic is timelier and definitely more misunderstood.

How many times have you asked yourself, 'Where are putty pads required?', 'What are the parameters that must be followed on putty pad use?', 'Can I use putty pads on any recessed cabinet in a gypsum wall partition?' The answers to these questions are addressed in this issue of ***The Bartkowski Report – PUTTY PADS – RULES AND USES.***

Most believe that putty pads restore the rating of an assembly that has been breached by an electric box recessed into the wall. That's not really the way one should look at this subject. First, only rated boxes should be installed in rated partitions. The putty pads do not magically make the membrane penetration compliant as these devices are not tested to the same standard as through penetrations. Rather, the putty pads serve a different purpose.

We know that for a rated gypsum wall to maintain its integrity in a fire scenario, the 'cold side' face of the assembly (the side not exposed to the fire) must remain intact for the duration of the test. Once this cold side is compromised, the rating is lost as the hot side has already been destroyed in the fire. Anything that contributes to the 'weakening' of that cold side is a potential problem. This is exactly the situation for which the putty pad was designed.

The putty pad does not 'magically' rate the wall breached by the recessed device. Rather, the putty pad retards the transmission of heat through the back of the device that may compromise the cold side of the rated assembly.

For this discussion we will focus primarily on fire-rated electrical boxes. Know that the following generally apply to other recessed devices and are applicable to those installed in fire-rated gypsum walls.

The three guidelines that need to be followed for putty pad requirements are:

- **Size of box** – Each box whose backside surface area exceeds 16 square inches will require a putty pad. Example: a single **4” x 4”** box would not require a putty pad as its surface area is 16 square inches. A **4-11/16” x 4-11/16”** box would require a pad.
- **100 sq. in. Rule** – Total surface area of metallic boxes must not exceed 100 sq. in. per 100 sq. ft. of wall area. Example: six (6) – 4” x 4” boxes located on the same side of a rated wall may be installed next to each other in a 100 sq. ft. of wall area as the six boxes have a cumulative area of 96 sq. in. Note, however should an additional box be added, all boxes in the defined space would require putty pad treatment as the 100 sq. in. rule would be violated. For boxes on boxes on both sides of a rated wall, see the **24 in. rule** below.
- **24 in. Rule** – This is the one requirement with which most are familiar. Metallic boxes located on opposite sides of a rated wall or partition must be separated by a minimum 24 in. horizontal separation. Anything less than this horizontal separation will require a putty pad on both boxes.

Note that a ‘violation’ of any of the aforementioned rules would require putty pad treatment.

Other things to keep in mind:

- Boxes on opposite sides of a rated wall or partition must never be installed back-to-back (or have any overlap whatsoever). \* **check local codes for compliance**
- Make sure that the cover / switch plates used are as specified in the UL Wall Opening Protective Materials (CLIV) Classification
- Separation of boxes by a stud does not satisfy the 24 in. spacing requirement.
- Remember it is a 24 in. horizontal separation. Vertical distance is not considered for spacing.
- Requirements for non-metallic boxes are similar to the requirements for metallic boxes. There are differences based on the particular box manufacturer. Feel free to call for assistance.

We trust that this has cleared up some of the ‘misunderstandings’ regarding putty pad treatment. Should further questions remain, please contact us.

### **BONUS INFORMATION**

Recently, there has been scrutiny of other types of boxes or devices recessed in fire rated gypsum walls. These include fire extinguisher cabinets, eye wash stations and various medical gas products.

For example, one of the leading manufacturers of medical gas products has issued a memo stating that the mounting of their products in fire rated walls should be avoided. If these must be placed in a fire rated wall, special treatment is required to retard the transmission of heat through the back of the device. Tested system designs exist for this condition, but know that these are best treated prior to field installation. Call for more details.

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1. Firestopping Audits
2. Quality Control / Quality Assurance Programs for remediation work and new construction projects
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4. Firestopping Installation Services – **FMG 4991 Certified Firestopping Contractor**
5. Damper Inspections

We'd like to hear from you. If there are any firestopping related issues you'd like to see addressed in future issues, let us know. You can contact us at [mike.bartkowski@bartandmcd.com](mailto:mike.bartkowski@bartandmcd.com). You can also access our website – [www.bartandmcd.com](http://www.bartandmcd.com). Here we have archived past issues of *The Bartkowski Report* for your reference.

Sincerely,

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