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## **FLOOR BOX FIRE RATING AND LOAD TESTING**

In regard to the FL-500P, FL-540P, FL-600P, FL-640P, FL-700, and FL-710 Series Floorboxes, per Underwriters Laboratories (UL) Record E171211, the steel boxes are not required to be “fire rated”. However when the box is installed within a concrete slab the box will assume the fire rating of the slab.

If the box penetrates the slab the contractor usually only needs to fill the space between the box and slab with a fire rated silicone to prevent vapor passage from below the slab to above the slab. Please refer to your local fire codes for acceptable silicone. Some local fire codes may also require the application of a “spray-on fire retardant” to any exposed external areas of the steel boxes that penetrate the slab. Usually the same fire retardant used on HVAC ducts can be used, if needed. There are 4 knockouts on the bottom of this series of floorboxes and because of UL requirements they are punched in such a manner that the unused knockouts will also not allow passage of vapor from one zone to the next.

### ***Floor Box Fire Rating (UL File E-171211)***

*The FSR inc. (FL) series floor boxes will meet local fire codes if installed correctly. It's the contractors' responsibility to understand and implement any fire stopping or proofing required by local codes.*

*The FL series boxes will take on the rating of the floor if there are no penetrations to the floor below and the minimum concrete thickness encases the box.*

*Any floor box or conduit that penetrate the slab must be fire proofed. This may be done with spray on fire proofing and / or fire stopping. Consult local codes for required materials and thickness.*

*FSR floor boxes are designed to UL specifications for floor boxes and are not required to carry a fire rating.*

### **FLOOR BOX AND COVER LOAD TESTING (UL 514A Section 32A.3)**

*All FSR floor boxes are subjected to a load test of 300 pounds exerted through a 3” diameter ram on the structurally weakest part of the cover without structural failure. The test checks for the effects of load stress and permanent deformation on properly installed Floor Boxes.*

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## Metallic Outlet Boxes

### Guide Information

**FSR INC**

244 BERGEN BLVD  
WEST PATERSON, NJ 07424 USA

E171211

Floor boxes.

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### [Outlet Boxes and Fittings] Metallic Outlet Boxes

#### Guide Information

#### GENERAL

This category covers metallic flush device boxes, conduit bodies, conduit boxes, outlet boxes, special purpose boxes, extension rings, covers, and flush-device cover plates.

#### BOX EXTENSIONS

Box extensions are suitable for extending properly secured flush or surface mounted boxes. One or more extensions may be used.

#### USE IN FIRE RATED ASSEMBLIES

Listed single and double gang metallic outlet and switch boxes with metallic or nonmetallic cover plates may be used in bearing and nonbearing wood stud and steel stud walls with rating not exceeding 2 h. These walls have gypsum wallboard facings similar to those shown in Design Nos. U301, U411 and U425, as shown in the Fire Resistance Directory. The boxes are intended to be fastened to the studs with the openings in the wallboard facing cut so that the clearance between the boxes and the wallboard do not exceed 1/8 in. The boxes are intended to be installed so that the surface area of individual boxes do not exceed 16 sq in, and the aggregate surface area of the boxes do not exceed 100 sq in per 100 sq ft of wall surface.

Boxes located on opposite sides of walls or partitions are intended to be separated by a minimum horizontal distance of 24 in. This minimum separation distance between the boxes may be reduced when Wall Opening Protective Materials (QCSN) are installed according to the requirements of their Classification.

The boxes are not intended to be installed on opposite sides of walls or partitions of staggered stud construction unless Wall Opening Protective Materials (QCSN) are installed with the boxes in accordance with Classification requirements for the protective materials.

Listed metallic outlet and switch boxes with metallic or nonmetallic cover plates may be used in floor-ceiling and roof-ceiling assemblies with ratings not exceeding 2 h when these assemblies have gypsum wallboard membranes. The boxes are intended to be fastened to the joists with the openings in the wallboard facing cut so that the clearance between the boxes and the gypsum wallboard do not exceed 1/8 in. The boxes are intended to be installed so that the surface area of individual boxes do not exceed 16 sq in and the aggregate surface area of the boxes do not exceed 100 sq in per 100 sq ft of ceiling surface.

### **CONDUIT BODIES**

Conduit bodies that are provided with a volume marking can enclose splices, taps or devices. Conduit bodies that are not provided with a volume marking are covered under Conduit Fittings (DWTT). Conduit bodies Classified for use with specific conduit body covers and conduit body covers Classified for use with specific conduit bodies are covered under Conduit Bodies and Covers Classified for Use with Specified Equipment (QCKW).

### **CONCENTRIC OR ECCENTRIC KNOCKOUTS**

All boxes with concentric or eccentric knockouts have been investigated for bonding and are suitable for bonding without any additional bonding means around concentric (or eccentric) knockouts where used in circuits above or below 250 V, and may be marked as such.

### **CLAMPS**

Boxes may or may not be provided with clamps. When clamps are provided, the carton is marked to indicate the type of wiring system or combination of systems for which they have been tested. The clamps are marked with the following letters or combinations thereof to indicate that they are suitable for use with armored cable: "A," flexible metal conduit "F," nonmetallic sheathed cable "N" or flexible tubing (loom) "T." Clamps that are suitable for type MC metal clad cable are marked "MCI" for metal clad interlocking armored cables, "MCS" for metal clad continuous smooth sheath cable, and "MCC" for metal clad continuous corrugated sheath cable. If suitable for all seven types, the clamp is marked "ALL." Clamps suitable for nonmetallic sheathed cable are also suitable for multiconductor underground feeder and branch circuit cable where used in dry locations.

Clamps have been tested for securing only one cable per clamp, except multiple section clamps are considered suitable for securing one cable under each section of the clamp, each cable entering a separate knockout.

### **GROUNDING**

Clamps for armored cable, flexible metal conduit, metal clad continuous smooth sheath cable, or metal clad continuous corrugated sheath cable are considered suitable for grounding where installed in accordance with the National Electrical Code, NFPA 70.

### **FIXTURE SUPPORT**

A box, with or without bracket or bar hanger, intended for support of a fixture weighing 50 lbs or less, is provided with a marking "FOR FIXTURE SUPPORT" on the carton to indicate that

the box is for fixture support. A box, with or without bracket or bar hanger, intended for support of a fixture weighing more than 50 lbs, is marked with the weight of the fixture to be supported. Metallic device boxes and device plaster rings have not been investigated for support of a ceiling fixture unless marked to indicate such use. Metallic device boxes or metallic device boxes intended to be installed in an existing structure have been investigated for the support of fixtures, smoke detectors and carbon monoxide detectors weighing not more than 6 lbs.

### **INTEGRAL CONNECTORS**

Boxes with integral connectors for electrical metallic tubing or for unthreaded rigid metallic conduit are provided with a marking on the carton to indicate the specific type or types of wiring system for which the boxes have been tested.

### **CEILING SUSPENDED FAN SUPPORT**

A box, a box with bracket, or bar hanger intended for support of a ceiling suspended (paddle) fan weighing 35 lbs or less is provided with a marking on the product "ACCEPTABLE FOR FAN SUPPORT." A box, a box with bracket, or bar hanger for support of a ceiling suspended (paddle) fan weighing more than 35 lbs but not more than 70 lbs is provided with a marking on the product "ACCEPTABLE FOR FAN SUPPORT up to 70 lbs."

### **CONCRETE TIGHT**

All metal boxes, except aluminum alloy boxes, are provided with corrosion protection suitable for installation in concrete. Aluminum alloy boxes listed here are not considered acceptable for installation in concrete or cinder fill unless protected by asphalt paint or the equivalent. Boxes designated as "concrete tight" may have no means of support other than the concrete and often accommodate covers at top and bottom.

### **FLOOR BOXES**

Floor boxes designed for floor installation as covered in the National Electrical Code are provided with covers and gaskets to exclude surface water and sweeping compounds that might be present in floor cleaning operations. Covers with gaskets may be shipped separately from the boxes. Both products are provided with installation instructions. Those boxes intended for installation in concrete floors are frequently provided with leveling screws, threaded hubs or both, and are provided with a marking on the carton to identify boxes of this type such as "Floor Box Cover," "Floor Box" or "Floor Box, Concrete Tight" as appropriate.

### **WET AND DAMP LOCATIONS**

Boxes and covers intended for use in wet locations as defined by the NEC are marked "Wet Location." Damp location boxes and covers are intended to be so located or equipped as to prevent water from entering or accumulating in the box and are marked "Damp Location." Boxes with threaded conduit hubs will normally prevent water from entering except for condensation within the box or connected conduit.

Box and device cover combinations, and flush device covers that provide protection from the weather only when the cover is closed, are marked "Wet Location Only When Cover Closed"

and may be marked "Damp Location."

### **ADDITIONAL INFORMATION**

For additional information, see Electrical Equipment for Use in Ordinary Locations (AALZ).

### **REQUIREMENTS**

The basic standard used to investigate products in this category is UL 514A, "Metallic Outlet Boxes."

### **UL MARK**

The Listing Mark on the product, or the UL symbol on the product and the Listing Mark of Underwriters Laboratories Inc. on the smallest unit container in which the product is packaged, is the only method provided by UL to identify these products manufactured under its Listing and Follow-Up Service. The Listing Mark for these products includes the UL symbol (as illustrated in the Introduction of this Directory) together with the word "LISTED," a control number, and one of the following product names, as appropriate: "Outlet Box," "Outlet Box and Cover," "Extension Ring," "Flush Device Box," or other appropriate product name as shown in the individual Listings.

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