



# LEW ELECTRIC FLOOR BOX COMPANY

SERVING THE ELECTRICAL INDUSTRY SINCE 1901

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## LEW ELECTRIC TECHNICAL SPECIFICATIONS SECTION 16142 - COMMERCIAL FLOOR BOXES

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. This Section includes the following:
1. Fully adjustable round, square and rectangular floor boxes.
  2. Semi adjustable round and rectangular floor boxes.
  3. Gymnasium floor boxes.
  4. Pedestal and low profile nozzles.
  5. Cover plates and flanges.
  6. Accessories.
- B. Related Sections:
1. Section "Cast-in-Place Concrete" for casting boxes into concrete floors.
  2. Section "Wood Flooring" for placement of boxes in wood floors.
  3. Section "Basic Electrical Materials and Methods" for installation of floor boxes.
  4. Section "Raceways and Boxes" for conduit and tubing.

#### 1.2 REFERENCES

- A. ASTM A 48/A 48M-00 - Standard Specification for Gray Iron Castings.
- B. ASTM A 666-00 Standard Specification for Annealed or Cold-Worked Austenitic A 666 - 00 Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- C. ASTM B 26/B 26M-02 - Standard Specification for Aluminum-Alloy Sand Castings.
- D. ASTM B 151/B 151M-00 - Standard Specification for Copper-Nickel-Zinc Alloy (Nickel Silver) and Copper-Nickel Rod and Bar.
- E. ASTM B 209-02a - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- F. ASTM B 221-02 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- G. ASTM B 283-99a - Standard Specification for Copper and Copper-Alloy Die Forgings (Hot-Pressed).
- H. NFPA 70 – National Electrical Code; 2002.
- I. UL 514A – Standard for Metallic Outlet Boxes; 1996.

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## 1.3 SUBMITTALS

- A. Product Data: Manufacturer's catalog data, product descriptions and installation instructions for each product specified.
- B. Maintenance Instructions: For floor boxes and covers for inclusion in maintenance manual.
- C. Coordination Drawings: Show locations, method of attachment and support for floor boxes.

## 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain floor boxes and covers from one source and a single manufacturer.
- B. Floor Boxes and Accessories: Listed and labeled with official markings indicating in accordance with NFPA 70, Article 100, and fabricated for intended use.
- C. Comply with NFPA 70.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

## 1.6 WARRANTY

- A. Warrant against defects in material and workmanship for a 10 years after substantial completion.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer:  
Lew Electric Fittings Co.  
1801 W St. Charles Rd, Maywood, IL 60153  
Tel: 708-345-2075, Fax: 708-345-6490  
E-Mail: sales@lewelectric.com  
www.lewelectric.com
- B. Substitutions will not be allowed.
- C. Substitutions will be accepted in accordance with Section 01600.

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## 2.2 MATERIALS

- A. Cast Iron: ASTM A 48/A 48M.
- B. Aluminum: ASTM B 26/B 26M, Alloy A356.0-T6.
- C. Brass: ASTM - B283-99a.
- D. Nickel-Silver: ASTM - B151/B151M-00.

## 2.3 FLOOR BOXES

### A. Fully Adjustable Floor Boxes, 1101 Series:

- 1. Rectangular Floor Boxes: UL listed, cast iron, water tight construction for any grade application, with screw anchorage flanges at each corner.
  - a. Single Gang: 3 3/4 inch (93 mm) high, 3/8 inch (9 mm) adjustment after placement, 13 cu. in. interior capacity.
  - b. Two Gang: 3 3/4 inch (93 mm) high, 3/8 inch (9 mm) adjustment after placement, partitioned, 26 cu. in. interior capacity.
  - c. Three Gang: 3 3/4 inch (93 mm) high, 3/8 inch (9 mm) adjustment after placement, partitioned, 40 cu. in. interior capacity.
  - d. Four Gang: 3 3/4 inch (93 mm) high, 3/8 inch (9 mm) adjustment after placement, partitioned, 78 cu. in. interior capacity.
- 2. Round Floor Boxes: UL listed, cast iron, water tight construction for any grade application, with screw anchorage flanges at each corner.
  - a. Shallow: 4 1/4" (106 mm) diameter, 3/8 inch (9 mm) adjustment after placement, 24 cu. in. interior capacity.
  - b. Deep: 4 1/4 inch (106 mm) diameter, 3/8 inch (9 mm) adjustment after placement, 32 cu. in. interior capacity.
  - c. Extra Deep: 4 1/4 inch (106 mm) diameter, 1/2 inch adjustment after placement, 42 cu. in. interior capacity.
- 3. Square Floor Boxes: UL listed, 3 5/8 inch (91 mm) high, cast iron, water tight construction for any grade application, 3/8 inch (9 mm) adjustment after placement, 45 cu. in. interior capacity, with screw anchorage flanges at each corner.

### B. Semi Adjustable Floor Boxes, SH-1101 Series:

- 1. Rectangular Floor Boxes: UL listed, cast iron, water tight construction for any grade application, with screw anchorage flanges at each corner.
  - a. Single Gang: 2 1/4 inch (56 mm) high, 1 inch (25 mm) adjustment before placement, 16 cu. in. interior capacity.

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- b. Two Gang: 2 1/4 inch (56 mm) high, 1 inch (25 mm) adjustment before placement, partitioned, 25 cu. in. interior capacity.
  - c. Three Gang: 2 1/4 inch (56 mm) high, 1 inch (25 mm) adjustment before placement, partitioned, 50 cu. in. interior capacity.
  - d. Four Gang: 2 1/4 inch (56 mm) high, 1 inch (25 mm) adjustment before placement, partitioned, 66 cu. in. interior capacity.
2. Round Floor Boxes: UL listed, cast iron, water tight construction for any grade application, with screw anchorage flanges at each corner.
- a. Shallow: 4 1/4 inch (56 mm) diameter, 1 inch (25 mm) adjustment before placement, 12 cu. in. interior capacity.
  - b. Core Drill: 4 1/4 inch (56 mm) diameter, 1/2 inch (13 mm) adjustment before 12 cu. in. interior capacity.
- C. Gymnasium Floor Boxes, FFB Series: UL listed, cast iron, water tight construction for any grade application.
1. Rectangular Floor Box: 33 cu. in.
  2. Rectangular Floor Box: 78 cu. in.
  3. Rectangular Floor Box: 95 cu. in.

## 2.4 NOZZLES

### A. Pedestal Nozzles:

1. Style: Single position, two side, vertical orientation for 2 duplex receptacles.
2. Style: Single position, two sided, horizontal orientation for 2 duplex receptacles.
3. Style: Single position, single sided, horizontal orientation for a single duplex receptacle.
4. Style: Dual position, two vertical orientation, for 4 duplex receptacles.

### B. Low Profile Nozzles:

1. Style: Single position, two side, horizontal orientation, for 2 duplex receptacles.
2. Style: Single position, two sided, partitioned, horizontal orientation, for 2 duplex receptacles.
3. Style: Dual position, two sided, vertical orientation, for 4 duplex receptacles.

### C. Material:

1. Brass.
2. Aluminum.

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## 2.5 COVER PLATES AND FLANGES

- A. Screw Plug Cover Plate: 1/8 inch (3 mm) thick, with threaded holes to accept screw plugs, fabricated for seamless attachment to floor box with screws of same material as cover plate.
1. Rectangular:
    - a. Style: (2) 1 1/2 inch (38 mm) screw plugs.
    - b. Style: 2 inch (50 mm) and 1/2 inch (13 mm) combination screw plug.
  2. Round:
    - a. Style: 4 inch (100 mm) diameter, with (2) 1 1/2 inch (38 mm) screw plugs.
    - b. Style: 4 inch (100 mm) diameter, with 2 inch (50 mm) and 1/2 inch (13 mm) combination screw plug.
    - c. Style: 5 3/4 inch (144 mm) diameter, flanged, with (2) 1 1/2 inch (38 mm) screw plugs.
    - d. Style: 5 3/4 inch (144 mm) diameter, flanged, with 2 inch (100 mm) and 1/2 inch (13 mm) combination screw plug.
  3. Material: Brass.
  4. Material: Nickel-Silver.
- B. Flip Lid Cover Plate: Pin hinged, cover plates 1/4 inch (6 mm) thick, fabricated for seamless attachment to floor box with screws of same material as cover plate.
1. Round:
    - a. Style: Single hinged.
    - b. Style: Dual hinged.
    - c. Style: Single hinged, 2 1/8 inch (53 mm) diameter.
    - d. Size: 4 inch (100 mm) diameter.
  2. Rectangular:
    - a. Style: Single hinged.
    - b. Style: Dual hinged.
    - c. Style: Single hinged, 2 1/8 inch (53 mm) diameter.
  3. Material: Brass.
  4. Material: Aluminum.
- C. Gymnasium Cover Plates:
1. Screw Plug Cover Plates: 1/8 inch (3 mm) thick.
    - a. Style: Single.
    - b. Style: Dual.
    - c. Style: Dual right hand.
    - d. Style: Dual left hand.

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- e. Material: Brass.
- f. Material: Nickel silver.

2. Hinged Cover Plates: 1/4 inch (6 mm) thick.

- a. Style: Single.
- b. Style: Dual.
- c. Style: Dual right hand.
- d. Style: Dual left hand.
- e. Material: Brass.
- f. Material: Aluminum.

D. Nozzle Cover Plates:

- 1. Style: Dual position, duplex receptacle nozzle plate.
- 2. Style: Dual position, GFI duplex nozzle plate.
- 3. Style: Dual position, 2 CAT. 5 and 2 computer connectors, nozzle plate.
- 4. Style: Single position, blank nozzle plate.
- 5. Style: Single position, duplex receptacle nozzle plate.
- 6. Style: Single position, single or dual phone lines nozzle plate.
- 7. Style: Single position, single receptacle or cable nozzle plate.
- 8. Style: Single position, GFI receptacle nozzle plate.
- 9. Style: Single position, 1 Cat. 5 and 1 computer connector nozzle plate.
- 10. Material: Brass.
- 11. Material: Aluminum.
- 12. Material: Stainless Steel.

E. Carpet Flanges: (Are the carpet flanges available in aluminum and nickel silver?  
Aluminum yes NS no)

- 1. Style: Rectangular, brass, single gang.
- 2. Style: Rectangular, brass, two gang.
- 3. Style: Rectangular, brass, three gang.
- 4. Style: Rectangular, brass, four gang.
- 5. Style: Round, brass, 5 1/4 inch diameter.

## 2.6 ACCESSORIES

A. Gaskets: Appropriately sized and shaped for specified floor box installation.

- 1. Material: Neoprene
- 2. Material: Cork
- 3. Thickness: 1/16 inch. (1.5 mm)
- 4. Thickness: 3/32 inch. (2 mm)
- 5. Thickness: 1/8 inch (3 mm)
- 6. Thickness: 3/8 inch (9 mm).

B. Adapter Plates:

- 1. Microphone adapter plate.

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2. Telephone adapter plate.
3. Outlet adapter plate.

## 2.7 FINISHES – COVERS, FLIP LIDS AND SCREW PLUGS

- A. Brass: Hand-Rubbed Finish: M31-M34 (Mechanical Finish: directionally textured, fine satin; Mechanical Finish: directionally textured, hand rubbed).
- B. Aluminum Plate and Sheet: ASTM B 209, Alloy 6061-T6.
- C. Aluminum Extrusions: ASTM B 221, Alloy 6063-T6.
- D. Aluminum Castings: ASTM B 26/B 26M, Alloy 443.0-F.
- E. Nickel-Silver: Cast-Nickel Silver Finish: M12 (Mechanical Finish: matte finish, as fabricated).
- F. Stainless Steel: Stainless-Steel Sheet, Strip, Plate, and Flat Bars: ASTM A 666, Type 304.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify substrates are ready to receive floor boxes prior to installation. Report any inconsistencies or discrepancies to the Architect.
- B. Install floor boxes only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install supports to permanently and solidly attach floor boxes.
- B. Install floor boxes flush with finish flooring.
- C. Install temporary covers during construction to prevent the accumulation of foreign material in boxes. Leave temporary covers in-place until installation of finished cover plates.
- D. Install specified cover plates for each product in accordance with the manufacturer's written instruction.
- E. Semi-Adjustable Floor Boxes in Concrete:
  1. Tape concrete cover to box to prevent cover from floating off during concrete pour.

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2. Set complete boxes, with concrete cover, as close to level with height of finished floor. Do not set above this height. Make pre-pour adjustments using the four leveling screws provided on the bottom corner of the floor box.
3. After the concrete is poured and set, lightly tap around the perimeter of the concrete cover until the cover is loosened from the concrete. Remove the concrete cover from the floor box assembly.
4. Connect the wiring devices along with the corresponding gasket and cover plates using screws provided. Install one cover plate on each gang.

## F. Fully Adjustable Floor Boxes in Concrete:

1. Tape concrete cover to box to prevent cover from floating off during concrete pour.
2. Set complete boxes, with concrete cover, as close to level with height of finished floor. Do not set above this height. Make pre-pour adjustments using straightedge. After pour adjustment of 3/8" to raise and/or level the floor box is possible.
3. After the concrete is poured and set, lightly tap around the perimeter of the concrete cover until the cover and adjusting frame are loosened from the concrete. Remove the concrete cover and adjusting frame from the floor box assembly.
4. Raise and/or level the adjusting frame, by unscrewing the 4 small adjusting screws in a counterclockwise direction. Replace the adjusting frame on top of the adjusting screws and set in place by tightening the 2 cone-shaped set screws against the frame in a clockwise motion.
5. Connect wiring devices and assemble into the adjusting frame along with gasket and cover plates using screws provided. Install one cover plate on each gang.

## 3.3 CLEANING AND PROTECTION

- A. Repair or replace damaged products prior to substantial completion.
- B. Clean exposed surfaces in accordance with manufacturer's written instructions prior to substantial completion.
- C. Protect installed products until project completion.

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