

This guide specification was prepared utilizing 3-part format recommended by the Construction Specifications Institute (CSI), and generally incorporates recommendations from their SectionFormat™/Page Format™, and MasterFormat™, latest Editions, insofar as practicable.

Carefully review and edit the text to meet the Project requirements and coordinate this Section with the remainder of the Specifications and the Drawings.

Where bracketed text is indicated, e.g. [text], make appropriate selection and delete the remainder of text within additional brackets, highlighting, and bold face type, if any.

Consult the manufacturer for assistance in editing this guide specification for specific Project applications where necessary.

This Specification was current at the time of publication but is subject to change. Please confirm the accuracy of these specifications with the manufacturer prior to use.



## SECTION 07 72 33 ROOF ACCESSORIES

### PART 1 - GENERAL

#### 1.01 SUMMARY

##### A. Section Includes:

*SPECIFIER: Revise subparagraphs below to suit Project requirements.*

1. Roof access equipment hatches.
  - a. Equipment hatches are used to install or service large equipment through the roof.
2. Accessories:
  - a. Safety post.
  - b. Warning light.

##### B. Related Requirements:

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

*SPECIFIER: Revise section numbers and titles in subparagraphs below per CSI MasterFormat™ and Project requirements.*

2. Section 01 33 00 - Submittal Procedures: For administrative and procedural requirements for processing of submittals during the construction phase.
3. Section 01 77 00 - Closeout Procedures: For administrative and procedural requirements for completion of the Work.

*SPECIFIER: Retain subparagraphs below to suit Project requirements; revise section numbers and titles per project requirements.*

4. Section 05 51 00 – Metal Stairs and Ladders and railings
5. Section 07 72 00 – Roof and Wall Specialties and Accessories
6. Section 09 9100 - Painting: For field painting of roof hatches.

#### 1.02 ALLOWANCES

*SPECIFIER: Retain products and work included in this Section that are covered by cash or quantity allowance. Do not include amounts. Insert descriptions of items in Part 2 or 3 to provide information affecting the cost of the Work that is not included under the allowance.*

- A. Roof access equipment hatches are part of a roof access and equipment hatch allowance.

### 1.03 REFERENCES

*SPECIFIER: Use care when indicating the edition date of the referenced standards; these standards are subject to regular review, and updated accordingly; review list carefully for inclusion.*

A. Reference Standards:

1. ASTM International (ASTM):
  - a. ASTM A36/A36M-12, Standard Specification for Carbon Structural Steel
  - b. ASTM A153/A153M-09, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
  - c. ASTM A653/A653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process
  - d. ASTM A879/A879M-12, Standard Specification for Steel Sheet, Zinc Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface
  - e. ASTM A1008/A1008M-12a, Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
  - f. ASTM B209-10, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
  - g. ASTM B221-12a, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
  - h. ASTM F2329-11, Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners

*SPECIFIER: Indicate date of current Edition in affect in the Project location if known, to avoid problems with interpretation.*

2. International Code Council (ICC):
  - a. International Building Code (IBC) - [**current**] Edition.

### 1.04 ACTION SUBMITTALS

*SPECIFIER: Revise Section number in the paragraph below to match that used in the Project Manual.*

A. Submit in accordance with Section [01 33 00] [other]:

1. Product Data:
  - a. Materials description for roof access equipment hatches including details showing mounting type, relationships to surrounding construction, hatch type, materials, and construction, and locking features.
  - b. Installation instructions for each product specified.
2. Shop Drawings:
  - a. Include details of each hatch type, size and description of components, materials, attachment devices, description of frame and finish and construction details.
  - b. Schedule showing each type of hatch, locations, sizes, latching or locking provisions, and other data pertinent to installation
  - c. Indicate installation procedures and accessories required for a complete installation.

*SPECIFIER: Delete subparagraph below for standard steel or galvanized steel hatches; retain for aluminum or other factory-finished products.*

3. Samples: For each roof access equipment hatch cover surface, at least 3 by 5 inches (75 by 125 mm) in size, and in specified finish.

### 1.05 QUALITY ASSURANCE

- A. Comply with standards referenced in Article 1.03 REFERENCES.
- B. Provide roof hatches produced by a single manufacturer.
- C. Manufacturer Qualifications: Roof access equipment hatch must be manufactured by a company with a

minimum of 5 years' experience in production and sales of roof access equipment hatches.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle roof hatches using means and methods that will prevent damage, deterioration, or loss.
  - 1. Deliver units in manufacturer's original packaging, properly labeled for identification.
- B. Warranty: Provide manufacturer's standard 5-year warranty. Roof access equipment hatch shall be free from manufacturer's defects in materials and fabrication for a period of 5 years from the date of shipment. Should a product fail to function in normal use within this period, manufacturer shall furnish a replacement or a new part at manufacturer's discretion.

### PART 2 - PRODUCTS

#### 2.01 ROOF ACCESS EQUIPMENT HATCH MANUFACTURERS

- A. Acceptable Manufacturers:  
J. L. Industries, Inc., a division of Activar Construction Products Group  
9702 Newton Av South  
Bloomington, MN 55431
  
- B. Substitutions: Manufacturers seeking approval of their products are required to comply with the Owner's Instructions to Bidders, generally contained in the Project Manual.

#### 2.02 EHA SERIES - ALUMINUM EQUIPMENT HATCH

- A. Style EHA: Aluminum roof equipment hatch.
  - 1. Model EHA- [insert remainder of model number from subparagraph 6 below].
  - 2. Cover: Insulated, 0.090 inch (2.286 mm) aluminum exterior and 0.040 inch (1.016 mm) aluminum liner, with continuous bulb-type neoprene door seal.
    - a. Insulation: One inch (25.40 mm) thick fiberglass insulation.
  - 3. Curb: Insulated, 0.090 inch (2.286 mm) aluminum, 12 inches (305 mm) high with 4 inch (101.60 mm) wide flange for securing to roof deck.
    - a. Insulation: One inch (25.40 mm) thick fiberboard insulation.

*SPECIFIER: In the subparagraph below, select compression spring for sizes up to 84 inches in width (2133.60 mm) and adjustable torsion spring for sizes 84 inches in width (2133.60 mm) and larger*

- 4. Hardware: Heavy duty galvanized steel hinges, standard lift springs are pressure intensifiers. Adjustable torsion springs will be provided for oversized models. Automatic hold-open and operating arms with red vinyl handle grip, 2-point universal spring latch, and exterior and interior handles with integral padlock.
- 5. Hatch Finish: 2 coats primer.
- 6. Hatch Opening Size (width by hinge length):
  - a. EHA-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).
  - b. EHA-2: 60 inches by 120 inches (1524.0 mm by 3048.0 mm).
  - c. EHA-3: 120 inches by 120 inches (3048.0 mm by 3048.0 mm).
  - d. EHA-4: 144 inches by 144 inches (3657.60 mm by 3657.60 mm).

#### 2.03 EHG SERIES - GALVANIZED STEEL EQUIPMENT HATCH

- A. Style EHG: Galvanized steel roof equipment hatch.
  - 1. Model EHG- 1.
  - 2. Cover: Insulated, 14-gauge (1.99 mm) galvanized steel exterior and 22-gauge (0.79 mm) galvanized

steel liner or 0, with continuous bulb-type neoprene door seal.

- a. Insulation: One inch (25.40 mm) thick fiberglass insulation.
- 3. Curb: Insulated, 14-gauge (1.99 mm) galvanized steel, 12 inches (305 mm) high with 4 inch (101.60 mm) wide flange for securing to roof deck.
  - a. Insulation: One inch (25.40 mm) fiberboard insulation.

*SPECIFIER: In the subparagraph below, select compression spring for sizes up to 84 inches in width (2133.60 mm) and adjustable torsion spring for sizes 84 inches in width (2133.60 mm) and larger.*

- 4. Heavy duty galvanized steel hinges, standard lift springs are pressure intensifiers. Adjustable torsion springs will be provided for oversized models. Automatic hold-open and operating arms with red vinyl handle grip, 2-point universal spring latch, and exterior and interior handles with integral padlock.
- 5. Hatch Finish: 2 coats primer.
- 6. Hatch Opening Size (width by hinge length):
  - a. EHGA-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).

#### 2.04 EHGA SERIES - GALVANIZED STEEL CURB, ALUMINUM COVER EQUIPMENT HATCH

- A. Style EHGA: Galvanized steel curb with aluminum cover roof equipment hatch.
  - 1. Model EHGA- [insert remainder of model number from subparagraph 6 below].
  - 2. Cover: Insulated, 0.090 inch (2.286 mm) aluminum exterior and 0.040 inch (1.016 mm) aluminum liner, with continuous bulb-type neoprene door seal.
    - a. Insulation: One inch (25.40 mm) thick fiberglass insulation.
  - 3. Curb: Insulated, 14-gauge (1.99 mm) galvanized steel, 12 inches (305 mm) high with 4 inch (101.60 mm) wide flange for securing to roof deck.
    - a. Insulation: One inch (25.40 mm) fiberboard insulation.

*SPECIFIER: In the subparagraph below, select compression spring for sizes up to 84 inches in width (2133.60 mm) and adjustable torsion spring for sizes 84 inches in width (2133.60 mm) and larger.*

- 4. Heavy duty galvanized steel hinges, standard lift springs are pressure intensifiers. Adjustable torsion springs will be provided for oversized models. Automatic hold-open and operating arms with red vinyl handle grip, 2-point universal spring latch, and exterior and interior handles with integral padlock..
- 5. Hatch Finish: 2 coats primer.
- 6. Hatch Opening Size (width by hinge length):
  - a. EHGA-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).
  - b. EHGA-2: 60 inches by 120 inches (1524.0 mm by 3048.0 mm).
  - c. EHGA-3: 120 inches by 120 inches (3048.0 mm by 3048.0 mm).
  - d. EHGA-4: 144 inches by 144 inches (3657.60 mm by 3657.60 mm).

#### 2.05 DEHA SERIES - DOMED ALUMINUM EQUIPMENT HATCH

- A. Style DEHA: Domed aluminum roof equipment hatch.
  - 1. Model DEHA- [insert remainder of model number from subparagraph 6 below].
  - 2. Cover: Insulated, 0.090 inch (2.286 mm) aluminum exterior and 0.040 inch (1.016 mm) aluminum liner, with continuous bulb-type neoprene door seal.
    - a. Insulation: One inch (25.40 mm) thick fiberglass insulation.

*SPECIFIER: In the subparagraph below, select either white translucent or clear acrylic glazing.*

- b. Dome: Single-light (or multiple-light depending on cover size) [white translucent] [clear colorless] acrylic dome, set in 0.070 inch (1.78 mm) extruded aluminum alloy #6063-T5 frame, with self-contained sloping condensation and weepage gutter for drainage.
- 3. Curb: Insulated, 0.090 inch (2.286 mm) aluminum, 12 inches (305 mm) high with 4 inch (101.60 mm) wide flange for securing to roof deck.
  - a. Insulation: One inch (25.40 mm) thick fiberboard insulation.

*SPECIFIER: In the subparagraph below, select compression spring for sizes up to 84 inches in width (2133.60 mm) and adjustable torsion spring for sizes 84 inches in width (2133.60 mm) and larger*

4. Heavy duty galvanized steel hinges, standard lift springs are pressure intensifiers. Adjustable torsion springs will be provided for oversized models. Automatic hold-open and operating arms with red vinyl handle grip, 2-point universal spring latch, and exterior and interior handles with integral padlock.
5. Hatch Finish: 2 coats primer.
6. Hatch Opening Size (width by hinge length):
  - a. DEHA-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).
  - b. DEHA-2: 60 inches by 120 inches (1524.0 mm by 3048.0 mm).
  - c. DEHA-3: 120 inches by 120 inches (3048.0 mm by 3048.0 mm).
  - d. DEHA-4: 144 inches by 144 inches (3657.60 mm by 3657.60 mm).

## 2.06 DEHG SERIES - DOMED GALVANIZED STEEL CUB EQUIPMENT HATCH

- A. Style DEHG: Domed galvanized steel roof equipment hatch.
1. Model DEHG- [insert remainder of model number from subparagraph 6 below].
  2. Cover: Insulated, 14-gauge (1.99 mm) galvanized steel exterior and 22-gauge (0.79 mm) galvanized steel liner, with continuous bulb-type neoprene door seal.
    - a. Insulation: One inch (25.40 mm) thick fiberglass insulation.

*SPECIFIER: In the subparagraph below, select either white translucent or clear acrylic glazing.*

- b. Dome: Single-light (or multiple-light depending on cover size) [white translucent] [clear colorless] acrylic dome, set in 0.070 inch (1.78 mm) extruded aluminum alloy #6063-T5 frame, with self-contained sloping condensation and weepage gutter for drainage.
  3. Curb: Insulated, 14-gauge (1.99 mm) galvanized steel, 12 inches (305 mm) high with 4 inch (101.60 mm) wide flange for securing to roof deck.
    - a. Insulation: One inch (25.40 mm) fiberboard insulation.

*SPECIFIER: In the subparagraph below, select compression spring for sizes up to 84 inches in width (2133.60 mm) and adjustable torsion spring for sizes 84 inches in width (2133.60 mm) and larger.*

4. Heavy duty galvanized steel hinges, standard lift springs are pressure intensifiers. Adjustable torsion springs will be provided for oversized models. Automatic hold-open and operating arms with red vinyl handle grip, 2-point universal spring latch, and exterior and interior handles with integral padlock.
5. Hatch Finish: 2 coats primer.
6. Hatch Opening Size (width by hinge length):
  - a. DEHG-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).

## 2.07 DEHGA SERIES - DOMED GALVANIZED STEEL CURB, ALUMINUM COVER EQUIPMENT HATCH

- A. Style DEHGA: Domed galvanized steel curb, aluminum cover roof equipment hatch.
1. Model DEHGA- [insert remainder of model number from subparagraph 6 below].
  2. Cover: Insulated, 0.090 inch (2.286 mm) aluminum exterior and 0.040 inch (1.016 mm) aluminum liner, with continuous bulb-type neoprene door seal.
    - a. Insulation: One inch (25.40 mm) thick fiberglass insulation.

*SPECIFIER: In the subparagraph below, select either white translucent or clear acrylic glazing.*

- b. Dome: Single-light (or multiple-light depending on cover size) [white translucent] [clear colorless] acrylic dome, set in 0.070 inch (1.78 mm) extruded aluminum alloy #6063-T5 frame, with self-contained sloping condensation and weepage gutter for drainage.
  3. Curb: Insulated, 14-gauge (1.99 mm) galvanized steel, 12 inches (305 mm) high with 4 inch (101.60 mm) wide flange for securing to roof deck.
    - a. Insulation: One inch (25.40 mm) fiberboard insulation.

*SPECIFIER: In the subparagraph below, select compression spring for sizes up to 84 inches in width (2133.60 mm) and adjustable torsion spring for sizes 84 inches in width (2133.60 mm) and larger.*

4. Heavy duty galvanized steel hinges, standard lift springs are pressure intensifiers. Adjustable torsion

springs will be provided for oversized models. Automatic hold-open and operating arms with red vinyl handle grip, 2-point universal spring latch, and exterior and interior handles with integral padlock.

5. Hatch Finish: 2 coats primer.
6. Hatch Opening Size (width by hinge length):
  - a. DEHGA-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).
  - b. DEHGA-2: 60 inches by 120 inches (1524.0 mm by 3048.0 mm).
  - c. DEHGA-3: 120 inches by 120 inches (3048.0 mm by 3048.0 mm).
  - d. DEHGA-4: 144 inches by 144 inches (3657.60 mm by 3657.60 mm).

## 2.08 ACCESSORIES

- A. Ladder-Assist Safety Post (Extendable): Preassembled galvanized steel safety post which attaches directly to the top 2 rungs (either square or round) of the vertical access ladder with 2 U-shaped bolts.
  1. Model LP- [insert remainder of model number from subparagraph 3 below].
  2. Post Assembly: Square post with latch which maintains the post at variable heights, and spring coil at base to allow user to lift (extend) post with one hand.
  3. Post Finish:
    - a. LP-4: Safety yellow powder coat.
    - b. LP-5: Hot-dipped galvanized.
  4. Weight: 25 lbs. (12 kg).
- B. Ladder-Assist EZ-Up Safety Post (Retractable): Preassembled steel safety post which attaches directly to and stows inside the roof hatch curb. Allows user to lift post and automatically lock into upright position with one hand.
  1. Model LP-6.
  2. Post Assembly: 1 ½" x 1 ½" 12 gauge steel square post attached by swivel bolt to welded 10-gauge steel mounting plate.
  3. Post Finish: Safety yellow powder coat.
  4. Weight: 8 lbs. (4 kg).
  5. Testing: 200-pound design load rating.
- C. Warning Light: Xenon type strobe light for detection and for alerting personnel that the roof hatch or opening is in an OPEN position.
  1. Light Location, Characteristics and Operation:
    - a. Light is equipped with a magnetic base and is mounted to the inside surface of the cover or door.
    - b. Bright, red light which emits 60 double flashes per minute and is activated as the hatch is lifted upward 30 degrees.
    - c. Light automatically turns off when the hatch is returned to the CLOSED position.
  2. Light comes complete with 2 new D-Cell alkaline batteries which provide 50 to 60 flashing hours.

## 2.09 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- B. Steel Sheet: Uncoated or electrolytic zinc coated, ASTM A879/A879M, with cold-rolled steel sheet substrate complying with ASTM A1008/A1008M, Commercial Steel (CS), exposed.
- C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
- D. Aluminum Extrusions: ASTM B221, Alloy 6063-T5.
- E. Aluminum Sheet: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of Alloy 5005-H15; with minimum sheet thickness, according to ANSI H35.2.

## 2.10 FABRICATION

- A. General: Furnish each roof hatch assembly manufactured as an integral unit, complete and ready for installation.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
  - 1. Notify the Contractor in writing of conditions detrimental to proper and timely completion of the installation.
  - 2. Verify dimensions of roof openings for roof accessories.
  - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.02 INSTALLATION**

- A. General: Comply with manufacturer's written instructions for installing roof hatches and accessories, if any.
  - 1. Install roof hatches level, plumb, true to line and elevation, and without warping, jogs in alignment, buckling, or tool marks.
  - 2. Anchor roof hatches securely in place so they are capable of resisting indicated loads.
  - 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof hatches and fit them to substrates.
  - 4. Install roof hatches to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
  - 1. Coat concealed side of uncoated aluminum components with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
  - 2. Underlayment: Where installing roof hatches directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.
  - 3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof hatches for waterproof performance.
- C. Installation: Install roof hatch so top surface of hatch curb is level.

*SPECIFIER: Retain subparagraphs below if roof hatches are so equipped.*

- 1. Attach safety railing system to roof hatch curb.
  - 2. Attach ladder-assist post according to manufacturer's written instructions.
- D. Surface Repairs:

*SPECIFIER: Select galvanized surfaces or factory-primed surfaces in subparagraphs below.*

- 1. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
  - 2. Primed Surfaces: Touch up factory-primed surfaces with compatible primer ready for field painting if scheduled.

### **3.03 ADJUSTING AND CLEANING**

- A. Verify that roof hatches operate properly.
- B. Clean, lubricate, and adjust operating mechanism and hardware.
- C. Clean exposed surfaces according to manufacturer's written instructions.
- D. Replace roof hatches that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION