

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] [and] [equipment] hatches.
2. Accessories:
 - a. Safety post.
 - b. Railing gate.
 - c. 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 07 26 00 - Vapor Retarders
5. Section 07 27 00 - Air Barriers
6. Section 07 50 00 - Membrane Roofing
7. Section 08 71 00 - Hardware: For lock type furnished by others.
8. 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 and 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 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 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.

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.

PART 2 - PRODUCTS

2.01 ROOF HATCH AND EQUIPMENT HATCH MANUFACTURERS

- A. Acceptable Manufacturers:

J. L. Industries, Inc., a division of Activar Construction Products Group
9702 Newton Av South
Bloomington, MN 55431
(800) 554-6077
(952) 835-6850
(952) 835-2218 (FAX)
www.activarcpg.com
sales@activarcpg.com

- 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 RHA SERIES - ALUMINUM ROOF HATCH

- A. Style RHA: Aluminum, insulated roof hatch cover and roof curb.
 - 1. Model No. RHA- **[insert remainder of model number from subparagraph 7 below]**.
 - 2. Performance Criteria: Tested and approved to support a minimum live load of 40 lbs./ft² (18 kg/0.09 m²), with a maximum deflection of 1/150th of the span, maximum negative load of 50 lbs./ft² (22 kg/0.09 m²) wind uplift, and 110 mph (177 kph) wind load with cover in open position.
 - 3. Cover: Insulated, 0.090 inch (2.286 mm) aluminum exterior and 0.040 inch (1.016 mm) aluminum liner, with TPE draft seal gasket door seal.
 - a. Insulation: One inch (25.40 mm) thick mineral wool insulation.
 - 4. Curb: Insulated, 0.090 inch (2.286 mm) aluminum, 12 inches (305 mm) high with 3-5/8 inch (92.075 mm) wide flange for securing to roof deck.
 - a. Insulation: One inch (25.40 mm) thick fiberboard insulation.
 - 5. Hardware: Heavy-duty zinc-coated hinge and pin. Heavy-gauge automatic hold open arm with red vinyl grip, compression operated, shock absorbing cylinder. Fastening hardware, exterior handle and inside locking handle with interior and exterior padlock hasp are zinc-coated.
 - 6. Hatch Finish: Bronze powder coat.
 - 7. Hatch Opening Size and Weight:

- a. RHA-1: 30 inches by 36 inches (762 mm by 914.40 mm); 90 lbs. (41 kg).
 - b. RHA-2: 54 inches by 30 inches (1371.60 mm by 762 mm); 115 lbs. (53 kg).
 - c. RHA-3: 96 inches by 30 inches (2438.40 mm by 762 mm); 190 lbs. (87 kg).
 - d. RHA-4: 36 inches by 36 inches (914.40 mm by 914.40 mm); 110 lbs. (50 kg).
 - e. RHA-5: 48 inches by 48 inches (1219.20 mm by 1219.20 mm); 160 lbs. (73 kg).
8. Model RHA Options:

SPECIFIER: *Select specific options listed below, if desired.*

- a. Safety Railing: Self-attaching, galvanized railing meets OSHA required compliance for safe egress and ingress through rooftop hatch openings while hatch is in use; complies with OSHA CFR 29-1910.232 and CFR 29-1910.27. Opening protected by chain. See section 2.05- 8 for optional rigid gate.
 - SHWC-3036 (STH-1) for RHA-1
 - SHWC-3054 (STH-2) for RHA-2
 - SHWC-3096 (STH-3) for RHA-3
 - SHWC-3636 (STH-4) for RHA-4
 - SHWC-4848 (STH-5) for RHA-5
- b. Stainless cylinder housing & brackets, exterior & interior latches, interior padlock hasp, hold-open arm.
- c. Energy-efficient polyisocyanurate insulation 1-1/2" on curb walls (R-8), 3/8" in cover (R-5).
- d. Optional colors: [White hammertone], [Red hammertone].

2.03 RHG SERIES - GALVANIZED STEEL ROOF HATCH

- A. Style RHG: Galvanized steel, insulated roof hatch cover and roof curb.
1. Model No. RHG- [insert remainder of model number from subparagraph 7 below].
 2. Performance Criteria: Tested and approved to support a minimum live load of 40 lbs./ft² (18 kg/0.09 m²), with a maximum deflection of 1/150th of the span, maximum negative load of 50 lbs./ft² (22 kg/0.09 m²) wind uplift, and 110 mph (177 kph) wind load with cover in open position.
 3. Cover: Insulated, 14-gauge (1.99 mm) galvanized steel exterior and 22-gauge (0.79 mm) galvanized steel liner, with TPE draft seal gasket door seal.
 - a. Insulation: One inch (25.40 mm) thick mineral wool insulation.
 4. Curb: Insulated, 14-gauge (1.99 mm) galvanized steel, 12 inches (305 mm) high with 3-5/8 inch (92.075 mm), wide flange for securing to roof deck.
 - a. Insulation: One inch (25.40 mm) fiberboard insulation.
 5. Hardware: Heavy-duty zinc-coated hinge and pin. Heavy-gauge automatic hold open arm with red vinyl grip, compression operated, shock absorbing cylinder. Fastening hardware, exterior handle and inside locking handle with interior and exterior padlock hasp are zinc-coated.
 6. Hatch Finish: Grey hammertone powder coat.
 7. Hatch Opening Size and Weight:
 - a. RHG-1: 30 inches by 36 inches (762 mm by 914.40 mm); 150 lbs. (69 kg).
 - b. RHG-2: 54 inches by 30 inches (1371.60 mm by 762 mm); 210 lbs. (96 kg).
 - c. RHG-3: 96 inches by 30 inches (2438.40 mm by 762 mm); 315 lbs. (143 kg).
 - d. RHG-4: 36 inches by 36 inches (914.40 mm by 914.40 mm); 185 lbs. (84 kg).
 - e. RHG-5: 48 inches by 48 inches (1219.20 mm by 1219.20 mm); 260 lbs. (118 kg).
 8. Model RHG Options:

SPECIFIER: *Select specific options listed below, if desired.*

- a. Safety Railing: Self-attaching, galvanized railing meets OSHA required compliance for safe egress and ingress through rooftop hatch openings while hatch is in use; complies with OSHA CFR 29-1910.232 and CFR 29-1910.27. Opening protected by chain. See section 2.05- 8 for optional rigid gate.
 - SHWC-3036 (STH-1) for RHG-1
 - SHWC-3054 (STH-2) for RHG-2

SHWC-3096 (STH-3) for RHG-3
SHWC-3636 (STH-4) for RHG-4
SHWC-4848 (STH-5) for RHG-5

- b. Stainless steel hinges, cylinder housing & brackets, exterior & interior latches, interior padlock hasp, hold-open arm.
- c. Energy-efficient polyisocyanurate insulation 1-1/2" on curb walls (R-8), 3/8" in cover (R-5).
- d. Optional colors: [White hammertone], [Red hammertone].

2.04 RHR SERIES - RETROFIT GALVANIZED STEEL ROOF HATCH

- A. Style RHR: Retrofit galvanized steel, insulated roof hatch cover and roof curb.
 - 1. Model No. RHR -1.
 - 2. Performance Criteria: Tested and approved to support a minimum live load of 40 lbs./ft² (18 kg/0.09 m²), with a maximum deflection of 1/150th of the span.
 - 3. Cover: Insulated, 16-gauge (1.61 mm) galvanized steel exterior and 22-gauge (0.79 mm) galvanized steel liner, with TPE draft seal gasket door seal.
 - a. Insulation: One inch (25.40 mm) thick mineral wool insulation.
 - 4. Curb: Insulated, 16 gauge (1.99 mm) galvanized steel, 12 inches (305 mm) high with 3-5/8 inch (92.075 mm) wide flange for securing to roof deck.
 - a. Insulation: One inch by 11 inch (25.40 mm by 279.40 mm) pine board.
 - 5. Hardware: Heavy-duty zinc-coated hinge and pin. Heavy-gauge automatic hold open arm with red vinyl grip, compression operated, shock absorbing cylinder. Fastening hardware, exterior handle and inside locking handle with interior and exterior padlock hasp are zinc-coated.
 - 6. Hatch Finish: Red hammertone powder coat.
 - 7. Hatch Opening Size and Weight:
 - a. RHR-1: 30 inches by 36 inches (762 mm by 914.40 mm); 137 lbs. (63 kg).
 - 8. Model RHR Options:

SPECIFIER: *Select specific options listed below, if desired.*

- a. Safety Railing: Self-attaching, galvanized railing meets OSHA required compliance for safe egress and ingress through rooftop hatch openings while hatch is in use; complies with OSHA CFR 29-1910.232 and CFR 29-1910.27. Opening protected by chain. See section 2.05- 8 for optional rigid gate.
 - SHWC-3036 (STH-1) for RHR-1
 - SHWC-3054 (STH-2) for RHR-2
 - SHWC-3096 (STH-3) for RHR-3
 - SHWC-3636 (STH-4) for RHR-4
 - SHWC-4848 (STH-5) for RHR-5
- e. Stainless steel hinges, cylinder housing & brackets, exterior & interior latches, interior padlock hasp, hold-open arm.

2.05 SHWC SERIES - SAFETY RAILING FOR NEW AND EXISTING HATCHES

- A. Style SHWC: Saf-T-Hatch rooftop safety railing. Self-attaching design clamps to curb base.
 - 1. Model No. SHWC- [insert remainder of model number from subparagraph 7 below].
 - 2. Certification: Meets OSHA required compliance for safe egress and ingress through rooftop hatch openings while hatch is in use; complies with OSHA CFR 29-1910.232 and CFR 29-1910.27.
 - 3. Rail: ASTM A53, Grade B, seamed galvanized steel rail, 1-5/8 inch outer dimension., with zinc-plated post caps.
 - 4. Base: 16-gauge (1.61 mm) seamed galvanized steel base, 2 inches by 2 inches (50.80 mm by 50.80 mm) square, with cast steel, hot-dipped galvanized clamps.
 - 5. Chain Guard: Zinc-plated 3/16-inch (4.76 mm) chain with quick links and hoops.
 - 6. Finish: Safety yellow powder coat.
 - 7. Hatch Opening Size, Railing Weight, and Installs to J.L. Industries Hatch Model:
 - a. SHWC-3036 (STH-1): 30 inches by 36 inches (762 mm by 914.40 mm); 66 lbs. (30 kg); Designed to fit Models RHA/RHG/RHR-1.

- b. SHWC-3054 (STH-2): 54 inches by 30 inches (1371.60 mm by 762 mm); 70 lbs. (32 kg); Designed to fit Models RHA/RHG-2.
- c. SHWC-3096 (STH-3): 96 inches by 30 inches (2438.40 mm by 762 mm); 80 lbs. (37 kg); Designed to fit Models RHA/RHG-3.
- d. SHWC-3636 (STH-4): 36 inches by 36 inches (914.40 mm by 914.40 mm); 68 lbs. (31 kg); Designed to fit Models RHA/RHG-4.
- e. SHWC-4848 (STH-5): 48 inches by 48 inches (1219.20 mm by 1219.20 mm); 75 lbs. (35 kg); Designed to fit Models RHA/RHG-5.

8. Model SHWC Options:

SPECIFIER: Select specific options listed below, if desired.

- a. Railing Gate: Self-closing, rigid galvanized steel gate with spring hinge for attachment to manufacturer's Saf-T-Hatch roof hatch railing; fits both RHG stand-alone railing and RHG-STH hatch-railing system.
 - 1. Model SHG- [insert remainder of model number from subparagraph 2 below].
 - 2. Gate; Weight; Rail System:
 - a. SHG-24-36..

2.06 RHG-STH SERIES - COMBINATION ROOF HATCH AND SAFETY RAIL SYSTEM

- A. Style RHG-STH: Self-attaching galvanized steel roof hatch with integral safety rail system.
 - 1. Model RHG-[X]-STH: **insert remainder of model number from subparagraph 7 below**.
 - 2. Roof Hatch:
 - a. Performance Criteria: Tested and approved to support a minimum live load of 40 lbs./ft² (18 kg/0.09 m²), with a maximum deflection of 1/150th of the span, maximum negative load of 50 lbs./ft² (22 kg/0.09 m²) wind uplift, and 110 mph (177 kph) wind load with cover in open position.
 - b. Cover: Insulated, 14-gauge (1.99 mm) galvanized steel exterior and 22-gauge (0.79 mm) galvanized steel liner, with TPE draft seal gasket door seal.
 - 1) Insulation: One inch (25.40 mm) thick mineral wool insulation.
 - c. Curb: Insulated, 14-gauge (1.99 mm) galvanized steel, 12 inches (305 mm) high with 3-5/8 inch (92.075 mm) wide flange for securing to roof deck.
 - 1) Insulation: One inch (25.40 mm) fiberboard insulation.
 - d. Hardware: Heavy-duty zinc-coated hinge and pin. Heavy-gauge automatic hold open arm with red vinyl grip, compression operated, shock absorbing cylinder. Fastening hardware, exterior handle and inside locking handle with interior and exterior padlock hasp are zinc-coated.
 - e. Hatch Finish: Grey hammertone powder coat.
 - f. Hatch Opening Size and Total Weight with Rail:
 - 1) RHG-1-STH: 30 inches by 36 inches (762 mm by 914.40 mm); 183 lbs.(84 kg).
 - 2) RHG-2-STH: 54 inches by 30 inches (1371.60 mm by 762 mm); 245 lbs. (112 kg).
 - 3) RHG-3-STH: 96 inches by 30 inches (2438.40 mm by 762 mm); 315 lbs. (143 kg).
 - 4) RHG-4-STH: 36 inches by 36 inches (914.40 mm by 914.40 mm); 219 lbs. (100 kg).
 - 5) RHG-5-STH: 48 inches by 48 inches (1219.20 mm by 1219.20 mm); 298 lbs. (136 kg).
 - 3. Safety Railing:
 - a. Certification: Meets OSHA required compliance for safe egress and ingress through rooftop hatch openings while hatch is in use; complies with OSHA CFR 29-1910.232 and CFR 29-1910.27.
 - b. Rail & Posts: ASTM A53, Grade B, seamed galvanized steel rail, 1-5/8 inch outer dimension., with zinc-plated post caps. Rail supports are welded to the curb. Posts are mechanically secured to the brackets.
 - c. Chain Guard: Zinc-plated 3/16-inch (4.76 mm) chain with quick links and hoops.
 - d.. Finish: Safety yellow powder coat.
 - 4. Model RHG-STH Options:

SPECIFIER: *Select specific options listed below, if desired.*

- a. Stainless steel hinges, cylinder housing & brackets, exterior & interior latches, interior padlock hasp, hold-open arm.
- b. Railing Gate: Self-closing, rigid galvanized steel gate with spring hinge for attachment to manufacturer's Saf-T-Hatch roof hatch railing; fits both STH stand-alone railing and RHG-STH hatch-railing system.
 1. Model STHG- **[insert remainder of model number from subparagraph 2 below]**.
 2. Gate; Weight; Rail System:
 - a. STHG-24-36.
- c. Energy-efficient polyisocyanurate insulation 1-1/2" on curb walls (R-8), 3/8" in cover (R-5).
- d. Optional colors: [White hammertone], [Red hammertone].

2.07 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 Clear 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).

2.08 EHG SERIES - GALVANIZED STEEL EQUIPMENT HATCH

- A. Style EHG: Galvanized steel roof equipment hatch.
 1. Model EHG- **[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.
 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 Clear Opening Size (width by hinge length):
 - a. EHG-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).
 - b. EHG-2: 60 inches by 120 inches (1524.0 mm by 3048.0 mm).
 - c. EHG-3: 120 inches by 120 inches (3048.0 mm by 3048.0 mm).
 - d. EHG-4: 144 inches by 144 inches (3657.60 mm by 3657.60 mm).

2.09 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 Clear 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).

2.10 DEHG SERIES - DOMED GALVANIZED STEEL EQUIPMENT HATCH

- A. Style DEHA: 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 Clear Opening Size (width by hinge length):
 - a. DEHG-1: 72 inches by 96 inches (1828.80 mm by 2438.40 mm).
 - b. DEHG-2: 60 inches by 120 inches (1524.0 mm by 3048.0 mm).
 - c. DEHG-3: 120 inches by 120 inches (3048.0 mm by 3048.0 mm).
 - d. DEHG-4: 144 inches by 144 inches (3657.60 mm by 3657.60 mm).

2.11 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.

2.12 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.

2.13 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