

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.



DUR-RED PRODUCTS

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 hatch.
 - a. Dura-Hatch roof hatch
 - b. Dura-Hatch View domed roof hatch
2. Accessories:
 - a. Safety railing
 - a. Safety post

B. Related Sections

1. Section Includes: Furnish and install factory fabricated roof hatches.
2. 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.

3. Related Sections: Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
 - a. Section 05 50 00 - Metal fabrications for metal vertical ladders, ships' ladders and stairs for access to roof hatches
 - b. Section 07 01 40 – Maintenance Roofing
 - c. Section 07 01 70 – Operation and Maintenance of Roofing Specialties and Accessories

- d. Section 07 06 70 – Schedules for Roof Specialties and Accessories
- e. Section 07 22 00 – Roof and Deck Installation
- f. Section 07 26 00 – Vapor Retarders
- g. Section 07 27 00 – Air Barriers
- h. Section 07 50 00 – Membrane Roofing
- i. Section 07 81 00 – Roofing Specialties
- j. Section 07 72 00 – Roofing Accessories
- k. Section 07 72 43 – Roofing Walkboards
- l. Section 07 72 46 – Roofing Walkways
- m. Section 08 71 00 – Hardware: For Lock Type Furnished by Others
- n. Section 09 91 00 – 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 hatches are part of a roof access and equipment hatch allowance.

1.03 Reference Standards

- 1. The following standards and publications are applicable to the extent referenced in the text.
- 2. American Society of Testing and Materials (ASTM) and Others:
 - 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 (Galvanized) 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
 - i. ASTM C1289-17, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation
- 3. International Code Council (ICC)
 - a. International Building Code (IBC)

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.

1.05 QUALITY ASSURANCE

- A. Regulatory Requirements:
 1. OSHA 29 CFR 1910.23 Walking-Working Surfaces, Ladders
 3. OSHA 29 CFR 1910.25 Walking-Working Surfaces, Stairways
 4. OSHA 29 CFR 1910.28 Walking-Working Surfaces – Duty to have Fall Protection
 5. OSHA 29 CFR 1910.29 Walking-Working Surfaces – Fall Protection Systems
 6. International Building Code (IBC) Section 1015.7 Roof Access
 7. International Building Code (IBC) Section 1011.12 Means of Egress, Stairway to Roof
 8. International Building Code (IBC) Section 1011.13 Means of Egress, Guards
- B. Comply with standards referenced in Article 1.03 REFERENCES.
- C. 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 MANUFACTURERS

- A. Acceptable Manufacturers:

Dur-Red Products – a Division of Activar Construction Products Group, Inc.
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 RHUG Dura-Hatch Series – Galvanized Steel Roof Hatch

- A. Style RHUG: Galvanized steel, insulated roof hatch cover and roof curb.
 1. Model No. RHUG [**insert remainder of model number**].
 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 load of 20 lbs./ft² (22 kg/0.09 m²) wind uplift.
 3. RHUG Cover for Sizes up to 30 inches x 96 inches: Insulated with 1 inch fiberglass. 14-gauge (1.99 mm) Galvanized steel exterior, welded cover with 22-gauge liner. Door opens 88 degrees. Cover has continuous weatherproof neoprene bulb gasket.
 4. RHUGA Cover for sizes 36 inches x 96 inches and larger: Insulated with 1 inch fiberglass. 11-gauge (1.99 mm) aluminum exterior, welded cover with 22-gauge liner. . Door opens 88 degrees. Cover has continuous weatherproof neoprene bulb gasket

5. Curb: Insulated with ½ inch fiberboard. 14 gauge (1.99 mm) galvanized steel single wall curb and counterflashing. 11 inches (305 mm) high, 4 inches (88.9 mm) wide flange for securing to roof.
6. Hold Open Arm: Galvanized steel automatic locking arm with red vinyl grip for one-handed door operation.
7. Latch: Clear zinc-plated steel slam latch with outside and inside handles and padlock hasps. Larger models have two-point latch.
8. Finish: Gray prime coat on steel and silver prime coat on aluminum
9. Hatch Opening Size and Weight:
 - a. RHUG-1PG: 36 inches X 30 inches (914 mm x 762 mm)
 - b. RHUG-2PG 30 inches x 54 inches (762 mm x 1371.60 mm)
 - c. RHUG-3PG 30 inches x 96 inches (762 mm x 2438.40 mm)
 - d. RHUG-4PG 36 inches x 36 inches (914.40 mm x 914.40 mm)
 - e. RHUG-5PG 48 inches x 48 inches (1219.20 mm x 1219.20 mm)
 - f. RHUG-3072PG 30 inches x 72 inches (762 mm x 1828.80 mm)
 - g. RHUG-3672PG 36 inches x 72 inches (914.40 mm x 1828.80 mm)
 - h. RHUGA-3696PSI 36 inches x 96 inches (914.40 mm x 2438.40 mm)
 - i. RHUGA-4896PSI 48 inches x 96 inches (1219.20 mm x 2438.40 mm)
 - j. RHUGA-48120PSI 48 inches x 120 inches (1219.20 mm x 3048.00mm)

10. Model RHUG Options:

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

- a. Energy-efficient polyisocyanurate insulation [1inches (R-6)], [2inches(R-12)] on curb walls.
- b. Curb Double Wall
- c. Curb Mount with 2.5inches curb width.
- d. Standing Seam Curb [Enter manufacturer's model]
- e. Curb Heights, choose from 12 inches up to 22 inches in height; [____]inches]
- f. Galvanized steel curbs with Aluminum covers
- g. Stainless steel Type 316 hardware
- h. Safety Railing Ready – includes holes for mounting RSRWB railing.

2.03 RHUA Dura-Hatch Series – Aluminum Roof Hatch

- A. Style RHUA: Aluminum, insulated roof hatch cover and roof curb.
 1. Model No. RHUA [insert remainder of model number].
 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 load of 20 lbs./ft² (22 kg/0.09 m²) wind uplift.
 3. Cover: Insulated with 1 inch fiberglass. 11-gauge (1.99 mm) aluminum exterior, welded cover with 22-gauge liner. . Door opens 88 degrees. Cover has continuous weatherproof neoprene bulb gasket.
 4. Curb: Insulated with ½ inch fiberboard. 14 gauge (1.99 mm) aluminum single wall curb and counterflashing. 11 inches (305 mm) high, 4 inches (88.9 mm) wide flange for securing to roof.
 5. Hold Open Arm: Galvanized steel automatic locking arm with red vinyl grip for one-handed door operation.
 6. Latch: Clear zinc-plated single point steel slam latch with outside and inside handles and padlock hasps. Larger models have two-point latch.
 7. Finish: silver prime coat.
 8. Hatch Opening Size and Weight:
 - a. RHUA-1PSI 36 inches x 30 inches (914 mm x 762 mm)
 - b. RHUA-2PSI 30 inches x 54 inches (762 mm X 1371.60)
 - c. RHUA-3PSI 30 inches x 96 inches (762 mm x 2438.40 mm)
 - d. RHUA-4PSI 36 inches x 36 inches (914.40 mm x 914.40 mm)
 - e. RHUA-5PSI 48 inches x 48 inches (1219.20 mm x 1219.20 mm)
 - f. RHUA-3072PSI 30 inches x 72 inches (762 mm x 1828.80 mm)
 - g. RHUA-3696PSI 36 inches X 96 inches (914.40 mm x 2438.40 mm)
 - h. RHUA-4896PSI 48 inches x 96 inches (1219.20 mm x 2438.40 mm)
 - i. RHUA-48120PSI 48 inches x 120 inches (1219.20 mm x 3048.00mm)

10. Model RHUA Options:

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

- a. Energy-efficient polyisocyanurate insulation [1inches (R-6)], [2inches(R-12)] on curb walls.
- b. Curb Double Wall
- c. Curb Mount with 2.5inches curb width.
- d. Standing Seam Curb [Enter manufacturer's model]
- e. Curb Heights, choose from 12 inches up to 22 inches in height; [____ inches]
- f. Galvanized steel curbs with Aluminum covers
- g. Stainless steel Type 316 hardware
- h. Safety Railing Ready – includes holes for mounting RSRWB railing.

2.02 **RHUVG Dura-Hatch View Series – Galvanized Steel Domed Roof Hatch**

A. Style RHUVG: Galvanized steel, insulated domed roof hatch cover and roof curb.

1. Model No. RHUVG [**insert remainder of model number**].
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 load of 20 lbs./ft² (22 kg/0.09 m²) wind uplift.
3. Cover: Domed and insulated with 1 inch fiberglass. 14-gauge (1.99 mm) Galvanized steel exterior, welded cover with 22-gauge liner. Door opens 88 degrees. Cover has continuous weatherproof neoprene bulb gasket.
4. Domes: Clear over white acrylic
5. Curb: Insulated with ½ inch fiberboard. 14 gauge (1.99 mm) galvanized steel single wall curb and counterflashing. 11 inches (305 mm) high, 4 inches (88.9 mm) wide flange for securing to roof.
6. Hold Open Arm: Galvanized steel automatic locking arm with red vinyl grip for one-handed door operation.
7. Latch: Clear zinc-plated steel slam latch with outside and inside handles and padlock hasps. Larger models have two-point latch.
8. Finish: Gray prime coat on steel and silver prime coat on aluminum
9. Hatch Opening Size and Weight:
 - a. RHUG-3030PG: 30 inches x 30 inches (762 mm x 762 mm)
 - a. RHUG-1PG: 36 inches X 30 inches (914 mm x 762 mm)
 - d. RHUG-4PG 36 inches x 36 inches (914.40 mm x 914.40 mm)
 - e. RHUG-5PG 48 inches x 48 inches (1219.20 mm x 1219.20 mm)

10. Model RHUVG Options:

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

- a. Domes: [Acrylic], [Polycarbonate] and [White], [Clear] and [Single], [Double]
- b. Energy-efficient polyisocyanurate insulation [1inches (R-6)], [2inches(R-12)] on curb walls.
- c. Curb Double Wall
- d. Curb Mount with 2.5inches curb width.
- e. Standing Seam Curb [Enter manufacturer's model]
- f. Curb Heights, choose from 12 inches up to 22 inches in height; [____ inches]
- g. Galvanized steel curbs with Aluminum covers
- h. Stainless steel Type 316 hardware
- i. Safety Railing Ready – includes holes for mounting RSRWB railing.

2.03 **RHUVA Dura-Hatch View Series – Aluminum Domed Roof Hatch**

A. Style RHUVA: Aluminum, insulated domed roof hatch cover and roof curb.

1. Model No. RHUVA [**insert remainder of model number**].
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 load of 20 lbs./ft² (22 kg/0.09 m²) wind uplift.

3. Cover: Domed and insulated with 1 inch fiberglass. 11-gauge (1.99 mm) aluminum exterior, welded cover with 22-gauge liner. . Door opens 88 degrees. Cover has continuous weatherproof neoprene bulb gasket.
4. Domes: Clear over white acrylic
5. Curb: Insulated with ½ inch fiberboard. 14 gauge (1.99 mm) aluminum single wall curb and counterflashing. 11 inches (305 mm) high, 4 inches (88.9 mm) wide flange for securing to roof.
6. Hold Open Arm: Galvanized steel automatic locking arm with red vinyl grip for one-handed door operation.
7. Latch: Clear zinc-plated single point steel slam latch with outside and inside handles and padlock hasps. Larger models have two-point latch.
8. Finish: silver prime coat.
9. Hatch Opening Size and Weight:
 - a. RHUVA-3030PSI 30 inches x 30 inches (762 mm x 762 mm)
 - b. RHUA-1PSI 36 inches x 30 inches (914 mm x 762 mm)
 - c. RHUA-4PSI 36 inches x 36 inches (914.40 mm x 914.40 mm)
 - d. RHUA-5PSI 48 inches x 48 inches (1219.20 mm x 1219.20 mm)

10. Model RHUVA Options:

SPECIFIER: Select specific options listed below, if desired.

- a. Domes: [Acrylic], [Polycarbonate] and [White], [Clear] and [Single], [Double]
- b. Energy-efficient polyisocyanurate insulation [1inches (R-6)], [2inches(R-12)] on curb walls.
- c. Curb Double Wall
- d. Curb Mount with 2.5inches curb width.
- e. Standing Seam Curb [Enter manufacturer's model]
- f. Curb Heights, choose from 12 inches up to 22 inches in height; [____]inches
- g. Galvanized steel curbs with Aluminum covers
- h. Stainless steel Type 316 hardware
- i. Safety Railing Ready – includes holes for mounting RSRWB railing

2.11 ACCESSORIES

RSRWB SERIES – BOLT-ON SAFETY RAILING FOR NEW AND EXISTING HATCHES

- A. Style **RSRWB**: Bolt-on, permanent safety railing system for roof hatches.
 1. Model No. **RSRWB**- [insert remainder of model number from subparagraph 7 below].
 2. Certification: Provide and install permanent bolt-on Railing System(s) for safe egress and ingress through roof type access hatches and for protection of roof opening(s) while roof hatch is in use. Complies with OSHA CFR 29-1910.28 and CFR 29-1910.29.
 3. Railings and Brackets:
 - a. Railings: shall be galvanized, 1 ¼" ID, A53 Grade B seamed pipe or galvanized, 1 5/8" OD A500 seamed tube.
 - b. Brackets: Flat bar shall be 2" x 3/8" thickness A36 mild steel.
 4. Hardware:
 - a. Fittings: shall be galvanized.
 - b. Pipe ends and tops shall be covered or plugged with weather and light resistant material.
 - c. Bolts and washers shall be 3/8" x 2 ½" grade Z, zinc plated.
 5. Self Closing Gate: OSHA compliant, self-closing with industrial hinge.
Materials: Galvanized steel, Galvanized mounting hardware, with plastic cap on gate stop.
Hinge Springs: Torsion type and includes two springs per gate housed with hinge pivot.
Installation: Fasten gate clamps to post, beam or angle, tighten clamps, cut gate so gate tab strikes opposite post.
 6. Hatch Opening Size and Installs to Dur-Red Products Hatch Model:
 - a. RSRWB-1: 36 inches by 30 inches (914.40 mm by 762 mm); Designed to fit Models RHUA/RHUG-1.

- b. RSRWB-2: 54 inches by 30 inches (1371.60 mm by 762 mm); Designed to fit Models RHUA/RHUG-2.
- c. RSRWB-3: 96 inches by 30 inches (2438.40 mm by 762 mm); Designed to fit Models RHUA/RHUG-3.
- d. RSRWB-4: 36 inches by 36 inches (914.40 mm by 914.40 mm); Designed to fit Models RHUA/RHUG-4.
- e. RSRWB-5: 48 inches by 48 inches (1219.20 mm by 1219.20 mm); Designed to fit Models RHUA/RHUG-5.

- B Ladder-Assist Safety Post (Extendable): Preassembled 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-4-DR
 - 2. Post Assembly: Mild steel 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: Safety yellow powder coat.
 - 4. Weight: 25 lbs. (12 kg).

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.
- 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