SPEC NOTE: DESCRIPTION: Covers roof hatches, including hatch covers and curbed frames to meet design requirements; made of various materials.

SPEC NOTE: This Section specifies environmentally responsible material choices, utilizing the three R's (reduce, reuse and recycle) whenever possible, and providing generally available disposal options. For construction and demolition waste management practices in Federal Government projects refer to PWGSC's Report on Plans and Priorities which presents the department's response to the Federal Sustainable Development Strategy. The Report on Plans and Priorities is where these requirements have been specifically targeted as an element in the commitment to use tools such as LEED and Green Globes in project delivery.

# General

## RELATED REQUIREMENTS

SPEC NOTE: Edit the following paragraphs to list documents or Sections with specific information that the reader might expect to find in this Section, but is specified elsewhere. Do not include Division 00 or Division 01 Sections in this listing.

### Section [\_\_\_\_\_\_].

## REFERENCE STANDARDS

SPEC NOTE: Edit the following paragraphs for this specific project.

### ASTM International

#### ASTM A 506-[12], Standard Specification for Alloy and Structural Alloy Steel, Sheet and Strip, Hot-Rolled and Cold-Rolled.

#### ASTM B 370-[11e1], Standard Specification for Copper Sheet and Strip for Building Construction.

#### [ASTM A 653/A 653M-[11]](http://www.techstreet.com/cgi-bin/joint.cgi/innova/cgi-bin/detail?product_id=1579708), Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

#### ASTM D 2369-[10e1], Standard Test Method for Volatile Content of Coatings.

#### ASTM D 2832-[2011], Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.

#### ASTM D 5116-[10], Standard Guide For Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.

### Canada Green Building Council (CaGBC)

#### LEED Canada-NC Version 1.0-[2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum [2007]).

#### LEED Canada-CI Version 1.0-[2007], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.

#### LEED Canada 2009 for Design and Construction-[2010], LEED Canada 2009 for Design and Construction Leadership in Energy and Environmental Design Green Building Rating System Reference Guide.

#### LEED Canada for Existing Buildings, Operations and Maintenance-[2009], LEED Canada 2009 Leadership In Energy and Environmental Design Green Building Rating System Reference Guide.

### CSA Group (CSA)

#### CSA B111-[1974(R2005)], Wire Nails, Spikes and Staples.

### Green Seal Environmental Standards (GS)

#### GS-11-[11], Standard for Paints and Coatings.

#### GS-36-[11], Standard for Adhesives for Commercial Use.

### The Master Painters Institute (MPI)

#### Architectural Painting Specification Manual - [current edition].

##### MPI #76, Primer, Alkyd, Quick Dry, for Metal.

## ACTION AND INFORMATIONAL SUBMITTALS

### Submit in accordance with Section [01 33 00 - Submittal Procedures].

SPEC NOTE: Include requests for relevant data to be furnished by the Contractor, before, during or after construction.

### Product Data:

#### Submit manufacturer's instructions, printed product literature and data sheets for [roof hatches] and include product characteristics, performance criteria, physical size, finish and limitations.

#### Submit [2] copies of WHMIS SDS in accordance with Section [01 35 29.06 - Health and Safety Requirements][01 35 43 - Environmental Procedures].

##### Indicate VOC's for caulking materials during application [and curing].

### Shop Drawings:

#### Submit drawings stamped and signed by professional engineer registered or licensed in [Province][Territory], Canada.

##### Indicate size and description of components, materials, attachment devices, description of frame and finish, and construction details.

### Manufacturer's Instructions:

#### Submit manufacturer's installation instructions.

SPEC NOTE: Co-ordinate the following paragraph with Section 01 35 21 - LEED Requirements

### Sustainable Design Submittals:

#### LEED Canada submittals: in accordance with [Section 01 35 21 - LEED Requirements].

#### Construction Waste Management:

##### Submit project [Waste Management Plan][Waste Reduction Workplan] highlighting recycling and salvage requirements.

##### Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that [50][75]% of construction wastes were recycled or salvaged.

##### Recycled Content:

###### Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of [post-consumer][and][post-industrial ] content, and total cost of materials for project.

##### Regional Materials: submit evidence that project incorporates required percentage [\_\_\_\_\_\_]% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

##### Low-Emitting Materials:

###### Submit listing of [paints and coatings] used in building, comply with VOC and chemical component limits or restriction requirements.

## QUALITY ASSURANCE

### Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.

### Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

## CLOSEOUT SUBMITTALS

### Submit in accordance with Section [01 78 00 - Closeout Submittals].

### Submit operation and maintenance data for hardware complete with pertinent details, spare parts lists and warnings against harmful maintenance materials and practices for incorporation into manual.

## DELIVERY, STORAGE AND HANDLING

### Deliver, store and handle materials in accordance with Section [01 61 00 - Common Product Requirements][and][with manufacturer's written instructions].

### Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

### Storage and Handling Requirements:

#### Store materials [off ground][indoors][in dry location] and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

#### Store and protect [roof hatches] from [nicks, scratches, and blemishes].

#### Replace defective or damaged materials with new.

SPEC NOTE: Co-ordinate the following paragraph with Section 01 35 21 - LEED Requirements

### Develop [Construction Waste Management Plan][Waste Reduction Workplan] related to Work of this Section and in accordance with Section [01 35 21 - LEED Requirements].

### Packaging Waste Management: remove for reuse [and return][by manufacturer] of [pallets,][crates,][padding,][and][packaging materials] as specified in [Construction Waste Management Plan][Waste Reduction Workplan] in accordance with Section [01 74 19 - Waste Management and Disposal][and][Section 01 35 21 - LEED Requirements].

# Products

## DESIGN REQUIREMENTS

### Roof hatches must withstand snow load of [\_\_\_\_\_\_] kN/m², and wind uplift of [\_\_\_\_\_\_] kNm/m² and temperature range of [\_\_\_\_\_\_] degrees C without damage to unit or permanent deformation to seals.

## MATERIALS

SPEC NOTE: Metal thicknesses and mass are not specified in the following text. These will be determined by the snow load design criteria.

SPEC NOTE: Use the following paragraph when prime painted finish for roof hatches is selected.

### Steel sheet: regular quality alloy steel to ASTM A 506

SPEC NOTE: Z275 designation specified is the standard sheet metal used. Refer to [ASTM A 653/A 653M](http://www.techstreet.com/cgi-bin/joint.cgi/innova/cgi-bin/detail?product_id=1579708) for other coating designations.

### Galvanized steel sheet: commercial quality to [ASTM A 653/A 653M](http://www.techstreet.com/cgi-bin/joint.cgi/innova/cgi-bin/detail?product_id=1579708), [Z275] designation zinc coating.

### Aluminum sheet: mill finish [plain][embossed][pattern] utility sheet.

### Aluminum: extruded sections of AA 6063-T5 alloy, all components one piece without splices

SPEC NOTE: Cold rolled temper sheet copper specified is generally used for large pieces. Soft temper copper is used for small flashing pieces installed without soldering or nailing.

### Copper sheet: to ASTM B 370[cold rolled][soft temper].

### Gaskets: extruded resilient [vinyl][silicone][neoprene], with full recovery after 50% compression.

### Fasteners: [nails to CSA B111][screws to manufacturers standard][cadmium plated steel][galvanized steel][stainless steel][aluminum].

SPEC NOTE: Insert appropriate text from Section 07 92 00 - Joint Sealants

SPEC NOTE: Co-ordinate the following paragraph with Section 01 35 21 - LEED Requirements. Use the following paragraph to specify low VOC limits.

### Sealants: [\_\_\_\_\_\_].

#### Test for acceptable VOC emissions in accordance with ASTM D 2369 and ASTM D 2832

SPEC NOTE: Co-ordinate the following paragraph with Section 01 35 21 - LEED Requirements. Use the following paragraph to specify low VOC limits.

### Adhesives and sealants: VOC limit [30][70][250] g/L maximum to [SCAQMD Rule 1168][GS-36].

SPEC NOTE: The Environmental Choice guidelines CCD-47a and CCD-048 provides acceptable standards for products that provide reduced environmental impacts

###  [Primers][Paints][Coating]: in accordance with manufacturer's recommendations for surface conditions

### Primer paint for steel: to MPI #76

SPEC NOTE: Co-ordinate the following paragraph with Section 01 35 21 - LEED Requirements. Use the following paragraph to specify VOC limits required for LEED Low-Emitting Materials.

### Primer: VOC limit [250] g/L maximum to [SCAQMD Rule 1113][GS-11].

### Isolation coating: alkali resistant bituminous paint or epoxy solution.

## HATCH COVER

### Metal Cover:

#### Preformed, [galvanized steel][primed steel][sheet aluminum], [insulated sandwich construction [\_\_\_\_\_\_]mm overall thickness].

## CURBED FRAME

SPEC NOTE: Delete the following paragraph when metal or wood curb is specified in another section.

### Preformed metal curb: [\_\_\_\_\_\_] mm thick x [\_\_\_\_\_\_] x [\_\_\_\_\_\_] mm high [insulated sandwich construction, insulation specified in Section [\_\_\_\_\_\_], [\_\_\_\_\_\_]  mm overall thickness], with deck flange for attachment.

## ACCESSORIES

### Screws: [galvanized steel][aluminum][stainless steel] for curb to structure [and][for hatch lip frame to outer attachment].

### Hinges: [type recommended by roof hatch manufacturer][heavy duty pintle type of [aluminum][galvanized steel]].

### Latch: positive snap with turn handles inside and out and padlock hasps inside.

### Securing latch: hold open operating arm with vinyl grip handle to permit one-handed release.

### Resilient gasket/seal to inner face of lid in contact with hatch lid support frame [and to skylight in contact with hatch lid].

SPEC NOTE: Co-ordinate the following paragraph with electrical requirements. Consult with electrical design group for co-ordination.

###  [Heat and smoke][Explosion] venting units: equip with [[ULC][FM] listed thermal safety vent hardware, fusible link activated spring operated, hold open device, with outside and inside cable release][hydraulically dampened, fusible link activated][mechanically dampened, fusible link activated][chain activated, gravity operating lift][electro-thermal link smoke detector activated] mechanism.

## FABRICATION

### Fabricate components free of twists, bends, or visual distortion and insulated. Weld corners and joints.

### Assemble roof hatch components as indicated.

### Ensure continuity of weather-tight seal.

### Design [flashings][extrusions] to collect and lead off accumulated condensation.

### Zinc plate hardware and attachments and shop prime ready for field painting.

# Execution

## EXAMINATION

### Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for roof hatch installation in accordance with manufacturer's written instructions.

#### Visually inspect substrate in presence of [Departmental Representative][DCC Representative][Consultant].

#### Inform [Departmental Representative][DCC Representative][Consultant] of unacceptable conditions immediately upon discovery.

#### Proceed with installation only after unacceptable conditions have been remedied [and after receipt of written approval to proceed from [Departmental Representative][DCC Representative][Consultant]].

## MANUFACTURER'S INSTRUCTIONS

### Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

## INSTALLATION

### Erect components plumb, level and in proper alignment.

### Ensure continuity of building envelope air barrier and vapour retarder systems.

### Adjust and seal assembly with provision for expansion and contraction of components.

### Secure [prefabricated curb assembly][brake formed metal curb] to structure.

### Coat aluminum and copper in contact with dissimilar materials, with isolation coating.

### Secure and seal frame to curb.

## CLEANING

### Progress Cleaning: clean in accordance with Section [01 74 00 - Cleaning].

#### Leave Work area clean at end of each day.

### Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 00 - Cleaning].

### Waste Management: separate waste materials for [reuse][and][recycling] in accordance with Section [01 74 19 - Waste Management and Disposal][01 35 21 - LEED Requirements].

#### Remove recycling containers and bins from site and dispose of materials at appropriate facility.

## PROTECTION

### Protect installed products and components from damage during construction.

### Repair damage to adjacent materials caused by roof hatch installation.

END OF SECTION