

## 1.0 GENERAL

### 1.1 Related Work and UBC Guidelines

- .1 Section 07 00 10 Building Envelope – General Requirements (for roof safety requirements)
- .2 Section 07 50 00 Membrane Roofing
- .3 Section 07 62 00 Sheet Metal Flashing and Trim

### 1.2 Related External Documents

- 1. RCABC Roofing Practices Manual.
- 2. WorkSafe BC OHS Regulations.

### 1.3 Description

- 1. Roof hatches and service ladders.

### 1.4 Coordination

- 1. The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.
- 2. In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.
- 3. These guidelines are intended to be read by design consultants and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
- 4. The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.

### 1.5 Submittals

- .1 Submit required documents to consultants in accordance with Section 013300 Submittal Procedures
- .2 O&M Submittals
  - .1 Product specifications, type and anchoring methods.
  - .2 Shop drawings (*including all interface details*) sealed and signed by a Professional Engineer registered in the Province of British Columbia.
  - .3 Manufacturer performance test data to confirm performance criteria.
  - .4 Manufacturers Safety Data sheet (MSD) for all toxic or potentially toxic materials.
  - .5 Maintenance Data
    - .1 As-installed hardware.
    - .2 Source for replacement parts.
    - .3 Maintenance instructions

## 2.0 DESIGN AND PERFORMANCE REQUIREMENTS

### 2.1 Design Requirements

- .1 Roof Hatches
  - .1 Roof hatches are acceptable only in the following circumstances:
    - .1 Roofs with **no rooftop equipment** requiring maintenance may be accessed using an internal ship's ladder and roof hatch, size 3'-0" x 2'-6", insulated integral curb and flashing, c/w externally mounted safety grab handle and non-removable pin (NRP) hinges.
    - .2 Roofs having **rooftop equipment requiring occasional maintenance** may be accessed using an internal ship's ladder) and roof hatch, size 2'-6" x 4'-6" or a service stair and roof hatch size 2'-6" x 8'-0". Hatch to have insulated integral curb,

and flashing, externally mounted safety grab handle *and* non-removable pin (NRP) hinges.

.3 **UBCO only** – Roof hatches are to be supplied with guards around roof hatches. These are to be a permanent (side-mounted and bolted) OSHA and Worksafe compliant roof hatch guardrail system with a self-closing safety gate.

**.2 Roof Ladders**

.1 Roofs having rooftop equipment requiring regular maintenance or to a penthouse at roof level are to be accessed via a stairway extending to the roof or through provision of a ladder. Roof ladder design to be as follows:

.1 Only ship ladders are acceptable. A variance will need to be granted for the use of vertical ladders.

.2 Ladder dimensions to be as per WorkSafe BC standards. *Treads are not to overlap over one another. The beginning of each tread should align with the end of the tread below.*

.3 Ships ladder slope should not exceed 60 degrees.

**2.2 Performance Requirements**

.1 Roof hatches and ladders to conform to WorkSafe BC OHS requirements and standards.

**3.0 MATERIALS**

**3.1 Product Selection – NOT USED**

**3.2 Finishes**

.1 Roof hatch guardrail to be of anodized aluminum or galvanized steel.

.2 Standard exposed ladder finish: Galvanized *steel*.

**4.0 LESSONS LEARNED AND COMMON MISSES ON UBC PROJECTS**

Items in this section are lessons learned or misses from past projects. These may also include code or industry best practices. If not applicable to a project, a variance is not required.

.1 Recent ships ladders installed on new builds have been unusable from a safety perspective. Based on design modifications done after installation to increase tread overlap, design requirements have been updated as noted above.

\*\*\*END OF SECTION\*\*\*