

All guidelines apply to both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.

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1.0 **GENERAL**

1.1 ***Related Scope of Work and UBC Guidelines***

- .1 *Section 05 50 00 Metal Fabrications*
- .2 *Section 07 00 10 Building Envelope – General Requirements*
- .3 *Section 07 40 00 Cladding*
- .4 *Section 07 62 00 Sheet Metal Flashing and Trim*
- .5 *UBC LEED Implementation Guide*
- .6 *UBC Campus Plan Design Guidelines (Vancouver and Okanagan) - for metal screens and fences in the public realm.*

1.2 ***Related External Documents***

- .1 *Latest edition of the British Columbia Building Code (BCBC).*

1.3 ***Description***

- .1 *General requirements for steel structures on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.*

1.4 ***Coordination***

1. *In instances where conflicts are found between the UBC Technical Guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.*
2. *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.*
3. *The Coordinating Registered Professional (CRP) is required to coordinate these requirements with other disciplines.*

2.0 **DESIGN AND PERFORMANCE REQUIREMENTS**

2.1 ***Design Requirements***

1. *Design building structures and their structural components for a 100-year service life. Refer to the Technical Guidelines Performance Objectives located here.*
2. *Structural design shall conform to Part 4 of the latest edition of the BC Building Code (BCBC). Live loads should be determined as per the BCBC for specific occupancies.*

2.2 ***Performance Requirements***

- .1 *Metal fabrications where noted to be galvanized are to be hot-dipped galvanized.*

3.0 **MATERIAL REQUIREMENTS**

3.1 ***Product Selection***

- .1 *All structural steel to be shop primed except for the appropriate exclusions.*
- .2 *Exterior ledger angles and related components are to be galvanized for corrosion protection.*
- .3 *Where decking is specified, use only galvanized steel decking as suitable for the exposure of the decking (interior or exterior).*

END OF SECTION

1.0 **GENERAL**

1.1 **Related *Scope of Work and UBC Guidelines***

- .1 Section 05 00 00 Metals
- .2 Section 09 90 00 Painting & Coating (for exposed structural steel)
- .3 UBC LEED Implementation Guide
- .4 *UBC Campus Design Guidelines (Vancouver and Okanagan) – for metal screens and finishes installed in the public realm.*

1.2 **Related External Documents**

- .1 *Latest edition of the British Columbia Building Code (BCBC).*

1.3 **Description**

1. *The Guidelines apply to all work completed within buildings on both UBC Vancouver and UBC Okanagan campuses unless stated otherwise.*
2. *Work includes miscellaneous metal fabrications, including metal screens and fences.*

1.4 **Coordination**

1. *In instances where conflicts are found between the UBC Technical Guidelines and provincial regulations or codes, please notify the UBCV Technical Review Team Architect or UBCO Facilities Management.*
2. *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.*
3. *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 colour.*
 - .2 *Final reviewed shop drawings for metal fabrications and where required, signed and sealed by a professional engineer registered in the Province of BC.*
 - .3 *Provide Letter of Assurance for 1.5.2.2 above.*

2.0 **DESIGN AND PERFORMANCE REQUIREMENTS**

2.5 **Design Requirements**

- .1 *Finishes for miscellaneous metal fabrications including but not limited to the following:*
 - .1 *Guardrails, handrails and balustrades: stainless steel, powder-coated or galvanized as per project requirements.*
 - .2 *Exterior metal stairs and roof ladder, brackets and connections: galvanized.*
 - .3 *Bollards: shop prepped and primed, finish painted on site.*
 - .4 *Elevator hoisting beams at top of hoistways and elevator divider beams: shop painted.*
 - .5 *Elevator pit ladders: galvanized.*
 - .6 *Steel angle supports for brick veneer and concrete block: galvanized.*
 - .7 *Steel angles at junction of concrete block walls and concrete slabs over concrete block walls: galvanized.*
 - .8 *Steel channel frame to overhead rolling grilles and rolling doors: shop painted.*
 - .9 *Trench drains: cast iron grating set in galvanized angle frame.*
 - .10 *Louvre frames: powder-coated. Steel supports for aluminum louvres: galvanized.*
 - .11 *Corner guards in parking garages on concrete block walls: shop prepped and primed, finish painted on site.*

- .12 Pipe and conduit guards in parking garages: shop painted
- .13 Sump covers and frames: galvanized.
- .14 Anchor bolts/nuts/washers: zinc-coated fasteners for exterior use or where built into exterior, and interior side of moisture barrier.
- .15 Concrete inserts: galvanized.
- .16 Nuts, bolts and washers are to be hot-dipped galvanized. Anchor bolts shall be in accordance with ASTM A36/A36M or A307. Coordinate with structural drawings for anchor bolts.
- .17 Metal screens to secure enclosed spaces such as mechanical ducts, pipes, and intake and exhaust vents from bird ingress.
- .18 Burglar bars: galvanized or shop painted as per project requirements.
- .19 Bike racks: galvanized, stainless steel or powder-coated as per project requirements.
- .20 Other miscellaneous metal fabrication as shown on drawings or details.

2.6 Performance *Requirements*

- .1 Determine applicable CSA, ASTM, and similar standards.
- .2 Metal fabrications where noted to be galvanized are to be hot-dipped galvanized.

3.0 MATERIALS

3.5 Materials

- .1 Materials that are sourced locally and have a high recycled content *are preferred*.
- .2 All exterior ledger angles, lintels and related components (connections, bolts, plates, etc.): hot dip galvanized.
- .3 Zinc rich galvanized primer for touch-up work.
- .4 High zinc dust content paint for re-galvanizing welds in galvanized steel, conform to ASTM A780/A780M-09.

END OF SECTION