



PRODUCT INFORMATION

Scope

Fixed vertical ladder system designed to provide permanent and safe access to roofs, mechanical equipment, and elevated technical areas in industrial, commercial, and institutional buildings. The ladder shall be fastened to the wall or supporting structure using suitable anchors, such as mechanical or chemical anchors, according to site conditions and project requirements.

Applications

- Roof access systems
- Mechanical and HVAC equipment access
- Industrial facilities and towers
- Non-guarded roof edge access zones

System Description

The system consists of a fixed vertical ladder assembly with optional:

- Safety cage
- Vertical fall arrest system (rail or cable)
- Intermediate rest platforms
- Anti-climb access door at the bottom of the ladder to restrict unauthorized access.
- Top platform with handrails and self-locking gate

Modular design suitable for new construction and retrofit applications.

Materials and Components

Structural Materials

- Available materials: aluminum, galvanized steel, or stainless steel.

Structural Profiles

- Side rails, rungs, angles, flat bars, and channels are selected according to the ladder configuration, material, site conditions, and project requirements.
- Final profile sizes may vary from one project to another and are confirmed during design and fabrication.

Platform Components

- Aluminum grating: The standard platform grating is **32 mm high x 4.7 mm** thick. Grating dimensions may be modified according to client requirements and project specifications.
- Support framing: structural angles and channels

Fasteners and Anchors

- The ladder is suitable for different types of anchors, including chemical and mechanical anchors.

Geometric and Dimensional Requirements

Parameter	Value
Rung spacing	(254mm - 355mm) 10" - 14"
Clear width	406mm - 508mm (16"-20")
Minimum wall clearance	≥ 150 mm (6")
Maximum climb without rest	9 m (29' - 6")
Top extension above landing	900 - 1070 mm (36"- 42")
Safety Cage inside radius	~ 760mm - 960mm
Support spacing	According to site conditions

Design Loads

- Design loads shall be determined according to applicable provincial codes, standards, site conditions, and project requirements.
- Final load values may vary from one project to another and shall be confirmed during the engineering review.

Safety Systems

The following items are optional and may be added according to project requirements.

- Vertical fall arrest system (rail or cable)
- Mobile fall arrest device (self-locking)
- Safety cage (as required by code)
- Safety access gate
- Instead if restraint system : Freestanding roof railing system

Connections and Supports

Substrate Types

- Precast concrete wall panels
- Masonry wall : including CMU or brick veneer
- Steel or wood stud walls

Anchorage Systems

Anchorage shall be designed and installed to suit the supporting structure and applicable design loads.

Installation Requirements

- Anchor type, diameter, embedment depth, edge distance, spacing, and installation torque shall be determined in accordance with the anchor manufacturer's published data and verified by the project structural engineer for the applicable substrate and design loads.
- Galvanic isolation required between dissimilar metals

Fabrication and Welding

- Fabrication by CSA W47.2 certified manufacturer
- Welding in accordance with CSA W59.2
- Filler materials per AWS A5.10
- Visual inspection per CSA W59
- Third-party inspection per CSA W178.1

Codes and Standards

The ladder system is designed in accordance with applicable requirements of:

- National Building Code (NBC)
- ANSI A14.3 – Fixed Ladders
- CSA S157 – Aluminum Design
- OHSA / Ontario Building Code-3.6.1.5, O. Reg. 213/91 – Construction Projects R.R.O. 1990, Reg. 851, s.18 – Fixed Access Ladders
- CSA Z259.2.5-17
- CSA Z259.2.4:15

CNESST

- RLRQ, S-2.1, r. 13, s. 23
- RLRQ, S-2.1, r.4

Installation

- Installation by qualified personnel only
- Compliance with manufacturer specifications
- Field verification of all dimensions required prior to fabrication

Inspection and Maintenance

- Pre-use visual inspection
- Annual certified inspection
- Replacement of worn or damaged components
- If this means that the product does not require major maintenance, it would be better to write: "Requires minimal"

Performance and Durability

- Corrosion-resistant materials (aluminum / stainless steel / Galvanized steel)
- Designed for long-term outdoor exposure
- Expected service life > 20 years (environment dependent)
- Manufactured in an ISO 9001 certified facility
- CWB certified welds
- Warranty: 1 year (paint) and 10 years (components)

Key Benefits for Design Professionals

- Fully code-compliant system
- Easy integration into architectural and structural designs
- Modular and adaptable geometry
- Enhanced safety and liability reduction

General Notes

- Ladder configuration and dimensions may vary according to project requirements and site conditions.
- All dimensions and site conditions must be verified before fabrication and installation.
- Installation must be carried out by qualified personnel in accordance with applicable codes, standards, and project requirements.
- Anchorage, fasteners, and supporting structure must be verified and approved by the installer or project engineer.
- Final use and installation are subject to site conditions and the approval of the responsible professional.

Benefits for Professionals

- Adaptable solution for different building configurations and site conditions
- Suitable for new installations and replacement of existing fixed ladders
- Can be integrated with roof safety guardrail systems where required
- Supports compliance with applicable safety standards and project requirements
- Helps improve safe access to roof areas, mechanical equipment, and elevated work zones