

**CONSTRUCTION SAFETY DESIGN
SOLUTION #6
DESIGN CATEGORY:
ROOF/INTERIOR
HAZARD: FALL FROM LADDERS
DESIGN SOLUTION: SPECIFY
FIXED LADDERS OR STAIRWAYS**



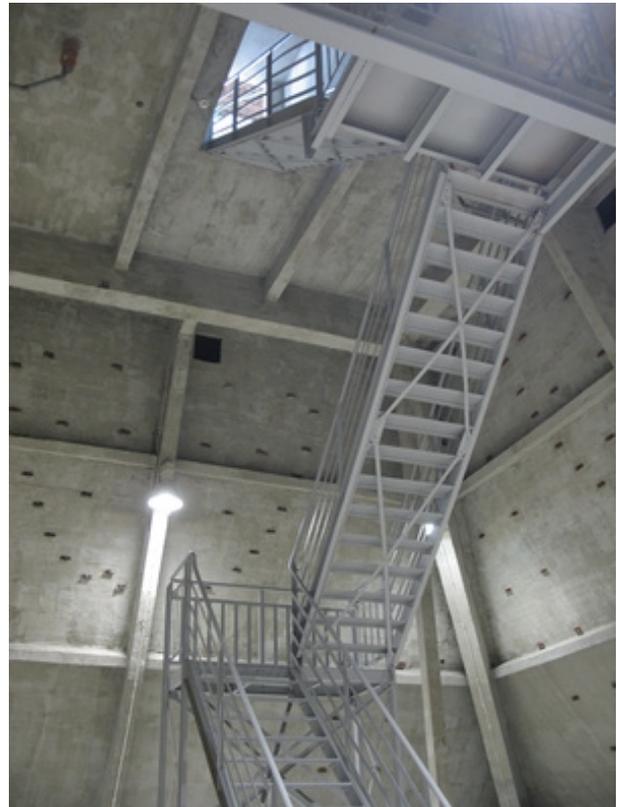
Ladders are mostly used to access an upper level or a roof. Falls from ladders is the number one cause of fatalities in construction-about 78 fatalities per year [BLS, 2008]. Ladders can be hazardous when placed improperly, not secured, or used inappropriately. This design solution reduces the risk of serious falls from ladders during maintenance activities or when accessing a roof, platform, mezzanine, or upper level of a building.

SOLUTION

Designers can contribute to reducing falls from ladders by specifying fixed ladders or stairways whenever possible. This would eliminate the need for a portable ladder when accessing a roof, work platform, mezzanine, or upper level. The chance that a worker may use a defective ladder, an improper ladder, or not use the ladder properly is eliminated. Many building codes require a stairway or alternating tread device for roof access in commercial buildings.



Fixed ladders should be specified to access a work platform, mezzanine, upper level, or a roof.



Fixed industrial stairs can also be specified to access an a work platform, mezzanine, upper level, or a roof. Alternating tread devices can be specified if there is limited space.

Design details on industrial stairs can be found in OSHA 1910.24 and ANSI/ASSE A1264.1. Alternating tread ladders can be specified in areas where there is limited space. Details for safe and efficient fixed ladders can be found in OSHA 1910.27 and ANSI ASC A14.3.

BACKGROUND INFORMATION

Applicable US Safety Regulations

OSHA General Industry standards for industrial stairs see 1910.24

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9696

OSHA General Industry standards for fixed ladders see 1910.27

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9719

Other Applicable Standards

ANSI ASC A14.3 American National Standard for Ladders-Fixed-Safety Requirements

ANSI/ASSE A1264.1 Safety Requirements for Workplace Walking/Working Surfaces and Their Access; Workplace, Floor, Wall and Roof Openings; Stairs and Guardrails Systems

International Building Code (IBC), International Code Council, Inc.

National Safety Council Data Sheet Fixed Ladders

OTHER CONSIDERATIONS

Design professionals and contractors should work to coordinate the installation of fixed ladders and stairways as early as possible in the construction process. This would provide safe means of access to each floor level rather than using portable ladders, job made ladders, or other means.

Through the OSHA Alliance Program's Construction Roundtable, the Roundtable participants developed this product for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor.