

ANSI/ASSP A10.24-2022

Roofing – Safety Requirements for Low-Sloped Roofs



AMERICAN SOCIETY OF
SAFETY PROFESSIONALS



PREVIEW ONLY

The information and materials contained in this publication have been developed from sources believed to be reliable. However, the American Society of Safety Professionals (ASSP) as secretariat of the ANSI accredited A10 Committee or individual committee members accept no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. By publication of this standard, ASSP or the A10 Committee does not ensure that adherence to these recommendations will protect the safety or health of any persons or preserve property.

**American National Standard
Construction and Demolition Operations**

Roofing – Safety Requirements for Low-Sloped Roofs

Secretariat

American Society of Safety Professionals
520 N. Northwest Highway
Park Ridge, Illinois 60068

Approved April 12, 2022

American National Standards Institute

American National Standard

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution. The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether they have approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards. The American National Standards Institute does not develop standards and will in no circumstance give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretation should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

Caution Notice: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Published May 2022 by

American Society of Safety Professionals
520 N. Northwest Highway
Park Ridge, IL 60068
(847) 699-2929 • www.assp.org

Copyright ©2022 by American Society of Safety Professionals
All Rights Reserved.

No part of this publication may be reproduced
in any form, in an electronic retrieval system or
otherwise, without the prior written permission
of the publisher.

Printed in the United States of America

Foreword (This Foreword is not a part of American National Standard A10.24-2022.)

This standard is one of a series of safety standards that have been formulated by the Accredited Standards Committee on Safety in Construction and Demolition Operations, A10. It is expected that the standards in the A10 series will find a major application in industry, serving as a guide to contractors, labor and equipment manufacturers. For the convenience of users, a list of existing and proposed standards and technical materials in the A10 series for Safety Requirements in Construction and Demolition Operations follows.

A10.0	The Construction and Demolition Compendium of Standards
A10.1	Pre-Project & Pre-Task Safety & Health Planning
A10.2	Safety, Health and Environmental Training (under development)
A10.3	Powder-Actuated Fastening Systems
A10.4	Personnel Hoists and Employee Elevators
A10.5	Material Hoists
A10.6	Demolition Operations
A10.7	Use, Storage, Handling and Site Movement of Commercial Explosives and Blasting Agents
A10.8	Scaffolding
A10.9	Concrete and Masonry Construction
A10.11	Personnel Nets
A10.12	Excavation
A10.13	Steel Erection
A10.15	Dredging
A10.16	Tunnels, Shafts and Caissons
A10.18	Temporary Roof and Floor Holes, Wall Openings, Stairways and Other Unprotected Edges
A10.19	Pile Installation and Extraction Operations
A10.21	Safe Construction and Demolition of Wind Generation/Turbine Facilities
A10.22	Rope-Guided and Non-Guided Workers' Hoists
A10.23	Safety Requirements for the Installation of Drilled Shafts
A10.24	Roofing – Safety Requirements for Low-Sloped Roofs
A10.25	Sanitation in Construction
A10.26	Emergency Procedures for Construction Sites
A10.28	Work Platforms Suspended from Cranes or Derricks
A10.29	Pre-Planning, Installation, Inspection and Use of Fall Protection for Construction and Demolition (under development)
A10.30	Installation of Anchors and Micropiles
A10.31	Digger-Derricks
A10.32	Personal Fall Protection Used in Construction and Demolition Operations
A10.33	Safety and Health Program Requirements for Multi-Employer Projects
A10.34	Public Protection
A10.35	Pressure Testing of Steel and Copper Piping Systems
A10.37	Debris Nets
A10.38	Basic Elements of a Program to Provide a Safe and Healthful Work Environment
A10.39	Construction Safety and Health Audit Program
A10.40	Reduction of Musculoskeletal Problems in Construction
A10.42	Rigging Qualifications and Responsibilities in the Construction Industry
A10.43	Confined Spaces in Construction and Demolition Operations
A10.44	Lockout/Tagout in Construction
A10.46	Hearing Loss Prevention
A10.47	Highway Construction Safety
A10.48	Communication Structures
A10.49	Control of Health Hazards
A10.50	Heat Stress Management in Construction and Demolition Operations (under development)
A10.100	Prevention through Design in Construction
A10.101	Drones in Construction (under development)

- A10.102 Emerging Technology in Construction (under development)
- A10.103 Lagging and Leading Indicators Used in Construction (under development)
- A10.104 Pandemics and Infectious Diseases on Construction and Demolition Sites (under development)

One purpose of these standards is to serve as guides to governmental authorities having jurisdiction over subjects within the scope of the A10 Committee standards. If these standards are adopted for governmental use, the reference of other national codes or standards in individual volumes may be changed to refer to the corresponding regulations.

Normative Requirements: This standard uses the single column format common to many international standards. The normative requirements appear aligned to the left margin. To meet the requirements of this standard, machinery, equipment and process suppliers and users must conform to these normative requirements. These requirements typically use the verb “shall.”

NOTE: The informative or explanatory notes in this standard appear indented, in italics, in a reduced font size, which is an effort to provide a visual signal to the reader that this is informative note, not normative text, and is not to be considered part of the requirements of this standard; this text is advisory in nature only. The suppliers and users are not required to conform to the informative note. The informative note is presented in this manner in an attempt to enhance readability and to provide explanation or guidance to the sections they follow.

Revisions: The A10 Committee welcomes proposals for revisions to this standard. Revisions are made to the standard periodically (usually five years from the date of the standard) to incorporate changes that appear necessary or desirable, as demonstrated by experience gained from the application of the standard. Proposals should be as specific as possible, citing the relevant section number(s), the proposed wording and the reason for the proposal. Pertinent documentation would enable the A10 Committee to process the changes in a more-timely manner.

Interpretations: Upon a request in writing to the Secretariat, the A10 Committee will render an interpretation of any requirement of the standard. The request for interpretation should be clear, citing the relevant section number(s) and phrased as a request for a clarification of a specific requirement. Oral interpretations are not provided.

No one but the A10 Committee (through the A10 Secretariat) is authorized to provide any interpretation of this standard.

Approval: Neither the A10 Committee nor American National Standards Institute (ANSI) approves, certifies, rates or endorses any item, construction, proprietary device or activity.

Appendices: Appendices are included in most standards to provide the user with additional information related to the subject of the standard. Appendices are not part of the approved standard.

Checklists: Checklists included in A10 standards may be copied and used in non-commercial settings only.

Committee Meetings: The A10 Committee meets twice per year. Persons wishing to attend a meeting should contact the Secretariat for information.

Standard Approval: This standard was processed and approved for submittal to ANSI by the American National Standards Committee on Safety in Construction and Demolition Operations, A10. Approval of the standard does not necessarily imply (nor is it required) that all Committee members voted for its approval. At the time ANSI approved this standard, the A10 Committee had the following members:

John Johnson, CSP, Chair
Steven Rank, Vice Chair
Timothy R. Fisher, CSP, CHMM, ARM, CPEA, FASSP, Secretary
Lauren Bauerschmidt, CSP, STS, Assistant Secretary
Jennie Dalesandro, Administrative Technical Support

Organization Represented	Name of Representative
3M	Raymond Mann Steven McPherson
AFL-CIO	MK Fletcher Rebecca Reindel
AGC of America	Michael McCaffrey Kevin Cannon
Alliance of Hazardous Materials Professionals	Carl Heinlein, CSP, ARM, CRIS
American Clean Power Association	Christopher Daniels Michele Myers Mihelic
American Insurance Services Group	Thad Nosal James Borchardt, CSP, CPE
American Society of Civil Engineers	John O'Connor, P.E. Harlan Fair, P.E.
American Society of Safety Professionals	Ken Shorter, CSP, ARM, TCDS A. David Brayton, CSP, CPC
Associated Builders & Contractors, Inc.	Greg Sizemore Joe Xavier
Barton Malow Company	Mark Hagganmaker, CHST, CCHT Ryan Monahan
Black & Veatch	John Johnson, CSP Jason Scollin, CSP, MS, STSC, CRIS
Building & Construction Trades Department	Chris Cain, CIH Gary Gustafson
Century Elevators	Eric Schmidt, P.E.
Clark Construction Group	Kurt Dunmire, CSP, CHST Austin Cichon
Cole-Preferred Safety Consulting, Inc.	Barry Cole
Conner Strong & Buckelew	Eric Voight, CSP Ken Bogdan
Construction & Realty Safety Group, Inc.	Ron Lattanzio Frank Marino
CPWR - The Center for Construction Research & Training	Babak Memarian, Ph.D., CSP, CHST Gavin West, MPH
Eckstine & Associates, Inc.	Dennis Eckstine Matthew Eckstine
Edison Electric Institute	Joseph DiPlacido, MS CSP Carren Spencer

Elevator Industry Work Preservation Fund

Ellis Fall Safety Solutions, LLC

Engineering Systems, Inc.

FallTech

Fluor Corporation

Gilbane Building Co.

Hislop, Richard D.

Independent Electrical Contractors, Inc.

Institute of Makers of Explosives

International Association of Bridge, Structural,
Ornamental & Reinforcing Iron Workers
International Association of Heat & Frost Insulators &
Allied Workers
International Brotherhood of Boilermakers

International Brotherhood of Electrical Workers

International Brotherhood of Teamsters

International Safety Equipment Association

International Union of Bricklayers & Allied Craftworkers

International Union of Operating Engineers

IUPAT

Kiewit Corporation

Laborers' International Union of North America

Lamar Advertising Company

Lendlease Corporation

Liberty Mutual

Lockton Companies

Marsh LLC

Michael Morand

James Demmel

John Whitty, P.E.

J. Nigel Ellis, Ph.D., P.E., CSP, CPE

David Ahearn, P.E.

Edward Tuczak, P.E.

Zachary Winters

John Anderson

Jim Bates, CSP

Robert Hinderliter, ASP

Richard Hislop, P.E., CSP, ARM

Shawn Bradfield, CSP

Paul Dolenc

Joshua Hoffman, Ph.D., P.E.

Susan Flanagan

Steven Rank

Wayne Creasap II

Tim Keane

Mark Garrett

Bridget Connors

David Mullen

Mark MacNichol

LaMont Byrd, CIH

Christopher Lott

Diana Jones

Daniel Glucksman

David Wysocki

Jeremiah Sullivan

Christopher Trembl

Thomas McNamara

Kenneth Seal

Rusty Brown, CSP

Walter Jones, MS, CIH

Travis Parsons, MS

Chuck Wigger, CSP

Beth Phelps

Joel Pickering, CET, CHMM

Michael Lentz

Kevin Newlan, ASP, CHST

Derek Spain, CSP, ARM

Daniel Faught, ASP, CHST, CRIS

Tim Balmer, CPHT, COEE

Timothy Bergeron, CSP, CRIS

Maryland Occupational Safety & Health

Mechanical Contractors Association of America

Miller & Long Co., Inc.

National Association of Home Builders

National Electrical Contractors Association

National Institute for Occupational Safety & Health

National Railroad Construction & Maintenance
Association

National Roofing Contractors Association

National Society of Professional Engineers

NESTI, Inc.

Operative Plasterers & Cement Masons International
Association
PATMI

Petroleum Equipment Institute

Phoenix Fabricators & Erectors, LLC

Professional Safety Consultants, Inc.

Scaffold & Access Industry Association

Sheet Metal & Air Conditioning Contractors National
Association
SMART Union

SPA, LLC

Stock Enterprises

The Association of Union Constructors

Turner Construction Company

U.S. Army Corps of Engineers

U.S. Department of Energy

United Association of Plumbers and Pipefitters

Mischelle Vanreusel

Matthew Helminiak

Raffi Elchemmas, CHST

Peter Chaney, MS, CSP

Frank Trujillo

Alex Rodas, CHST

Robert Matuga

Christian Culligan

Wesley Wheeler

Mike Starner, CUSP

Thomas Bobick, Ph.D., P.E., CSP, CPE

G. Scott Earnest, Ph.D., P.E., CSP

Jeffrey Meddin, CSP, CHEP, CHCM

Greg Coleman, MSc, CSP

Rich Trewyn

Cheryl Ambrose, CHST, OHST

E. Ross Curtis, P.E., DFE, F.ASCE,
F.NSPE

Michael Hayslip, P.E., CSP

Jack Madeley, M.S., P.E., CSP

Deven Johnson

James Borchers

Scott Boorse

Melinda Whitney

Frank Massey

Melanie Komaskinski

Jim Lapping, MS, P.E., CSP

Kathy Stieler

DeAnna Martin

Jackie Brown

Justin Crandol, MS, CSP, ARM, CRIS

Jason Galoozis

Randall Krocka

Aldo Zambetti

Stanley Pulz, CSP, P.E.

Steve Stock, P.E., PLS

Alex Kopp

Cindy DePrater, ALCM

Abdon Friend, CSP

Todd "Marty" Werdebaugh, MS, CSP, PMP

Craig Schumann

Maurice Haygood

Jennifer Massey, CSP, CRIS, MLIS,
CHST, OHST, STSC

Rita Neiderheiser, CHST, CIT

United Brotherhood of Carpenters & Joiners of America
United Union of Roofers, Waterproofers & Allied Workers
West Virginia University Extension Service
ZBD Constructors, Inc.

Royce Peters
Chad McDonald, CSP, ASP, CHST
Richard Tessier
Keith Vitkovich
Brandon Takacs, CSP, CSHM
Mark Fullen, Ed.D., CSP
Greg Thompson, CSP
Jeffrey Meddin, CSP, CHEP, CHCM

Observers & Non-Voting Members:

Alberici Constructors

DPR Construction

MVE Group, Inc.

National Association of Tower Erectors

National Demolition Association

Samson Rope Technologies
Skanska

Transurban

U.S. Department of Labor - OSHA

Warfel Construction Company

Bo Cooper
Kathleen Dobson, CSP, CHST, STS.C
Paul Butler, CSP, CHST
Bill Flaherty
Kevin Stoltzfus, CHST
Ryan Thomas
John "JP" Jones
Kathryn Stieler
Chris Godek
Jeffrey Lambert
Ross Anderton
Joaquin Diaz, MM, CIH, CSP, CHST, OHST
Whitney Williams
Jim Evans, MS, CSP, PMP, SMS
Michael Weatherred, CSP
Eric Kampert, P.E., CSP, OHST
Scott Ketcham
Jeffrey Pierce

Subgroup A10.24 had the following members:

J. Nigel Ellis, Ph.D., P.E., CSP, CPE (Chair)
Thomas Bobick, Ph.D., P.E., CSP, CPE (Liaison)
David Ahearn, P.E.
Cheryl Ambrose, CHST, OHST
Christian Culligan
Travis Parsons, MS
Charley Rankin, MS
Michael Serpe, CSP
Richard Tessier
Rich Trewyn
Pinkie Wood, CSST

Contents

1. General	13
1.1 Scope	13
1.2 Application	13
1.3 Exceptions	13
2. Related Standards and References	13
2.1 Related American National Standards	13
2.2 Other Applicable Standards and References	14
3. Definitions	15
4. Safety Requirements for Low-Sloped Roofs	20
4.1 General Requirements	20
4.2 Public Safety	21
4.3 Housekeeping	21
4.4 Pollution	21
4.5 Weather	22
5. Training	22
5.1 General	22
5.2 Medical Services and First Aid/CPR	22
5.3 Fall Hazard Training	23
5.4 Hazard Communication	23
5.5 Emergency Action Plans, Fire Prevention Plans and Equipment	23
5.6 Storage and Handling of Flammable Liquids and Gases	24
5.7 Roofing Equipment and Tools	24
5.8 Fastening Systems	24
5.9 Personal Protective Equipment Training	24
6. Personal Protective Equipment	24
6.1 Protective Clothing	24
6.2 Hand Protection	25
6.3 Foot Protection	25
6.4 Eye and Face Protection	25
6.5 Head Protection (Hard Hats)	25
6.6 Respiratory Protection	26
6.7 Hearing Protection	26
7. Fall Protection	26
7.1 General Requirements	26
7.2 Fall Prevention Systems	27

7.3 Personal Fall Arrest Systems	28
7.4 Safety Net Systems	29
7.5 Warning Line System	29
7.6 Safety Monitoring System (SMS)	29
7.7 Specific Roofing Work Fall Hazards	30
8. Ladders	31
8.1 General Requirements	31
8.2 Job-Made Ladders	32
8.3 Metal Ladders.....	32
8.4 Wood Ladders	32
8.5 Fiberglass Ladders.....	32
9. Fire Hazards and Prevention	32
9.1 General Requirements	32
9.2 Fire Extinguishers.....	32
9.3 Flammable Materials	33
9.4 LP or Butane Gas Handling and Storage	33
10. Hoists and Conveyors	34
10.1 General Requirements	34
10.2 Hoists	34
10.3 Platform Hoist, Ladder Hoist, Hoist Wheels	35
10.4 Lifting and Hauling Equipment	35
10.5 Conveyors	36
11. Kettles, Melters and Tankers (Hot Operations).....	36
11.1 General Requirements	36
11.2 Jobsite Setup.....	36
11.3 Pumping System	37
11.4 General Operation of Kettles, Melters and Tankers	38
11.5 Kettles and Melters.....	38
11.6 Tankers	39
12. Rooftop Equipment	39
12.1 General Requirements	39
12.2 Mechanized Equipment.....	40
12.3 Hand Tools	41
13. Roof Tear-Off	41
13.1 General Requirements	41
13.2 Tear-Off Equipment.....	42

13.3 Chutes	42
14. Health.....	43
14.1 First-Aid Kits	43
14.2 Potable Water.....	43
14.3 Toilet Facilities.....	43
14.4. Hazard Communication Program	43
14.5 Health and Environmental Hazards.....	44
14.6 Bitumen Burn Hazards	44
14.7 Definitive Care by Medical Personnel	45
14.8 Personal Hygiene	45
15. Other Roofing System Hazards	45
16. Material Handling	46

AMERICAN NATIONAL STANDARD A10.24 ROOFING – SAFETY REQUIREMENTS FOR LOW-SLOPED ROOFS

1. General

1.1 Scope

This standard establishes safe operating practices for the installation, maintenance and removal of all roofing systems on low-sloped roofs, which means the roof has a slope that is less than or equal to 4 in 12 (18°).

NOTE: This standard does not apply to roofs with slopes greater than 4 in 12 (18°). The materials that are normally installed on such roofs are composition or wood shingles, slate and tile products.

1.2 Application

The requirements of this standard apply to all situations encountered in the installation, inspection, maintenance, repair and removal of low-sloped roofing systems and materials.

1.3 Exceptions

In cases of practical difficulties, unnecessary hardships or new developments, the authority having jurisdiction may grant exceptions to the literal requirements of this standard or permit the use of other devices or methods, but only when it is clearly evident that an equivalent degree of protection is thereby secured.

2. Related Standards and References

2.1 Related American National Standards

The following ANSI standards are incorporated into in this document. All provisions of the following standards that are applicable to low-sloped roofing shall be observed. When the following American National Standards are superseded by a revision approved by the American National Standards Institute, Inc., the revision shall apply.

ANSI/ASC A14.1, *Safety Requirements for Portable Wooden Ladders*

ANSI/ASC A14.2, *Safety Requirements for Portable Metal Ladders*

ANSI/ASC A14.3, *Safety Requirements for Fixed Ladders*

ANSI/ASC A14.4, *Safety Requirements for Job-Made Wooden Ladders*

ANSI/ASC A14.5, *Safety Requirements for Portable Reinforced Plastic Ladders*

ANSI/ASSP A10.3, *Safety Requirements for Powder-Actuated Fastening Systems*

ANSI/ASSP A10.8, *Scaffolding Safety Requirements*

ANSI/ASSP A10.11, *Personnel and Debris Nets*

ANSI/ASSP A10.18, *Safety Requirements for Temporary Floors, Holes, Wall Openings, Stairways and Other Unprotected Edges in Construction and Demolition Operations*

ANSI/ASSP A10.25, *Sanitation in Construction*

ANSI/ASSP A10.26, *Emergency Procedures for Construction Sites*

ANSI/ASSP A10.33, *Safety and Health Program Requirements for Multi-Employer Projects*

ANSI/ASSP A10.34, *Public Protection*