



# AMERICAN NATIONAL STANDARD

*ANSI/ASSE A10.31-1995  
Safety Requirements,  
Definitions and  
Specifications for  
Digger Derricks—*

*American National Standard  
for Construction and  
Demolition Operations*

ANSI/ASSE A10.31-1995



AMERICAN SOCIETY OF  
SAFETY ENGINEERS

American National Standard  
for Construction and Demolition –

**Safety Requirements, Definitions  
and Specifications for Digger Derricks**

Secretariat

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**American National Standards Institute, Inc.**

## American National Standard

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**Foreword** (This Foreword is not a part of American National Safety Requirements, Definitions, and Specifications — Digger Derricks, ANSI A10.31-1995.)

This standard applies to digger derricks, which are commonly used to dig holes, set poles, and position other apparatus. The standard covers design, testing, manufacturing, inspection, installation, and operation of the equipment. The figures are used with permission from the Equipment Manufacturing Institute (formerly the Farm and Industrial Equipment Institute) publication **Nomenclature and Specification for Truck-mounted Extensible Aerial Devices, Articulating Aerial Devices and Digger Derricks**.

This revision includes changes and clarifications in several sections.

This standard is one in a series of safety standards formulated by the American National Standards Committee on Safety in Construction and Demolition Operation, A10. It is expected that the standards will find a major application in industry, serving as a guide to contractors, labor, and equipment manufacturers. For the convenience of the users, existing and proposed standards in the A10 series are listed below:

- A10.3 Powder-Actuated Fastening Systems
- A10.4 Personnel Hoists
- A10.5 Material Hoists
- A10.6 Demolition Operations
- A10.7 Blasting
- A10.8 Scaffolding
- A10.9 Concrete and Masonry Construction
- A10.10 Space Heating Devices
- A10.11 Safety Nets
- A10.12 Excavation (under development)
- A10.13 Steel Erection
- A10.14 Safety Belts and Life Lines
- A10.15 Marine Dredging
- A10.16 Tunnels, Shafts and Caissons
- A10.17 Asphalt/Pavement Construction (under development)
- A10.18 Temporary Floor and Wall Openings, Railings, and Toeboards
- A10.19 Pile Installation and Extraction Operations (under development)
- A10.20 Ceramic Tile, Terrazzo and Marble Work
- A10.22 Rope-Guided and Nonguided Hoists
- A10.24 Roofing (under development)
- A10.27 Asphalt Mixing Plants (under development)
- A10.28 Crane or Derrick Suspended Work Platforms
- A10.31 Digger Derricks
- A10.32 Fall Protection System for Construction Industry Users (under development)
- A10.33 Safety and Health Programs
- A10.34 Public Protection (under development)
- A10.35 High Pressure Hydro Blasting (under development)
- A10.37 Debris Nets (under development)
- A10.38 Safety Program Elements
- A10.39 Safety Audits (under development)
- A10.41 Equipment Operator and Supervisor Qualifications and Responsibilities (under development)
- A10.42 Rigging Supervisor, Riggers, Signalmen Qualifications and Responsibilities (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.

**Revisions:** The Committee welcomes proposals for revisions to this standard. Revisions are made periodically (usually 5 years from date of the standard) to 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 paragraph number(s), the proposed wording, and a description of 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 paragraph number(s) and phrased as a request for 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.

**Committee Meetings:** The A10 Committee meets twice a 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 it approved this standard, the A10 Committee had the following members:

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American National Standard  
for Construction and Demolition —

Digger Derricks — Safety  
Requirements, Definitions,  
and Specifications

**1 General**

**1.1 Scope**

**1.1.1 Equipment Covered.** This standard applies to special multipurpose vehicle-mounted machines, commonly known as digger derricks. These machines are primarily designed to accommodate components that dig holes, set poles, and position materials and apparatus.

**1.1.2 Equipment Excluded.** Excluded from this standard are general-purpose cranes, designed only for lifting service, and machines primarily designed only for digging holes.

**1.1.3 Uniform Specification Data.** This standard establishes uniform requirements for specifications and dimensions.

**1.1.4 Responsibilities.** This standard defines the respective responsibilities of the manufacturer, distributor, installer, owner, user, and operator of the digger derrick.

**1.1.5 Requirements.** The requirements of this standard shall be met or exceeded.

**1.1.6 Application.** This standard applies only to those digger derricks manufactured after publication of this standard.

**1.2 Purpose**

This standard applies to the establishment of criteria for design, manufacture, testing, inspection, installation, maintenance, use, training, and operation of vehicle-mounted digger derricks, to achieve the following objectives:

- (1) Prevention of personal injuries and accidents.
- (2) Uniformity in ratings.
- (3) Understanding by manufacturers, dealers, in-

stallers, maintenance personnel, operators, owners, and users of their respective responsibilities.

**2 Referenced Standards**

**2.1 Referenced American National Standards**

This standard is intended for use in conjunction with the following American National Standards. When these referenced standards are superseded by a revision approved by the American National Standards Institute Inc., the revision shall apply.

ANSI A92.2-1990, Vehicle-Mounted Elevating and Rotating Aerial Devices.

ANSI Z535.1 through 535.5-1991, Safety Signs and Colors.

ANSI/AWS D1.1-1992, Structural Welding Code—Steel.

ANSI/AWS D1.2-1990, Structural Welding Code—Aluminum.

ANSI/AWS B1.10-1986, Guide for Non-Destructive Inspection of Welds.

ANSI/ASME Y32.10-1967(R 1987), Graphic Symbols for Fluid Power Diagrams.

ANSI/ASME Y14.15-1966(R 1988), Electrical and Electronics Diagrams.

**2.2 Other Referenced Standards**

This standard is intended for use in conjunction with ASTM F887-91a, Specifications for Personal Climbing Equipment (available from American Society for Testing & Materials, 1916 Race Street, Philadelphia, PA, 19103) and IEEE4-78, Standard Techniques for High Voltage Testing (available from the Institute of Electrical and Electronic Engineering, 445 Hues Lane, Piscataway, NJ 08855).