

ASME B30.17-2015

(Consolidation of ASME B30.11 and B30.17)

Cranes and Monorails (With Underhung Trolley or Bridge)

**Safety Standard for Cableways,
Cranes, Derricks, Hoists, Hooks,
Jacks, and Slings**

AN AMERICAN NATIONAL STANDARD



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Mechanical Engineers**

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17-0.2-3	Cantilever Gantry Crane	8
17-0.2-4	Floor-Operated Cranes	9
17-0.2-5	Gantry Crane	10
17-0.2-6	Wall-Supported Jib Crane	10
17-0.2-7	Portable Gantry Crane (A-Frame)	11
17-0.2-8	Semigantry Crane	11
17-0.2-9	Underhung Bridge Crane With Top Running Trolley	12
17-0.2-10	Drop Section (Lift Section)	12
17-0.2-11	Interlocking System for Underhung Crane	13
17-0.2-12	Example of One Type of Enclosed Track and Support Bracket	13
17-0.2-13	Cab-Operated Trolley	14
17-1.14.3-1	Recommended Arrangement of Controllers or Master Switches (Three-Motion Crane)	24
17-1.14.3-2	Recommended Arrangement of Controllers or Master Switches (Four-Motion Crane)	25
17-1.14.3-3	Recommended Arrangement of Controllers (Pendant Push-Button Station Arrangements)	26
17-1.14.3-4	Recommended Arrangement of Controllers (Radio Crane Control Transmitter Lever Arrangements)	26
17-1.18-1	Trolley Wheel Configurations	27
17-1.18-2	Recommended Trolley Fit	28
17-3.5.3-1	Standard Hand Signals for Cranes and Monorails	37

FOREWORD

This American National Standard, Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings, has been developed under the procedures accredited by the American National Standards Institute (ANSI). This Standard had its beginning in December 1916 when an eight-page Code of Safety Standards for Cranes, prepared by an ASME Committee on the Protection of Industrial Workers, was presented at the annual meeting of the ASME.

Meetings and discussions regarding safety on cranes, derricks, and hoists were held from 1920 to 1925, involving the ASME Safety Code Correlating Committee, the Association of Iron and Steel Electrical Engineers, the American Museum of Safety, the American Engineering Standards Committee (AESC) [later changed to American Standards Association (ASA), then to the United States of America Standards Institute (USASI), and finally to ANSI], Department of Labor – State of New Jersey, Department of Labor and Industry – State of Pennsylvania, and the Locomotive Crane Manufacturers Association. On June 11, 1925, AESC approved the ASME Safety Code Correlating Committee's recommendation and authorized the project with the U.S. Department of the Navy, Bureau of Yards and Docks, and ASME as sponsors.

In March 1926, invitations were issued to 50 organizations to appoint representatives to a Sectional Committee. The call for organization of this Sectional Committee was sent out on October 2, 1926, and the Committee was organized on November 4, 1926, with 57 members representing 29 national organizations. Commencing June 1, 1927, and using the eight-page code published by ASME in 1916 as a basis, the Sectional Committee developed the Safety Code for Cranes, Derricks, and Hoists. The early drafts of this safety code included requirements for jacks, but due to inputs and comments on those drafts, the Sectional Committee decided in 1938 to make the requirements for jacks a separate code. In January 1943, ASA B30.2-1943 was published, addressing a multitude of equipment types, and in August 1943, ASA B30.1-1943 was published, addressing just jacks. Both documents were reaffirmed in 1952 and widely accepted as safety standards.

Due to changes in design, advancement in techniques, and general interest of labor and industry in safety, the Sectional Committee, under the joint sponsorship of ASME and the Bureau of Yards and Docks (now the Naval Facilities Engineering Command), was reorganized on January 31, 1962, with 39 members representing 27 national organizations. The new committee changed the format of ASA B30.2-1943 so that the multitude of equipment types it addressed could be published in separate volumes that could completely cover the construction, installation, inspection, testing, maintenance, and operation of each type of equipment that was included in the scope of ASA B30.2. This format change resulted in the initial publication of B30.3, B30.5, B30.6, B30.11, and B30.16 being designated as Revisions of B30.2 with the remainder of the B30 Volumes being published as totally new volumes. ASA changed its name to USASI in 1966 and to ANSI in 1969, which resulted in B30 Volumes from 1943 to 1968 being designated as either ASA B30, USAS B30, or ANSI B30 depending on their date of publication.

In 1982, the Committee was reorganized as an Accredited Organization Committee, operating under procedures developed by ASME and accredited by ANSI. This Standard presents a coordinated set of rules that may serve as a guide to government and other regulatory bodies and municipal authorities responsible for the guarding and inspection of the equipment falling within its scope. The suggestions leading to accident prevention are given both as mandatory and advisory provisions; compliance with both types may be required by employers of their employees.

In case of practical difficulties, new developments, or unnecessary hardship, the administrative or regulatory authority may grant variances from the literal requirements 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. To secure uniform application and interpretation of this Standard, administrative or regulatory authorities are urged to consult the B30 Committee, in accordance with the format described in the introduction of Section IX, before rendering decisions on disputed points.

Safety codes and standards are intended to enhance public safety. Revisions result from committee consideration of factors such as technological advances, new data, and changing environmental and industry needs. Revisions do not imply that previous editions were inadequate.

This Edition of B30.17 consolidates the requirements of B30.17-2006 (R2012) and B30.11-2010. The Volume has been completely revised to incorporate these revisions.

This Volume of the Standard, which was approved by the B30 Committee and by ASME, was approved by ANSI and designated as an American National Standard on December 4, 2015.

ASME B30 COMMITTEE

Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings

(The following is the roster of the Committee at the time of approval of this Standard.)

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SAFETY STANDARD FOR CABLEWAYS, CRANES, DERRICKS, HOISTS, HOOKS, JACKS, AND SLINGS

B30 STANDARD INTRODUCTION

(15)

SECTION I: SCOPE

The ASME B30 Standard contains provisions that apply to the construction, installation, operation, inspection, testing, maintenance, and use of cranes and other lifting and material-movement related equipment. For the convenience of the reader, the Standard has been divided into separate volumes. Each volume has been written under the direction of the ASME B30 Standard Committee and has successfully completed a consensus approval process under the general auspices of the American National Standards Institute (ANSI).

As of the date of issuance of this Volume, the B30 Standard comprises the following volumes:

- B30.1 Jacks, Industrial Rollers, Air Casters, and Hydraulic Gantries
- B30.2 Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)
- B30.3 Tower Cranes
- B30.4 Portal and Pedestal Cranes
- B30.5 Mobile and Locomotive Cranes
- B30.6 Derricks
- B30.7 Winches
- B30.8 Floating Cranes and Floating Derricks
- B30.9 Slings
- B30.10 Hooks
- B30.11 Monorails and Underhung Cranes¹
- B30.12 Handling Loads Suspended From Rotorcraft
- B30.13 Storage/Retrieval (S/R) Machines and Associated Equipment
- B30.14 Side Boom Tractors
- B30.15 Mobile Hydraulic Cranes (withdrawn 1982 — requirements found in latest revision of B30.5)
- B30.16 Overhead Hoists (Underhung)
- B30.17 Cranes and Monorails (With Underhung Trolley or Bridge)
- B30.18 Stacker Cranes (Top or Under Running Bridge, Multiple Girder With Top or Under Running Trolley Hoist)
- B30.19 Cableways
- B30.20 Below-the-Hook Lifting Devices
- B30.21 Lever Hoists
- B30.22 Articulating Boom Cranes
- B30.23 Personnel Lifting Systems
- B30.24 Container Cranes
- B30.25 Scrap and Material Handlers
- B30.26 Rigging Hardware
- B30.27 Material Placement Systems
- B30.28 Balance Lifting Units
- B30.29 Self-Erecting Tower Cranes
- B30.30 Ropes²

SECTION II: SCOPE EXCLUSIONS

Any exclusion of, or limitations applicable to the equipment, requirements, recommendations, or operations contained in this Standard are established in the affected volume's scope.

SECTION III: PURPOSE

The B30 Standard is intended to

- (a) prevent or minimize injury to workers, and otherwise provide for the protection of life, limb, and property by prescribing safety requirements
- (b) provide direction to manufacturers, owners, employers, users, and others concerned with, or responsible for, its application
- (c) guide governments and other regulatory bodies in the development, promulgation, and enforcement of appropriate safety directives

SECTION IV: USE BY REGULATORY AGENCIES

These volumes may be adopted in whole or in part for governmental or regulatory use. If adopted for governmental use, the references to other national codes and standards in the specific volumes may be changed to refer to the corresponding regulations of the governmental authorities.

SECTION V: EFFECTIVE DATE

(a) *Effective Date.* The effective date of this Volume of the B30 Standard shall be 1 yr after its date of issuance.

¹ This Volume is consolidated into B30.17 and will be withdrawn.

² This Volume is currently in the development process.