

ASME B30.27-2019
(Revision of ASME B30.27-2014)

Material Placement Systems

**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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CONTENTS

Foreword	v
Committee Roster	vii
B30 Standard Introduction	ix
Summary of Changes	xii
Chapter 27-0 Scope, Definitions, References, and Personnel Competence	1
Section 27-0.1 Scope	1
Section 27-0.2 Definitions	1
Section 27-0.3 Reference to Other Codes and Standards	2
Section 27-0.4 Personnel Competence	2
Chapter 27-1 Construction and Installation	6
Section 27-1.1 Markings	6
Section 27-1.2 Mobile Material Placing Boom Construction	7
Section 27-1.3 Work Platforms, Access Walkways, and Gangways	7
Section 27-1.4 Electrical Installations	7
Section 27-1.5 Ergonomics	8
Section 27-1.6 Outriggers	8
Section 27-1.7 Controls and Indicators	8
Section 27-1.8 Guards	8
Section 27-1.9 Mobile and Stationary Placing Booms	8
Section 27-1.10 Delivery Systems	9
Section 27-1.11 Loss of Power	9
Section 27-1.12 Remote Starting	9
Section 27-1.13 Manuals	9
Section 27-1.14 Translation of Technical and Safety-Related Information	10
Section 27-1.15 Fuel and Exhaust Systems	10
Section 27-1.16 Hoppers	10
Section 27-1.17 Pump Pressure Release	10
Chapter 27-2 Inspection, Testing, and Maintenance	12
Section 27-2.1 Inspection	12
Section 27-2.2 Testing	13
Section 27-2.3 Maintenance	14
Chapter 27-3 Operation	15
Section 27-3.1 Qualifications for and Conduct of Operators and Operating Practices	15
Section 27-3.2 Material Placement System Lockout/Tagout	23
Section 27-3.3 Signals	23
Chapter 27-4 Separate Placing Booms	25
Section 27-4.1 Design and Construction	25
Section 27-4.2 Inspection, Testing, and Maintenance	29

Section 27-4.3	Operation	30
Figures		
27-0.1-1	Material Placement System: Truck-Mounted Boom Pump	3
27-0.1-2	Material Placement System: Separate Placing Boom	3
27-0.1-3	Material Placement System: Truck-Mounted Telescopic Conveyor System	3
27-0.1-4	Material Placement System: City Pump	4
27-0.1-5	Material Placement System: High-Pressure Trailer Pump	4
27-0.1-6	Material Placement System: General Purpose Trailer Pump	4
27-0.1-7	Material Placement System: Ball Valve Pump	5
27-0.1-8	Material Placement System: Examples of Delivery System Components	5
27-1.7.5-1	Standardized Joystick Movement	9
27-1.16-1	Grates and Hoppers	11
27-3.1.5-1	Area of Extended Outriggers	22
27-3.1.6.1-1	Danger Zone for Material Placement Systems and Delivery System Operating Near Electrical Transmission Lines	23
27-3.3.2-1	Material Placement System Hand Signals	24
27-4.1.11-1	Common Separate Placing Boom Components	27
Table		
27-3.1.6.3-1	Minimum Required Clearances	24

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 the American Society of Mechanical Engineers (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, the 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 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 only 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 B30.3, B30.5, B30.6, B30.11, and B30.16 being initially published 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 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 Section IX of the B30 Standard Introduction, 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.

The 2009 edition consolidated the requirements of two standards, CPMA 27-2000 and B30.27-2005, into the B30.27 Volume. The 2014 edition of B30.27 incorporated many global B30 changes, including the addition of [para. 27-3.1.3](#), requirements for translation of documents, and several other changes. This 2019 edition contains the addition of [Chapter 27-4](#) and several other changes.

This Volume of the Standard, which was approved by the [B30 Standards Committee](#) and by ASME, was approved by ANSI and designated as an American National Standard on November 20, 2019.

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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B30 STANDARD INTRODUCTION

(19)

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 Standards 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 Cranes (withdrawn 2018 — requirements found in latest revision of B30.17)
- 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 Underhung and Stationary Hoists
- 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 Ropes
- B30.31 Self-Propelled, Towed, or Remote-Controlled Hydraulic Platform Transporters¹
- B30.32 Unmanned Aircraft Systems (UAS) Used in Inspection, Testing, Maintenance, and Lifting Operations¹

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.

¹This volume is currently in the development process.