

ASME B30.20-2021
(Revision of ASME B30.20-2018)

Below-the-Hook Lifting Devices

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

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

ASME B30.20-2021
(Revision of ASME B30.20-2018)

Below-the-Hook Lifting Devices

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

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

Two Park Avenue • New York, NY • 10016 USA

Date of Issuance: November 30, 2021

The next edition of this Standard is scheduled for publication in 2024. This Standard will become effective 1 year after the Date of Issuance.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the ASME website under the Committee Pages at <http://cstools.asme.org/> as they are issued.

Errata to codes and standards may be posted on the ASME website under the Committee Pages to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in codes and standards. Such errata shall be used on the date posted.

The Committee Pages can be found at <http://cstools.asme.org/>. There is an option available to automatically receive an e-mail notification when errata are posted to a particular code or standard. This option can be found on the appropriate Committee Page after selecting "Errata" in the "Publication Information" section.

ASME is the registered trademark of The American Society of Mechanical Engineers.

This code or standard was developed under procedures accredited as meeting the criteria for American National Standards. The Standards Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed code or standard was made available for public review and comment that provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

ASME does not "approve," "rate," or "endorse" any item, construction, proprietary device, or activity.

ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor assume any such liability. Users of a code or standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this code or standard.

ASME accepts responsibility for only those interpretations of this document issued in accordance with the established ASME procedures and policies, which precludes the issuance of interpretations by individuals.

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

The American Society of Mechanical Engineers
Two Park Avenue, New York, NY 10016-5990

Copyright © 2021 by
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
All rights reserved
Printed in U.S.A.

CONTENTS

Foreword	v
Committee Roster	vii
B30 Standard Introduction	ix
Summary of Changes	xii
Chapter 20-0 Scope, Definitions, Personnel Competence, Translations, and References	1
Section 20-0.1 Scope of ASME B30.20	1
Section 20-0.2 Definitions — General	1
Section 20-0.3 Definitions for Chapter 20-1	1
Section 20-0.4 Definitions for Chapter 20-2	2
Section 20-0.5 Definitions for Chapter 20-3	2
Section 20-0.6 Definitions for Chapter 20-4	3
Section 20-0.7 Definitions for Chapter 20-5	3
Section 20-0.8 Definitions for Chapter 20-6	4
Section 20-0.9 Personnel Competence	4
Section 20-0.10 Translations	4
Section 20-0.11 References to Other Codes and Standards	4
Chapter 20-1 Structural and Mechanical Lifting Devices	5
Section 20-1.1 Scope	5
Section 20-1.2 Marking, Construction, and Installation	5
Section 20-1.3 Inspection, Testing, and Maintenance	9
Section 20-1.4 Operation	11
Section 20-1.5 Instruction Manuals	13
Chapter 20-2 Vacuum Lifting Devices	14
Section 20-2.1 Scope	14
Section 20-2.2 Marking, Construction, and Installation	14
Section 20-2.3 Inspection, Testing, and Maintenance	16
Section 20-2.4 Operation	18
Section 20-2.5 Instruction Manuals	20
Chapter 20-3 Close Proximity Operated Lifting Magnets	21
Section 20-3.1 Scope	21
Section 20-3.2 Marking, Construction, and Installation	22
Section 20-3.3 Inspection, Testing, and Maintenance	23
Section 20-3.4 Operation	25
Section 20-3.5 Instruction Manuals	28
Chapter 20-4 Remotely Operated Lifting Magnets	29
Section 20-4.1 Scope	29
Section 20-4.2 Marking, Construction, and Installation	29
Section 20-4.3 Inspection, Testing, and Maintenance	30

Section 20-4.4	Operation	33
Section 20-4.5	Instruction Manuals	35
Chapter 20-5	Scrap and Material-Handling Grapples	36
Section 20-5.1	Scope	36
Section 20-5.2	Marking, Construction, and Installation	36
Section 20-5.3	Inspection, Testing, and Maintenance	36
Section 20-5.4	Operation	39
Section 20-5.5	Instruction Manuals	41
Chapter 20-6	Clamps	42
Section 20-6.1	Scope	42
Section 20-6.2	Marking, Construction, and Installation	42
Section 20-6.3	Inspection, Testing, and Maintenance	47
Section 20-6.4	Operation	49
Section 20-6.5	Instruction Manuals	51
 Figures		
20-1.1-1	Structural Lifters	6
20-1.1-2	Mechanical Lifters	7
20-1.1-3	Mechanical Supporting Lifters	8
20-2.1-1	Vacuum Lifters	15
20-3.1-1	Close Proximity Operated Magnetic Lifters	21
20-4.1-1	Remotely Operated Magnetic Lifters	29
20-5.1-1	Scrap and Material-Handling Grapples	37
20-6.1-1	Load-Supporting Clamps	42
20-6.1-2	Friction-Type Pressure-Gripping Clamps	43
20-6.1-3	Indentation-Type Pressure-Gripping Clamps	45
20-6.1-4	Anchoring and Positioning Clamps	46
20-6.1-5	Hybrid Clamps	46
 Table		
20-1.3.3-1	Minimum Inspection for Below-the-Hook Lifting Devices	10