

ASME B30.20-2013
(Revision of ASME B30.20-2010)

Below-the-Hook Lifting Devices

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

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

ASME B30.20-2013
(Revision of ASME B30.20-2010)

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: January 15, 2014

The next edition of this Standard is scheduled for publication in 2016. 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 Web site under the Committee Pages at <http://cstools.asme.org/> as they are issued, and will also be published within the next edition of the Standard.

Errata to codes and standards may be posted on the ASME Web site 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 © 2014 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	
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	3
Section 20-0.5 Definitions for Chapter 20-3	7
Section 20-0.6 Definitions for Chapter 20-4	10
Section 20-0.7 Definitions for Chapter 20-5	10
Section 20-0.8 Personnel Competence	12
Section 20-0.9 Translations	12
Section 20-0.10 References to Other Codes and Standards	12
Chapter 20-1 Structural and Mechanical Lifting Devices	
Section 20-1.1 Scope	13
Section 20-1.2 Marking, Construction, and Installation	13
Section 20-1.3 Inspection, Testing, and Maintenance	14
Section 20-1.4 Operation	17
Section 20-1.5 Instruction Manuals	19
Chapter 20-2 Vacuum Lifting Devices	
Section 20-2.1 Scope	20
Section 20-2.2 Marking, Construction, and Installation	20
Section 20-2.3 Inspection, Testing, and Maintenance	21
Section 20-2.4 Operation	24
Section 20-2.5 Instruction Manuals	26
Chapter 20-3 Close Proximity Operated Lifting Magnets	
Section 20-3.1 Scope	27
Section 20-3.2 Marking, Construction, and Installation	27
Section 20-3.3 Inspection, Testing, and Maintenance	29
Section 20-3.4 Operation	31
Section 20-3.5 Instruction Manuals	33
Chapter 20-4 Remotely Operated Lifting Magnets	
Section 20-4.1 Scope	35
Section 20-4.2 Marking, Construction, and Installation	35
Section 20-4.3 Inspection, Testing, and Maintenance	36
Section 20-4.4 Operation	37
Section 20-4.5 Instruction Manuals	39
Chapter 20-5 Scrap and Material-Handling Grapples	
Section 20-5.1 Scope	41
Section 20-5.2 Marking, Construction, and Installation	41
Section 20-5.3 Inspection, Testing, and Maintenance	41
Section 20-5.4 Operation	43
Section 20-5.5 Instruction Manuals	45

Figures		
20-0.3-1	Pressure-Gripping Lifters: Friction-Type Lifters	2
20-0.3-2	Grip Ratio	3
20-0.3-3	Pressure-Gripping Lifters: Indentation-Type Lifters	4
20-0.3-4	Manipulating Lifters	5
20-0.3-5	Load-Supporting Lifters	6
20-0.4-1	Vacuum Lifters	8
20-0.5-1	Magnetic Lifters	9
20-0.7-1	Scrap and Material-Handling Grapples	11
Table		
20-1.3.3-1	Minimum Inspection for Below-the-Hook Lifting Devices	15