ASME HST-4–2016
[Revision of ASME HST-4–1999 (R2010)]

Performance Standard for Overhead Electric Wire Rope Hoists

AN AMERICAN NATIONAL STANDARD

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The American Society of Mechanical Engineers
Two Park Avenue • New York, NY • 10016 USA

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This Standard will be revised when the Society approves the issuance of a new edition.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the Committee Web page and under go.asme.org/InterpsDatabase. Periodically certain actions of the ASME HST Committee may be published as Cases. Cases are published on the ASME Web site under the HST Committee Page at go.asme.org/HSTcommittee as they are issued.

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 HST Committee Page can be found at go.asme.org/HSTcommittee. 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.

The American Society of Mechanical Engineers
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FOREWORD

This Standard is one in a series that provide performance requirements for hoists and was originally issued in 1985. It was developed by The American Society of Mechanical Engineers (ASME) HST Standards Committee, Hoists — Overhead. It is intended to serve as a guide to manufacturers of the equipment, and to the purchasers and users of the equipment.

Standards in this series are

HST-1 Performance Standard for Electric Chain Hoists
HST-2 Performance Standard for Hand Chain Manually Operated Chain Hoists
HST-3 Performance Standard for Manually Lever Operated Chain Hoists
HST-4 Performance Standard for Overhead Electric Wire Rope Hoists
HST-5 Performance Standard for Air Chain Hoists
HST-6 Performance Standard for Air Wire Rope Hoists

This edition contains a Nonmandatory Appendix A that, in conjunction with ASME HST-4, is intended to replace MIL-H-15317.

The format of this Standard is in accordance with the 2010 edition of The ASME Codes & Standards Writing & Style Guide.

This Standard was approved as an American National Standard on January 26, 2016.

ASME HST COMMITTEE
Hoists — Overhead

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

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CORRESPONDENCE WITH THE HST COMMITTEE

General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions or a Case, and attending Committee meetings. Correspondence should be addressed to

Secretary, HST Standards Committee
The American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016-5990
http://go.asme.org/Inquiry

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Proposing a Case. Cases may be issued for the purpose of providing alternative rules when justified, to permit early implementation of an approved revision when the need is urgent, or to provide rules not covered by existing provisions. Cases are effective immediately upon ASME approval and shall be posted on the ASME Committee Web page.

Requests for Cases shall provide a Statement of Need and Background Information. The request should identify the Standard and the paragraph, figure, or table number(s), and be written as a Question and Reply in the same format as existing Cases. Requests for Cases should also indicate the applicable edition(s) of the Standard to which the proposed Case applies.

Interpretations. Upon request, the HST Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the HST Standards Committee at go.asme.org/Inquiry.

The request for an interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his/her request in the following format:

Subject:	Cite the applicable paragraph number(s) and the topic of the inquiry.
Edition:	Cite the applicable edition of the Standard for which the interpretation is being requested.
Question:	Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format may be rewritten in the appropriate format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME Committee or Subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

Attending Committee Meetings. The HST Standards Committee regularly holds meetings and/or telephone conferences that are open to the public. Persons wishing to attend any meeting and/or telephone conference should contact the Secretary of the HST Standards Committee. Future Committee meeting dates and locations can be found on the Committee Page at go.asme.org/HSTcommittee.

PERFORMANCE STANDARD FOR OVERHEAD ELECTRIC WIRE ROPE HOISTS

Chapter 4-0
Scope, Definitions, References, and Appendices

SECTION 4-0.1 SCOPE

(a) This Standard establishes performance requirements for electric wire rope hoists for vertical lifting service involving material handling of freely suspended (unguided) loads using wire rope with one of the following types of suspension:

(1) lug

(2) hook

(3) trolley

(4) base or deck mounted (does not include base-mounted winches of the type covered by ASME B30.7)

(5) wall or ceiling mounted (does not include base-mounted winches of the type covered by ASME B30.7)

(b) This Standard is applicable to hoists manufactured after the date on which this Standard is issued. This Standard is not applicable to

(1) damaged or malfunctioning hoists

(2) hoists that have been misused or abused

(3) hoists that have been altered without authorization of the manufacturer or a qualified person

(4) hoists used for the purpose of lifting or lowering people

(5) hoists used for the purpose of drawing both the load and the hoist up or down the hoist's own wire rope

(6) hoists used for marine and other applications as required by the U.S. Department of Defense (DOD)

(c) The requirements of this Standard shall be applied together with the requirements of ASME B30.16. Please also refer to ASME B30.16 for requirements pertaining to marking, construction, and installation; inspection, testing, and maintenance; and operation.

SECTION 4-0.2 DEFINITIONS

abnormal operating conditions: environmental conditions that are unfavorable, harmful, or detrimental to the operation of a hoist, such as excessively high or low ambient temperatures; exposure to weather, corrosive fumes, or dust-laden or moisture-laden atmospheres; and hazardous locations.

ambient temperature: the temperature of the atmosphere surrounding the hoist.

base or deck mounted: a type of mounting where the hoist is mounted to the top side of a horizontal supporting surface.

beam: an overhead standard structural or specially fabricated shape on which the trolley operates.

block, load: the assembly of hook or shackle, swivel, bearing, pins, sheaves, and frame suspended by the rope. This shall include all appurtenances reeved into the hoisting rope.

brake: a device, other than a motor, used for retarding or stopping motion by friction or power means.

brake, holding: a friction brake for a hoist that is automatically applied and prevents motion when power is off.

brake, mechanical load: an automatic type of friction brake used for controlling loads in a lowering direction. This unidirectional device requires torque from the motor to lower a load but does not impose additional load on the motor when lifting a load.

braking, control: a method of controlling speed by removing energy from the moving body or by imparting energy in the opposite direction.

braking, countertorque (plugging): a method of controlling speed by applying a variable motor torque in the direction opposite to the direction that the motor is rotating due to being overhauled by the load.

braking, dynamic: a method of controlling speed by using the motor as a generator, with the energy being dissipated by resistance.

braking, eddy current: a method of controlling or reducing speed by means of an electrical induction load brake.

braking, mechanical: a method of controlling or reducing speed by friction.

braking, regenerative: a method of controlling speed in which the electrical energy generated by the motor is fed back into the power system.