ASME B30.2 INTERPRETATIONS

Replies to Technical Inquiries
December 1995 – March 1997

FOREWORD

This publication includes all of the written replies issued between the indicated dates by the Secretary, speaking for the ASME B30 Committee, Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings, to inquiries concerning interpretations of technical aspects of B30.2, Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist).

These replies are taken verbatim from the original letters except for a few typographical corrections and some minor editorial corrections made for the purpose of improved clarity. In some few instances, a review of the interpretation revealed a need for corrections of a technical nature; in these cases, a corrected interpretation follows immediately after the original reply.

These interpretations were prepared in accordance with the accredited ASME procedures. ASME procedures provide for reconsideration of these interpretations when or if additional information is available which the inquirer believes might affect the interpretation. Further, persons aggrieved by this 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.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

STD.ASME B30.2 INT-ENGL ■ 0759670 0606879 712 ■

Interpretation 2-43

Subject: ASME B30.2d-1994

Date Issued: June 14, 1996

Section 2-2.2.2 states the following:

2-2.2.2 Rated Load Test

(a) Prior to initial use, all new, extensively repaired, and altered cranes should be tested and inspected by or under the direction of a designated or authorized person, and a written report be furnished by such person, confirming the load rating of the crane. The load rating should not be more than 80% of the maximum load sustained during the test. Test loads shall not be more than 125% of the rated load, unless otherwise recommended by the manufacturer. The test reports shall be placed on file where readily available to appointed personnel.

(b) The rated load test, if made, shall consist of the following operations as a minimum requirement.

(1) Hoist the test load a distance to assure that the load is supported by the crane and held by the hoist brake(s).

(2) Transport the test load by means of the trolley for the full length of the bridge.

(3) Transport the test load by means of the bridge for the full length of the runway in one direction with the trolley as close to the extreme right-hand end of the crane as practical, and in the other direction with the trolley as close to the extreme left-hand end of the crane as practical.

(4) Lower the test load, and stop and hold the load with the brake(s).

Section 2-0.2 is titled "Definitions," and the words "shall" and "should" are defined as follows:

shall: this word indicates that a rule is mandatory and must be followed
should: this word indicates that a rule is a recommendation, the advisability of which depends on the facts in each situation

Question: There is much confusion in the industry on the interpretation of Section 2-2.2.2. I interpret it as follows:

EXAMPLE: 2,000 lb crane (tagged/designed by manufacturer at 1 ton)
Load Test at 125% = 2,500 lb
80% of Test Load = 2,000 lb, Load Rating of Crane

Is this interpretation correct?

Reply: Yes, your interpretation is correct. Two previous interpretations issued by the B30 Committee address the subject of your inquiry. These are Interpretation 2-14, issued March 21, 1988, and Interpretation 2-17, issued September 15, 1989.

The requirement to conduct the rated load test and the magnitude of the test load are both governed by the word "should." Therefore, the load test or the magnitude of the test load are not mandatory to comply with the Standard. The requirement is a recommendation, the advisability of which depends on the facts in each situation.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

STD.ASME B30.2 INT-ENGL ■ 0759670 0606880 434 ■

Interpretation 2-44

Subject: ASME B30.2-1983

Date Issued: December 23, 1996

Question: Paragraph 2-1.12.2(c) states: "Holding brakes on hoists shall be applied automatically when power to the brake is removed." This requirement has remained unchanged dating back to ANSI B30.2.0-1967 which was the source standard for 29CFR1910.179, Overhead and Gantry Cranes. Power to the holding brakes is "removed" when the operator centers the controller, that is, places the controls in the neutral or stop position. Does the word "removed" include loss of power not only to the load (hoist motor) circuit but also to the control circuit?

Reply: In the 1983 edition of ASME B30.2, the subject paragraph was numbered 2-1.9.2(c). The subject paragraph was renumbered 2-1.12.2(c) in the 1990 edition of ASME B30.2. The latest edition of ASME B30.2 was published in 1996, in which the subject paragraph is numbered 2-1.12.1(d). While the wording in the 1996 edition has been changed, the technical intent of the paragraph has not changed. The wording of 2-1.12.1(d) in the 1996 edition is as follows:

(d) Hoist holding brakes shall be applied automatically when power to the brake is removed.

The answer to your question is yes. When power is removed from the hoist control circuit, this will result in power being removed from the hoist power circuit and the hoist holding brake shall be applied automatically.

Interpretation 2-44R

Subject: ASME B30.2-1983

Date Issued: March 7, 1997

Question: Paragraph 2-1.12.2(c) states: "Holding brakes on hoists shall be applied automatically when power to the brake is removed." This requirement has remained unchanged dating back to ANSI B30.2.0-1967 which was the source standard for 29CFR1910.179, Overhead and Gantry Cranes. Power to the holding brakes is "removed" when the operator centers the controller, that is, places the controls in the neutral or stop position. Does the word "removed" include loss of power not only to the load (hoist motor) circuit but also to the control circuit?

Reply: In the 1983 edition of ASME B30.2, the subject paragraph was numbered 2-1.9.2(c). The subject paragraph was renumbered 2-1.12.2(c) in the 1990 edition of ASME B30.2. The latest edition of ASME B30.2 was published in 1996, in which the subject paragraph is numbered 2-1.12.1(d). While the wording in the 1996 edition has been changed, the technical intent of the paragraph has not changed. The wording of 2-1.12.1(d) in the 1996 edition is as follows:

(d) Hoist holding brakes shall be applied automatically when power to the brake is removed.

The answer to your question is yes. When power is removed from the hoist control circuit, this will result in power being removed from the hoist power circuit and the hoist holding brake shall be applied automatically. The word "removed" is applicable to either action by the operator or loss of power.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

STD.ASME B30.2 INT-ENGL ■ 0759670 0606881 370 ■

Interpretation 2-45

Subject: ASME B30.2-1996

Date Issued: March 7, 1997

Paragraph 2-1.13.5(d) states the following:

> *(d)* Power-driven hoist shall be designed and constructed so that the load block, either loaded or empty, shall not exceed the upper limit of travel. On wire-rope hoists, if a geared or other limit switch or device that operates in relation to drum turns is used, an additional limit switch or device that operates independent of drum rotations shall be provided.

Question: Can a rope guide which prevents the overlapping of rope on the drum of a wire rope hoist be considered as an acceptable device to meet para. 2-1.13.5(d)?

Reply: No. The second sentence of the paragraph states: "..., an additional limit switch or device that operates independent of drum rotations shall be provided." A rope guide intended to prevent the overlapping of the rope on the drum of a wire rope hoist is dependent on drum rotation to perform its function.

Therefore, the rope guide is not considered an acceptable device to meet the requirements of para. 2-1.13.5(d).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

ASME B30.2 INTERPRETATIONS

Replies to Technical Inquiries
December 1993 – December 1995

FOREWORD

This publication includes all of the written replies issued between the indicated dates by the Secretary, speaking for the ASME B30 Committee, Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings, to inquiries concerning interpretations of technical aspects of B30.2, Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist).

These replies are taken verbatim from the original letters except for a few typographical corrections and some minor editorial corrections made for the purpose of improved clarity. In some few instances, a review of the interpretation revealed a need for corrections of a technical nature; in these cases, a corrected interpretation follows immediately after the original reply.

These interpretations were prepared in accordance with the accredited ASME procedures. ASME procedures provide for reconsideration of these interpretations when or if additional information is available which the inquirer believes might affect the interpretation. Further, persons aggrieved by this 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.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Interpretation 2-39

Subject: ASME B30.2-1990

Date Issued: June 20, 1995

Question: Paragraph 2-3.2.3(e) addresses the movement of loads over people by a crane controlled by an operator. Would you please address the conditions, requirements, and other particulars that relate to the movement of loads over people by a fully automatic crane?

Reply: Section 2-3.2 of ASME B30.2-1990 is titled "Handling the Load." Subsection 2-3.2.3 is titled "Moving the Load," and para. (e) states the following: "The operator should avoid carrying loads over people."

Section 2-0.2 is titled "Definitions," and the terms "automatic crane" and "should" are defined as follows:

> *crane, automatic* — a crane which, when activated, operates through a preset cycle or cycles
> *should* — this word indicates that a rule is a recommendation, the advisability of which depends on the facts in each situation

Since an automatic crane operates through a preset cycle or cycles when activated, the person who controls such activation is the operator of the crane. Therefore, para. (e) applies to all crane types, including automatic cranes.

Paragraph (e) uses the word "should." Therefore, para. (e) is a recommendation, the advisability of which depends on the facts in each situation. In any crane operation, the movement of loads over people may be necessary and each situation must be evaluated to determine if any additional precautions or warning devices may be required. The concern is not only the load in total that is being moved over people, but also how well the load in total, and any parts of the load that may fall, are made secure to their means of support.

Interpretation 2-40

Subject: ASME B30.2-1990

Date Issued: June 20, 1995

Question: In para. 2-1.12.2(f), it is my understanding that the two-brake requirement is only for hoists that handle hot metal and does not apply to hoists that do not handle hot metal (e.g., secondary auxiliary hoist). Please clarify.

Reply: Paragraph 2-1.12.2(f) states the following:

> *(f)* Each independent hoist unit that hoists molten materials shall have one of the following arrangements.
>
> *(1)* Two holding brakes (one of which is mounted on a gear reducer shaft) plus control braking means shall be provided. Each brake shall have a torque rating at least equal to the rated load hoisting torque at the point where the brake is applied.
>
> *(2)* If the hoist has a mechanical load brake or a control braking means that provides emergency braking in the lowering direction on loss of power, only one holding brake is required. The holding brake shall have a torque rating at least equal to 150% of the rated load hoisting torque at the point where the brake is applied.

Paragraph (f) addresses only the hoisting unit or units that hoist molten materials by use of the wording, "Each independent hoist unit that. . . ." Therefore, on cranes having multiple hoisting units, only the hoist or hoists that transport molten materials are subject to the brake requirements of para. 2-1.12.2(f). Auxiliary hoisting units that do not handle molten material on cranes that do handle molten material are not subject to the brake requirements of para. 2-1.12.2(f).

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Interpretation 2-41

Subject: ASME B30.2-1990

Date Issued: June 20, 1995

Question (1): Does para. 2-3.1.1(a) indicate that (crane) inspectors are not considered qualified personnel to operate a cab- or pulpit-operated crane?

Reply (1): Section 2-3.1.1 is titled "Operators of Cab-Operated and Pulpit-Operated Cranes," and para. (a) lists operators as follows:

(a) Cranes shall be operated only by the following qualified personnel:
(1) designated persons;
(2) trainees under the direct supervision of a designated person;
(3) maintenance and test personnel, when it is necessary in the performance of their duties.

Section 2-3.1.2 is titled "Qualifications for Operators of Cab-Operated and Pulpit-Operated Cranes," and para. (a) states the following:

(a) Operators shall be required by the employer to pass a written or oral examination and a practical operating examination unless able to furnish satisfactory evidence of qualifications and experience. Qualifications shall be limited to the specific type equipment for which examined.

No. A crane inspector may be qualified to operate a cab-operated or pulpit-operated crane provided the inspector meets the requirements of Section 2-3.1.2. Therefore, unless the inspector receives the training and passes the examination in accordance with para. 2-3.1.2(a), the inspector is not qualified to operate a crane.

Question (2): Does para. 2-3.1.1(a) indicate that qualified personnel are required, in addition to a (crane) inspector, to perform the inspection of a cab- or pulpit-operated crane?

Reply (2): Many inspection procedures do not require operation of the crane. However, if the crane must be operated during the inspection procedure being performed, and the crane inspector is not qualified to operate the crane, then yes, a qualified crane operator, in addition to the crane inspector, is required.

Interpretation 2-42

Subject: ASME B30.2b-1992

Date Issued: December 12, 1995

Section 2-2.2 of ASME B30.2b-1992 states the following:

2-2.2.1 Operational Tests. Prior to initial use, all new, reinstalled, altered, repaired, or modified cranes shall be tested by a designated person to insure compliance with this volume, including the following functions:
(a) lifting and lowering;
(b) trolley travel;
(c) bridge travel;
(d) limit switches. The trip setting of hoist limit devices shall be determined by tests with an empty hook traveling in increasing speeds up to the maximum speed. The actuating mechanism of the upper limit device shall be located so that it will trip the device under all

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

STD.ASME B30.2 INT-ENGL ■ 0759670 0579723 T08 ■

conditions, in sufficient time to prevent contact of the hook or load block with any part of the trolley or crane.

(e) locking, limiting, and indicating devices, if provided.

2-2.2.2 Rated Load Test

(a) Prior to initial use, all new, extensively repaired, and altered cranes should be tested and inspected by or under the direction of a designated or authorized person, and a written report be furnished by such person, confirming the load rating of the crane. The load rating should not be more than 80% of the maximum load sustained during the test. Test loads shall not be more than 125% of the rated load, unless otherwise recommended by the manufacturer. The test reports shall be placed on file where readily available to appointed personnel.

(b) The rated load test, if made, shall consist of the following operations as a minimum requirement.

(1) Hoist the test load a distance to assure that the load is supported by the crane and held by the hoist brake(s).

(2) Transport the test load by means of the trolley for the full length of the bridge.

(3) Transport the test load by means of the bridge for the full length of the runway in one direction with the trolley as close to the extreme right-hand end of the crane as practical, and in the other direction with the trolley as close to the extreme left-hand end of the crane as practical.

(4) Lower the test load, and stop and hold the load with the brake(s).

Section 2-0.2 is titled "Definitions," and the words "shall" and "should" are defined as follows:

shall — this word indicates that a rule is mandatory and must be followed
should — this word indicates that a rule is a recommendation, the advisability of which depends on the facts in each situation

Question (1): Paragraph 2-2.2.2(a) states that, "Prior to initial use, all new, extensively repaired, and altered cranes should be tested and inspected by or under the direction of a designated or authorized person, and a written report be furnished by such person, confirming the load rating of the crane."

Is it the understanding that the recommendation to test a crane will be determined by a designated or authorized person?

Reply (1): The determination to load test may be made by anyone who has responsibility over the use of the crane. Such determination is not limited to a designated or authorized person as defined in the Standard.

Question (2): Is it the only intent of this requirement to confirm the rated load of the crane?

Reply (2): No. The intent of the recommendation to load test a crane may include confirming the proper function and operation of the crane and is determined by the facts in each situation.

Question (3): Paragraph 2-2.2.2(a) continues with "The load rating should not be more than 80% of the maximum load sustained during the test."

Is it a recommendation that the load rating should not be more than 80% of the load sustained during the test?

Reply (3): Yes.

Question (4): Can the load rating be 100% of the maximum load sustained during the test?

Reply (4): Yes, but not more than 100% of the rated load of the crane.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Question (5): Will this still be considered confirmation of the rated load?

Reply (5): Yes.

Question (6): Does the B30.2 volume recommend utilizing the rated load test on an annual basis to assure proper function and operation of the structural, electrical, and mechanical components of the crane?

Reply (6): No. The frequency of load testing a crane may be determined by the facts in each situation.

Question (7): Is the B30.2 volume being satisfied or exceeded if a designated or authorized person decides to perform an annual load test at 100% of the rated capacity, not to confirm the rated capacity, but as part of the periodic inspection to guarantee proper operation of the hoist holding brake and associated mechanical and/or electrical equipment?

Reply (7): Since there is no recommendation to perform a load test as part of the periodic inspection, performing a load test will exceed the requirements of a periodic inspection.

Question (8): Is the B30.2 volume being satisfied if a designated or authorized person decides to test the crane at 100% of the rated capacity after the hoist holding brake has been adjusted or the wire rope has been replaced? Again, this is not considered a confirmation of the rated load. It is viewed as a post maintenance test to assure function and operation of the parts maintained.

Reply (8): The B30.2 volume does not require or recommend 100% load testing of a crane after brake adjustment or wire rope replacement. Any load testing of the crane is a recommendation to be determined by the facts in each situation. Therefore, such testing exceeds the requirements.

Question (9): Does the B30.2 volume require a confirmation of the rated capacity of the entire crane if the wire rope is changed, the hoist motor brake is replaced, the motors are replaced, the eddy current brake is replaced, or the lower block is replaced?

Reply (9): No, assuming that by the words, "the wire rope is changed," you mean that the wire rope is replaced by a rope of like kind. See the answer to Question (8).

Question (10): Does confirmation that the replaced component can handle the load satisfy the Standard?

Reply (10): Yes.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS Not for Resale

ASME Services

ASME is committed to developing and delivering technical information. At ASME's Information Central, we make every effort to answer your questions and expedite your orders. Our representatives are ready to assist you in the following areas:

ASME Press
Codes & Standards
Credit Card Orders
IMechE Publications
Meetings & Conferences
Member Dues Status
Member Services & Benefits
Other ASME Programs
Payment Inquiries
Professional Development
Short Courses
Publications
Public Information
Self-Study Courses
Shipping Information
Subscriptions/Journals/Magazines
Symposia Volumes
Technical Papers

How can you reach us? It's easier than ever!

There are four options for making inquiries* or placing orders. Simply mail, phone, fax, or E-mail us and an Information Central representative will handle your request.

Mail
ASME
22 Law Drive, Box 2900
Fairfield, New Jersey
07007-2900

Call Toll Free
US & Canada: 800-THE-ASME
(800-843-2763)
Mexico: 95-800-THE-ASME
(95-800-843-2763)
Universal: 201-882-1167

Fax-24 hours
201-882-1717
201-882-5155

E-Mail-24 hours
Infocentral
@asme.org

* Information Central staff are not permitted to answer inquiries about the technical content of this code or standard. Information as to whether or not technical inquiries are issued to this code or standard is shown on the copyright page. All technical inquiries must be submitted in writing to the staff secretary. Additional procedures for inquiries may be listed within.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

ASME B30.2 INTERPRETATIONS

Replies to Technical Inquiries
December 1993 – December 1994

FOREWORD

This publication includes all of the written replies issued between the indicated dates by the Secretary, speaking for the ASME B30 Committee, Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings, to inquiries concerning interpretations of technical aspects of B30.2, Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist).

These replies are taken verbatim from the original letters except for a few typographical corrections and some minor editorial corrections made for the purpose of improved clarity. In some few instances, a review of the interpretation revealed a need for corrections of a technical nature; in these cases, a corrected interpretation follows immediately after the original reply.

These interpretations were prepared in accordance with the accredited ASME procedures. ASME procedures provide for reconsideration of these interpretations when or if additional information is available which the inquirer believes might affect the interpretation. Further, persons aggrieved by this 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.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale

Interpretation 2-38

Subject: ASME B30.2-1990

Date Issued: December 20, 1994

Question (1): With regard to para. 2-1.3.1(d), is a wind-indicating device required on all outdoor gantry cranes?

> *(d)* Outdoor storage gantry cranes shall be provided with remotely operated rail clamps or other equivalent devices. Parking brakes may be considered minimum compliance with this rule. A wind-indicating device shall be provided. The device shall give a visible and audible alarm to the crane operator at a predetermined wind velocity.

Reply (1): Paragraph 2-1.3.1(d) of ASME B30.2-1990 states: "A wind-indicating device shall be provided." The interpretation by the B30 Committee is that this means that a wind-indicating device shall be provided for all gantry cranes that operate on outdoor runways. It should be noted that the wind-indicating device is not required to be mounted on the crane. The performance of the device has improved accuracy when it is mounted in a fixed location where the motion of the crane will not affect the wind speed indicated. Therefore, a single device may serve several cranes that operate on the same runway.

Question (2): If the reply to Question (1) is "No," what length of span separates an outdoor storage gantry crane from an outdoor gantry crane?

Reply (2): See Reply (1). There are no limits set for length of span or length of runway to determine when a wind-indicating device is required. The device is required for all gantry cranes that operate outdoors.

Copyright ASME International
Provided by IHS under license with ASME
No reproduction or networking permitted without license from IHS
Not for Resale