ASME B30.21-1994 Interpretations

Replies to Technical Inquiries
December 1989 – December 1992

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 ASME B30.21, Manually Lever Operated Hoists.

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.

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Interpretation: 21-1

Subject: ASME B30.21-1989

Date Issued: December 15, 1992

Question (1): Does the Standard prohibit a lever operated hoist from being used as a sling or load binder?

Reply (1): The B30.21 Standard does not specifically prohibit the use of a lever operated hoist as a sling or load binder. The requirements for the use of the hoist are stated in Section 21-0.1 — Scope, and in the text, and particularly in Sections 21-1.7, 21-2.6, and 21-3.6 — Operation[1]. These requirements, in particular, and the others found in the B30.21 Volume must be met when the hoists are used as a sling or a load binder.

Section 21-0.1 — Scope of B30.21

Within the general scope defined in Section 1, B30.21 applies to manually lever operated hoists utilizing chain (see Fig. 1), wire rope (see Fig. 2), and web strap (see Fig. 3) for the purpose of lifting, pulling, and tensioning applications, comprising hoists of the following types:

(a) ratchet and pawl operation

(b) friction brake operation

Lever operated hoists of other types than those detailed in this volume shall be used only in accordance with recommendations of the hoist manufacturer.

Hoists used for lifting personnel require special considerations and are not included in this Volume. Specially insulated hoists used for handling electrically energized power lines require special considerations and are not included in this Volume.

21-1.7.2 Before Operating Hoist

(k) Hoists shall not be operated by other than hand power of one operator.

21-1.7.3 Handling the Load

(a) The hoist chain shall not be wrapped around the load.

(g) Hoists shall not be operated until the load block, chain, and hoist body are directly in line with the direction of loading to avoid side pull.

(h) The hoist body or frame shall not bear against any object or the supporting structure.

(r) The operator should not leave a loaded hoist unattended unless specific precautions have been instituted and are in place.

21-2.6.2 Before Operating Hoist

(k) Hoists shall not be operated by other than hand power of one operator.

21-2.6.3 Handling the Load

(a) The hoist wire rope shall not be wrapped around the load.

(f) Hoists shall not be operated until the load block, wire rope, and hoist body are directly in line with the direction of loading to avoid side pull. The hoist body or frame shall not bear against any object or the supporting structure.

(g) The operator shall not apply a load beyond the rated load appearing on the hoist or load block, except during properly authorized tests.

(q) The operator should not leave a loaded hoist unattended unless specific precautions have been instituted and are in place.

21-3.6.2 Before Operating Hoist

(h) Hoists shall not be operated by other than hand power of one operator.

[1] Only portions of these Sections are included in the following excerpts. Refer to B30.21 Volume for the full text.

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21-3.6.3 Handling the Load

(a) The hoist web strap shall not be wrapped around the load.

(f) Hoists shall not be operated until the load block, web strap, and hoist body are directly in line with the direction of loading to avoid side pull. The hoist body or frame shall not bear against any object or the supporting structure.

(g) The operator shall not apply a load beyond the rated load appearing on the hoist or load block, except during properly authorized tests.

(q) The operator should not leave a loaded hoist unattended unless specific precautions have been instituted and are in place.

Question (2): Can a chain hoist or a lever hoist be used as a sling in a two component (bridle) configuration?

Reply (2): A chain hoist or a lever hoist cannot be used as a sling in the sense that load supporting means of a sling (the chain, the wire rope, or the web strap) come into contact with the load. A chain hoist or a lever hoist can be used as a leg of a multiple leg sling if it is used in accordance with the following requirements[1] in particular, and the others found in the B30.21 Volume.

21-1.7.2 Before Operating Hoist

(k) Hoists shall not be operated by other than hand power of one operator.

21-1.7.3 Handling the Load

(a) The hoist chain shall not be wrapped around the load.

(b) The load shall be attached to the load hook by suitable means.

21-2.6.2 Before Operating Hoist

(k) Hoists shall not be operated by other than hand power of one operator.

21-2.6.3 Handling the Load

(a) The hoist wire rope shall not be wrapped around the load.

(b) The load shall be attached to the load hook by suitable means.

(g) The operator shall not apply a load beyond the rated load appearing on the hoist or load block, except during properly authorized tests.

21-3.6.2 Before Operating Hoists

(h) Hoists shall not be operated by other than hand power of one operator.

21-3.6.3 Handling the Load

(a) The hoist web strap shall not be wrapped around the load.

(b) The load shall be attached to the load hook by suitable means.

(g) The operator shall not apply a load beyond the rated load appearing on the hoist or load block, except during properly authorized tests.

Question (3): Can a chain or lever hoist be used as a component (bridle) of the rigging described above if the load chain was replaced with an alloy chain?

Reply (3): No. The load chain in a chain or lever hoist cannot be replaced with a sling chain. The load chain in a chain hoist is surface hardened alloy steel chain for resistance to wear while traveling around and through the hoist. Conversely, the sling chain is through hardened for strength and toughness to sustain the stresses encountered.

[1] Only portions of these Sections are included in the following excerpts. Refer to B30.21 Volume for the full text.

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Question (4): Does ASME plan to modify the Standard to complement the responses to the questions proposed above in either Addenda or the general Edition?

Reply (4): No. The text of the B30.21 Volume will not be modified to complement the responses to the above questions. The scope and text of the Volume define the purpose and conditions of use for a lever hoist. A lever hoist can be used as a hoist, puller, or tensioning device if the application meets the requirements of the Volume.

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