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 — Operation¹. 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.

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

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1 Only portions of these Sections are included in the following excerpts. Refer to B30.21 Volume for the full text.
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.
Interpretation: 21-2

Subject: ASME B30.21-1999, Manually Level Operated Hoists, Section 21-1.3, Testing
Date Issued: September 11, 2003

Question: What kind of load test, static or dynamic, is required to meet para. 21-1.3.2?
Reply: The load test may be either static or dynamic.
Interpretation: 21-3

Subject: ASME B30.21-2005, Paras. 21-1.3.1 and 21-1.4.1
Date Issued: October 28, 2009
  Question: Does the user have to perform an operational test before placing the new hoist into service?
  Reply: Yes.

Interpretation: 21-4
Subject: ASME B30.21-2005, Sections 21-1.3 and 21-1.4
Date Issued: January 31, 2012

  Question (1): Must new hoists that have satisfied para. 21-1.3.1(a) and section 21-1.4 and that have been in inventory for a period of 1 mo or more but less than 1 yr undergo any additional inspection or testing prior to being placed in service?
  Reply: (1) No.

  Question (2): Must new hoists that have satisfied para. 21-1.3.1(a) and section 21-1.4 and that have been in inventory for a period of more than 1 yr undergo any additional inspection or testing prior to being placed in service?
  Reply (2): No.
Interpretation: 21-5

Subject: ASME B30.21-2005, Testing, Paras. 21-1.4.2(a) and (b) Date

Issued: October 18, 2013

Background: Testing, 21-1.4.2(a): New hoists shall be tested by the manufacturer with a test load of at least 125% of the rated load.

Question (1): What hoist functions need to be load tested?
   (a) lifting and lowering
   (b) proper load control
   (c) proper brake operation
   (d) all of the above

Reply (1): ASME B30.21 does not specify what functions are to be tested on new hoists.

Background (Questions 2–5): Testing, 21-1.4.2(b): A hoist in which load-suspension parts have been altered, replaced, or repaired should be statically or dynamically load tested.

(1) A qualified person shall determine the need to load test the hoist.

Question (2): Does the Committee endorse a hoist having parts that have been altered, replaced, or repaired be put back into service without either a static or a dynamic test?

Reply (2): ASME B30 Committee does not certify, approve, or endorse any activity.

Question (3): What is the difference between a static and a dynamic test? Reply (3): Standard dictionary definitions should be applied.

Question (4): If a static test is chosen, does this include testing any of the “lifting and lowering functions” of the hoist and if not, what exactly is tested?

Reply (4): The Standard does not specify what functions are to be tested.

Question (5): If a dynamic test is chosen, would this definition apply, which was given as an answer to B30.16, Interpretation 16-8, December 15, 1992: “The minimum distance for lifting and lowering dynamically is the distance required for all rotating parts to make at least one revolution?” Reply (5): No.