

ASME B31.5 INTERPRETATIONS VOLUME 8

**Replies to Technical Inquiries
August 1, 2006 Through October 31, 2009**

FOREWORD

It has been agreed to publish interpretations issued by the B31 Committee concerning B31.5 as part of the update service to the Code. The interpretations have been assigned numbers in chronological order. Each interpretation applies either to the latest Edition or Addenda at the time of issuance of the interpretation or the Edition or Addenda stated in the reply. Subsequent revisions to the Code may have superseded the reply.

These replies are taken verbatim from the original letters, except for a few typographical and editorial corrections made for improved clarity.

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Interpretation: 8-1

Subject: B31.5-2001 Edition, Branch Connections

Date Issued: October 26, 2006

File: 06-1417

Question: Are full penetration welds required when header-branch connections are made in the style of Fig. 527.3.5-D, illustration (b)?

Reply: Yes.

ASME B31.5 INTERPRETATIONS VOLUME 7

**Replies to Technical Inquiries
August 1, 2001 Through July 31, 2006**

FOREWORD

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Interpretation: 7-1

Subject: B31.5-2001 Edition, ASTM A 53 Type F Furnace Butt Welded Pipe

Date Issued: July 7, 2006

File: 06-38

Question: Is ASTM A 53 Type F furnace butt welded piping permitted for use in an anhydrous ammonia refrigeration heat transfer component, if the design pressure does not exceed 150 psig?

Reply: No.

ASME B31.5 INTERPRETATIONS

VOLUME 6

Replies to Technical Inquiries
August 1, 1994 Through December 31, 2000
Interpretations 6-1 Through 6-5

It has been agreed to publish interpretations issued by the B31 Committee concerning B31.5 as part of the update service to the Code. The interpretations have been assigned numbers in chronological order. Each interpretation applies either to the latest Edition or Addenda at the time of issuance of the interpretation or the Edition or Addenda stated in the reply. Subsequent revisions to the Code may have superseded the reply.

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B31.5

<u>Subject</u>	<u>Interpretation</u>	<u>File No.</u>
B31.5-1992 Edition, Para. 523.2.2(f)(4)	6-2	B31-95-047
B31.5-1992 Edition, Secondary Coolant	6-1	B31-94-033
B31.5-1992 Edition, Use of Bushings and Reducers in Refrigerant Piping	6-4	B31-97-031
B31.5-1992 Edition, Use of Group A2, Class 3, and Ammonia in Refrigerant Piping	6-3	B31-96-059
Interpretation of Pressure Testing of Refrigerant Equipment or Piping in B31.5 (1992 Edition, 1994 Addenda)	6-5	B31-00-024

Interpretation: 6-1

Subject: B31.5-1992 Edition, Secondary Coolant

Date Issued: December 6, 1995

File: B31-94-033

Question: Does the addition of an anti-freeze to water in a chilled water system make a "secondary coolant" that is included in the scope of B31.5?

Reply: Yes.

Interpretation: 6-2

Subject: B31.5-1992 Edition, Para. 523.2.2(f)(4)

Date Issued: April 24, 1996

File: B31-95-047

Question (1): Does para. 523.2.2(f)(4) of ASME B31.5-1992 apply to gray cast iron materials?

Reply (1): No.

Question (2): If the reply to Question (1) is no, are the allowable stresses for gray cast iron at -20°F applicable down to -150°F?

Reply (2): Yes.

Interpretation: 6-3

Subject: B31.5-1992 Edition, Use of Group A2, Class 3, and Ammonia in Refrigerant Piping

Date Issued: May 21, 1997

File: B31-96-059

Question (1): Is Group A2, Class 3, refrigerant piping in ASME B31.5-1992 the only refrigerant piping for which the inspection requirements of ASME B31.3, Chapter VI, are to be followed?

Reply (1): Yes.

Question (2): Is Group A2, Class 3, refrigerant piping in ASME B31.5-1992 the only refrigerant piping for which the testing requirements of ASME B31.3, Chapter VI, are to be followed?

Reply (2): Yes.

Question (3): What inspection and testing is recommended for ammonia refrigerant piping in ASME B31.5-1992?

Reply (3): The requirements are in Chapter VI of B31.5.

Interpretation: 6-4

Subject: B31.5-1992 Edition, Use of Bushings and Reducers in Refrigerant Piping

Date Issued: December 19, 1997

File: B31-97-031

Question (1): Does the prohibition of couplings made of cast iron or malleable iron in ASME B31.5-1992, para. 506.3, include bushings and reducers?

Reply (1): No.

Question (2): Can reducing bushings made of cast iron or malleable iron be used in ammonia piping?

Reply (2): Yes.

Interpretation: 6-5

Subject: Interpretation of Pressure Testing of Refrigerant Equipment or Piping in B31.5 (1992 Edition, 1994 Addenda)

Date Issued: December 8, 2000

File: B31-00-024

Question: Can you provide any information or direction with regard to new codes or standards for pressure testing of refrigeration equipment or piping that "downgrade" the test pressure requirements from 1.5 times the MAWP to a lower fraction of 1.1 times the MAWP?

Reply: No.

ASME B31.5

INTERPRETATIONS NO. 5

Replies to Technical Inquiries
October 1, 1991, Through July 31, 1994
Interpretations 5-1 Through 5-5

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These replies are taken verbatim from the original letters, except for a few typographical and editorial corrections made for the purpose of improved clarity. In some instances, a review of the interpretation revealed a need for corrections of a technical nature. In these cases, a revised reply bearing the original interpretation number with the suffix R is presented. In the case where an interpretation is corrected by Errata, the original interpretation number with the suffix E is used.

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For detailed instructions on preparation of technical inquiries to the B31 Committee, refer to Appendix B.

Interpretation: 5-1

Subject: 527.4.2, Examination of Welds

Date Issued: June 8, 1992

File: B31-91-29

Question (1): Please clarify the reference to the word "cracks." Does this refer to surface and/or visual cracks?

Reply (1): Yes.

Question (2): Does this encompass cracks that are nonvisual, subsurface

Reply (2): No.

Question (3): Is radiographic testing a method used in inspecting ASME/ANSI B31.5 type welding, or is it utilized for inspecting a more stringent welding procedure?

Reply (3): No, B31.5 does not address radiographic testing. See Para. 536(a)(2)

Interpretation: 5-2

Subject: 504.3.1, Branch Connection Sections

Date Issued: March 2, 1993

File: B31-92-51

Question (1): Can pipe branches larger than $\frac{1}{4}$ the nominal diameter of run pipe be welded to a piping run as a branch connection without reinforcement?

Reply (1): Yes, when the requirements of paras. 504.3.1 and 527.4.6 are met.

Question (2): Can Class 300 couplings or half couplings, of a nominal size larger than $\frac{1}{4}$ the nominal diameter of a run pipe, be welded to a piping run as a branch connection without reinforcement?

Reply (2): Yes, when supported with calculations per para. 504.3

Question (3): Can an integrally reinforced branch connection, of a nominal size larger than $\frac{1}{4}$ the nominal diameter of a run pipe, be welded to a run pipe as a branch connection?

Reply (3): Yes, when the requirements in para. 504.3.1(e)(3) are met.

Interpretation: 5-3

Subject: Radiography
Date Issued: March 2, 1993
File: B31-92-56

Question: To what specification should random radiography be evaluated when used on an ammonia refrigeration piping system?

Reply: As specified in para. 527.4.2(d).

Interpretation: 5-4

Subject: 523.2.2(f)(4) Material Exempted From Impact Test
Date Issued: May 19, 1993
File: B31-93-05

Question (1): What is the allowable stress for ferrous impact tested materials in a refrigerant piping system for metal temperatures between -20°F and -150°F ?

Reply (1): Materials meeting the requirements of para. 523.2.2, Impact Tests, may be used to the allowable stresses in Table 502.3.1 at temperatures not lower than the test specimens.

Question (2): What is the allowable stress for piping material meeting the requirements of SA-333 Grade 6 in a refrigerant piping systems with a metal temperature of -76°F ?

Reply (2): 40% of allowable stresses in Table 502.3.1.

Interpretation: 5-5

Subject: ASME B31.5-1992 Edition, Para. 502.2.6
Date Issued: May 11, 1994
File: B31-94-30

Question: Does para. 502.2.6 permit welding to standards not permitted by para. 527.4.2(d)

Reply: No.

ASME B31.5

INTERPRETATIONS NO. 4

Replies to Technical Inquiries
April 1, 1989, Through September 30, 1991
Interpretations 4-1 and 4-2

It has been agreed to publish interpretations issued by the B31 Committee concerning B31.5 as part of the update service to the Code. The interpretations have been assigned numbers in chronological order. An interpretation applies to the the Edition or Addenda stated in the interpretation or, if none is stated, to the Edition or Addenda in effect one the date of issuance of the interpretation. Subsequent revisions to the Code may have superseded the reply. **These interpretations are not part of the Code or its Addenda.**

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For detailed instructions on preparation of technical inquiries to the B31 Committee, refer to Appendix B.

Interpretation: 4-1

Subject: Paras. 508.3 and 508.8; Bolting

Date Issued: December 26, 1990

File: B31-90-037

Question (1): According to ASME/ANSI B31.5, may SAE 429 Grade 2 material be used in lieu of ASTM A 307 when bolting to cast iron flanges?

Reply (1): No, unless the physical properties of SAE 429 Grade 2 meet the requirements listed in paras. 508.3 and 508.5.

Question (2): Does ASME/ANSI B31.5 require bolts made from materials other than ASTM A 307 to be marked with the manufacturer's mark?

Reply (2): Yes, bolts must be marked according to the requirements of ASTM A 307.

Interpretation: 4-2

Subject: Para. 523.2.3; Materials

Date Issued: March 19, 1991

File: B31-90-055

Question (1): According to ASME/ANSI B31.5, does para. 523.2.3 apply only to ASTM A 47 and A 48 materials?

Reply (1): No.

Question (2): According to ASME/ANSI B31.5, does para. 523.2.3 apply to ASTM A 126 or A 278 materials?

Reply (2): Yes, with limitations as set forth in para. 523.2.3.

ASME/ANSI B31.5

Interpretations No. 3

Replies to Technical Inquiries
February 1, 1987, Through March 31, 1989

It has been agreed to publish interpretations issued by the B31 Committee concerning B31.5 as part of the subscription service. The interpretations have been assigned numbers in chronological order. An interpretation applies to the Edition or Addenda stated in the interpretation or, if none is stated, to the Edition or Addenda in effect on the date of issuance of the interpretation. Subsequent revisions to the Code may have superseded the reply. **The interpretations are not part of the Code or its Addenda.**

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Interpretation: 3-1

Subject: Fillet Weld Requirements

Date Issued: February 25, 1987

File: B31-86-019

Question: Is it permissible under the requirements of ANSI/ASME B31.5 to fillet weld a flat plate to the end of a pipe header in an ammonia refrigeration system?

Reply: The fabrication detail you have described is outside the scope of ANSI/ASME B31.5.

Interpretation: 3-2

Subject: Hydrostatic Preparation

Date Issued: June 15, 1987

File: B31-87-009

Question: May all joints, including welds, used in piping systems covered by ANSI/ASME B31.5 be primed and painted prior to hydrotest?

Reply: No.

Interpretation: 3-3

Subject: Para. 505.1.1, Use of Unrephosphorized Welded Pipe

Date Issued: February 29, 1988

File: B31-87-038

Question: Is it the intent of the requirements in para. 505.1.1 of ASME/ANSI B31.5 to permit the use of unrephosphorized electric-arc furnace butt welded steel pipe?

Reply: Yes.

Interpretation: 3-4

Subject: Para. 504.7, Specially Designed Components

Date Issued: April 15, 1988

File: B31-87-026C

Question: Are the requirements of ASME/ANSI B31.5, para. 504.7, applicable to extruded branch connections to which the design formulas given in para. 504.3 cannot be applied?

Reply: Yes.

Interpretation: 3-5

Subject: Para. 500.1.5, Exclusion From Scope — Instrument Piping

Date Issued: March 31, 1989

File: B31-88-28D

Question: Does ASME/ANSI B31.5 require that the pressure containing portion of an in-line sensing device be designed, fabricated, examined, and tested in accordance with the rules of ASME/ANSI B31.5?

Reply: Yes. See para. 500.1.5 of ASME/ANSI B31.5.

Interpretations No. 2 to ANSI/ASME B31.5

(This supplement is not part of ANSI/ASME B31.5 or its Addenda and is included for information only.)

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Interpretation: 2-1

Subject: Welding of Threaded Pipe

Date Issued: June 10, 1985

File: 85-005

Question: Does ANSI/ASME B31.5 allow threaded pipe to be welded to other pipe or threaded fittings to be welded to pipe?

Reply: Seal welding of a pipe threaded connection meets the requirements of ANSI/ASME B31.5. Butt welding of unthreaded to threaded pipe does not meet Code requirements. Butt welding of pipe (threaded or unthreaded end) to a threaded fitting does not meet Code requirements.

Interpretations No. 1 to ANSI/ASME B31.5

(This supplement is not part of ANSI/ASME B31.5 or its Addenda and is included for information only.)

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Interpretation 1-1

Subject: 528.2, Brazing Preparation and Procedure

Date Issued: July 23, 1982

File: 1602

Question: What is the Committee interpretation of 528.2.4?

Reply: The reference in 528.2.4 of ANSI B31.5-1974 to the Copper Tube Handbook of the Copper Development Association was only to indicate procedures to produce satisfactory brazed joints. It was not intended to qualify operators or procedures. Qualification of operators and procedures shall be in accordance with the referenced ASME Code. (Note: The sentence in question was moved to 528.2.1 in the 1983 Edition.)

Interpretation: 1-2

Subject: Visual Inspection

Date Issued: December 2, 1983

File: 1673

Question: Is visual inspection sufficient to satisfy 527.4.2 of ANSI B31.5 when utilizing welders qualified per 527.5 welding in accordance with 527.4 procedures?

Reply: Yes, provided that 536.1, 536.1.1, and 536.1.2 are followed. Note that 536.1 requires parts not accessible after complete installation to be inspected after completion of those parts. This permits a greater degree of visual inspection since internal visual inspection of penetration is often possible in subassemblies. Note also that different rules apply to Group 3 refrigerants under 536.1.2.

These rules do not preclude the Owner or Designer from requiring more extensive examination than visual inspection (see 500).

Interpretation 1-3

Subject: 505.1.1, Additional Limitations for Carbon Steel Pipe

Date Issued: September 13, 1983

File: 1674

Question: In 505.1.1 of ANSI B31.5, does "butt-welded" pipe refer to ASTM A53, Grade F, butt-welded steel pipe only or are ASTM A53, Grade A and B, electric resistance welded steel pipe also included?

Reply: ANSI B31.5 does not classify electric resistance welded pipe as butt-welded pipe. Refer to 500.2 of Definitions. (Note: The third paragraph of 505.1.1 was revised in the 1983 Edition.)

Interpretation: 1-4

Subject: Welding Qualification and Records

Date Issued: May 4, 1984

File: 1690 (83-043)

Question (1): Does the following meet the requirements of 527.5.1(b)(3) concerning welder and welding operator performance qualification made by a previous employer?

Two papers are given to the new employer. Paper #1 is the original performance qualification record (ASME Boiler and Pressure Vessel Code, Section IX, QW-484). Paper #2 is identical to Paper #1, except that the company's name, employer's certifying signature, and date have been left blank. When the welder or welding operator terminates his employment, the new employer then signs and dates this copy of the record, thus assuming the responsibility of the welder or welding operator's qualification.

Reply (1): Yes, with respect to Paper #1. No, with respect to Paper #2. The new employer accepting the qualification test of welders conducted by the previous employer must indicate in the new employer's record of qualification, the employer by whom the welders were previously qualified and the dates of such qualification. By so doing the employer accepts the responsibility for the welder's workmanship.

Question (2): May the record required for 527.6 by the new employer be in the form of a letter or attachment to a copy of the original performance qualification record from the previous employer?

Reply (2): Yes.

Question (3): Does ANSI/ASME B31.5 permit transfer of qualification of brazers?

Reply (3): ANSI/ASME B31.5 does not address the transfer of qualification of brazers.