

ASME B31.3

INTERPRETATIONS NO. 18

Replies to Technical Inquiries
December 1, 1999 through March 31, 2001

General Information

It has been agreed to publish interpretations issued by the B31 Committee concerning B31.3 as part of the update service to the Code. The interpretations have been assigned numbers in chronological order. Each 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 Subsequent revisions to the Code may have superseded the reply.

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.

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 an interpretation may appeal to the cognizant ASME committee or subcommittee. As stated in the Statement of Policy in the Code documents, ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

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

Code Reference and Subject Indexes

Code Reference and Subject Indexes have been prepared to assist the user in locating interpretations by location or by subject matter in the Code. They cover interpretations issued from Volume 1 up to and including the present volume, and will be updated with each volume.

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Interpretation: 18-01

Subject: ASME B31.3-1999 Edition, Para. 341.3.4(a), Progressive Sampling for Examination

Date Issued: May 31, 2000

File: B31-00-002

Question (1): In accordance with ASME B31.3-1999 Edition, if a welding operator's weld is rejected and the repair is made by another welding operator, does para. 341.3.3 require the repair weld be examined?

Reply (1): Yes.

Question (2): In accordance with ASME B31.3-1999 Edition, may the two additional welds required by para. 341.3.4(a) be examined at the same time as the above referenced repair weld?

Reply (2): Yes.

Interpretation: 18-02

Subject: ASME B31.3-1999 Edition, Para. 331.1.3, Governing Thickness

Date Issued: May 31, 2000

File: B31-00-003

Question (1): In accordance with ASME B31.3-1999 Edition, para. 331.1.3, can the governing thickness for the heat treatment of branch connection welds in Fig. 328.5.4D be calculated or determined by means other than the formulas provided in para. 331.1.3(a)?

Reply (1): No.

Question (2): In accordance with ASME B31.3-1999 Edition, para. 331.1.3, shall the governing through-weld thickness for the heat treatment of branch connection welds in accordance with Fig. 328.5.4D be calculated in accordance with the formulas provided in para. 331.1.3(a), even if a dimension through the weld may be greater than calculated by the formulas?

Reply (2): Yes.

Interpretation: 18-03

Subject: ASME B31.3-1999 Edition, Para. 345.4.2, Test Pressure

Date Issued: May 31, 2000

File: B31-00-004

Question (1): In accordance with ASME B31.3-1999 Edition, para. 345.4.2(b), when a piping system is constructed of different materials, shall the stress values, S_T and S , from each of the individual points in the system be used to calculate the required test pressure for that point in the system in accordance with Eq. (24)?

Reply (1): Yes.

Question (2): In accordance with ASME B31.3-1999 Edition, when the required test pressure for individual points in a piping system differ, and the system is tested as a whole, may any point in the piping system be subjected to a pressure less than its required test pressure in accordance with Eq. (24)?

Reply (2): No, except as provided for in paras. 345.4.2(b), 345.4.2(c), and 345.4.3.

Interpretation: 18-04

Subject: ASME B31.3-1999 Edition, Para. 331.2, Heat Treatment Specific Requirements

Date Issued: May 31, 2000

File: B31-00-006

Question: In accordance with ASME B31.3-1999 Edition, may alternative heat treatment methods or exceptions be specified in the engineering design?

Reply: Yes. See para. 331.2.

Interpretation: 18-05

Subject: ASME B31.3-1999 Edition, Para. A328.2.1(b), Bonding Qualification Requirements

Date Issued: May 31, 2000

File: B31-00-009

Question (1): In accordance with ASME B31.3-1999 Edition, para. A328.2.1(b), does each material type, using the same joining method, require a separate bonding procedure specification (BPS)?

Reply (1): No.

Question (2): In accordance with ASME B31.3-1999 Edition, para. A328.2.5 is a bonder or bonding operator required to qualify for each material type listed in the BPS?

Reply (2): No.

Question (3): In accordance with ASME B31.3-1999 Edition, can a bonder qualification test pressure for thermoplastics when using the hydrostatic test method, be less than the calculated test pressure in accordance with A328.2.5(c)(1)?

Reply (3): No.

Interpretation: 18-06

Subject: ASME B31.3-1999 Edition, Para. 304.2.2, Curved and Mitered Segments of Pipe

Date Issued: May 31, 2000

File: B31-00-010

Question (1): In accordance with para. 304.2.2, if a B16.9 elbow is modified by trimming it (e.g., a standard 90 deg elbow trimmed to 75 or 15 deg), such that it no longer is in compliance with B16.9, must it be qualified as an unlisted component in accordance with para. 304.7.2?

Reply (1): Yes.

Question (2): Is the pressure rating of a B16.9 fitting determined by the actual pipe to which it is attached?

Reply (2): No. See para. 302.2.2.

Question (3): If the ends of a B16.9 or B16.10 component have been taper bored, such that its length no longer meets the length requirements of the component standard, must it be qualified by para. 304.7.2?

Reply (3): Yes.

Interpretation: 18-07

Subject: ASME B31.3-1999 Edition, Table 341.3.2, Acceptance Criteria for Welds

Date Issued: May 31, 2000

File: B31-00-011

Question: In accordance with ASME B31.3-1999 Edition, Table 341.3.2, what is the acceptance criteria for surface porosity and exposed slag inclusions for weld thickness greater than $\frac{3}{16}$ in.?

Reply: The Code does not require welds greater than $\frac{3}{16}$ in. nominal thickness to be evaluated for these imperfections.

Interpretation: 18-08

Subject: ASME B31.3-1999 Edition, Para. 328.2.3, Performance Qualification by Others

Date Issued: May 31, 2000

File: B31-00-012

Question: In accordance with ASME B31.3-1999 Edition, para. 328.2.3, is it acceptable to use the date furnished by a previous employer for the Welder Qualification Record as the date that the individual last used the procedure on pressure piping when that date cannot be determined?

Reply: No.

Interpretation: 18-09

Subject: ASME B31.3-1999 Edition, Para. 300(c), General Statements

Date Issued: May 31, 2000

File: B31-00-013

Question (1): In accordance with ASME B31.3-1999 Edition, should the designer use Eq. (1d) to assess fatigue from two or more sources (e.g., thermal plus wave action)?

Reply (1): Yes. However, see para. 300(c)(3).

Question (2): When determining the allowable displacement stress range of high strength materials in B31.3 piping, does B31.3 use the allowable stresses in Appendix A in Eqs. (1a) and (1b)?

Reply (2): Yes. However, see para. 300(c)(5).

Interpretation: 18-10

Subject: ASME B31.3-1999 Edition, Para. 345.2.2(a), Other Test Requirements

Date Issued: May 31, 2000

File: B31-00-016

Question: In accordance with ASME B31.3-1999 Edition, can the requirement of para. 345.2.2(a) be satisfied by lowering the test pressure to the design pressure (multiplied by the ratio of the allowable stress for the test temperature to the allowable stress for the design temperature) before examination for leaks?

Reply: No.

Interpretation: 18-11

Subject: ASME B31.3-1999 Edition, Para. 344, Types of Examination

Date Issued: November 1, 2000

File: B31-00-025

Question (1): In accordance with ASME B31.3-1999 Edition, in a weld that is visually examined for Category D Fluid Service, shall incomplete penetration be judged only on indications at the root and/or surface area?

Reply (1): Yes.

Question (2): In accordance with ASME B31.3-1999 Edition, in a weld that is visually and/or radiographically examined for Normal Fluid Service, is it required that depth of incomplete penetration be determined by radiography?

Reply (2): No.

Interpretation: 18-12

Subject: ASME B31.3a-2000 Addenda, Table 323.2.2, Impact Testing Requirements for Metals

Date Issued: November 1, 2000

File: B31-00-028

Question (1): In accordance with ASME B31.3a-2000 Addenda, may welded austenitic stainless steel pipe and fittings, with carbon content less than or equal to 0.1% and furnished in the solution heat-treated condition, be used at temperatures warmer than those listed in the Minimum Temperature Column of Table A-1 for the particular alloy in question without impact testing of the base metal?

Reply (1): Yes.

Question (2): In accordance with ASME B31.3a-2000 Addenda, Table 323.2.2, does box A-4(a) apply to austenitic stainless steel pipe and fittings?

Reply (2): Yes.

Question (3): In accordance with ASME B31.3a-2000 Addenda, Table 323.2.2, does box A-4 (b) apply to welds performed on austenitic stainless steel pipe and fittings, by both the manufacturer of the component and the fabricator of the piping?

Reply (3): Yes.

Question (4): In accordance with ASME B31.3a-2000 Addenda, does para. 323.2.2(f) apply to welds (with or without filler metal added) that are not subsequently solution heat treated?

Reply (4): Yes.

Interpretation: 17-09R (Replaces 17-09)

Subject: ASME B31.3a-2000 Addenda, Table 323.2.2, Impact Testing Requirements for Metals

Date Issued: November 1, 2000

File: B31-00-028

Question: In accordance with ASME B31.3b-1997 Addenda, are classes 12, 13, 22, and 23 of ASME A671, A672, and A691 the only listed materials in the Code for these specifications?

Reply: Yes.

Interpretation: 18-13

Subject: ASME B31.3a-2000 Addenda, Para. 319.2.3, Displacement Stress Range

Date Issued: November 1, 2000

File: B31-00-029

Question (1): In Accordance with ASME B31.3a-2000 Addenda, is it permissible for the allowable displacement stress range calculated by Eq. (1b) to exceed the yield strength of the material at the maximum metal temperature?

Reply (1): Yes, see para. 319.2.3. Also, see para. 319.2.2 regarding cautions for unbalanced systems.

Question (2): Does ASME B31.3a-2000 Addenda provide specific requirements for earthquake loads other than para. 301.5.3?

Reply (2): No.

Interpretation: 18-14

Subject: ASME B31.3-1999 Edition, Para. 341.4.1(b)(1), Examination Normally Required

Date Issued: November 1, 2000

File: B31-00-030

Question: In accordance with ASME B31.3-1999 Edition, if examination of a welder's work is satisfactorily represented in accordance with the requirements of para. 341.4.1(b)(1) when producing welds requiring 100% examination, must examination of his work also be represented in production requiring a lesser degree of examination?

Reply: No, unless the welds requiring a lesser degree of examination are in a different designated lot.

Interpretation: 18-15

Subject: ASME B31.3a-2000 Addenda, Para. 345.9.1, Alternative Leak Test

Date Issued: November 1, 2000

File: B31-00-031

Question: In accordance with ASME B31.3a-2000 Addenda, when 100% radiography is required by para. 345.9.1 for an alternative leak test, may 100% ultrasonic examination in accordance with para. 344.6 be used in place of radiography?

Reply: No.

Interpretation: 18-16

Subject: ASME B31.3a-2000 Addenda, Para. 302.3.5 (c), Limits of Calculated Stresses Due to Sustained Loads and Displacement Strains

Date Issued: November 1, 2000

File: B31-00-032

Question: In accordance with ASME B31.3a-2000 Addenda, does the calculation of longitudinal stresses due to pressure, weight and other sustained loadings per para. 302.3.5(c) include vibrational loadings?

Reply: No. See para. 302.3.5(d), including footnote 5, for allowable displacement stress range.

Interpretation: 18-17

Subject: ASME B31.3-1999 Edition, Para. 344.2, Visual Examination

Date Issued: November 1, 2000

File: B31-00-043

Question (1): In accordance with ASME B31.3-1999 Edition, paras. 344.2 and 344.7, for in-process visual examination, shall the acceptance or rejection of the individual items specified in para. 344.7 be recorded?

Reply (1): Yes.

Question (2): In accordance with ASME B31.3-1999 Edition, paras. 344.2 and 344.7 for in-process visual examination, is it required to record the value of each individual item specified in para. 344.7.1?

Reply (2): No.

Interpretation: 18-18

Subject: ASME B31.3a-2000 Addenda, Appendix D, Thickness of a Welding Tee

Date Issued: November 1, 2000

File: B31-00-044

Question (1): In accordance with ASME B31.3a-2000 Addenda, does the crotch thickness, T_c , requirement for a "welding tee" in Appendix D apply to the whole arc, from where the wall is tangent to the header direction to where the wall is tangent to the branch direction?

Reply (1): No.

Question (2): In accordance with ASME B31.3a-2000 Addenda Appendix D, does the Code specify the specific location where T_c , for a welding tee, shall be measured?

Reply (2): No.

CODE REFERENCE INDEX

(GENERAL NOTE: Code references are based on ASME B31.3-1990 or later Editions. References in brackets are to previous Editions and Addenda.)

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