

# ASME/ANSI B31.3 Interpretations No. 6

Replies to Technical Inquiries  
July 1, 1987, Through April 30, 1988

## **General Information**

It has been agreed to publish interpretations issued by the B31 Committee concerning B31.3 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 Subsequent revisions to the Code may have superseded the reply.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.**

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.

## B31.3

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**Interpretation: 6-01**

**Subject:** ANSI/ASME B31.3-1984 Edition, Paras. 300.2 and 305.2, and Appendices A and M; Classification of Fluid Services, and Use of API 5L

**Date Issued:** December 14, 1987

**File:** B31-87-012

**Question (1):** In accordance with ANSI/ASME B31.3, para. 300.2, are there only two categories, namely, Categories D and M fluid services?

**Reply (1):** No. See the definitions for Categories D and M fluid services; and see para. 300.1.1(b), which states that only Categories D and M fluid services are segregated for special consideration. See also Appendix M.

**Question (2):** Should general hydrocarbon service be considered Category M?

**Reply (2):** No.

**Question (3):** In ANSI/ASME B31.3, what limitations are there on the use of API 5L Grade B ERW, EFW, and SAW pipe materials?

**Reply (3):** See para. 305.2.3 and applicable Notes referenced in Appendix A for these materials.

**Interpretation: 6-02**

**Subject:** ANSI/ASME B31.3-1984 Edition, with the ANSI/ASME B31.3a-1984 Addenda, Para. 311.2.4 and Figs. 327.4.2B and C; Socket Welds, Gap Dimension

**Date Issued:** December 14, 1987

**File:** B31-87-013

**Question (1):** In ANSI/ASME B31.3, para. 311.2.4(b)(2) states, "Weld dimensions shall not be less than those shown in Figs. 327.4.2B and C." In Figs. 327.4.2B and C, there is a dimension that reads " $\frac{1}{16}$  in. approx. before welding." Do the above words mean that the gap should be no larger than  $\frac{1}{16}$  in.?

**Reply (1):** No.

**Question (2):** If the response to Question (1) is no, how large a gap would be acceptable?

**Reply (2):** The " $\frac{1}{16}$  in." is not a "welding dimension." It is intended as an "approximate" dimension for nominal clearance.

**Interpretation: 6-03**

**Subject:** ANSI/ASME B31.3-1984 Edition, Paras. 300(c)(5) and 302.3.5, and Appendix D;  
Longitudinal Stresses and Longitudinal Bending Stresses, Sustained Loads

**Date Issued:** December 14, 1987

**File:** B31-87-022

**Question (1):** In accordance with ANSI/ASME B31.3, para. 302.3.5(c), when calculating the longitudinal stresses due to pressure, weight, and other sustained loads, should the thickness of pipe used in calculating  $S_L$  be the nominal thickness minus mechanical, corrosion, and erosion allowances but not minus the manufacturer's mill tolerance?

**Reply (1):** Yes.

**Question (2):** In accordance with ANSI/ASME B31.3, para. 302.3.5(c) and Appendix D, when calculating the longitudinal bending stresses due to sustained loads, does ANSI/ASME B31.3 require that the stress intensification factors from Appendix D be applied?

**Reply (2):** No. However, see ANSI/ASME B31.3, para. 300(c)(5).

**Interpretation: 6-04**

**Subject:** ANSI/ASME B31.3-1984 Edition With Addenda Through ANSI/ASME B31.3c-1986, Tables 341.3.2A and B; Acceptance Criteria

**Date Issued:** December 14, 1987

**File:** B31-87-023

**Question (1):** In accordance with ANSI/ASME B31.3, Table 341.3.2B, can an imperfection be evaluated by an examination method not marked with an "X," other than as a supplementary examination?

**Reply (1):** Yes. Table 341.3.2B does not state ANSI/ASME B31.3 requirements.

**Question (2):** In accordance with ANSI/ASME B31.3, Table 341.3.2B, concave root surface imperfections can be evaluated by visual, ultrasonic, or radiographic examination. Table 341.3.2A indicates concave root surface imperfections to be evaluated by visual examination only. What acceptance criteria are used for radiographic examination?

**Reply (2):** ANSI/ASME B31.3 does not address such criteria for radiographic examination.

**Question (3):** In accordance with ANSI/ASME B31.3, Table 341.3.2B, weld undercutting imperfections can be evaluated by visual examination. Table 341.3.2A indicates undercutting imperfections to be evaluated by visual or radiographic examination. In this case, are the radiographic examination acceptance criteria stated for use as a supplementary examination?

**Reply (3):** No.

**Note:** Consideration will be given to clarify Tables 341.3.2A and 341.3.2B.

**Interpretation: 6-05**

**Subject:** ANSI/ASME B31.3-1984 Edition With ANSI/ASME B31.3a-1984 Addenda, Para. 311.2.4 and Figs. 327.4.2B and C; Use of Socket Welds

**Date Issued:** December 14, 1987

**File:** B31-87-024

**Question (1):** In accordance with ANSI/ASME B31.3, para. 311.2.4, is a weld strength calculation, including bending moments, required for each socket weld?

**Reply (1):** No.

**Question (2):** In accordance with ANSI/ASME B31.3, para. 303, are the ratings of socket welding components reduced in consideration of welded joint strength?

**Reply (2):** No.

**Question (3):** Is the use of socket welding connections prohibited for joints under pressure-temperature conditions in excess of the ratings for ANSI B16.5 Class 900?

**Reply (3):** No.

**Interpretation: 6-06**

**Subject:** ANSI/ASME B31.3-1984 Edition With Addenda Through ANSI/ASME B31.3c-1986, Paras. 323.1.2 and 323.2.4; Use of API 5L

**Date Issued:** December 14, 1987

**File:** B31-87-031

**Question (1):** Are there restrictions in ANSI/ASME B31.3 that would prohibit the use of seamless API 5L, Grade X-80?

**Reply (1):** No.

**Question (2):** Since API 5L, Grade X-80 is not listed in ANSI/ASME B31.3, Table A-1, is it acceptable to treat it as an unlisted material per para. 323.1.2 and use the rules of para. 323.2.4 for developing design limitations?

**Reply (2):** Yes. Note: The inquirer may wish to consider alternative rules for design of high pressure piping in Chapter IX of ANSI/ASME B31.3-1984 Edition with Addenda through ANSI/ASME B31.3c-1986.

**Interpretation: 6-07**

**Subject:** ANSI/ASME B31.3-1984 Edition With Addenda Through ANSI/ASME B31.3c-1986, Paras. 302.3.5 and 321.1.1; Longitudinal Stresses, Support Configurations

**Date Issued:** December 14, 1987

**File:** B31-87-032

**Question:** Shall all support configurations be considered in the evaluation of longitudinal stress in accordance with ANSI/ASME B31.3, para. 302.3.5(c)?

**Reply:** Yes. See also ANSI/ASME B31.3, para. 321.1.1(7).

**Interpretation: 6-08**

**Subject:** ANSI/ASME B31.3-1984 Edition With Addenda Through ANSI/ASME B31.3c-1986, Paras. 345.1, 345.5, 345.9, and M345.1; Category M, Alternative Leak Test

**Date Issued:** December 14, 1987

**File:** B31-87-034

**Question (1):** ANSI/ASME B31.3, para. M345.1 refers to para. 345.1 for testing. If a hydrostatic test is not practical, does ANSI/ASME B31.3 intend for toxic gas service piping to be alternative leak tested in accordance with para. 345.9?

**Reply (1):** No. ANSI/ASME B31.3 provides the option of a pneumatic leak test in accordance with para. 345.5. See para. 345.1(b).

**Question (2):** Does ANSI/ASME B31.3 permit piping to be put into toxic gas service following the alternative leak test in accordance with para. 345.9?

**Reply (2):** Yes.

**Interpretation: 6-09**

**Subject:** ANSI/ASME B31.3-1984 Edition With Addenda Through ANSI/ASME B31.3c-1986, Paras. 304.3 and 304.7.2; Extruded Branch Connections

**Date Issued:** April 15, 1988

**File:** B31-87-0268

**Question:** Are the requirements of ANSI/ASME B31.3, para. 304.7.2 applicable to extruded branch connections to which the design formulas given in para. 304.3 cannot be applied?

**Reply:** Yes.