NOTICE REGARDING CASES OF THE ASME PRESSURE TECHNOLOGY POST CONSTRUCTION (PCC) STANDARDS

All PCC Cases in effect as of October 1, 2017 will remain available for use until annulled by the PCC Standards Committee.
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Inquiry: What requirements and recommendations should be used in lieu of PCC-2 2018 Edition Article 503 for methods of isolating a weld to conduct a pressure test on pressure vessel or tank nozzles?

Reply: It is the opinion of the Committee that the following requirements and recommendations should be used for isolation and pressure testing of welds on pressure vessel or tank nozzles.

1.0 DESCRIPTION

1.1 Scope

1.1.1 Scope. This Case provides guidance for the use of mechanical devices used to isolate sections of piping systems or equipment nozzles to conduct a hydrostatic pressure or tightness test. Typical applications are

(a) testing the circumferential weld for the new installation or replacement of a flange on an existing pressure vessel or tank nozzle.

(b) testing after the replacement or addition of new branches in piping systems or nozzles on an existing pressure vessel or tank.

1.1.2 Types of Mechanical Devices for Testing Nozzle Neck to Shell or Head Welds or Piping Branch Connections. This Case describes the methods for use of three types of mechanical devices for isolation of piping systems or equipment nozzles in preparation for testing as follows:
(a) **TYPE A** – Single Bolt Internal Device

**Fig. 1** – Type A Hydrotest Device

(b) **TYPE B** – Multi-bolt Internal Device

**Fig. 2** – Type B Hydrotest Device
2.0 LIMITATIONS

2.1 Part 1 of this Standard

Section I of this Standard, “Scope, Organization and Intent”, contains additional requirements and limitations. This Case shall be used in conjunction with Section I.

3.0 DESIGN

3.1 General

(a) Selection of device Type A, B or C for nozzle neck to shell or head weld or piping branch connection should be made after consultation with the device manufacturer and/or service provider. Local hydrostatic testing of these joints typically does not create a state of stress similar to that created by a full hydrotest or when in service.

4.0 FABRICATION

In the context of this Case, Section 4.0 addresses requirements of device installation.

(a) Installation of Type A, B or C devices shall be in accordance with the manufacturer’s and/or service provider’s recommendations.
(b) Fill with pressure test medium and complete the test.

6.0 TESTING

In the context of this Case, this section is not applicable.

7. REFERENCES

ASME B16.5, Pipe Flanges and Flanged Fittings, latest edition

Publisher: The American Society of Mechanical Engineers (ASME). Two Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, P.O. Box 2900, Fairfield, NJ 07007-2900 (www.asme.org)
PCC-2 CASE 102
Alternative Requirements for Blast Wave Distances

Inquiry: What alternative requirements may be used for determining the required minimum distance between personnel and the equipment being tested in lieu of those provided in PCC-2, Article 501, Mandatory Appendix 501-III, clause 501-III-1(a)?

Reply: It is the opinion of the Committee that the following alternative requirements may be used in lieu of the distances as described in PCC-2, Article 501, Mandatory Appendix 501-III, clause 501-III-1(a).

The minimum distance between all personnel and the equipment being tested shall be:

(a) \( R = 30 \text{ m (100 ft)} \) for \( E \leq 8,130,000 \text{ J (6,000,000 ft-lb)} \)

(b) as determined by eq. (III-1) for \( E > 8,130,000 \text{ J (6,000,000 ft-lb)} \)