



**Summary of Substantive Changes
between the 2009 and the 2013 editions of
CSA B137.0, “Definitions, general requirements, and methods of testing for
thermoplastic pressure piping”**

Presented to the IAPMO Standards Review Committee on August 12, 2014

General: The changes to this standard should not have an impact on currently listed products. The substantive changes are:

- Added definitions for PEX and PE-RT (see Section 3.1)
- Added requirements for couplings and tapped tees that provide an outlet with internal threads (see Section 5.2.4)
- Added a validation method for determination of the long-term hydrostatic value (LTHS) for PE-RT (see Section 6.6.4.1.11)

Section 3.1, Definitions: Added definitions for PEX and PE-RT as follows:

Polyethylene (PE) —

Crosslinked polyethylene — a polyethylene product that has undergone a change in molecular structure using a chemical or physical process in which the polymer chains are chemically linked, resulting in improved properties such as elevated temperature strength and performance, chemical resistance, and resistance to slow crack growth.

Polyethylene of raised temperature (PE-RT) — polyethylene plastics that have raised temperature resistance (as determined by the requirements of Clause 6.6.4.1.11).

Section 5.2, Threaded connections: Added requirements for couplings and tapped tees that provide an outlet with internal threads as follows:

5.2.1

Pipe and fittings having threads shall be threaded with American National Standard taper pipe threads that comply with the dimensional requirements of ASME B1.20.1, except for the fittings described in Clause 5.2.4.

5.2.2

The manufacturing tolerance on plastic threads, measured with a ring or plug gauge, shall be a maximum variation of 1.5 turns when measured in accordance with Clause 6.10, except for the fittings described in Clause 5.2.4.

5.2.4

Couplings and tapped tees that provide an outlet with internal threads for a service connection at a water main shall have taper pipe threads that comply with Clauses 5.2.1 and 5.2.2, or standard AWWA internal threads that comply with the applicable requirements of Clause 4.4.4, Special Thread Consideration, of ANSI/AWWA C800.



6.6.4.1 Procedure for testing HDB-rated compounds (LTHS determination): Added a validation method for PE-RT as follows:

6.6.4.1.11

The hydrostatic design basis of PE-RT compound determined at 82 °C shall be validated by developing a linear regression in accordance with Clause 6.6.4.1.4 based on ductile stress-rupture data at 110 °C. The regression data shall satisfy the following requirements:

(a) The lower confidence value of stress shall not differ from the extrapolated stress value by more than 10%.

(b) The log average of the five highest test times used in the regression shall exceed 9000 h. The non-failed specimen at the longest running times may be included in the regression, provided that their inclusion does not decrease the LTHS.

Note: This validation methodology is drawn from ASTM D2837 and ISO 9080.