

STANDARD INFORMATION

Standard Number: CSA B137.0

Standard Name: Definitions, General Requirements, and Methods of Testing for Thermoplastic Pressure Piping

Standard Edition and Issue Date: 6th Edition Dated January 1, 2017

Date of Revision: January 1, 2017

Date of Previous Revision of Standard: 5th Edition Revised January 1, 2016

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **February 16, 2019**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revise requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.

Overview of Changes:

- New requirements for metallic materials
- Added new section for rapid crack propagation
- New section added for evaluating against NSF 372 for lead content

Specific details of new/revise requirements are found in table below.

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action Required:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revise paragraphs noted in the attached or explain why these new/revise requirements do not apply to your product (s).

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined out below.</i>
4	Info	Material requirements
4.2	Info	Environmental requirements
4.2.1	Info	Toxicity and lead content
		<i>New clause added;</i>
4.2.1.2		Pipes and fittings intended to convey or dispense water used for human consumption, through drinking or cooking, shall not contain a weighted average lead content in excess of 0.25% when evaluated in accordance with NSF/ANSI 372.
		<i>New section added;</i>
4.4		Metallic materials
4.4.1		Nonferrous materials
		General
4.4.1.1		Fittings manufactured from copper alloys and intended for use in potable and reclaimed water applications shall have a copper content of no less than 58% by weight and shall meet the requirements of NSF/ANSI 61 and Clauses 4.4.1.2 and 4.4.1.3 of this Standard.
		Resistance to dezincification
4.4.1.2		Fittings, manufactured from copper alloys containing more than 15% zinc by weight, shall be tested in accordance with ISO 6509. The maximum depth of dezincification shall not exceed 200 µm.
		Resistance to stress corrosion
4.4.1.3		Valves and fittings, manufactured from copper alloys containing more than 15% zinc by weight, shall be resistant to stress corrosion. There shall be no evidence of cracking at 10X magnification when those products are tested in accordance with ISO 6957 or ASTM B858 in a test solution of 9.5 pH.
		Note: The requirements for resistance to dezincification and resistance to stress corrosion are intended to establish a minimum level of performance for products intended for use in potable water systems. These requirements are not a guarantee that erosion or corrosion will not occur.



4.4.1.4		Crimping rings shall be made of copper alloys UNS C10200, C12000, or C12200. The crimping rings shall have a hardness of 35 to 45 measured on the Rockwell 15T scale.
4.4.2		Ferrous metals, when tested as part of an assembly, shall comply with the corrosion-resistance requirements of Clause 6.1.1 of CAN/CSA-B125.
6	Info	Test methods
6.3	Info	Chemical resistance
6.3.2	Info	Change in tensile strength
		<i>New clause added;</i>
6.3.2.1		Where pipe samples are available, testing shall be performed as per Clause 6.3.2.2 to determine the change in apparent tensile yield strength. For materials that are not readily available in pipe form, testing shall be performed using test plaques of the material as per Clause 6.3.2.3 to determine the change in tensile strength at yield.
		<i>New clause added;</i>
6.3.2.3		For materials that are not readily available in pipe form, the test specimens shall be plaques of material 6.3 by 50.8 by 101.6 mm (nominal) with a 25.4 mm wide reduced section, instead of the piece of pipe
6.7	Info	Impact resistance test for pipe
		Apparatus The following apparatus, or an equivalent, shall be used:
6.7.1		<ul style="list-style-type: none"> a) a tup (falling mass) having geometry and mass in accordance with the applicable tup from Figure 5; b) a flat-plate holder <u>consisting of a plate approximately 200 × 300 × 25 mm with a 120° groove to position the pipe specimen. The groove shall be approximately 3 mm in depth for testing pipe up to NPS-12, and approximately 15 mm in depth for testing pipe larger than NPS-12. The edges of the groove shall be rounded to a radius of approximately 1.5 mm</u> c) <u>a rigid base fastened to a concrete slab, onto which the holder shall be mounted. Means shall be provided to centre the specimen under the guide rail; and Note: A bar or rod placed inside the specimen and retained by a light spring may be employed if difficulty is encountered in holding the specimen in position.</u> d) a guide tube or guide rails, to ensure that the tup impacts the specimen at the top of the vertical diameter. <p>Note: Auxiliary equipment may also be used (e.g., for the tup release or tup elevation).</p>
		<i>New section added;</i>
6.11	Info	Resistance to rapid crack propagation (RCP)



6.11.1 When required by the individual product standard, RCP testing shall be conducted to determine the RCP critical pressure for each compound with a particular pipe wall thickness.

6.11.2 RCP testing shall be conducted using the ISO 13477 (the small-scale steady-state or “S4” test), or the ISO 13478 (the full-scale or “FS” test) test method, at 0 °C to determine the critical pressure, p_c , as specified in the applicable product Standard of the CSA B137 Series. Where there is a discrepancy, the results of the ISO 13478 (FS) test method shall take precedence.

Note: For “S4” testing of some materials or products, it may be necessary to demonstrate that there is no “false arrest” in RCP testing at test pressures less than the critical pressure required. Clause 4.2.4.6.3 of CSA B137.4 contains an example of such a consideration.

6.11.3 A compound’s resistance to RCP shall be tested using pipe of the heaviest wall thickness for which the compound is intended to be used. Further testing of pipe shall be required only when the wall thickness of the pipe is greater than the wall thickness of the pipe used in the RCP test to determine the RCP critical pressure for the compound that is used to make the pipe. In such cases, the pipe supplier shall provide test data generated in accordance with Clause 6.11.2 for their products.

CUSTOMERS PLEASE NOTE: This Table and column “Verdict” can be used in determining how your current or future production is or will be in compliance with new/revised requirements.
