# STANDARDS UPDATE NOTICE (SUN)
# ISSUED: April 9, 2020

## STANDARD INFORMATION

**This SUN establishes the Continuing Certification approach for HDPE Conduit, Conductors-In-Conduit, and Fittings**

**Standard Number:** CSA C22.2 No. 327
**Standard Name:** HDPE Conduit, Conductors-In-Conduit, and Fittings
**Standard Edition and Issue Date:** 2nd Edition Dated November 1, 2018
**Date of Revision:** November 1, 2018
**Date of Previous Revision of Standard:** 1st Edition Revised July 1, 2017

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **No action is required for currently certified products to maintain certification.**

**This SUN is being presented to assist users of the standard to appreciate the significance of the changes made to the standard that will apply should the product described be modified after November 1, 2020**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** 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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

**Overview of Changes:**

- Water absorption test has been added
- Requirements for chemical resistance has been added
- Added the ovality requirements for conduits larger than trade size 78 mm
- Cold bend test has been added

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

**Client Action:**

**Information** – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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 |
|---|---|---|
| | | *Additions to existing requirements are <u>underlined</u> and deletions are shown ~~lined out~~ below.* |
| | | |
| 7 | Info | **Tests** |
| 7.6 | Info | **Chemical resistance** |
| 7.6.1 | Info | **Change in weight** |
| 7.6.1.2 | | ***New clause added;***<br><br>Specimens used for this test shall be either<br><br>a) rings cut from conduit and prepared in accordance with the test specimen used for the apparent tensile properties (ring tensile test) in CAN/CSA-B137.0; or<br><br>b) plaques with nominal dimensions 6.3 × 50.8 × 101.6 mm (T × W × L) with a 25.4 mm wide reduced section. |
| 7.6.1.3 | | ***New clause added;***<br><br>minimum of 5 specimens shall be tested with each of the chemical reagents specified in Table 5 as follows:<br><br>a) each specimen shall be weighed to the nearest 0.001 g and completely immersed in the chemical for 72 ± 1 h;<br><br>b) on removal from the chemical, the specimens shall be washed with running water, wiped with a clean, dry cloth, conditioned in air at 23 ± 2 °C and 50 ± 5% relative humidity for a period between 120 min and 135 min, and reweighed immediately after the conditioning period;<br><br>c) the change in weight shall be calculated to the nearest 0.01% based on the initial weight; and<br><br>d) the average weight measurements shall be used to verify compliance. |
| 7.6.2 | Info | **Change in tensile strength** |
| 7.6.2.1 | | Conduit ring specimens shall not change in apparent tensile yield strength by more than ± 12% when tested in accordance with Clause 7.6.2.2. <u>Plaque specimens shall not change in tensile yield strength by more than ± 12% when tested in accordance with Clause 7.6.2.3.</u> |

| CLAUSE | VERDICT | COMMENT |
|---|---|---|
| 7.6.2.2 | | ***New clause added;***<br><br>The same conduit ring specimens subjected to the change in weight test in Clause 7.6.1.2 shall be used for this test. The test shall be carried out within 30 min after reweighing.<br>A minimum of 5 unconditioned conduit ring specimens that have not been exposed to any chemical reagents shall be subjected to the apparent tensile properties (ring tensile test) in CAN/CSA-B137.0. The average of the apparent tensile yield strength measurements shall be used to verify compliance. |
| 7.6.2.3 | | ***New clause added;***<br><br>For plaque specimens, after being exposed to the chemical reagents, conditioned, and reweighed in accordance with Clause 7.6.1.2, the same plaque specimens shall be used for this test. The tensile yield strength of the specimens shall be determined in accordance with ASTM D638. The test shall be carried out within 30 min after reweighing.<br><br>A minimum of 5 unconditioned plaque specimens that have not been exposed to any chemical reagents shall be tested in accordance with ASTM D638 to determine the tensile yield strength. In the case of dual wall construction, plaques of materials of different cell classification shall be tested separately. The average of the tensile yield strength measurements shall be used to verify compliance. |
| 7.9 | Info | **Pullout test** |
| 7.9.2 | | ***New clause added;***<br><br>The specimen shall consist of two samples of sufficient length to complete the test but not less than 200 mm, attached to both ends of a coupling, or one conduit of sufficient length attached to an adapter, or in accordance with the manufacturer's instructions.<br><br>A metal plug shall be inserted into each end of the assembly, and the plugged ends shall be placed in the jaws of the testing machine and subjected to the pullout force. |
| 7.10 | | The HDPE conduit shall be tested and evaluated in accordance with the ovality requirement of ASTM F2160, except conduit larger than 78 mm trade size shall not exceed 15%. This is a manufacturing and a capability test. |
| 7.13 | | ***New section added;***<br><br>**Water absorption test** |
| 7.13.1 | | The conduit shall not change in weight by more than 0.01% when tested in accordance with Clauses 7.13.2 to 7.13.4. |

| CLAUSE | VERDICT | COMMENT |
|---|---|---|
| 7.13.2 | | A clean, dry specimen of the finished conduit, 152 ± 5 mm long, shall be preconditioned in a full-draft circulating air oven at 50 ± 2 °C for 24 h, then conditioned in still air at 23 ± 2 °C for 24 h. |
| 7.13.3 | | The specimen shall be weighed to ± 5 mg and then immersed in distilled water for 24 h at room temperature. |
| 7.13.4 | | The specimen shall then be removed from the water, wiped quickly both inside and out with a clean piece of lintless cloth and immediately re-weighed to within ± 5 mg. |
| 7.14 | | ***New section added;***<br><br>**Low-temperature handling test** |
| 7.14.1 | | **Conduit** |
| 7.14.1.1 | | There shall be no visible signs of chipping, cracking, or shattering of conduit when specimens of the conduit are tested in accordance with Clauses 7.14.1.2 and 7.14.1.3. |
| 7.14.1.2 | | One 760 mm specimen shall be cut from finished lengths of each size of conduit such that the ends are perpendicular to the longitudinal axis of the conduit. The ends shall be smoothed to remove any burrs, chips, or cracks. The specimen shall be conditioned in a cold chamber for 4 h at a temperature of –20.0 ± 2.0 °C. |
| 7.14.1.3 | | The specimen shall be removed from the cold chamber and, within 15 s, dropped from a minimum height of 1500 ± 25 mm (59 ± 1 in) onto a concrete floor twice in quick succession. The first drop shall be performed such that the specimen makes an angle of approximately 45° with the floor. On the second drop, the specimen shall fall parallel to the floor. |
| 7.14.2 | | **Fittings** |
| 7.14.2.1 | | There shall be no visible signs of chipping, cracking, or shattering of a fitting when tested in accordance with Clauses 7.14.2.2 and 7.14.2.3. |
| 7.14.2.2 | | Samples of each fitting type shall be assembled to a 760 mm (30 in) length of conduit according to the intended manner by the manufacturer. The assembly shall be conditioned for 4 h in a cold chamber at – 20.0 ± 2.0 °C. |
| 7.14.2.3 | | The assembly shall be removed from the cold chamber and, within 15 s, dropped from a minimum height of 1500 mm ± 25 mm (59 ± 1 in) onto a concrete floor twice in quick succession. The first drop shall be performed such that the specimen makes an angle of approximately 45° with the floor. On the second drop, the specimen shall fall parallel to the floor. |
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| | | 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. |