STANDARDS UPDATE NOTICE (SUN)
ISSUED: June 4, 2018

STANDARD INFORMATION

Standard Number: UL 486D / CSA C22.2 No 198.2
Standard Name: Sealed Wire Connector Systems
Standard Edition and Issue Date: UL 6th Edition CSA 3rd Edition Dated June 19, 2015
Date of Revision: October 20, 2017
Date of Previous Revision of Standard: June 19, 2015

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **January 17, 2020**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised 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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Changes:

- Sealed Wire Connector Systems Rated 601-1500 V.
- Sunlight Resistance / Salt Water Immersion.

Specific details of new/revised 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/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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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 underlined and deletions are shown ~~lined out~~ below.
7	Info	**Test requirements**
7.9		***New section added;*** **Test sequence H, weather (sunlight) resistance**
7.9.1		A sealed wire connector system marked as Sunlight resistant (Sun–Res) shall be additionally subjected to the sunlight sequence [see 10.3e].
7.9.2		Following the conditioning and tests in this sequence, a sealed wire connector system shall withstand the applied voltage without breakdown.
7.10		***New section added;*** **Salt water immersion test**
7.10.1		A sealed wire connector system marked as “Salt water resistant”, “Sea water- Res”, or equivalent shall be additionally subjected to the salt water sequence [see 10.3(f)].
7.10.2		Following any conditioning and tests specified within the sequences, the repeated insulation resistance (other than the initial insulation resistance; see 7.2.1.1) of a sealed wire connector system shall be greater than the lesser of: a) 90 percent of the initial insulation resistance; or b) 1 GΩ.
7.10.3		Following the conditioning and tests in this sequence, a sealed wire connector system shall withstand the applied voltage without breakdown.
8	Info	**Sampling requirements**
8.9		***New section added;*** **Test sequence H, sunlight resistance**
8.9.1		Three assemblies shall be prepared with the maximum size wire and three assemblies shall be prepared with the minimum size wire.
8.10		***New section added;*** **Test sequence I, salt water**
8.10.1		Three assemblies shall be prepared with the maximum size wire and three assemblies shall be prepared with the minimum size wire.
9	Info	**Test methods**
9.2	Info	**Test sequence A, general**

9.2.3	Info	Dielectric withstand
9.2.3.2		***New clause added;*** The dielectric withstand test value for sealed wire connector systems rated 601 – 1500 volts shall be 2000 volts, 60 HZ, plus 2.25 times maximum rated voltage.
9.2.9		Leakage current
9.2.9.2		Following the dielectric withstand test and while still immersed, assemblies rated 601 – 1500 V shall be subjected to a test voltage of the rated voltage potential (at 60 Hz) between the water and conductor/assembly and the resulting leakage current measured.
9.9		***New section added;*** **Test sequence H, sunlight resistance test**
9.9.1		General
9.9.1.1		A sealed wire connector system assembly shall be conditioned for 1000 hours using the apparatus in (a) or (b) below and be subjected to the requirements of Clause 9.9.2 and 9.9.3. a) Xenon-arc: Xenon-arc radiation and water-spray exposure equipment shall comply with ASTM G151 and ASTM G155 or NMX-J-553-ANCE. The specimens shall be mounted in the specimen holders of the equipment. The xenon-arc apparatus shall be provided with a Daylight Filter. The spectral power distribution (SPD) shall conform to the requirements of ASTM G155, Table 1, for a xenon lamp with a Daylight Filter. Operation of the lamp assembly shall maintain a level of spectral irradiance at the specimens of at least 0.35 W/m2 monitored at a wavelength of 340 nm. Carbon-arc: The apparatus shall comply with ASTM G151 and ASTM G153 or NMX-J-553- ANCE. The apparatus shall include twin arcs struck between two sets of vertical carbon electrodes that are 13 mm (1/2 inch) in diameter and are individually enclosed in clear globes of heat-resistant optical glass (9200-PX Pyrex glass or its equivalent) that is opaque at wavelengths shorter than 275 nm (1 % transmission at 275 nm as the nominal cutoff point) and whose transmission improves to 91 % at 370 nm. The spectral power distribution of the emission from the globes shall comply with Table 1 of ASTM G153 or NMX-J-553-ANCE;
9.9.2		Impact
9.9.2.1		The assembly shall be subjected to no more than one impact. The assembly shall be placed on a concrete surface.
9.9.2.2		The assemblies that have been sunlight conditioned shall be subjected to the impact test within 2 min of removal from the cold chamber.

9.9.2.3	The impact test shall consist of dropping a steel sphere, 51 mm (2 in) in diameter and with a mass of 0.54 kg (1.18 lb), onto the assembly from a height of 914 mm (3 ft). Three assemblies subjected to sunlight conditioning and three assemblies subjected to the heat conditioning shall be impacted on the weakest wall, generally the thinnest wall section. The three remaining assemblies subjected to cold conditioning and the three remaining assemblies subjected to the heat conditioning shall be impacted at the joint where the conductor insulation meets the sealed wire connector system. See Annex A for a typical impact test apparatus.
9.9.3	Immersion
9.9.3.1	Following the impact test, the assemblies shall be immersed to a minimum depth of 305 mm (1 ft) in tap water at 25 ±5°C (77 ±9°F) for 4 h.
9.9.4	Dielectric withstand
9.9.4.1	Following the impact test and while still immersed, the assemblies shall be subjected to a dielectric withstand test as specified in 9.2.3.
9.10	***New section added;*** **Test sequence I, salt water resistant**
9.10.1	General
9.10.1.1	A complete sealed wire connection system shall be immersed in a 20% (by weight) solution of common salt (sodium chloride) and water at 60 ±1°C (140 ±1.8°F) for 1 h and an initial insulation resistance measurement shall be taken per Clause 9.10.2.
9.10.1.2	The complete sealed wire connection system shall continue to be immersed for 100 h and while still immersed in the solution the system shall be subjected to Clauses 9.10.2 and 9.10.3.
9.10.2	Insulation resistance
9.10.2.1	While still immersed, the insulation resistance of each assembly shall be measured by applying a minimum direct-current voltage of 500 V for 1 min. The length of the immersed conductor shall be constant. The total length of the immersed conductors along with each connector assembly shall not exceed 2.4 m (8 ft). The conductor/assembly shall be connected to the positive side of the dc voltage and the electrode in the tap water connected to the negative side. If the tracking distance from the end of the conductor to the water surface is short, a guarded circuit may be used. See Annex B.
9.10.3	Dielectric withstand
9.10.3.1	Immediately after the insulation resistance test and while still immersed, each assembly shall be subjected to a 2200 V, 60 Hz potential for 1 min. The potential shall be applied between the conductor/assembly and the water.

	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.