STANDARDS UPDATE NOTICE (SUN)
ISSUED: December 18, 2020

STANDARD INFORMATION

Standard Number: UL 810
Standard Name: Capacitors
Standard Edition and Issue Date: 6th Edition dated October 29, 2019
Date of Revision: October 29, 2019
Date of Previous Revision of Standard: 5th Edition revised August 18, 2014

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **October 29, 2021**

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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.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: Revision of capacitor internal insulation requirements. Specific details of new/revised requirements are found in table below.

- Revision of capacitor internal insulation requirements
- Addition of requirements for accessible surface temperature limits in Table 41.1

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:

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.
6	Info	**Insulating Material**
6.2		Internal insulating materials shall comply with the requirements for the Dielectric Voltage-Withstand Test, Section 13. <u>Internal insulating materials shall have a relative mechanical temperature index without impact of at least 70°C (158°F) or the marked temperature rating marked on the capacitor, whichever is greater, in accordance with the Standard for Polymeric Materials – Long Term Property Evaluations, UL 746B</u>. Exception: Internal insulating materials for capacitors not subjected to the Fault-Current Test, Section 12, shall comply with the following requirements: a) Shall be classified HB minimum in accordance with the Standard for Tests Flammability of Plastic Material for Parts in Devices and Appliances, UL 94, or comply with the flammability – 12 mm flame test specified in the Standard for Polymeric Materials – Use in Electrical Equipment, UL 746C; b) Shall have a relative mechanical temperature index without impact of at least 70°C (158°F) or the marked temperature rating marked on the capacitor, whichever is greater, in accordance with the Standard for Polymeric Materials – Long Term Property Evaluations, UL 746B; and c) Shall comply with the requirements for dielectric strength criteria as described in Table 6.1 of the Standard for Polymeric Materials – Use in Electrical Equipment Evaluations, UL 746C.
41	Info	**Temperature Test**
Table 41.1		**Maximum temperature rises**

Materials and components	°C	(°F)
<u>16. Temperature limits on accessible surfaces[i]</u>	<u>Maximum limits</u>	
<u>Metal</u>	<u>70</u>	<u>158</u>
<u>Nonmetallic</u>	<u>80</u>	<u>176</u>
<u>[i] See 46.11 and 47.2 for when marking and installation instructions are required.</u>		

CLAUSE	VERDICT	COMMENT
41.10		Thermocouples are to consist of wires not larger than 24 AWG (0.25 mm2) and not smaller than 30 AWG (0.05 mm2). When thermocouples are used in determining temperatures in electrical equipment, it is common practice to employ thermocouples consisting of 30 AWG (0.05 mm2) iron and constantan wire and a potentiometer type instrument. Such equipment is to be used whenever referee temperature measurements by thermocouples are necessary. The thermocouples and related instruments are to be accurate and calibrated in accordance with standard laboratory practice. The thermocouple wire is to comply with the requirements for special thermocouples as listed in Tolerances on Initial Values of EMF versus Temperature tables in the Standard Specification and Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples, ASTM E230/E230M ~~the table of limits of error of thermocouples in Temperature Measurement Thermocouples, ANSI MC96.1-1982.~~
		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.