

Subject 674

February 17, 2017

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Electric Motors and Generators for Use in Hazardous (Classified) Locations, UL 674, are being proposed:

1. Revision to Thermocouple Requirements

STP BALLOTS AND ALL COMMENTS DUE: MARCH 20, 2017

UL's goal is to have no interest category comprise more than one-third of the STP membership balance. To improve the current balance for STP 674, UL is looking for participants in the (Supply Chain, Commercial/Industrial User, AHJ, Government, Testing and Standards, Consumer and International Delegate) interest categories. Definitions for these interest categories are available on the Standards STP Internet site:

<http://ulstandards.ul.com/develop-standards/participation/interest-categories/>

If you are interested in applying for STP 674 membership or are aware of potential candidates for this STP, please contact the STP Project Manager, Vickie.T.Hinton@ul.com.

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Revision to Thermocouple Requirements

RATIONALE

Proposal submitted by: Donald Ankele, UL LLC

It is proposed to remove the details regarding the thermocouple attachment method described in 29.1 and to delete all of 29.3.

The intent of the requirement in Sections 29.1 through 29.3 is to measure the maximum surface temperature of the motor for the determination of the Temperature Class marking or the Maximum Operating Temperature marking that is required to be on the motor.

The details for how to attach thermocouples and the requirement to measure the temperature with calibrated equipment is a matter of good engineering and laboratory practice. It is not an enforceable requirement in the standard.

It is the proposal submitter's position that this proposal affects the following topics/sections of the standard: test requirement revision or clarification.

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PROPOSAL

29.1 (I, II) Temperatures shall be measured by the use of potentiometer-type instruments or thermocouples consisting of wires not larger than 0.21 mm² (24 AWG) and not smaller than 0.05 mm² (30 AWG). When thermocouples are used in determining temperatures in electrical equipment, it is common practice to employ thermocouples consisting of 0.05 mm² (30 AWG) iron and constantan wire and a potentiometer-type instrument. Such equipment shall be used whenever referee temperature measurements by thermocouples are as necessary to determine the maximum external surface temperature.

Special Note: 29.2 is for reference only – no changes are being proposed to this paragraph.

29.2 (I, II) Thermocouples shall be located at various points on the outside of the motor enclosure and at other points where temperature measurements are required.

29.3 (I, II) A thermocouple junction and the adjacent thermocouple lead wire shall be securely held in good thermal contact with the external surface of the enclosure, the temperature of which is being measured. Adequate thermal contact is obtained by drilling a small, bottomed hole in the metal, inserting the thermocouple junction and securing it in place by prick-punching the metal adjacent to the drilled hole. The adjacent thermocouple leads may be held in contact with the external surface of the enclosure with a cement consisting of water glass and silica.

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