UL 2277

Outline of Investigation for Flexible Motor Supply Cable and Wind Turbine Tray Cable

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Summary of Topics

This is the Sixth Issue of the Outline of Investigation for Flexible Motor Supply Cable and Wind Turbine Tray Cable, dated December 2, 2024. This issue increases the dry temperature rating of Flexible Motor Supply Cable to 105 °C temperature rating, allows for a -50 °C or -60 °C rating on Flexible Motor Supply cable, adds optional -HF and -LSHF markings, as well as editorial revisions and reorganization of the requirements.

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INTRODUCTION

1 Scope

1.1 This Outline covers the requirements for Wind Turbine Tray Cable (WTTC) rated 1000 or 2000 volts, 90 – 200 °C dry and optionally rated 90 °C wet. It also covers the requirements for Flexible Motor Supply Cable rated 1000 or 2000 volts and 90 and 105 °C dry. The cables are for use as noted in 1.2 – 1.4.

1.2 Wind Turbine Tray Cable is intended to be installed in cable trays or raceways within a wind turbine generator.

1.3 Flexible motor supply cable (Flexible VFD Servo Cable) is intended for use with variable frequency drives subjected to non-linear power distortions.

1.4 These cables are intended for use in accordance with the applicable parts of the National Electrical Code (NEC), NFPA 70.

2 Units of Measurement

2.1 In addition to being stated in the inch/pound units that are customary in the USA, each of the requirements in this Outline is also stated in units that make the requirement conveniently usable in countries employing the metric system (practical SI). Equivalent – although not necessarily exactly identical – results are to be expected from applying a requirement in USA or metric terms. Equipment calibrated in metric units is to be used when a requirement is applied in metric terms.

3 Components

3.1 Except as indicated in 3.2, a component (including gaskets and polymeric materials) of a product covered by this Outline of Investigation shall comply with the requirements for that component.

3.2 A component is not required to comply with a specific requirement that:

a) Involves a feature or characteristic not required in the application of the component in the product covered by this Outline of Investigation, or

b) Is superseded by a requirement in this Outline of Investigation.

3.3 A component shall be used in accordance with its rating established for the intended conditions of use.

3.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

4 Referenced Publications

4.1 Any undated reference to a code or standard appearing in the requirements of this Outline of Investigation shall be interpreted as referring to the latest edition of that code or standard.

4.2 The following publications are referenced in this Standard:

IEC 61034-2, *Measurement of Smoke Density of Cables Burning Under Defined Conditions – Part 2: Test Procedure and Requirements*

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