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colour inside

Specifications for particular types of winding wires – Part 1: Polyvinyl acetal enamelled round copper wire, class 105

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SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 1: Polyvinyl acetal enamelled round copper wire, class 105

FOREWORD

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IEC 60317-1 edition 4.1 contains the fourth edition (2010-03) [documents 55/1176/FDIS and 55/1187/RVD] and its amendment 1 (2024-06) [documents 55/1979/CDV and 55/2015/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 60317-1 has been prepared by IEC technical committee 55: Winding wires.

This fourth edition of IEC 60317-1 cancels and replaces the third edition published in 1990, its Amendment 1 (1997) and Amendment 2 (1997). This edition constitutes a technical revision.

The main changes with respect to the previous edition are as follows:

– new requirements for appearance;
– deletion of high temperature failure requirements;
– new pin hole test requirements.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This International Standard is to be read in conjunction with IEC 60317-0-1 ~~(2008)~~:2013 and its Amendment 1:2019 .

A list of all the parts in the IEC 60317 series, under the general title *Specifications for particular types of winding wires*, can be found on the IEC website.

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INTRODUCTION

This Part of IEC 60317 is one of a series which deals with insulated wires used for windings in electrical equipment. The series has three groups describing

1) winding wires and methods of test (IEC 60851) ;
2) specifications for particular types of winding wires (IEC 60317);
3) packaging of winding wires (IEC 60264).

SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 1: Polyvinyl acetal enamelled round copper wire, class 105

1 Scope

This Part of IEC 60317 specifies the general requirements of enamelled round copper winding wires of class 105 with a sole coating based on polyvinyl acetal resin, which may be modified providing it retains the chemical identity of the original resin and meets all specified wire requirements.

NOTE A modified resin is a resin that has undergone a chemical change, or contains one or more additives to enhance certain performance or application characteristics.

Class 105 is a thermal class that requires a minimum temperature index of 105 and a heat shock temperature of at least 155 °C.

The temperature in degrees Celsius corresponding to the temperature index is not necessarily that at which it is recommended that the wire be operated and this will depend on many factors, including the type of equipment involved.

The range of nominal conductor diameters covered by this standard is as follows:

– Grade 1: 0,040 mm up to and including 2,500 mm;
– Grade 2: 0,040 mm up to and including 5,000 mm;
– Grade 3: 0,080 mm up to and including 5,000 mm.

The nominal conductor diameters are specified in Clause 4 of IEC 60317-0-1.

2 Normative references

The following ~~referenced~~ documents are ~~indispensable for the application~~ referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60317-0-1[1]:~~2008~~2013, *Specifications for particular types of winding wires – Part 0-1: General requirements – Enamelled round copper wire*.
IEC 60317-0-1:2013/AMD1:2019

[1] There exists a consolidated edition 4.1:2021 that includes IEC 60317-0-1:2013 and its Amendment 1:2019.

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