

Low Voltage and Medium Voltage standards for power cable accessories

Introduction

The intention of this document is to list and categorize the different valid standards related to power cable accessories in Low and Medium voltage.

There are a couple of standardization groups busy to create common standards for the application of cable accessories in power grids. Coming from demands related to their networks, each DNO (distribution network operator) can have different needs to operate the net in a safe and sustainable way.

Therefore, the standards in Europe do have other demands than for example the one in the Americas.

IEC (International Electrotechnical Commission) is a global standard commission that combines members from all over the world. In LV and MV, a common standard that can reflect all needs coming from the DNOs is rather difficult as the differences in each country can be high. For HV it is more feasible as the number of users and experts is limited.

CENELEC (Comité Européen de Normalisation Électrotechnique / European Committee for Electrotechnical Standardization) works on European level with members from the DNOs, the industry and test institutes that combine the different applications and network operating strategies in the standards (EN). If a common standard cannot be achieved, the so-called HD (Harmonization Document) will be created where certain countries can have exceptions.

In the list hereafter, the standards and HDs are categorized according the built up of an accessory. Starting with the tests for conductor connection, followed by testing the complete accessory. A material category allows the testing of materials used in the actual different accessory technologies. That are: resin filled, heatshrink and coldshrink.

IEC 61238-1-1 / 2018

Compression and mechanical connectors for power cables

Part 1-1: Test methods and requirements for compression and mechanical connectors for power cables for rated voltages up to 1kV ($U_m = 1,2$ kV) tested on stripped conductors

Category: connectors

IEC 61238-1-2 / 2018

Compression and mechanical connectors for power cables

Part 1-2: Test methods and requirements for insulation piercing connectors for power cables for rated voltages up to 1 kV ($U_m = 1,2$ kV) tested on insulated conductors

Category: connectors

EN 50393 / 2015

Test methods and requirements for accessories for use on distribution cables of rated voltage 0,6/1,0 (1,2) kV

Category: complete accessory

IEC 61238-1-2 / 2018

Compression and mechanical connectors for power cables

Part 1-3: Test methods and requirements for compression and mechanical connectors for power cables for rated voltages above 1kV ($U_m = 1,2$ kV) up to 30 kV ($U_m = 36$ kV) tested on stripped conductors

Category: connectors

CENELEC HD629-1 / 2006

Test requirements on accessories for use on power cables of rated voltage from 3,6/6(7,2) kV up to 20,8/36(42) kV

Part 1: Cables with extruded insulation

Category: complete accessory

CENELEC HD629-2 / 2006

Test requirements on accessories for use on power cables of rated voltage from 3,6/6(7,2) kV up to 20,8/36(42) kV

Part 2: Cables with impregnated paper insulation

Category: complete accessory

IEC 60502-4 / 2012

Part 4: Test requirements on accessories for cables with rated voltages from 6 kV ($U_m = 7,2$ kV) up to 30 kV ($U_m = 36$ kV)

Category: complete accessory

HD 631.1 S2 / 2008

**Electric cables - Accessories - Material characterization
Part 1: Fingerprinting and type tests for resinous compounds**

Category: materials

HD 631.2 S1 / 2008

**Electric cables - Accessories - Material characterization
Part 2: Fingerprinting and type tests for heat shrinkable components for low voltage applications**

Category: materials

HD 631.3 S1 / 2008

**Electric cables - Accessories - Material characterization
Part 3: Fingerprinting for heat shrinkable components for medium voltage applications
from 3,6/6 (7,2) kV up to 20,8/36 (42) kV**

Category: materials

HD 631.4 S1 / 2008

**Electrical cables - Accessories - Material characterization
Part 4: Fingerprinting for cold shrinkable components for low and medium voltage applications
up to 20,8/36 (42) kV**

Category: materials

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