

CEI 20-105



CEI classification: **20-105**

Electrical cables for applications in fixed automatic fire detection and signalling systems and gas detection systems with particular fire reaction characteristics complying with the Construction Products Regulation (CPR). Cables with additional fire resistance performance. Rated voltage: U0/U: 100/100 V

CEI

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COMMITTEE: **CEI-CT20**

The purpose of this Standard is to provide the main construction rules for cables with additional fire resistance performance to be used for the connections of fixed automatic fire detection and signalling systems compliant with UNI 9795 standards, for gas detection systems and for fire detection and fire alarm signalling applications in road tunnels and to establish the test conditions to which they must meet during testing. The Standard also provides some indications and information about the criteria for the choice and use of cables in relation to the conditions of service and installation in category I systems to which they belong due to their nominal insulation voltage. In the new edition, the regulatory references necessary to ensure compliance with the requirements of Regulation (EU) 305/2011 (CPR) on reaction to fire and implemented in Italy through the CEI UNEL 35016 standard have been updated. The updating of the contents of the Standard was necessary to comply with the mandatory requirements of Legislative Decree 106/2017 in terms of CE marking for the reaction to fire characteristic. All the cables of the Standard meet the essential safety and health requirements of the Low Voltage Directive (2014/35/EU) and the fire resistance

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performance of the products is guaranteed through compliance with the tests carried out according to the CEI EN 50200 Standards.

Cable construction: 2 cores section 0.5, 0.75, 1.0, 1.5, 2.5, 4.0, 6.0 mm².

4 cores section 0.5, 0.75, 1.0, 1.5, 2.5 mm².

Permitted insulation materials:

G29 (silicone-based elastomer compound)

E29 (elastomeric compound based on cross-linked polyethylene)

S29 (halogen-free thermoplastic compound)

G32 (Silicone-based elastomer compound)

E32 (elastometric compound based on cross-linked polyethylene)

S32 (halogen-free thermoplastic compound)

Average insulation thickness ≥ 0.1 mm.

Permitted sheath material:

M16 (thermoplastic compound with low development of opaque fumes and acid gases for use in cables according to the fire reaction classes provided for by CPR)

Minimum cable classification (Euroclass)

Cables insulated with S32, G32, E32 compounds must have a minimum classification:

B2ca, s1a, d1, a1

Cables insulated with S29, G29, E29 compounds must have a minimum classification:

Cca s1b, d1, a1

All cables must have fire resistance requirements according to EN50200.



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