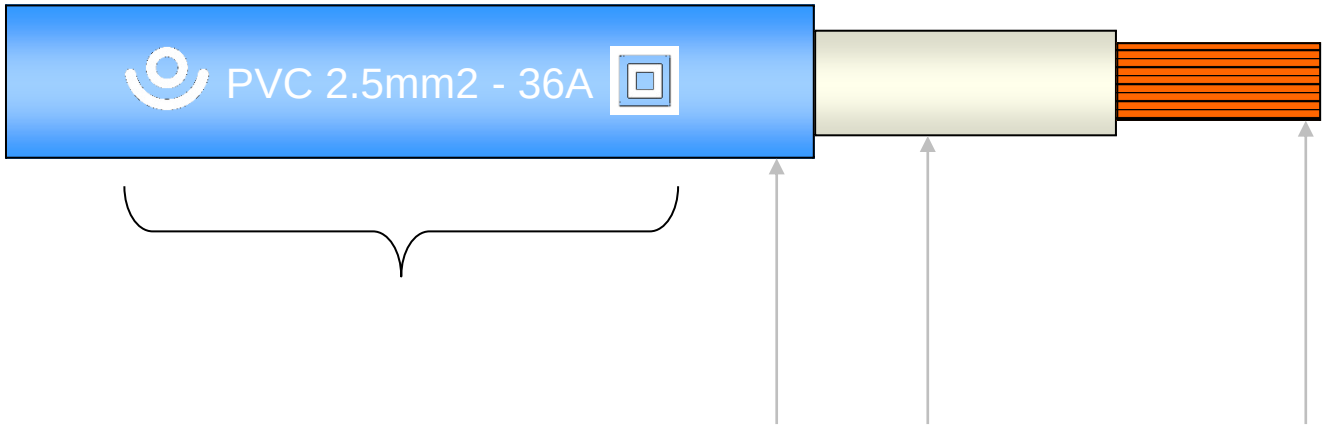
# 1000-volt safety wires



Designation : 1000-volts safety wires. Double jackets.

Applications : general purpose electronic testing, controlling, and measuring.




Electro-PJP's marking. Jacket material marking, "PVC". Cross section area, "2.5mm2". Maximum current, "36A". Double insulation marking.

3,8 mm outer diameter.

Double PVC jacket wire to offer a wire wear indicator.

Cross section area, 2,50 mm². 644 Ø0,07 mm strands. Electrical resistance, 7,98 Ω / km.

Description of the 1000-volt safety wire part number 9017 Blue.

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**Table of the ten 1000-volts safety wires with double jackets.**

| Cross section area and AWG. (1). | Jacket material and operating temperature range in continuous duty. | Safety. (2). | Electrical resistance at 20 °C. | Maximum current in continuous duty at 40 °C. | Number of strands and strand diameter. (3). | Outer diameter. | Electrical conductivity. (4). | Copper purity percentage. (4). | Part number. |
|---|---|---|---|---|---|---|---|---|---|
| 0,50 mm². 20AWG. | Two **PVC** jackets. Wire wear indicator. From -20 °C to +80 °C. From -4 °F to +176 °F. | 1000 V CAT III 600 V CAT IV. | 0,039 Ω / m. | 10 amperes. | 128 x Ø0,07 mm. | Ø2,8 mm. | 100 % IACS. | ≥ 99,90 %. | 9007 *Color* |
| 0,75 mm². 19AWG. | | 1500 V CAT II 1500 V CAT III 1000 V CAT IV. Insulation resistance : greater than 2,2 GΩ at 1000 V DC. | 0,026 Ω / m. | 12 amperes. | 192 x Ø0,07 mm. | Ø3,7 mm. | | | 9010 *Color* |
| 1,00 mm². 17AWG. | | | 0,0195 Ω / m. | 20 amperes. | 252 x Ø0,07 mm. | Ø3,8 mm. | | | 9012 *Color* |
| 1,50 mm². 16AWG. | | | 0,0133 Ω / m. | 25 amperes. | 392 x Ø0,07 mm. | Ø3,8 mm. | | | 9015 *Color* |
| 2,50 mm². 14AWG. | | | 0,00798 Ω / m. | 36 amperes. | 644 x Ø0,07 mm. | Ø3,8 mm. | | | 9017 *Color* |
| 0,50 mm². 20AWG. | Two **silicone** jackets. Wire wear indicator. From -60 °C to +180 °C. From -76 °C to +356 °C. | 1000 V CAT III 600 V CAT IV. | 0,039 Ω / m. | 10 amperes. | 128 x Ø0,07 mm. | Ø2,7 mm. | | | 9027 *Color* |
| 0,75 mm². 19AWG. | | 1500 V CAT II 1500 V CAT III 1000 V CAT IV. Insulation resistance : greater than 2,2 GΩ at 1000 V DC. | 0,026 Ω / m. | 12 amperes. | 192 x Ø0,07 mm. | Ø3,7 mm. | | | 9028 *Color* |
| 1,00 mm². 17AWG. | | | 0,0195 Ω / m. | 20 amperes. | 252 x Ø0,07 mm. | Ø3,7 mm. | | | 9029 *Color* |
| 1,50 mm². 16AWG. | | | 0,0133 Ω / m. | 25 amperes. | 392 x Ø0,07 mm. | Ø3,7 mm. | | | 9040 *Color* |
| 2,50 mm². 14AWG. | | | 0,00798 Ω / m. | 36 amperes. | 644 x Ø0,07 mm. | Ø3,7 mm. | | | 9050 *Color* |

(1). The AWG conversion is an approximation from the electrical resistance.
(2). Safety according to EN / IEC 61010-031 with the following conditions : relative humidity, 80 % maximum for temperatures up to 31 °C decreasing linearly to 50 % relative humidity at +40 °C ; temperature range, +5 °C to +40 °C ; indoor use ; and altitude, 2000 m maximum.
(3). The flexibility is class 6 according to EN / IEC 60228.
(4). According to EN 13602.

 

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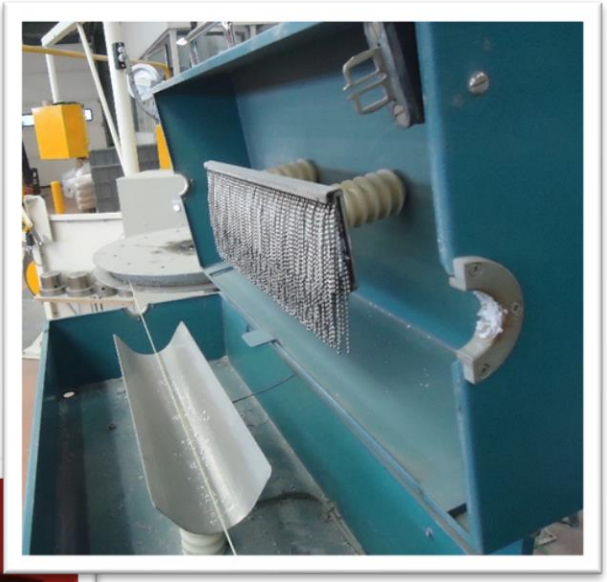
Routine spark test and safety.

The EN / IEC 61010-031:2015 standard requires a routine spark test (Annex D “Routine spark tests on probe wire”). The manufacturing of the 1000-volt safety wires meets the main requirements of the spark test procedure and method : 100 % of the 1000-volt safety wires undergo a routine spark test at 10 kV AC across some bead-chain type electrodes and any fault is cut out.



Some pictures of the routine spark tests for the 1000-volts safety wires.

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| | |
|---|---|
| Conformity | • European Directive “Low Voltage Directive” 2014/35/UE.<br>• International / European standard EN / IEC 61010-031.<br>• International / European standard EN / IEC 61010-1.<br>• European Directive “RoHS” 2011/65/EU. European Directive 2015/863/EU.<br>• European regulation n°1907 / 2006 “REACH”.<br>• European regulation 2017 / 821 “Conflict minerals”. |
| Environment | • ”RoHS” compliant, Pb ≤ 4 %, Hg ≤ 0.1 %, Cr VI ≤ 0.1 %, Cd ≤ 0.01 %, PBB ≤ 0.1 %, PBDE ≤ 0.1 %, DEHP ≤ 0.1 %, BBP ≤ 0.1 %, DBP ≤ 0.1 %, and DIBP ≤ 0.1 %.<br>• ”REACH” compliant, no substances from the candidate list of SVHC for authorization at mass concentrations greater than 0.1 %. |
| Materials | Conductors : bare copper. Wire jackets : PVC or silicone. |
| Color | Black, Red, Yellow, Green, Blue, White, Y / G<br>Conditionally : Purple, Brown, Gray |
| Origin | Designed and manufactured in France. |
| Packaging | Bundle of 10 meters or 100 meters (default packaging). |

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## GLOSSARY :

ACCESSIBLE. Able to be touched with a standard test finger or test pin.

BASIC INSULATION. Insulation of HAZARDOUS LIVE parts which provides basic protection.

CAT II. Measurement or overvoltage category II. For measurement performed on / equipment connected to the building wiring.

CAT III. Measurement or overvoltage category III. For measurement performed on / equipment connected to part of a building wiring installation.

CAT IV. Measurement or overvoltage category IV. For measurement performed on / equipment connected to the origin of the electrical supply to a building.

CLEARANCE. Shortest distance in air between two conductive parts.

CREEPAGE DISTANCE. Shortest distance along the surface of a solid insulating material between two conductive parts.

CTI. Comparative Tracking Index of the insulating material in accordance with IEC 60112.

DOUBLE INSULATION. Insulation comprising both BASIC INSULATION and SUPPLEMENTARY INSULATION.

EN / IEC 60529. European / international standard regarding the degrees of protection provided by enclosures.

EN / IEC 61010-1. European / international standard regarding the safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements.

EN / IEC 61010-031. European / international standard regarding the safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test.

"LVD". European Directive 2014/35/EU on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits. (Usually called the Low Voltage Directive.)

MAINS. Low-voltage electricity supply system to which the equipment concerned is designed to be connected for the purpose of powering the equipment.

MAINS CIRCUIT. Circuit which is intended to be directly connected to the MAINS for the purpose of powering the equipment.

OVERVOLTAGE CATEGORY. Numeral defining a TRANSIENT OVERVOLTAGE condition.

POLLUTION. Addition of foreign matter, solid, liquid or gaseous (ionized gases), that may produce a reduction of dielectric strength or surface resistivity.

POLLUTION DEGREE. Numeral indicating the level of POLLUTION that may be present in the environment.

POLLUTION DEGREE 1. No POLLUTION or only dry, non-conductive POLLUTION occurs, which has no influence.

POLLUTION DEGREE 2. Only non-conductive POLLUTION occurs except that occasionally a temporary conductivity caused by condensation is expected.

REINFORCED INSULATION. Insulation which provides protection against electric shock not less than that provided by DOUBLE INSULATION.

"RoHS". European Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

SOLID INSULATION. Insulating materials.

SUPPLEMENTARY INSULATION. Independent insulation applied in addition to BASIC INSULATION in order to provide protection against electric shock in the event of a failure of BASIC INSULATION.

TRANSIENT OVERVOLTAGE. Short duration overvoltage of a few milliseconds or less, oscillatory or non-oscillatory, usually highly damped.

WORKING VOLTAGE. Highest r.m.s. value of the a.c. or d.c. voltage across any particular insulation which can occur when the equipment is supplied at rated voltage.

 