Breakdown Voltage Tester

Model RDT

Model RDT

Test procedure

Wire diameter up to 0.10 mm

A straight piece of wire with insulation removed at one end shall be connected to the upper terminal and wound around a 25 mm cylinder once. As specified in tab.1, a load shall be applied to the lower end of the wire to keep the specimen in close contact with the cylinder

The test voltage shall be applied between the wire's conductor and the cylinder at a rate of 20V/1" for breakdown voltage up to 500V, 100V/1" between 500 and 2500V, or 500V/1" for higher breakdown voltage. The test shall be carried out at room temperature

Five specimens shall be tested. The five single values shall be reported.

Wire diameter from 0.10 mm to 2.50 mm

A straight piece of wire, approximately 400 mm in length, with the insulation removed at both ends, shall be twisted back on itself for a distance of 125 +/- 5 mm on a twisting machine with a load applied to the wire pair and with the number of twists given in tab.2. The loop at the end of the twisted section shall be cut at two places to provide a maximum spacing between the cut ends. Any bending to ensure adequate separation between the two wire ends shall avoid sharp bends or damage to the coating.

The test voltage shall be applied between the two conductors of the wires at a rate of 100V/1" for breakdown voltage from 500V up to 2500V or 500V/1" for higher breakdown voltage
Five specimens shall be tested. The five single values shall be reported

Wire diameter over 2.50 mm and strip wire
A sample of wire of approximately 350 mm in length with the insulation removed at one end shall be bent (on the flat for strip) around a mandrel to form a U; the mandrel diameter shall be:

25 mm for nominal thickness up to and including 2.50 mm
50 mm for nominal thickness and diameter over 2.50 mm

The specimen shall be placed in a container surrounded by at least a 5 mm shot. The ends of the specimen shall be sufficiently long to avoid flashover
The test voltage shall be applied between the wire's conductor and the shot at a rate of 100V/1" for breakdown voltage between 500 and 2500V, or 500V/1" for higher breakdown voltage
Five specimens shall be tested. The five single values shall be reported

System description

- Suitable for wire diameter from 0.018 to 8 mm (56 – ½ AWG) and strip up to 50x8 mm
- High voltage transformer rated power 600 VA
- Digital voltmeter 4 ½ digit, resolution 1 Volt, with 2 pre-selectable voltage for timed test
- Suitable for determination of temperature index test
- Digital timer with pre-selection from 0.2” up to 9999 h
- Automatic rise time voltage according to the standards
- Double safety device applied on the cell door
- Equipped with pivot wheels and break, easy to move
- Standard 2 testing voltage ranges: V10 0-2kV 0-10kV. Higher optional.
- Test chamber suitable for testing at environment temperature dimensions 400 x 420 x 450 mm
- Control unit with automatic voltage rising according to the standards, 4 test methods (automatic, with one or two timed test, temperature index test)
- Supplied with electrode suitable for diameters from 0.10 up to 8.0 mm and strip wire
- Standard version is capable to test one specimens at the time. Five with option P5
- Supplied with one electrode for round wire diameter 0.1 – 2.5 mm.

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Specifications

Model	RDT
RDT	
Dimensions	
Dimensions (WxDxH)	700x560x1530 mm
Weight	100 kg / 220.4 lb
Power supply	
Volt	230 V
Hertz	50/60 Single phase
Volt-amperes	800
Options	
Test voltages V15 Test voltages V20 Test voltages V30	0-3 kV 0-15 kV 0-4 kV 0-20 kV 0-6 kV 0-30 kV
E0	Electrode suitable for wire diameter < 0.10 mm (38AWG), complete set of weights
PC	PC control unit for data acquisition and data management with print out of single values, minimum, maximum, aver age and standard deviation.
C2	Test chamber suitable for high temperature tests up to 250°C.
P5	Test chamber suitable for 5 specimens
TWM	Twist specimen fabricator, complete of loading weights and digital twist counter.
E4	Sample holder for wire >2.5mm with steel balls. One per-sample.
IND	Ten samples electrode, suitable for temperature index test
Standards	
IEC	60851-5.4
IEC	172
DIN	46453
NEMA	MW 1000
JIS C	3216-5

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