



Raychem EPKJ Heat-shrinkable Joint Systems for MI/MIND Paper Insulated Cables for up to 1 kV

Raychem heat-shrinkable materials have been widely used to insulate, seal and mechanically protect power cables since the 1960's. The reliability and simplicity of the heat-shrinkable technique led our engineers, in close collaboration with electrical utilities, to develop a series of cable joints based on these materials. The TE Energy's system eliminates the heavy equipment, compound pouring and delays of traditional methods, and has proven to be a dependable, time-saving and easy-to-install answer to cable jointing problems.

Ease of installation

By shrinking clear insulating tubing over the cores, the fitter is able to protect the cable from moisture and dirt right from the start of the jointing procedure. To insulate the connectors, heavy-wall heat-shrinkable tubing is

used. This automatically ensures the necessary wall thickness and allows the use of various conductor jointing techniques.

Sealing

To keep cable impregnation in place and water out, the functions of the lead sheath are restored with an adhesive-lined heat-shrinkable sleeve. The heat and the shrinking action cause the adhesive to melt and flow, providing a high integrity durable seal on the ends of the cable sheath.

Mechanical strength

A galvanized steel grid is used for impact protection. This is flexible enough to be easily wrapped round the joint, but rigid when clamped to the cable armour. The Raychem Armarap joint case has been developed and fully tested for earth fault carrying capacity.

Performance

Raychem joints are designed and fully tested to meet Raychem specification PPS 3013, which encompasses the requirements of the major national standards and international norms. Each joint covers a range of cable sizes and is supplied in kit form complete with illustrated installation instructions.

As one of the leaders of heat-shrinkable materials and one of the largest cable accessory makers, TE Energy makes a wide range of cable jointing, insulating and sealing systems, supporting them with customer training, service and technical assistance to meet the demands of the electricity supply industry.

Raychem
from TE Connectivity

Minimum Performance for Raychem Joints for MI/MIND Paper Insulated Cables EPKJ up to 1 kV

Test Sequence		Result
Insulation Resistance	between conductor and grounded water bath	≥ 1000 MΩ
Impact	4 kg wedge dropped 6 times from 2 m	no functional damage
A.C. Voltage Withstand	4 kV for 15 min	no breakdown and no flashover
Impulse Voltage Withstand	10 positive and 10 negative, 1.2/50μs, 8 kV peak, between conductor and grounded water bath	no breakdown and no flashover
Insulation Resistance	repeat	≥ 1000 MΩ
Load Cycling	63 cycles 5h heating, 3h cooling conductor temperature: 85°C	pass
Thermal Short Circuit	1s symmetrical fault with conductor temperature as for cable specification 1s earth fault with sheath temperature as for cable specification	no visible signs of damage
Load Cycling	as above with cable in 1 m water, oversheath removed	pass
Insulation Resistance	repeat	≥ 1000 MΩ
Impulse Voltage Withstand	repeat	no breakdown and no flashover
D.C. Voltage Withstand	15 kV for 5 min in water	no breakdown and no flashover
Notes:	1. All voltages are phase to ground. 2. Further details are given in Raychem specification PPS 3013.	

Ordering information

4 core paper cable with armour

Cross-section	Raychem kit number
16 - 25 mm ²	EPKJ 0528
35 - 50 mm ²	EPKJ 0535
70 - 150 mm ²	EPKJ 0542
185 - 300 mm ²	EPKJ 0549

Raychem joint kits are available for MI/MIND paper insulated cables for up to 1 kV, with 2 to 5 cores and with conductor cross-sections up to 300 mm². Solderless earth connections and a full selection table are available on request.

Raychem joint kits are supplied complete with full installation and application information.

For further details on this or any other Raychem products please contact your local sales representative.

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TE Energy - innovative and economical solutions for the electrical power industry: cable accessories, connectors & fittings, insulators & insulation, surge arresters, switching equipment, lighting controls, power measurement and control.

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