

## COLD-POUR TWO-PART RESIN



CT CLEARCAST KIT...:

### Features

- Two part Polyurethane resin in hermetically-sealed plastic-film pouches, protected in aluminium foil.
- Mixing is carried out in sealed conditions, transparent pack ensures visibility. Clean – no need for skin contact but safety gloves are provided.
- Clear mixing instructions on every pack.
- Controlled curing temperature designed to be compatible with PVC, XLPE, EPR, polythene and PILC cables.
- Full health and safety labelling.
- Batch number and use-by date on every pack.
- Designed to meet requirements of BS 6910 and CENELEC HD623 S1.

### Specification

Mixed properties	Packs designed to contain factory pre-arrange quantities of resin and hardener
Specific gravity (Density) g/ml	1.40 Resin, 1.22 Hardener
Colour	1.36 Mixed system
Gel Time	Cream (Standard)
	20-30 minutes at 21°C for 200g mass
Peak Exotherm	54-75°C depending on volume and ambient temperature, in compliance with BS 6910
Complete cure time	at 23°C – 24 hours
	at 80°C – 1 hour
Shelf Life	24 months when stored 5 – 15°C, in compliance with BS 6910
Operating temperature	-40°C to + 100°C continuous, for cured product
Thermal Conductivity	>0.4w/mK
Tensile Strength	45 MPa
Electrical Strength	20kV/mm

### STRAIGHT-THROUGH JOINT SELECTION GUIDE FOR PVC or XLPE 1000V a.c./1500V d.c. Unarmoured Cable

CABLE SIZE (mm <sup>2</sup> )	NUMBER OF CORES	JOINT TYPE
1.5	2	CM0 EX
	3	CM0 EX
	4	CM0 EX
2.5	2	CM0 EX
	3	CM0 EX
	4	CM0 EX
4	2	CM0 EX
	3	CM0 EX
	4	CM0 EX
6	2	CM0 EX
	3	CM0 EX
	4	CM0 EX
10	2	CM0 EX
	3	CM0 EX
	4	CM0 EX
16	2	CM0 EX
	3	CM1 EX
	4	CM1 EX

CABLE SIZE (mm <sup>2</sup> )	NUMBER OF CORES	JOINT TYPE
25	2	CM1 EX
	3	CM1 EX
	4	CM1 EX
35	2	CM1 EX
	3	CM2 EX
	4	CM2 EX
50	2	CM2 EX
	3	CM2 EX
	4	CM2 EX
70	2	CM2 EX
	3	CM3 EX
	4	CM3 EX
95	2	CM3 EX
	3	CM3 EX
	4	CM3 EX
120	2	CM3 EX
	3	CM4 EX
	4	CM4 EX

CABLE SIZE (mm <sup>2</sup> )	NUMBER OF CORES	JOINT TYPE
150	2	CM4 EX
	3	CM4 EX
	4	CM4 EX
185	2	CM4 EX
	3	CM5 EX
	4	CM5 EX
240	2	CM5 EX
	3	CM5 EX
	4	CM5 EX
300	2	CM5 EX
	3	CM6 EX
	4	CM6 EX

## Health and Safety

Each pack contains mixing instructions and carries health and safety warnings in accordance with BS 6910.

HEALTH AND SAFETY (COSHH) Information Sheet available on request.

## Transportation

No special labelling required for shipments by Air, Sea or Road (UN No. 2489, packing group III)



TYPE	USABLE VOLUME OF PACK
CR0	180 ml
CR1	350 ml
CR2	825 ml
CR3	1000 ml
CR4	1850 ml
CR5	2200 ml
CR6	3000 ml



## Injection Moulded Shells

- Rigid and very strong
- Snap-lock design

## Two Part Resin

- Easy-mix pack
- Safe to use
- Simplifies proper mixing
- Excellent adhesion to PVC, XLPE, POLYTHENE and PAPER
- Safe for disposal

## Constant-Force Springs

- Joints move & expand because of:
  - Heat from current
  - Earth movement
- Our constant-force springs increase contact pressure with every movement maintaining sound electrical contact



## Earth Braid

- Flat & soft
- Ensures good contact
- Insulated for double protection



## Core separators

- For safe separation of cores

## Range for special cables:

- mines & quarries, oil & petrochem, telecom & control, cathodic protection, medium voltage 1.9-6.6kV, 15kV

## Packed in strong boxes

## Top Quality Mechanical Connectors

- Each connector has been specifically designed to accept the same size range of the cable as the joint that it is supplied with.



## G MWTM...



G MWTM 10 3 1000 172  
G MWTM 16 5 1000 172

G MWTM 25 8 1000 172  
G MWTM 35 12 1000 172



- G TR 25 8 1012 4: Heat shrinkable medium wall insulating tube MWTM 25/8 cm 25 + n.4  
Duraseal 10/12 3-6 mm
- G TR 25 8 1416 4: Heat shrinkable medium wall insulating tube MWTM 25/8 cm 25 + n.4  
Duraseal 14/16 1,5-2,5 mm

### MWTM Heat-shrinkable medium wall insulating tubing

Insulating and sealing systems for power cables have to perform to a range of exacting requirements; to be unaffected by years of weathering and ultra-violet light, to stand up to continuous temperature changes, to keep out moisture and corrosive liquids for a generation, to be immune to oils and solvents, and to combine lasting insulating properties with low weight, toughness, impact strength and flexibility.

The need for modern standards of efficiency and simplicity of installation is a further significant consideration.

To meet these demands, we developed MWTM, a heat-shrinkable medium-wall tubing now in widespread use in terminations, joints and cable repairs throughout the world. Heating with a commonly available gas torch activates the tubing's "elastic memory" causing it to recover in diameter. The tubing's high shrink ratio enables it to shrink and tightly fit a wide range of cable sizes and accessories.

Appropriate to the particular application, MWTM tubing is available with an inner sealant wall, which melts and flows under the heat and shrinking action of installation. This makes it suitable for either cable oversheath replacement and sealing, or uncoated as an insulating material. The shelf-life restrictions usually associated with tapes and resins do not apply, and the completed installation may be taken into service at once.

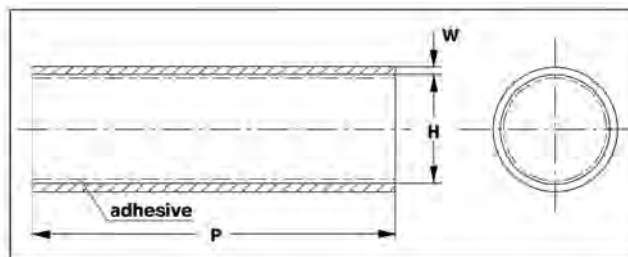
MWTM tubing is fast and easily installed, and has proven its long term reliability in harsh climatic conditions and polluted environments. It is one result of our capability in materials science and electrical power engineering, gained through extensive experience as one of the world's largest cable accessory makers and a sustained research effort. we make a wide range of specially developed products and supports them with technical service and world-wide experience to meet the demands of the growing world of energy.

# ORLANDO orl

Material properties		Test method	Material requirements
Tensile strength		ISO 37	14 MPa min.
Ultimate elongation		ISO 37	350% min.
Density		ISO 1138 Method A	1.0-1.2 g/cm <sup>3</sup>
Hardness		ISO 868	50-70 shore D
Accelerated ageing	7 days at 150°C ± 2°C	ISO 188	
	Tensile strength	ISO 37	14 MPa min.
	Ultimate elongation	ISO 37	300% min.
Thermal endurance*		IEC 60216	120°C
Low temperature flexibility	4 hrs at -40°C ± 3°C	ASTM D 2671 Procedure C	No cracking
Dielectric strength		IEC 60243	200 kV/cm
Volume resistivity		IEC 60093	1x10 <sup>12</sup> Ω cm
Water absorption		ISO 62 Method 1	0.25% max after 14 days at 23°C ± 2°C
Resistance to liquids	7 days in transformer oil VDE 0370 at 23°C ± 2°C	ISO 1817	
	Tensile strength	ISO 37	14 MPa min.
	Ultimate elongation	ISO 37	300% min.
Weathering	The material from which MWTM is manufactured contains carbon black to protect it from ultra-violet light.		
Additional properties	More detailed product specification data available on request.		

\* based on ultimate elongation

## Dimensions



## Notes:

- Dimensions in millimeters  
a= as supplied  
b= after free recovery

- Max. longitudinal change after free recovery:  
-15% up to 35/12  
-10% above 35/12

Our MWTM tubing is supplied complete with installation instructions

Product/ size	Application range (diameter)	H		W		P
		a min	b max	a min	b min	
MWTM 10/3	3.5 – 9.0	10	3	0.3	1.0	See standard lengths
MWTM 16/5	5.5 – 14.5	16	5	0.3	1.4	
MWTM 25/8	9.0 – 22.5	25	8	0.4	2.0	
MWTM 35/12	13.0 – 31.5	35	12	0.4	2.0	
MWTM 50/16	17.5 – 45.0	50	16	0.5	2.0	
MWTM 63/19	21.0 – 57.0	63	19	0.6	2.4	
MWTM 75/22	24.0 – 68.0	75	22	0.6	2.7	
MWTM 85/25	27.5 – 77.0	85	25	0.6	2.8	
MWTM 95/29	32.0 – 86.0	95	29	0.7	3.1	
MWTM 115/34	37.0 – 104.0	115	34	0.7	3.1	
MWTM 140/42	46.0 – 126.0	140	42	0.7	3.1	
MWTM 160/50	55.0 – 144.0	160	50	0.7	3.2	
MWTM 180/60	66.0 – 162.0	180	60	0.7	3.2	

## Rapid Gel-filled Joint for straight or Multiple Branch Connection for Extruded Cables up to 0,6/1 kV

### Characteristics

The combination of the primary insulation in a cross-linked polymer gel and the highly robust insulating plastic case makes this a Class 2 joint defined by CEI 64-8. The joint has been tested in accordance with the main international specifications, with repeated flexing and torsion tests and immersion in water; it has been declared as conforming to the mechanical, electrical and sealing specifications required for plastic cable accessories.

The joint and its components have an unlimited shelf life, they are chemically inert and therefore completely safe; the connections are re-entrable even after long working periods.

Made of self-extinguishing components the joint is flame retarded. For cables at 90°C working temperature.



### Approvals:

- Electrical performances: CEI 20-33, ANSI C119, EN 50393, Class 2
- No flame propagation: CENELEC HD 405-1, IEC 332-1
- Degree of protection (according to EN 60529-IEC 529): more than IP 68.



RINA

### Range of use / Gamme d'utilisation

Product code Code de l'article	Cable formation and conductor cross section Formation du câble et section des conducteurs (n° x mm <sup>2</sup> )		Cable max diameter Diamètre max du câble (mm)		Dimensions Dimensions Ax B x C (mm)
	Through cable Câble passant	Branch cable Câble en dérivation	Through cable Câble passant	Branch cable Câble en dérivation	
	CLIK 0-FIRE	1x2,5-50 2x2,5-6	1 - 2 cables / câbles 1x1,5-10 1 - 2 cables / câbles 2x1,5	16	
CLIK 1-FIRE	1x6-95	1 - 2 cables / câbles 1x1,5-35	20,5	15	150x56x30
	2x1,5-16	1 - 2 cables / câbles 2x1,5-6			
	3x1,5-10	1 - 2 cables / câbles 3x1,5-6			
	4x1,5-10	1 - 2 cables / câbles 4x1,5-4			
CLIK 2-FIRE	1x50-185	1 - 2 cables / câbles 1x16-185	30	29	220x85x46
	2x10-35	1 - 2 cables / câbles 2x1,5-35			
	3x6-35	1 - 2 cables / câbles 3x1,5-35			
	4x6-35	1 - 2 cables / câbles 4x1,5-16			

# Magic Gel

**Bicomponent gel with very high dielectric and thermal characteristics, ideal for connection systems (muffles or trays) for power cables**



## Installation sequence



### Problem

## ENERGY

What does a gel for this type of system have to give?

### Requirements

#### INSULATION:

Elevated voltages  
(1 kV operating, 4 kV testing)

#### THERMAL PERFORMANCE:

Operating temperature 90°C,  
Overload temperature 130°C,  
Short circuit temperature 250°C

#### SEALING:

Installations also possible in humid environments, flooded wells

#### DEGREE OF PROTECTION:

Must also work with water between the cores of the cable

#### CERTIFIED SYSTEMS:

The combination of insulation gel + casing must comply with current standards CEI 20-33 and EN 50393

*Solution* **Magic Gel** meets all your Energy system requirements!

Product Code	Color	Kit composition
Magic Gel 300	Blue	2 bottles for a total of 300 cc of product
Magic Gel 300-Blister	Blue	2 bottles for a total of 300 cc of product in a practical blister kit
Magic Gel 1000	Blue	2 bottles for a total of 1 lt of product 1 small basin - 1 mixing spoon
Magic Gel 2000	Blue	2 bottles for a total of 2 lt of product 1 small basin - 1 mixing spoon
Magic Gel 10000	Blue	2 tanks for a total of 10 lt of product 1 small basin - 1 mixing spoon



Bicomponent gel with very high dielectric, thermal and sealing characteristics, contained in 2 practical vials. The necessary quantity of the 2 products is poured in a 1:1 ratio into a cup, mixed with a spoon and then poured in the item to be filled.

### Characteristics

- Non toxic and safe
- Fast in cross linking (<10 min @ 23°C), without temperature increase
- It cross links also at low temperature
- Low viscosity
- Operating temperature: -60/+200°C
- Re-enterable also after long working periods
- Without shelf-life
- Very high dielectric characteristics
- Dielectric strength: >23 kV/mm
- Volume resistivity: > 2 . 10<sup>15</sup> Ω cm

### Performance

- Professional INSULATION high dielectric strength and volume resistivity
- HIGH THERMAL CHARACTERISTICS at both high or low temperatures, typical for energy installations
- SEALING complies with CEI 20-33 and CENELEC EN 50393
- SINGLE SYSTEM CERTIFICATE for electrical connection insulations complying with standards EN 50393 and CEI 20-33 (Note: with testing under water head and water between the cable cores)