

# SECTION 6

# CABLE JOINTING



6



## 6.1 ALCO HEATSHRINK AND ACCESSORIES

### 6.1.1 HEATSHRINK TUBING RANGE - THIN, MEDIUM AND THICK WALL

#### Purpose:

Heatshrink is ideally used for heavy duty and general purpose use ie electrical insulation, termination, splicing, bundling, cable protection and strain relief

#### Applications:

Thick wall: suitable for major cable joints and terminations

Medium wall: suitable for waterproof cable joints and terminations

Thin wall: suitable for insulation colour-coding and cable terminations

#### Features

- Low shrink temperature and flame retardant
- Flexible and UV resistant
- Glue lined and waterproof for greater mechanical strength (medium and thick wall only)

#### Shrink Temperature:

Above 110°C

#### Shrink Ratio:

##### Radial Shrinking Ratio:

> 50%

##### Longitudinal Shrinking Ratio:

< 10%

#### Tensile Strength:

15.5 MPa

#### Elongation at Break:

580%

#### Operating Temperature:

-55°C to +125°C



| Specifications              |                           |   |                                     |               |            |
|-----------------------------|---------------------------|---|-------------------------------------|---------------|------------|
| Part No                     | Diameter as supplied (mm) | Fully recovered diameter after heating (mm) | Fully recovered wall thickness (mm) | Colour        | Length (m) |
| <b>Thin Wall Heatshrink</b> |                           |   |                                     |               |            |
| HSTNW1.5/0.75BK             | 1.5                       | 0.65  | 0.28                                | black         | 1.2        |
| HSTNW1.5/0.75BL             | 1.5                       | 0.65  | 0.28                                | blue          | 1.2        |
| HSTNW1.5/0.75CL             | 1.5                       | 0.65  | 0.28                                | clear         | 1.2        |
| HSTNW1.5/0.75RD             | 1.5                       | 0.65  | 0.28                                | red           | 1.2        |
| HSTNW1.5/0.75WH             | 1.5                       | 0.65  | 0.28                                | white         | 1.2        |
| HSTNW1.5/0.75YG             | 1.5                       | 0.65  | 0.28                                | yellow/ green | 1.2        |
| HSTNW2.0/1.0BK              | 2.5                       | 1.0   | 0.35                                | black         | 1.2        |
| HSTNW2.0/1.0BL              | 2.5                       | 1.0   | 0.35                                | blue          | 1.2        |
| HSTNW2.0/1.0CL              | 2.5                       | 1.0   | 0.35                                | clear         | 1.2        |
| HSTNW2.0/1.0RD              | 2.5                       | 1.0   | 0.35                                | red           | 1.2        |
| HSTNW2.0/1.0WH              | 2.5                       | 1.0   | 0.35                                | white         | 1.2        |
| HSTNW2.0/1.0YG              | 2.5                       | 1.0   | 0.35                                | yellow/ green | 1.2        |
| HSTNW2.5/1.25BK             | 3.0                       | 1.5   | 0.40                                | black         | 1.2        |
| HSTNW2.5/1.25BL             | 3.0                       | 1.5   | 0.40                                | blue          | 1.2        |
| HSTNW2.5/1.25CL             | 3.0                       | 1.5   | 0.40                                | clear         | 1.2        |
| HSTNW2.5/1.25RD             | 3.0                       | 1.5   | 0.40                                | red           | 1.2        |
| HSTNW2.5/1.25WH             | 3.0                       | 1.5   | 0.40                                | white         | 1.2        |
| HSTNW2.5/1.25YG             | 3.0                       | 1.5   | 0.40                                | yellow/ green | 1.2        |
| HSTNW5.0/2.5BK              | 5.5                       | 2.5   | 0.55                                | black         | 1.2        |
| HSTNW5.0/2.5BL              | 5.5                       | 2.5   | 0.55                                | blue          | 1.2        |
| HSTNW5.0/2.5CL              | 5.5                       | 2.5   | 0.55                                | clear         | 1.2        |
| HSTNW5.0/2.5RD              | 5.5                       | 2.5   | 0.55                                | red           | 1.2        |
| HSTNW5.0/2.5WH              | 5.5                       | 2.5   | 0.55                                | white         | 1.2        |
| HSTNW5.0/2.5YG              | 5.5                       | 2.5   | 0.55                                | yellow/ green | 1.2        |
| HSTNW7.0/3.55BK             | 7.5                       | 3.5   | 0.55                                | black         | 1.2        |
| HSTNW7.0/3.55BL             | 7.5                       | 3.5   | 0.55                                | blue          | 1.2        |
| HSTNW7.0/3.55CL             | 7.5                       | 3.5   | 0.55                                | clear         | 1.2        |
| HSTNW7.0/3.55RD             | 7.5                       | 3.5   | 0.55                                | red           | 1.2        |
| HSTNW7.0/3.55WH             | 7.5                       | 3.5   | 0.55                                | white         | 1.2        |
| HSTNW7.0/3.55YG             | 7.5                       | 3.5   | 0.55                                | yellow/ green | 1.2        |
| HSTNW10.0/5.0BK             | 10.5                      | 5.0   | 0.60                                | black         | 1.2        |
| HSTNW10.0/5.0BL             | 10.5                      | 5.0   | 0.60                                | blue          | 1.2        |
| HSTNW10.0/5.0CL             | 10.5                      | 5.0   | 0.60                                | clear         | 1.2        |
| HSTNW10.0/5.0RD             | 10.5                      | 5.0   | 0.60                                | red           | 1.2        |
| HSTNW10.0/5.0WH             | 10.5                      | 5.0   | 0.60                                | white         | 1.2        |
| HSTNW10.0/5.0YG             | 10.5                      | 5.0   | 0.60                                | yellow/ green | 1.2        |
| HSTNW13/6.5BK               | 13.5                      | 6.5   | 0.65                                | black         | 1.2        |
| HSTNW13/6.5BL               | 13.5                      | 6.5   | 0.65                                | blue          | 1.2        |
| HSTNW13/6.5CL               | 13.5                      | 6.5   | 0.65                                | clear         | 1.2        |
| HSTNW13/6.5RD               | 13.5                      | 6.5   | 0.65                                | red           | 1.2        |
| HSTNW13/6.5WH               | 13.5                      | 6.5   | 0.65                                | white         | 1.2        |
| HSTNW13/6.5YG               | 13.5                      | 6.5   | 0.65                                | yellow/ green | 1.2        |
| HSTNW18/9BK                 | 19.0                      | 9.0   | 0.80                                | black         | 1.2        |
| HSTNW18/9BL                 | 19.0                      | 9.0   | 0.80                                | blue          | 1.2        |
| HSTNW18/9CL                 | 19.0                      | 9.0   | 0.80                                | clear         | 1.2        |
| HSTNW18/9RD                 | 19.0                      | 9.0   | 0.80                                | red           | 1.2        |
| HSTNW18/9WH                 | 19.0                      | 9.0   | 0.80                                | white         | 1.2        |
| HSTNW18/9YG                 | 19.0                      | 9.0   | 0.80                                | yellow/ green | 1.2        |
| HSTNW22/11BK                | 24.0                      | 11.0  | 0.80                                | black         | 1.2        |
| HSTNW22/11BL                | 24.0                      | 11.0  | 0.80                                | blue          | 1.2        |
| HSTNW22/11CL                | 24.0                      | 11.0  | 0.80                                | clear         | 1.2        |
| HSTNW22/11RD                | 24.0                      | 11.0  | 0.80                                | red           | 1.2        |
| HSTNW22/11WH                | 24.0                      | 11.0  | 0.80                                | white         | 1.2        |
| HSTNW22/11YG                | 24.0                      | 11.0  | 0.80                                | yellow/ green | 1.2        |
| HSTNW40/20BK                | 41.5                      | 20.0  | 1.00                                | black         | 1.2        |
| HSTNW40/20BL                | 41.5                      | 20.0  | 1.00                                | blue          | 1.2        |
| HSTNW40/20CL                | 41.5                      | 20.0  | 1.00                                | clear         | 1.2        |
| HSTNW40/20RD                | 41.5                      | 20.0  | 1.00                                | red           | 1.2        |

## 6.1 ALCO HEATSHRINK AND ACCESSORIES

### 6.1.1 HEATSHRINK TUBING RANGE - THIN, MEDIUM AND THICK WALL

| Part No                       | Specifications            |   |                                     |               |            |
|-------------------------------|---------------------------|---|-------------------------------------|---------------|------------|
|                               | Diameter as supplied (mm) | Fully recovered diameter after heating (mm) | Fully recovered wall thickness (mm) | Colour        | Length (m) |
| HSTNW40/20WH                  | 41.5                      | 20.0  | 1.00                                | white         | 1.2        |
| HSTNW40/20YG                  | 41.5                      | 20.0  | 1.00                                | yellow/ green | 1.2        |
| HSTNW50/25BK                  | 51.0                      | 25.0  | 1.00                                | black         | 1.2        |
| HSTNW50/25BL                  | 51.0                      | 25.0  | 1.00                                | blue          | 1.2        |
| HSTNW50/25CL                  | 51.0                      | 25.0  | 1.00                                | clear         | 1.2        |
| HSTNW50/25RD                  | 51.0                      | 25.0  | 1.00                                | red           | 1.2        |
| HSTNW50/25WH                  | 51.0                      | 25.0  | 1.00                                | white         | 1.2        |
| HSTNW50/25YG                  | 51.0                      | 25.0  | 1.00                                | yellow/ green | 1.2        |
| HSTNW70/35BK                  | 70.0                      | 36.0  | 1.30                                | black         | 1.2        |
| HSTNW70/35BL                  | 70.0                      | 36.0  | 1.30                                | blue          | 1.2        |
| HSTNW70/35CL                  | 70.0                      | 36.0  | 1.30                                | clear         | 1.2        |
| HSTNW70/35RD                  | 70.0                      | 36.0  | 1.30                                | red           | 1.2        |
| HSTNW70/35WH                  | 70.0                      | 36.0  | 1.30                                | white         | 1.2        |
| HSTNW70/35YG                  | 70.0                      | 36.0  | 1.30                                | yellow/ green | 1.2        |
| HSTNW100/50BK                 | 100.0                     | 51.0  | 1.46                                | black         | 1.2        |
| HSTNW100/50BL                 | 100.0                     | 51.0  | 1.46                                | blue          | 1.2        |
| HSTNW100/50CL                 | 100.0                     | 51.0  | 1.46                                | clear         | 1.2        |
| HSTNW100/50RD                 | 100.0                     | 51.0  | 1.46                                | red           | 1.2        |
| HSTNW100/50WH                 | 100.0                     | 51.0  | 1.46                                | white         | 1.2        |
| HSTNW100/50YG                 | 100.0                     | 51.0  | 1.46                                | yellow/ green | 1.2        |
| HSTNW120/60BK                 | 120.0                     | 61.0  | 1.56                                | black         | 1.2        |
| HSTNW120/60BL                 | 120.0                     | 61.0  | 1.56                                | blue          | 1.2        |
| HSTNW120/60CL                 | 120.0                     | 61.0  | 1.56                                | clear         | 1.2        |
| HSTNW120/60RD                 | 120.0                     | 61.0  | 1.56                                | red           | 1.2        |
| HSTNW120/60WH                 | 120.0                     | 61.0  | 1.56                                | white         | 1.2        |
| HSTNW120/60YG                 | 120.0                     | 61.0  | 1.56                                | yellow/ green | 1.2        |
| HSTNW150/75BK                 | 150.0                     | 76.0  | 1.56                                | black         | 1.2        |
| HSTNW150/75BL                 | 150.0                     | 76.0  | 1.56                                | blue          | 1.2        |
| HSTNW150/75CL                 | 150.0                     | 76.0  | 1.56                                | clear         | 1.2        |
| HSTNW150/75RD                 | 150.0                     | 76.0  | 1.56                                | red           | 1.2        |
| HSTNW150/75WH                 | 150.0                     | 76.0  | 1.56                                | white         | 1.2        |
| HSTNW150/75YG                 | 150.0                     | 76.0  | 1.56                                | yellow/ green | 1.2        |
| HSTNW200/100BK                | 200.0                     | 100.0                                       | 1.56                                | black         | 1.2        |
| HSTNW200/100BL                | 200.0                     | 100.0                                       | 1.56                                | blue          | 1.2        |
| HSTNW200/100CL                | 200.0                     | 100.0                                       | 1.56                                | clear         | 1.2        |
| HSTNW200/100RD                | 200.0                     | 100.0                                       | 1.56                                | red           | 1.2        |
| HSTNW200/100WH                | 200.0                     | 100.0                                       | 1.56                                | white         | 1.2        |
| HSTNW200/100YG                | 200.0                     | 100.0                                       | 1.56                                | yellow/ green | 1.2        |
| <b>Medium Wall Heatshrink</b> |                           |   |                                     |               |            |
| HSMWGL10/3L                   | 10.0                      | 3.0   | 1.75                                | black         | 1.2        |
| HSMWGL16/5L                   | 16.0                      | 5.0   | 1.90                                | black         | 1.2        |
| HSMWGL25/8L                   | 25.0                      | 8.0   | 2.45                                | black         | 1.2        |
| HSMWGL35/12L                  | 35.0                      | 10.0  | 2.70                                | black         | 1.2        |
| HSMWGL50/16L                  | 52.0                      | 16.0  | 2.80                                | black         | 1.2        |
| HSMWGL85/25L                  | 85.0                      | 25.0  | 3.30                                | black         | 1.2        |
| HSMWGL115/34L                 | 115.0                     | 34.0  | 3.70                                | black         | 1.2        |
| HSMWGL140/42L                 | 140.0                     | 42.0  | 3.70                                | black         | 1.2        |
| <b>Thick Wall Heatshrink</b>  |                           |   |                                     |               |            |
| HSTKWGL13/4                   | 13.0                      | 4.0   | 2.75                                | black         | 1.2        |
| HSTKWGL19/6                   | 20.0                      | 6.0   | 2.90                                | black         | 1.2        |
| HSTKWGL28/9                   | 28.0                      | 9.0   | 2.90                                | black         | 1.2        |
| HSTKWGL38/12                  | 38.0                      | 12.0  | 4.00                                | black         | 1.2        |
| HSTKWGL51/16                  | 51.0                      | 16.0  | 5.00                                | black         | 1.2        |
| HSTKWGL68/22                  | 70.0                      | 21.0  | 5.00                                | black         | 1.2        |
| HSTKWGL90/30                  | 105.0                     | 30.0  | 5.10                                | black         | 1.2        |
| HSTKWGL130/36                 | 140.0                     | 42.0  | 5.10                                | black         | 1.2        |



## 6.1 ALCO HEATSHRINK AND ACCESSORIES

### 6.1.2 HEATSHRINK STRAIGHT THROUGH JOINTS

#### Voltage Level:

- $U_0/U (U_m)$  0.6/1 (1.2) kV

#### Applications:

- Indoor
- Underground
- Outdoor
- Cable trays

#### Product Supplied with:

- Inner tubes
- Cleaning tissue
- Fire resistant tubes
- Emery cloth
- Outer tube
- Easy-to-follow illustrated mounting instructions

#### Features

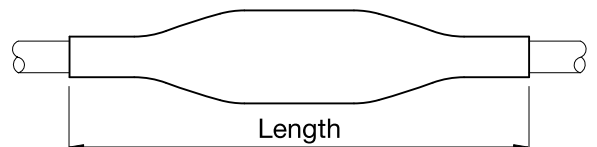
- For fire-resistant cable
- Halogen-free
- Compact dimensions
- Silicone-free
- Watertight
- Unlimited shelf life
- Resistant to UV-radiation, alkaline earths and chemical agents
- Low smoke emission
- High electrical insulation values




#### Approvals:

- DIN VDE 0472, part 814 (FE 180)
- IEC 331 – 332
- DIN 4102, part 12, concept February 1996 (E90)



Suitable for connecting fire-resistant cables, wherever required. (e.g. power plants, chemical plants, buildings, airports, tunnels, fire alarm systems, escape ways etc.)



| Specifications |                   |             |  |  |  |
|----------------|-------------------|-------------|--|--|--|
| Part No        | Type              | Length (mm) | Max Cross Section per Conductor (mm <sup>2</sup> )                                     |  |  |
|                |                   |             | Plastic Insulated Cable  |  | Concentric Conductor   |
|                |                   |             |  4x |  5x |  4x |
| HSJP4X1.5-4    | SMH4 1.5-4 E90    | 350         | 1.5-4  | –  | –  |
| HSJP4X06-10    | SMH4 6-10 E90     | 380         | 6-10   | –  | –  |
| HSJP4X16-25    | SMH4 16-25 E90    | 470         | 16-25  | –  | –  |
| HSJP4X35-50    | SMH4 35-50 E90    | 500         | 35-50  | –  | –  |
| HSJP4X70-95    | SMH4 70-95 E90    | 600         | 70-95  | –  | –  |
| HSJP4X120-150  | SMH4 120-150 E90  | 600         | 120-150  | –  | –  |
| HSJP4X185-240  | SMH4 185-240 E90  | 750         | 185-240  | –  | –  |
| HSJP5X1.5-4    | SMH5 1.5-4 E90    | 350         | –  | 1.5-4  | –  |
| HSJP5X06-10    | SMH5 6-10 E90     | 380         | –  | 6-10   | –  |
| HSJP5X16-25    | SMH5 16-25 E90    | 470         | –  | 16-25  | –  |
| HSJC4X1.5-4    | SMHC4 1.5-4 E90   | 350         | –  | –  | 1.5-4  |
| HSJC4X06-10    | SMHC4 6-10 E90    | 380         | –  | –  | 6-10   |
| HSJC4X16-25    | SMHC4 16-25 E90   | 470         | –  | –  | 16-25  |
| HSJC4X35-50    | SMHC4 35-50 E90   | 500         | –  | –  | 35-50  |
| HSJC4X70-95    | SMHC4 70-95 E90   | 600         | –  | –  | 70-95  |
| HSJC4X120-150  | SMHC4 120-150 E90 | 600         | –  | –  | 120-150  |
| HSJC4X185-240  | SMHC4 185-240 E90 | 750         | –  | –  | 185-240  |

Note: Connectors must be ordered separately. Lead times apply.

## 6.1 ALCO HEATSHRINK AND ACCESSORIES

### 6.1.3 HEATSHRINK REPAIR SLEEVES

#### Features

- Medium wall
- Silicone-free and UV-resistant
- Non-corrosive and suitable for quick sealing and cable repairs
- Halogen-free
- Excellent chemical and electrical properties
- Flame retardant, resistant to cold flow
- High tensile strength
- Maximum internal pressure 1.5 bar
- With hot melting adhesive and stainless steel channel

#### Material

- Cross-linked polyolefin
- Free of lead and cadmium

#### Colour

- Black

| Part No    | Type          | Length (mm) | Specifications         |                 |                  |               | Recovered Wall Thickness (mm) |
|------------|---------------|-------------|------------------------|-----------------|------------------|---------------|-------------------------------|
|            |               |             | Internal Diameter (mm) |                 | Application (mm) |               |                               |
|            |               |             | Before Shrinkage       | After Shrinkage | Min Shrinkage    | Max Shrinkage |                               |
| HSRS28-10  | SRMAHV 28-10  | 500         | 32                     | 10              | 10               | 28            | 2.3                           |
| HSRS43-12  | SRMAHV 43-12  | 500         | 52                     | 12              | 12               | 43            | 3.4                           |
| HSRS72-18  | SRMAHV 72-18  | 500         | 82                     | 18              | 18               | 72            | 3.4                           |
| HSRS93-26  | SRMAHV 93-26  | 500         | 105                    | 26              | 26               | 93            | 3.4                           |
| HSRS115-30 | SRMAHV 115-30 | 500         | 130                    | 30              | 30               | 115           | 2.3                           |
| HSRS125-32 | SRMAHV 125-32 | 500         | 143                    | 32              | 32               | 125           | 2.3                           |
| HSRS150-50 | SRMAHV 150-50 | 500         | 180                    | 50              | 50               | 150           | 2.3                           |



Suitable for quick sealing and cable repair

| Technical Data                   | Value                    | Test Method      |
|----------------------------------|--------------------------|------------------|
| <b>Physical properties</b>       |                          |                  |
| Density                          | ~ 1.05 g/cm <sup>3</sup> | DIN 53 479       |
| Hardness                         | < 50 Shore D             | DIN 53 505       |
| Elongation at break              | 300%                     | EN ISO 527-2     |
| Tensile strength                 | 13 MPa                   | EN ISO 527-2     |
| Longitudinal shrinkage           | < 10%                    | CP-PM 1013*      |
| Shrink ratio                     | > 3:1                    | -                |
| <b>Thermal properties</b>        |                          |                  |
| Operating temperature range      | -40°C to +120°C          | DIN 53 446       |
| Shrinking temperature            | > 125°C                  | CP-PM-1004*      |
| Burning behaviour                | non self-extinguishing   | ASTM-D 876       |
| Flexibility at low temperatures  | -40°C                    | ASTM 2671 C      |
| Thermal ageing (168hrs at 150°C) | 350%                     |                  |
| Elongation at break              | 14 MPa                   | EN ISO 527-2     |
| Tensile strength                 |                          |                  |
| <b>Electrical properties</b>     |                          |                  |
| Dielectric strength              | 12 kV/mm                 | DIN VDE 0303 P.2 |
| Volume resistivity               | 10 <sup>14</sup> Ω x cm  | DIN VDE 0303 P.3 |
| Dielectric constant              | ~ 5                      | DIN VDE 0303 P.3 |
| <b>Chemical properties</b>       |                          |                  |
| Corrosion                        | none                     | ASTM 2671        |
| Water absorption                 | < 0.15%                  | DIN 53 495 1L    |
| Resistance to fungus and decay   | Ratio 1                  | ISO 846 Meth. A  |



## 6.1 ALCO HEATSHRINK AND ACCESSORIES

### 6.1.4 LOW VOLTAGE JOINT KITS FOR UNARMoured CABLE

#### Features

- Designed to perform cable joints on PVC, XLP or rubber insulated cable up to 0.6/1kV
- Each kit is supplied with 5 small pieces of thin wall heatshrink and 2 larger pieces of thin and thick wall heatshrink
- Also supplied with sealing mastic tape, sanding cloth and solvent wipe

| Part No   | OD Cable Range (mm) | Specifications                    |            |           |                   |
|-----------|---------------------|-----------------------------------|------------|-----------|-------------------|
|           |                     | Suitable Cable (mm <sup>2</sup> ) |            |           |                   |
|           |                     | Two Core                          | Three Core | Four Core | Four Core & Earth |
| ALCLVKIT0 | 1.5-6               | -                                 | -          | -         | -                 |
| ALCLVKIT1 | 8-25                | 1.5-95                            | 1.5-50     | 1.5-35    | 1.5-25            |
| ALCLVKIT2 | 15-32               | 6-120                             | 6-70       | 4-50      | 4-35              |
| ALCLVKIT3 | 20-44               | 35-185                            | 16-150     | 16-120    | 10-70             |
| ALCLVKIT4 | 20-55               | 95-300                            | 70-240     | 35-185    | 35-150            |
| ALCLVKIT5 | 30-80               | 150-300                           | 120-300    | 95-300    | 70-240            |

Note: kits not supplied with copper links, need to be ordered separately (see page 69)



### 6.1.5 LOW VOLTAGE JOINT KITS FOR ARMoured CABLE

#### Features

- Designed to perform cable joints on PVC, XLP or rubber insulated cable up to 0.6/1kV
- Each kit is supplied with 5 small pieces of thin wall heatshrink and 2 larger pieces of thin and thick wall heatshrink
- Also supplied with copper braid tape, sanding cloth, pressure spring and solvent wipe

| Part No    | Underbedding Diameter (mm) | Specifications                    |            |           |                   |
|------------|----------------------------|-----------------------------------|------------|-----------|-------------------|
|            |                            | Suitable Cable (mm <sup>2</sup> ) |            |           |                   |
|            |                            | Two Core                          | Three Core | Four Core | Four Core & Earth |
| ALCLVAKIT1 | 18                         | 6-16                              | -          | -         | -                 |
| ALCLVAKIT2 | 25                         | 25-38                             | 16-35      | 16-25     | 16-25             |
| ALCLVAKIT3 | 40                         | -                                 | 50-95      | 35-70     | 35-70             |
| ALCLVAKIT4 | 50                         | -                                 | 120-150    | 95-120    | 95-120            |
| ALCLVAKIT5 | 60                         | -                                 | 185-240    | 185-240   | 185-240           |

Note: kits not supplied with copper links, need to be ordered separately (see page 69)



### 6.1.6 PHASE IDENTIFICATION KITS

#### Features

- Designed to identify phases and termination lugs
- Ready made identification kits
- Low shrink temperature and UV resistant

| Part No       | Lug Size (mm) | Length (mm) | Specifications      |                 |                 |                 |                 |
|---------------|---------------|-------------|---------------------|-----------------|-----------------|-----------------|-----------------|
|               |               |             | Suitable Heatshrink |                 |                 |                 |                 |
|               |               |             | Black               | Blue            | Red             | White           | Yellow/Green    |
| ALCPHIKIT6    | 6             | 16          | HSTNW7.0/3.5BK      | HSTNW7.0/3.5BL  | HSTNW7.0/3.5RD  | HSTNW7.0/3.5WH  | HSTNW7.0/3.5YG  |
| ALCPHIKIT10   | 10            | 18          | HSTNW10.0/5.0BK     | HSTNW10.0/5.0BL | HSTNW10.0/5.0RD | HSTNW10.0/5.0WH | HSTNW10.0/5.0YG |
| ALCPHIKIT35   | 16-35         | 32          | HSTNW13/6.5BK       | HSTNW13/6.5BL   | HSTNW13/6.5RD   | HSTNW13/6.5WH   | HSTNW13/6.5YG   |
| ALCPHIKIT95   | 50-95         | 40          | HSTNW18/9BK         | HSTNW18/9BL     | HSTNW18/9RD     | HSTNW18/9WH     | HSTNW18/9YG     |
| ALCPHIKIT150  | 120-150       | 45          | HSTNW22/11BK        | HSTNW22/11BL    | HSTNW22/11RD    | HSTNW22/11WH    | HSTNW22/11YG    |
| ALCPHIKIT240  | 185-240       | 50          | HSTNW40/20BK        | HSTNW40/20BL    | HSTNW40/20RD    | HSTNW40/20WH    | HSTNW40/20YG    |
| ALCPHIKIT630  | 300-630       | 80          | HSTNW50/25BK        | HSTNW50/25BL    | HSTNW50/25RD    | HSTNW50/25WH    | HSTNW50/25YG    |
| ALCPHIKIT1200 | 800-1200      | 140         | HSTNW70/35BK        | HSTNW70/35BL    | HSTNW70/35RD    | HSTNW70/35WH    | HSTNW70/35YG    |

Note: kits not supplied with copper links, need to be ordered separately (see page 69)



## 6.1 ALCO HEATSHRINK AND ACCESSORIES

### 6.1.7 GENERAL PURPOSE HEATSHRINK KIT

#### Features

- 229 piece thin wall heatshrink kit in assorted colours
- All pieces are thin wall heatshrink

#### Specifications

Part No: ALCHSKIT1



| Contents of Kit |        |          |       |
|-----------------|--------|----------|-------|
| Part No         | Length | Colour   | Qty   |
| HSTNW2.5/1.25BK | 55mm   | black    | 21pcs |
| HSTNW2.5/1.25   | 55mm   | assorted | 21pcs |
| HSTNW5.0/2.5BK  | 55mm   | black    | 42pcs |
| HSTNW5.0/2.5    | 55mm   | assorted | 42pcs |
| HSTNW7.0/3.55BK | 55mm   | black    | 21pcs |
| HSTNW7.0/3.55   | 55mm   | assorted | 21pcs |
| HSTNW10.0/5.0BK | 55mm   | black    | 21pcs |
| HSTNW10.0/5.0   | 55mm   | assorted | 21pcs |
| HSTNW13/6.5BK   | 55mm   | black    | 6pcs  |
| HSTNW13/6.5     | 55mm   | assorted | 7pcs  |
| HSTNW18/9BK     | 250mm  | black    | 2pcs  |
| HSTNW18/9       | 250mm  | assorted | 2pcs  |
| HSTNW22/11BK    | 250mm  | black    | 2pcs  |

### 6.1.8 MULTI PURPOSE HEATSHRINK KIT

#### Features

- 202 piece thin and medium wall heatshrink kit in assorted colours
- Medium wall range is 250mm in length and thin wall range is 55mm in length

#### Specifications

Part No: ALCHSKIT2



| Contents of Kit |        |          |       |
|-----------------|--------|----------|-------|
| Part No         | Length | Colour   | Qty   |
| HSTNW2.5/1.25BK | 55mm   | black    | 21pcs |
| HSTNW2.5/1.25   | 55mm   | assorted | 21pcs |
| HSTNW5.0/2.5BK  | 55mm   | black    | 21pcs |
| HSTNW5.0/2.5    | 55mm   | assorted | 21pcs |
| HSTNW7.0/3.55BK | 55mm   | black    | 21pcs |
| HSTNW7.0/3.55   | 55mm   | assorted | 21pcs |
| HSTNW10.0/5.0BK | 55mm   | black    | 21pcs |
| HSTNW10.0/5.0   | 55mm   | assorted | 21pcs |
| HSTNW13/6.5BK   | 55mm   | black    | 7pcs  |
| HSTNW13/6.5     | 55mm   | assorted | 7pcs  |
| HSTNW18/9BK     | 55mm   | black    | 3pcs  |
| HSTNW18/9       | 55mm   | assorted | 3pcs  |
| HSTNW22/11BK    | 55mm   | black    | 3pcs  |
| HSTNW22/11      | 55mm   | assorted | 3pcs  |
| HSMWGL10/3      | 250mm  | black    | 4pcs  |
| HSMWGL25/8      | 250mm  | black    | 4pcs  |

### 6.1.9 HEAT GUN KIT

#### Features

- 2000W powered heat gun with six piece accessory set
- 2 heat settings: 350°C and 550°C
- 240V, 50Hz input power
- Hanging ring
- Conveniently stored in plastic carry case
- Kit includes heat gun, cone nozzle, glass protector nozzle, reflector nozzle, fish tail nozzle, handle and scraping head

#### Specifications

Part No: WATHGK

Weight: 1720g (including case)



### 6.1.10 MINI GAS TOOL KIT

#### Features

- Portable heat source with blow torch, solder tips and hot knife
- Cordless and lightweight with adjustable flame control
- Butane gas powered and furnished with rugged aluminium body
- With safety ON/OFF control lock and protective cap
- Contents includes solder head, spare tips and hot knife

#### Specifications

Part No: WATSCL-2000K

Size: 23 x 160mm with 11ml gas tank capacity

| Accessories |                                 |
|-------------|---------------------------------|
| Part No.    | Description                     |
| WATSCL-07   | Spare Needle Soldering Tip      |
| WATSCL-08   | Spare Single Flat Soldering Tip |
| WATSCL-09   | Spare Double Flat Soldering Tip |
| WATSCL-10   | Spare Hot Knife                 |
| WATSCL-TIP  | Spare Soldering Head            |



## 6.1 ALCO HEATSHRINK AND ACCESSORIES

### 6.1.11 MICRO GAS TORCH

#### Features

- Ideal for situations where a high volume of portable heat source is required for soldering, brazing and heatshrinking
- Suitable for automotive, plumbing and working with plastic
- Butane gas powered with safety lock and instant electronic ignition
- Refillable cordless and portable
- Adjustable flame control
- 1300°C heating temperature

#### Specifications

**Part No:** WATRK2121  
**Dimensions:** 186mm (L) x 115mm (W) x 45mm diameter  
**Working Time:** 60mins approx on full tank



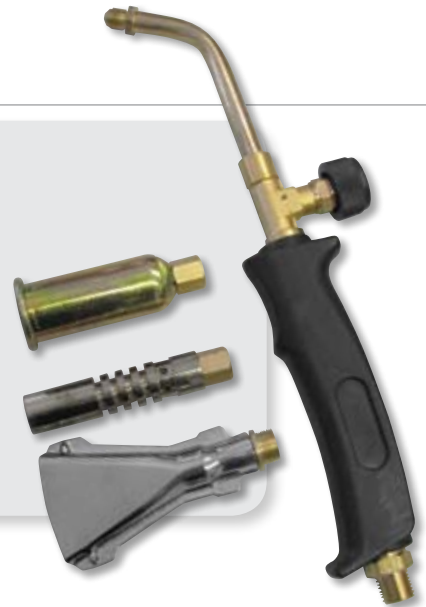
### 6.1.12 HEATING TORCH KIT

#### Features

- Ideal for home, workshop, mobile repairs and hobby and crafts
- Adjustable flame control
- Designed for use with propane LPG gas
- With ¼" BSP thread inlet hose connection
- Accessories include; pinpoint burner (for brazing, soft soldering and small heating jobs), 25mm flame burner (for heatshrinking, loosening bolts and larger heating jobs) and flame spreader (for paint stripping)

#### Specifications

**Part No:** WATGTK



### 6.1.13 FLAMELESS HEAT BLOWER GAS TOOL

#### Features

- Piezo electronic automatic ignition system
- For general heating and drying purposes
- Suitable for heatshrink tubing and sleeves
- Activates adhesives and potting compounds
- Also used for thawing frozen locks and stretching vinyls
- Non-skid cap can be used as a stand
- Refillable

#### Specifications

**Part No:** WATTH1602  
**Size:** 115mm (L) x 35mm (W) x 20mm diameter  
**Weight:** 51g  
**Temperature:** Up to 450°C  
**Capacity:** 6ml  
**Operating Time:** Approx 20 minutes on medium setting





## 6.2 CAST RESIN

### 6.2.1 OVERVIEW

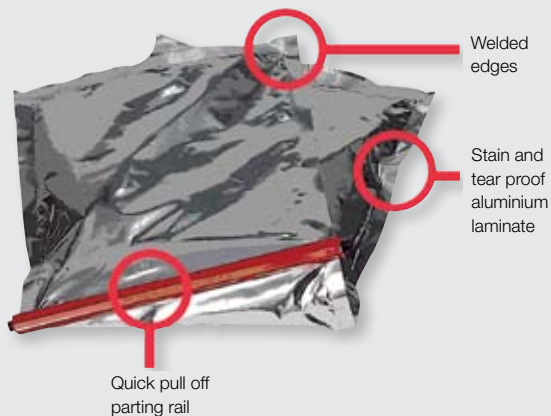


Alco's cast resin is ideal for single or multi-core cable networks. We offer a number of resin systems such as straight through cable joints, branch off joints and two part resin packs.

Resin joints can be used in applications where cables are buried directly in the ground, submerged in water or under maintenance. The standard moulds used are made from thermoplastic materials that provide excellent mechanical stability and high resistance to water and termites. The moulds are transparent allowing you to see the cable connection during casting. All resin joints comply with VDE standards and are watertight, ideal for water-submerged applications. No other insulation of the cable joint is necessary (eg heatshrink, tapes etc). The cast resin is all that is required.

The resin is supplied in a two-chamber mixing bag that allows it to be poured easily after it is mixed. The bags are made from a three-layer aluminium plastic laminate material. One of the key features of the mixing bag is the quick pull off parting rail which, when removed, allows the hardener and resin to be mixed in the one bag, eliminating external dirt or foreign materials. After pouring, the bag can be disposed of safely in any household rubbish bin.

### PRACTICAL TWO CHAMBER MIXING BAG



CABLE JOINTING

## 6.2 CAST RESIN

### 6.2.2 CAST RESIN JOINTS - TYPE M (STRAIGHT THROUGH JOINT)

#### Voltage Level:

- $U_0 / U (U_m)$  0.6/1 (1.2) kV

#### Applications:

- Indoor
- Underground
- Outdoor
- Cable trays
- Water

#### Product Supplied with:

- Transparent mould
- Lid and spacer plate
- Sealing tape
- Gloves
- Illustrated easy-to-follow mounting instructions
- Hydrolysis resistant PUR type EG cast-resin, containing the correct volume needed ready for mixing, in handy two chamber mixing bag

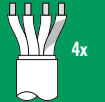
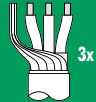
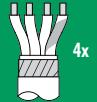
#### Features

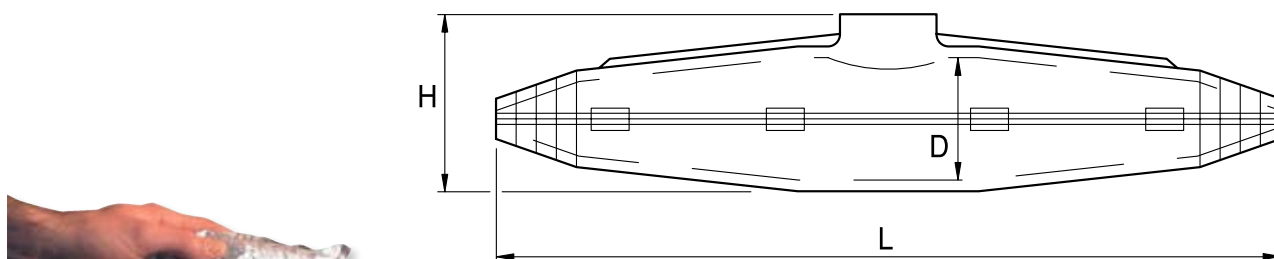
- Large insertion opening for easy casting
- High electrical insulation value
- Watertight
- Compact size
- High mechanical strength
- Standard resin can be stored for up to 40 months
- High quality, transparent and shockproof plastic mould
- Visible splice position before casting
- Extremely quick and easy to use, saving time and money
- Resistant to UV-radiation, alkaline earths and chemical agents
- Ready for immediate use

#### Approvals:

- DIN VDE 0278 part 1 and 3
- DIN VDE 0278 part 393
- EN 50393 as well as CENELEC HD 623 (VDE 0278, part 623)

## TYPE M

| Part No   | Type | Cable Diameter (mm) | Specifications  |     |     |  |  |  |
|-----------|------|---------------------|-----------------|-----|-----|--|--|--|
|           |      |                     | Dimensions (mm) |     |     | Max Cross Section per Conductor (mm <sup>2</sup> )   |  |  |
|           |      |                     | L               | D   | H   | Plastic Insulated Cable<br> 4x | Concentric Conductor<br> 3x | Armoured<br> 4x |
| ALC124M11 | M 11 | 7-26                | 190             | 36  | 50  | 10   | 10/10  | –  |
| ALC124M12 | M 12 | 14-34               | 260             | 47  | 63  | 25   | 25/25  | –  |
| ALC124M13 | M 13 | 21-43               | 360             | 55  | 75  | 50   | 50/50  | 35   |
| ALC124M14 | M 14 | 26-48               | 400             | 70  | 95  | 95   | 95/95  | 70   |
| ALC124M15 | M 15 | 35-63               | 530             | 100 | 120 | 150  | 150/150  | 120  |
| ALC124M16 | M 16 | 48-81               | 700             | 125 | 160 | 240  | 240/120  | 240  |



**TYPE M11–M16**



Suitable for connecting low-voltage plastic insulated cables or PVC, PE, VPE and EPR insulated conductors.

## 6.2 CAST RESIN

### 6.2.3 CAST RESIN JOINTS - TYPE MZ (STRAIGHT THROUGH JOINT)

#### Voltage Level:

- $U_0 / U (U_m)$  0.6/1 (1.2) kV

#### Applications:

- Indoor
- Underground
- Outdoor
- Cable trays
- Water

#### Product Supplied with:

- Transparent mould
- Funnel
- Sealing tape
- Gloves
- Illustrated easy-to-follow mounting instructions
- Hydrolysis resistant PUR type EG cast-resin, containing the correct volume needed ready for mixing, in handy two chamber mixing bag

#### Features

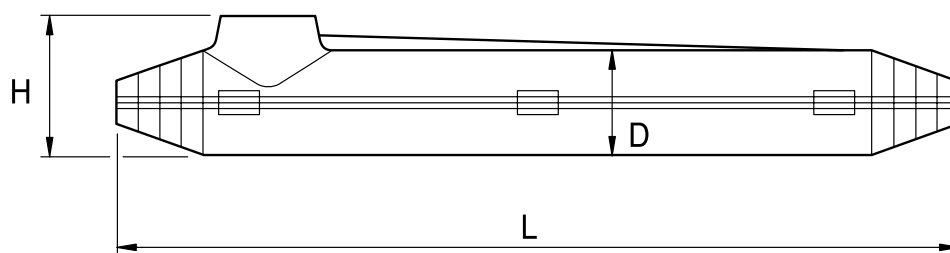
- Large insertion opening for easy casting
- High electrical insulation value
- Watertight
- Compact size
- High mechanical strength
- Standard resin can be stored for up to 40 months
- High quality, transparent and shockproof plastic mould
- Visible splice position before casting
- Extremely quick and easy to use, saving time and money
- Resistant to UV-radiation, alkaline earths and chemical agents
- Ready for immediate use

#### Approvals:

- DIN VDE 0278 part 1 and 3
- DIN VDE 0278 part 393
- EN 50393 as well as CENELEC HD 623 (VDE 0278, part 623)

### TYPE MZ

| Specifications |      |                     |                 |    |    |                    |       |       |                  |     |
|----------------|------|---------------------|-----------------|----|----|--------------------|-------|-------|------------------|-----|
| Part No        | Type | Cable Diameter (mm) | Dimensions (mm) |    |    | Wire Diameter (mm) |       |       |                  |     |
|                |      |                     | L               | D  | H  | 0.4                | 0.6   | 0.8   | 1.5              | 2.5 |
|                |      |                     |                 |    |    | No of Pairs        |       |       | No of conductors |     |
| ALC124MZ00     | MZ00 | 20                  | 180             | 23 | 35 | 10-15              | 5-10  | 5-10  | 7                | 5   |
| ALC124MZ0      | MZ0  | 25                  | 250             | 35 | 55 | 15-30              | 10-20 | 10-20 | 15               | 10  |



TYPE MZ00-MZ0



Suitable for connecting low-voltage plastic insulated cables or PVC, PE, VPE and EPR insulated conductors.

## 6.2 CAST RESIN

### 6.2.4 CAST RESIN JOINTS - TYPE Y (BRANCH OFF JOINT)

#### Voltage level:

- $U_0 / U (U_m)$  0.6/1 (1.2) kV

#### Applications:

- Indoor
- Outdoor
- Underground
- Water
- Cable trays

#### Product Supplied with:

- Sealing tape
- Transparent moulds
- Illustrated easy-to-follow mounting instructions
- Filling in funnel
- Air release funnel (except Type Y00)
- Gloves
- Closing stops
- Hydrolysis resistant PUR type EG cast-resin, containing the correct volume needed ready for mixing, in handy two chamber mixing bag

#### Features

- Watertight
- High electrical insulation values
- High mechanical strength
- Compact size
- Standard resin can be stored for up to 40 months
- Large insertion opening for easy casting
- High quality transparent and shockproof plastic mould
- Visible splice position before casting
- Extremely quick and easy to use, saving time and money
- Resistant to UV-radiation, alkaline earths and chemical agents
- Ready for immediate use

#### Approvals:

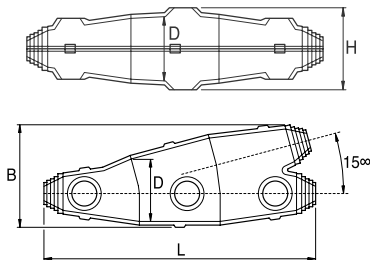
- DIN VDE 0278 part 1 and 3
- DIN VDE 0278 part 393
- EN 50393 as well as CENELEC HD 623 (VDE 0278, part 623)

#### Note:

- For joint sizes Y3 and above, branch-off ring connectors can be used



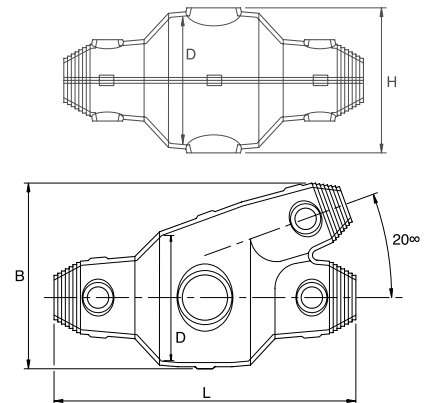
Y00–Y2, Y3 ½, Y5, Y6



Suitable for connecting low-voltage plastic insulated cables or PVC, PE, VPE and EPR insulated conductors.



Y3, Y4, Y4½



| Part No    | Type  | Dimensions   |        |            |        | Cable Diameter  |                   | Specifications                                     |     |              |     |                      |        |
|------------|-------|--------------|--------|------------|--------|-----------------|-------------------|--|-----|--------------|-----|----------------------|--------|
|            |       | L (mm)       | B (mm) | D (mm)     | H (mm) | main cable (mm) | branch cable (mm) | Max Cross Section per Conductor (mm <sup>2</sup> ) |     |              |     |                      |        |
|            |       |              |        |            |        |                 |                   | Plastic Insulated Cable                            |     |              |     | Concentric Conductor |        |
|            |       |              |        |            |        |                 |                   | 5x   |     | 3x           |     | 4x                   |        |
| main cable |       | branch cable |        | main cable |        | branch cable    |                   | main cable   |     | branch cable |     |                      |        |
| ALC133Y00  | Y 00  | 150          | 75     | 38         | 50     | 23              | 23                | 2.5  | 2.5 | —            | —   | —                    | —      |
| ALC133Y0   | Y 0   | 185          | 80     | 45         | 55     | 17              | 17                | 4  | 4   | 4            | 4   | 4/4                  | 4/4    |
| ALC133Y1   | Y 1   | 240          | 110    | 60         | 70     | 22              | 22                | 6  | 6   | 10           | 4   | 10/10                | 10/10  |
| ALC133Y2   | Y 2   | 285          | 120    | 65         | 75     | 37              | 33                | —  | —   | 35           | 16  | 16/16                | 10/10  |
| ALC133Y3   | Y 3   | 240          | 145    | 100        | 110    | 42              | 37                | —  | —   | 50           | 35  | 25/25                | 16/16  |
| ALC133Y3.5 | Y 3 ½ | 300          | 150    | 110        | 120    | 54              | 38                | —  | —   | 50           | 35  | 35/35                | 25/25  |
| ALC133Y4   | Y 4   | 285          | 170    | 110        | 120    | 53              | 37                | —  | —   | 95           | 50  | 70/70                | 25/25  |
| ALC133Y4.5 | Y 4 ½ | 335          | 193    | 120        | 130    | 56              | 42                | —  | —   | 150          | 70  | 120/120              | 95/95  |
| ALC133Y5   | Y 5   | 382          | 220    | 140        | 150    | 62              | 52                | —  | —   | 240          | 95  | 150/150              | 95/95  |
| ALC133Y6   | Y 6   | 570          | 275    | 180        | 190    | 90              | 80                | —  | —   | 300          | 185 | 240/120              | 185/95 |

## 6.2 CAST RESIN

### 6.2.5 CAST RESIN - TYPE EG (NON-REMOVABLE TYPE)

#### Features

- Suitable for low voltage plastic or paper insulated cables rated up to 1kV, and telecommunications and signal plastic or paper insulated cables
- Suitable for mechanical protection and water-sealing on medium voltage cables
- Halogen-free, unfilled two-component polyurethane (PUR) cast-resin
- Specially developed for cable joints
- Non-toxic emission during mixing and casting
- Excellent hydrolytic resistance
- No cracks during electrical and mechanical stress
- Low hardening temperature and excellent flow properties
- Fast hardening and good adherence to all cable materials
- Packed in practical and easy-to-use two-chamber mixing bags

#### Approvals:

- Governmental Material Test Laboratory Darmstadt: DIN VDE 0291
- KEMA, Netherland: Report on the MAK value, which lies well below the maximum value of 0.01 ppm, allowed by law

#### Storage conditions:

- Store at optimum temperature of +15°C to +35°C for up to 40 months in original aluminium bag



| Type 'EG' 2-component PUR Resin  |   |   |                |                   |
|--|---|---|----------------|-------------------|
| Features   | Value   | Requirements for cast-resins according to DIN VDE 0291, part 2 (draft 1997) |                |                   |
|  |   | GNW/RLS   | GMW/RMS        | GFW/RTS           |
| Cast-resin component / open cup flash point  | > 200°C   | > 100°C   | –              | > 100°C           |
| Reactant / open cup flash point  | > 200°C   | > 55°C  | –              | > 55°C            |
| Processing time (potlife), preparation 300 ml<br>5°C<br>23°C<br>35°C   | 35 minutes<br>20 minutes<br>15 minutes                          | conformity to manufacturer's data (± 30%)                                   |                |                   |
| Gel time for 300 ml at 23°C<br>Bag < 1000 ml<br>Bag > 1000 ml  | 17 minutes<br>26 minutes  | conformity to manufacturer's data (± 10%)                                   |                |                   |
| Maximum reaction temperature   | 98°C/371 K  | conformity to manufacturer's data (± 10K)                                   |                |                   |
| Total volume contraction during hardening  | 6%  | max 6.5%  |                |                   |
| Density  | 1.1 g/cm <sup>3</sup>   | –   |                |                   |
| Impact strength  | > 10 kJ/m <sup>2</sup>  | > 10 kJ/m <sup>2</sup>  |                |                   |
| Hardness   | 54 Shore D  | min. 20 Shore D   |                |                   |
| Thermal expansion coefficient in the temperature range of 20–50°C  | 5.9 x 10 <sup>-4</sup> K <sup>-1</sup>                          | conformity to manufacturer's data (± 15%)                                   |                |                   |
| Thermal conductivity   | 0.2 W x M <sup>-1</sup> x K <sup>-1</sup>                       | conformity to manufacturer's data (± 20%)                                   |                |                   |
| Combustibility   | class IIC   | according to DIN VDE 0304, part 3   |                |                   |
| Water absorption in warm water (42 days at 50°C)   | 350 mg  | max 600 mg  | max 400 mg     | max 600 mg        |
| Electrolytic corrosion   | A1  | < A1.4  | –              | < A1.4            |
| 1 minute test voltage<br>at 23°C<br>at 80°C  | –   | no breakdown at test voltage  |                |                   |
|  | > 20 kV<br>> 10 kV  | 10 kV<br>10 kV  | 20 kV<br>20 kV | 10 kV<br>–        |
| Dielectric dissipation factor<br>at 23°C and 50 Hz<br>at 23°C and 1 kHz  | 0.07<br>0.05  | –<br>–  | max 0.1<br>–   | –<br>< 0.05       |
|  | Relative permittivity<br>at 23°C and 50 Hz<br>at 23°C and 1 kHz | 5<br>5.1  | –<br>–         | < 6<br>–<br>max 6 |
| Tracking resistance  | KA 3c   | min KA 3b   | min KA 3c      | –                 |
| Hydrolysis resistance after water immersion (28 days at 90°C)<br>Tensile strength<br>Elongation at break<br>Hardness | 8.2 N/mm <sup>2</sup><br>60%<br>47 Shore D                      | ≥ 65% of initial value<br>≥ 65% of initial value<br>≥ 80% of initial value  |                |                   |



| Specifications |         |             |
|----------------|---------|-------------|
| Part No        | Type    | Volume (ml) |
| ALC124EG80     | EG 80   | 80          |
| ALC124EG143    | EG 143  | 143         |
| ALC124EG286    | EG 286  | 286         |
| ALC124EG370    | EG 370  | 370         |
| ALC124EG464    | EG 464  | 464         |
| ALC124EG730    | EG 730  | 730         |
| ALC124EG1000   | EG 1000 | 1000        |
| ALC124EG1150   | EG 1150 | 1150        |
| ALC124EG1500   | EG 1500 | 1500        |
| ALC124EG2000   | EG 2000 | 2000        |



## 6.2 CAST RESIN

### 6.2.6 CAST RESIN - TYPE KG (REMOVABLE TYPE)

#### Features

- Suitable for isolating cable connections in cable branch-off cabinets, connection boxes, communication cables etc
- Favourable flow properties
- Halogen-free, unfilled two-component polyurethane (PUR) cast-resin
- Resin remains transparent after hardening and can be released at any time by simply removing the resin
- Good adherence to all cable materials
- Transparent resin allows sight control of the connection after filling
- Low hardening temperature and excellent flow properties
- Non-toxic emission during mixing and casting
- Excellent hydrolytic resistance and no cracks during electrical stress
- Packed in practical and easy-to-use two-chamber mixing bags

#### Approvals:

- According to DIN VDE 0291 part 2 (draft 6/97)

#### Storage conditions:

- Store at optimum temperature of +15°C to +35°C for up to 24 months in the original aluminium bag



| Specifications |        |             |
|----------------|--------|-------------|
| Part No        | Type   | Volume (ml) |
| ALC125KG143    | KG 143 | 143         |
| ALC125KG286    | KG 286 | 286         |
| ALC125KG730    | KG 730 | 730         |

| Type 'KG' 2-component PUR Resin (Removable Crumbly Type) |                             |
|--|-----------------------------|
| Features   | Value                       |
| <b>Reactive mass</b>                                     |                             |
| Viscosity (20°C)   | 1000 mPa x s                |
| Processing time (20°C)                                   | ca. 1hr                     |
| Maximum temperature                                      | < 40°C                      |
| <b>Cast-resin moulding material</b>                      |                             |
| Density  | 1 g/cm <sup>3</sup>         |
| Hardness   | 10 Shore A                  |
| Spec. volume resistance                                  | 2 x 10 <sup>16</sup> Ω x cm |
| Tensile strength   | 7 N/cm <sup>2</sup>         |
| Elongation at break                                      | 10%                         |
| Water absorption in cold water (24hrs at 23°C)           | 30 mg                       |
| Water absorption in warm water (42days at 50°C)          | 188 mg                      |
| 1 minute test voltage at 23°C                            | > 20 kV                     |
| 1 minute test voltage at 80°C                            | > 10 kV                     |



## 6.3 CAST RESIN ACCESSORIES

### 6.3.1 SEALING KITS SELECTION CHART

IDEAL FOR REPAIRING CABLE



| Specifications                   |                               |                  |     |            |     |
|----------------------------------|-------------------------------|------------------|-----|------------|-----|
| Removable PUR Resin Sealing Kits |                               |                  |     |            |     |
| Part No                          | Quickbox/Junction Box Part No | Removable Filler |     | Insulputty |     |
|                                  |                               | Part No          | Qty | Part No    | Qty |
| ALCQJR161                        | ALCJB161                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR162                        | ALCJB162                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR163                        | ALCJB163                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR164                        | ALCJB164                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR201                        | ALCJB201                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR201D                       | ALCJB201D                     | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR202                        | ALCJB202                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR202A                       | ALCJB202A                     | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR202D                       | ALCJB202D                     | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR202DA                      | ALCJB202DA                    | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR203                        | ALCJB203                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR203D                       | ALCJB203D                     | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR204                        | ALCJB204                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR204D                       | ALCJB204D                     | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR251                        | ALCJB251                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR251D                       | ALCJB251D                     | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR252                        | ALCJB252                      | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR252A                       | ALCJB252A                     | ALC125KG143      | 1   | ALCIP38    | 1   |
| ALCQJR252D                       | ALCJB252D                     | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR252DA                      | ALCJB252DA                    | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR253                        | ALCJB253                      | ALC125KG143      | 1   | ALCIP38    | 2   |
| ALCQJR253D                       | ALCJB253D                     | ALC125KG143      | 1   | ALCIP38    | 2   |
| ALCQJR254                        | ALCJB254                      | ALC125KG143      | 1   | ALCIP38    | 2   |
| ALCQJR254D                       | ALCJB254D                     | ALC125KG286      | 1   | ALCIP38    | 2   |
| ALCQJR321                        | ALCJB321                      | ALC125KG286      | 1   | ALCIP38    | 1   |
| ALCQJR322                        | ALCJB322                      | ALC125KG286      | 1   | ALCIP38    | 2   |
| ALCQJR323                        | ALCJB323                      | ALC125KG286      | 1   | ALCIP38    | 3   |
| ALCQJR324                        | ALCJB324                      | ALC125KG286      | 1   | ALCIP180   | 1   |
| ALCQJRRER25                      | ALCJB25                       | ALC125KG143      | 1   | -          | 0   |
| ALCQJRWQB0                       | ALCWQB-0                      | ALC125KG286      | 2   | ALCIP180   | 1   |
| ALCQJRWQB1                       | ALCWQB-1                      | ALC125KG286      | 2   | ALCIP180   | 1   |
| ALCQJRWQB2                       | ALCWQB-2                      | ALC125KG286      | 3   | ALCIP180   | 1   |
| ALCQJRWQB3                       | ALCWQB-3                      | ALC125KG730      | 2   | ALCIP180   | 2   |
| ALCQJRWQB4                       | ALCWQB-4                      | ALC125KG730      | 2   | ALCIP180   | 2   |

| Specifications                       |                                |                      |     |            |         |
|--------------------------------------|--------------------------------|----------------------|-----|------------|---------|
| Non-Removable PUR Resin Sealing Kits |                                |                      |     |            |         |
| Part No                              | Quickbox/ Junction Box Part No | Non-removable Filler |     | Insulputty |         |
|                                      |                                | Part No              | Qty | Part No    | no. req |
| ALCQJN161                            | ALCJB161                       | ALC124EG143          | 1   | ALCIP38    | 1       |
| ALCQJN162                            | ALCJB162                       | ALC124EG143          | 1   | ALCIP38    | 1       |
| ALCQJN163                            | ALCJB163                       | ALC124EG143          | 1   | ALCIP38    | 1       |
| ALCQJN164                            | ALCJB164                       | ALC124EG143          | 1   | ALCIP38    | 1       |
| ALCQJN201                            | ALCJB201                       | ALC124EG80           | 1   | ALCIP38    | 1       |
| ALCQJN201D                           | ALCJB201D                      | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN202                            | ALCJB202                       | ALC124EG80           | 1   | ALCIP38    | 1       |
| ALCQJN202A                           | ALCJB202A                      | ALC124EG80           | 1   | ALCIP38    | 1       |
| ALCQJN202D                           | ALCJB202D                      | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN202DA                          | ALCJB202DA                     | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN203                            | ALCJB203                       | ALC124EG80           | 1   | ALCIP38    | 1       |
| ALCQJN203D                           | ALCJB203D                      | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN204                            | ALCJB204                       | ALC124EG80           | 1   | ALCIP38    | 1       |
| ALCQJN204D                           | ALCJB204D                      | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN251                            | ALCJB251                       | ALC124EG143          | 1   | ALCIP38    | 1       |
| ALCQJN251D                           | ALCJB251D                      | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN252                            | ALCJB252                       | ALC124EG143          | 1   | ALCIP38    | 1       |
| ALCQJN252A                           | ALCJB252A                      | ALC124EG143          | 1   | ALCIP38    | 1       |
| ALCQJN252D                           | ALCJB252D                      | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN252DA                          | ALCJB252DA                     | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN253                            | ALCJB253                       | ALC124EG143          | 1   | ALCIP38    | 2       |
| ALCQJN253D                           | ALCJB253D                      | ALC124EG143          | 1   | ALCIP38    | 2       |
| ALCQJN254                            | ALCJB254                       | ALC124EG143          | 1   | ALCIP38    | 2       |
| ALCQJN254D                           | ALCJB254D                      | ALC124EG286          | 1   | ALCIP38    | 2       |
| ALCQJN321                            | ALCJB321                       | ALC124EG286          | 1   | ALCIP38    | 1       |
| ALCQJN322                            | ALCJB322                       | ALC124EG286          | 1   | ALCIP38    | 2       |
| ALCQJN323                            | ALCJB323                       | ALC124EG286          | 1   | ALCIP38    | 3       |
| ALCQJN324                            | ALCJB324                       | ALC124EG286          | 1   | ALCIP180   | 1       |
| ALCQJN25                             | ALCJB25                        | ALC124EG80           | 1   | -          | 0       |
| ALCQJN25WB0                          | ALCWQB-0                       | ALC124EG464          | 1   | ALCIP180   | 1       |
| ALCQJN25WB1                          | ALCWQB-1                       | ALC124EG464          | 1   | ALCIP180   | 1       |
| ALCQJN25WB2                          | ALCWQB-2                       | ALC124EG1000         | 1   | ALCIP180   | 1       |
| ALCQJN25WB3                          | ALCWQB-3                       | ALC124EG1500         | 1   | ALCIP180   | 2       |
| ALCQJN25WB4                          | ALCWQB-4                       | ALC124EG1500         | 1   | ALCIP180   | 2       |

### 6.3.2 UNIVERSAL CABLE REPAIR KIT

#### Features

- 305 piece universal cable repair kit
- For repairing cable
- Non-insulated copper crimp links also included
- Supplied in an orange Rolacase storage box

#### Specifications

Part No: ALCRESKIT 1



#### Contents of Kit

| Part No   | Description                    | Qty |
|-----------|--------------------------------|-----|
| WATMH4NW  | Ratchet Crimping Tool          | 1   |
| ALC124M11 | Type M11 Cast Resin            | 4   |
| ALCLK2.5  | 2.5mm <sup>2</sup> Crimp Link  | 100 |
| ALCLK4    | 4.0mm <sup>2</sup> Crimp Link  | 100 |
| ALCLK6    | 6.0mm <sup>2</sup> Crimp Link  | 50  |
| ALCLK10   | 10.0mm <sup>2</sup> Crimp Link | 50  |

CABLE JOINTING

## 6.4 ELECTRICAL AND SPECIALTY TAPE

### 6.4.1 50M CAUTION TAPE

#### Features

- Bright yellow reflective tape for vibrant daytime visibility
- Printed 'CAUTION – TEMPORARY CONSTRUCTION WIRING'
- Suitable for outdoor use
- Tape has aggressive adhesive that sticks to any clean, dry surface
- Yellow colour

#### Specifications

Part No: WATCTAPE  
Size: 38mm x 50m



### 6.4.2 100M UNDERGROUND MARKING TAPE

#### Features

- Bright non-adhesive PVC underground identification tape
- Printed 'CAUTION – ELECTRICAL CABLE BELOW'
- Acts as a warning for dangerous situations and great for trench identification
- Eye catching large letters printed on non-adhesive tape
- Bright orange reflective tape for vibrant daytime visibility
- Orange colour

#### Specifications

Part No: WATUMT100  
Size: 150mm x 100m



### 6.4.3 500M UNDERGROUND MARKING TAPE

#### Features

- Bright non-adhesive PVC underground identification tape
- Printed 'CAUTION – ELECTRICAL CABLE BELOW'
- Acts as a warning for dangerous situations and great for trench identification
- Eye catching large letters printed on non-adhesive tape
- Bright reflective tape for vibrant daytime visibility
- Orange colour

#### Specifications

Part No: WATPVCUMT  
Size: 150mm x 500m



## 6.4 ELECTRICAL AND SPECIALTY TAPE

### 6.4.4 250M UNDERGROUND MARKING TAPE

#### Features

- Non-adhesive PVC underground identification tape with wire tracer
- Printed 'CAUTION – BURIED COMMUNICATIONS BELOW'
- Acts as a warning for dangerous situations and great for trench identification
- Eye catching large letters printed on non-adhesive tape
- White colour

#### Specifications

Part No: WATUMTW250  
Size: 150mm x 250m



### 6.4.5 PVC DUCT TAPE

#### Features

- PVC sealing and joining tape
- Coated with pressure-sensitive adhesive
- Suitable for joining flexible duct
- Moisture, corrosion and weather resistant tape
- Provides excellent protection
- Grey colour

#### Specifications

Part No: WATPVCDT  
Size: 0.13mm x 48mm x 30m



### 6.4.6 WIDE PVC DUCT TAPE

#### Features

- PVC sealing and joining tape
- Coated with pressure-sensitive adhesive
- Suitable for joining flexible duct
- Moisture, corrosion and weather resistant tape
- Provides excellent protection
- Grey colour

#### Specifications

Part No: WATPVCDTW  
Size: 0.125mm x 75mm x 30m



## 6.4 ELECTRICAL AND SPECIALTY TAPE

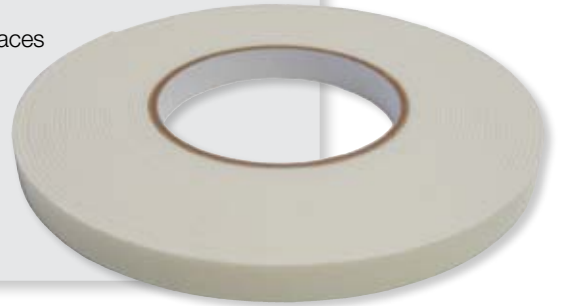
### 6.4.7 DOUBLE SIDED TAPE

#### Features

- Provides excellent protection
- Multipurpose double sided tape
- Thicker double sided adhesive for greater adhesion to irregular surfaces
- Excellent for general purpose mounting and joining applications

#### Specifications

| Part No  | Thickness (mm) | Width (mm) | Length (m) |
|----------|----------------|------------|------------|
| WATDST12 | 1.7            | 12         | 10         |
| WATDST18 | 1.7            | 18         | 10         |
| WATDST24 | 1.7            | 24         | 10         |



### 6.4.8 PVC ELECTRICAL INSULATION TAPE

#### Features

- For superior insulation of electrical cables
- Self-adhesive tape for bundling cables and wires
- Safe and easy to use
- Highly flexible low temperature tape
- Temperature range: -10°C to +80°C

#### Specifications

| Part No     | Colour       | Thickness (mm) | Width (mm) | Length (m) |
|-------------|--------------|----------------|------------|------------|
| WATPVCBLALT | Black        | 0.18           | 18         | 20         |
| WATPVCBLULT | Blue         | 0.18           | 18         | 20         |
| WATPVCBRLT  | Brown        | 0.18           | 18         | 20         |
| WATPVCGLT   | Green        | 0.18           | 18         | 20         |
| WATPVCGYLT  | Yellow/Green | 0.18           | 18         | 20         |
| WATPVCOLT   | Orange       | 0.18           | 18         | 20         |
| WATPVCRLT   | Red          | 0.18           | 18         | 20         |
| WATPVCWLT   | White        | 0.18           | 18         | 20         |
| WATPVCRP    | Rainbow Pack | 0.18           | 18         | 20         |



Rainbow pack contains 3 x black, 2 x blue, 2 x red, 2 x white and 1 x yellow/green rolls

### 6.4.9 PROFESSIONAL GRADE VINYL ELECTRICAL TAPE

#### Features

- High quality PVC coated tape with an aggressive rubber-resin adhesive
- For sealing, insulating and bundling cable and reinforcing cable joints and splices
- Good dielectric features and extremely weatherproof
- High life cycle (12 month shelf life)
- Flame retardant and heat resistant
- Temperature range: -18°C to +105°C
- Black colour

#### Specifications

**Part No:** WATVETIC6P  
**Size:** 0.18mm x 18mm x 20m



| Technical Data        | Value                                 | Test Method          |
|-----------------------|---------------------------------------|----------------------|
| Tensile strength      | 7.3kg/inch                            | ASTM D 1000          |
| Elongation at break   | 285% @ 23°C<br>112% @ -18°C           | ASTM D 1000          |
| Dielectric strength   | 7KV                                   | ASTM D 1000          |
| Voltage rating        | 600V                                  | UL510                |
| Insulation resistance | > 1 x 10 <sup>6</sup> megohms         | CNS2064              |
| Flammability          | 1 sec<br>4 sec                        | UL510<br>ASTM D 1000 |
| Accelerated aging     | 80%                                   | ASTM D 1000          |
| Telescoping           | 24 hrs @ 50°C < 0.1 inch              | ASTM D 1000          |
| Flagging              | < 0.1 inch                            | ASTM D 1000          |
| Adhesion to steel     | 500g/inch @ 23°C<br>830g/inch @ -18°C | ASTM D 1000          |
| Adhesion to backing   | 550g/inch @ 23°C<br>950g/inch @ -18°C | ASTM D 1000          |



## 6.4 ELECTRICAL AND SPECIALTY TAPE

### 6.4.10 HIGH VOLTAGE INSULATION TAPE

#### Features

- For insulation of plastic cable conductors up to 69kV
- Superior electrical, mechanical and thermal properties
- High life cycle and operating security
- Good dielectric features and extremely weatherproof
- Self-amalgamating and fully removable
- Very good adhesive properties to a wide range of materials

#### Specifications

| Part No     | Thickness (mm) | Width (mm) | Length (m) |
|-------------|----------------|------------|------------|
| WAT125HVT60 | 0.50           | 19         | 10         |
| WAT125HVT62 | 0.75           | 19         | 10         |



### 6.4.11 CONDUCTING TAPE

#### Features

- Highly conformable to any shape and retains conductivity when stretched
- High life cycle and security with good dielectric and physical properties
- High heat resistance, self-amalgamating and extremely ductile
- Welds quickly to a homogeneous mass without cavities
- Printed "CAUTION – SEMI-CONDUCTING TAPE"
- Black colour

#### Specifications

Part No: WAT125CONT61  
Size: 0.75mm x 19mm x 5m



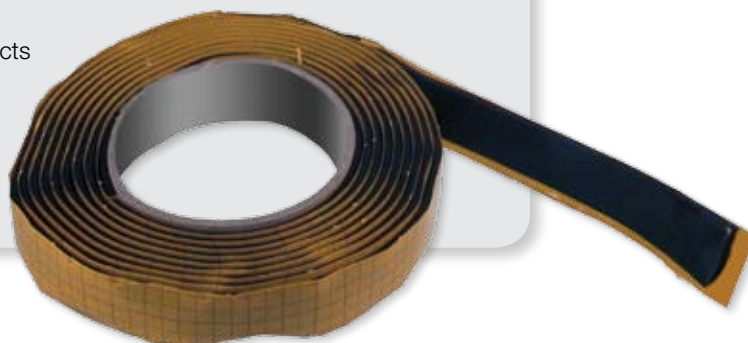
### 6.4.12 SEALING MASTIC TAPE

#### Features

- Good adhesion and sealing characteristics to metals, glass, rubber and plastic
- Improves the sealing zone for heatshrink products and cable terminations
- Good dielectric and physical properties
- Durable
- Also seals terminations of ceander cables
- Quick and easy insulation and sealing of objects
- Black colour

#### Specifications

Part No: WAT127SMT  
Size: 3.0mm x 20mm x 3m



## 6.4 ELECTRICAL AND SPECIALTY TAPE

### 6.4.13 PRESSURE TAPE

#### Features

- For sealing cast resin joints
- Transparent in colour

#### Specifications

| Part No     | Thickness (mm) | Width (mm) | Length (m) |
|-------------|----------------|------------|------------|
| WAT125PT711 | 0.15           | 25         | 33         |
| WAT125PT712 | 0.15           | 38         | 33         |

| Technical Data         | Value                   |
|------------------------|-------------------------|
| Tensile strength       | 12 N/mm <sup>2</sup>    |
| Elongation at break    | 400%                    |
| Temperature resistance | +100°C                  |
| Dielectric strength    | 78 kV/mm                |
| Volume resistivity     | 10 <sup>13</sup> Ω x cm |



### 6.4.14 REPAIR TAPE

#### Features

- Self-amalgamating
- For repairing damaged sheaths of plastic/rubber insulated cables and connectors
- Very good electrical properties
- Excellent tensile strength
- 100% waterproof
- Black colour

#### Specifications

**Part No:** WAT125RT72  
**Size:** 0.75mm x 25mm x 10m



| Technical Data              | Value                   | Test Method |
|-----------------------------|-------------------------|-------------|
| Tensile strength            | 2 N/mm <sup>2</sup>     | ASTM D 412  |
| Elongation at break         | 600%                    | ASTM D 412  |
| Temperature resistance      | +90°C                   | —           |
| Dielectric strength         | 40 kV/mm                | ASTM D 149  |
| Volume resistivity          | 10 <sup>15</sup> Ω x cm | ASTM D 257  |
| Water absorption (24hrs)    | 0.4%                    | ASTM D 570  |
| Dielectric constant (50 Hz) | 2.5 A x s/V x m         | ASTM D 150  |
| Loss factor (50 Hz)         | 0.0014                  | ASTM D 150  |

### 6.4.15 SEALING TAPE

#### Features

- Excellent adhesion to metals, glass, rubber and plastic
- Self-amalgamating and good dielectric and physical properties
- Provides weatherproof sealing and protection against dust, humidity and corrosion
- Suitable for connections with acrylic and epoxy resin compound
- Permanently elastic and ideal for sealing and repairing cables
- Black colour

#### Specifications

**Part No:** WAT125ST64  
**Size:** 3.2mm x 38mm x 1.5m



| Technical Data              | Value                      |
|-----------------------------|----------------------------|
| Water absorption            | 0.1%                       |
| Dielectric strength         | 16 kV/mm                   |
| Dielectric constant (50 Hz) | 3.1 A x s/V x m            |
| Power factor (50 Hz)        | 0.025                      |
| Volume resistivity (20°C)   | 2 x 10 <sup>10</sup> Ω x m |
| Temperature range           | -30°C to +80°C             |
| Elongation at break         | > 1000%                    |
| Tensile strength            | 0.12 N/mm                  |

## 6.4 ELECTRICAL AND SPECIALTY TAPE

### 6.4.16 COPPER BRAID TAPE

#### Features

- Braided tinned copper wire
- Extremely flexible and break resistant
- Suitable for earthing transfer and interconnecting electrostatic shielding and conducting connections
- Fits all contours without folds
- Ideal for shielding and protecting cable

#### Specifications

| Part No      | Thickness (mm) | Width (mm) | Length (m) |
|--------------|----------------|------------|------------|
| WAT126CBT631 | 0.5            | 25         | 5          |
| WAT126CBT633 | 0.5            | 60         | 5          |



### 6.4.17 FIBREGLASS TEXTILE TAPE

#### Features

- Self-adhesive fibreglass reinforced tape suitable for marking
- Easy to print on and extremely tear resistant
- Ideal for insulating electrical components which become very hot during operation
- Provides protective wrapping against heat ie protects cable during welding
- Coated with warm hardening silicone adhesive and heat resistant up to +130°C
- White colour

#### Specifications

**Part No:** WAT223FT583  
**Size:** 0.18mm x 19mm x 33m



## 6.5 CLEANERS / DEGREASERS

### 6.5.1 MULTIPURPOSE CLEANER / DEGREASER WIPE

#### Features

- Two individually sealed towelettes; one wipe is lightly saturated while the other wipe is dry
- For multipurpose industrial and maintenance needs
- Low level of toxicity and does not form vapours quickly
- Ideal for all electrical cleaning needs, no wasted solvent or need for rags
- Suitable for cleaning and degreasing industrial grimes, greases, silicone, tars, adhesives etc
- Contains no CFC's, HCFC's, or other ozone depleting solvents, not recommended for use on energised equipment

#### Specifications

**Part No:** WATHP-P158ID  
**Size:** 127 x 203mm (5" x 8")



| Technical Data            | Value           | Test Method   |
|---------------------------|-----------------|---------------|
| Dielectric Strength       | >40KV           |               |
| Relative Evaporation Rate | Medium          |               |
| Residue                   | >100 ppm        | ASTM D 2369   |
| Flashpoint                | >60.5°C         | ASTM D 56     |
| Initial Boiling Point     | 185°C           |               |
| Specific Gravity          | 0.79            |               |
| Percent Aromatics         | <1%             |               |
| Propellant (aerosol only) | CO <sub>2</sub> |               |
| Cleaning strength         | Excellent       |               |
| KB value                  | 33              |               |
| Water content             | <50 ppm         | ASTM D 153313 |

## 6.5 CLEANERS / DEGREASERS

### 6.5.2 MULTIPURPOSE CLEANER / DEGREASER TRIGGER SPRAYER

#### Features

- Suitable for cleaning and degreasing, one cleaner for all electrical cleaning needs
- For multipurpose industrial and maintenance needs
- Low level of toxicity and does not form vapours quickly
- Ideal for all electrical cleaning needs, no wasted solvent or need for rags
- Suitable for cleaning and degreasing industrial grimes, greases, silicone, tars, adhesives etc
- Contains no CFC's, HCFC's, or other ozone depleting solvents, not recommended for use on energised equipment

#### Specifications

Part No: WATHP-35LR  
Size: 950ml

| Technical Data            | Value           | Test Method   |
|---------------------------|-----------------|---------------|
| Dielectric Strength       | >40KV           |               |
| Relative Evaporation Rate | Medium          |               |
| Residue                   | > 100 ppm       | ASTM D 2369   |
| Flashpoint                | > 60.5°C        | ASTM D 56     |
| Initial Boiling Point     | 185°C           |               |
| Specific Gravity          | 0.79            |               |
| Percent Aromatics         | < 1%            |               |
| Propellant (aerosol only) | CO <sub>2</sub> |               |
| Cleaning strength         | Excellent       |               |
| KB value                  | 33              |               |
| Water content             | <50 ppm         | ASTM D 153313 |



### 6.5.3 CLEANER / DEGREASER SOLVENT WIPE

#### Features

- Pre-saturated solvent wipes sealed in foil pouch
- Non-conductive and compatible with most materials
- Fast evaporating and non-flammable cleaner with excellent solvency properties
- Durable and non-linting wipes ideal for field use
- Does not contain chlorinated solvents, limits vapour exposure
- Eliminates spill and splash hazards

#### Specifications

Part No: WATTR-1  
Size: 127x 203mm (5" x 8")



### 6.5.4 SANDING CLOTH

#### Features

- Sanding cloth for cable cleaning
- Non-conductive aluminium oxide sanding cloth
- Removes semi-conducting shield residue, jacket polymers and other contaminating materials
- Easy to use and eliminates waste
- Conveniently packed as roll for easy storage
- Durable and resists shredding

#### Specifications

Part No: WATSPROLL  
Size: 25mm x 45m

