

Wire and Cable

Heat-shrink Tubing

INTRODUCTION

Heat Shrinkable Solutions

Comprehensive Range of Heat Shrinkable Tubing

Heat-shrinkable tubing is available in an extensive range of sizes, colours and materials, including Polyolefins, Fluoropolymers, Elastomers and Silicone, many of which are radiation cross-linked to enhance their performance properties. Shrink ratios from 2:1 to 4:1 enable ease of installation, allowing the tubing to be utilised in all environments, from component protection through to rugged high performance electrical systems and field cable repairs. Temperature capabilities range from -75°C to +260°C.

Performance characteristics include chemical and fluid resistance, environmental and vibration protection, abrasion resistance and excellent electrical performance. Heat-shrinkable tubing is also a simple and effective way of improving a products aesthetic appearance.



- Mechanical protection
 - · Chemical/fluid resistance
 - · Electrical insulation
 - · Moisture protection
 - · Strain relief, Flexibility
 - · Flame-retardant, Low smoke
 - · High shrink ratio
 - · Low shrink temperature
 - · Aesthetic enhancement
 - Fast and efficient installation
 - Pre-installed adhesives bond to a wide variety of plastics, rubbers and metals.



Cut Piece Service

Many of our tubing products can be supplied pre-cut to length. Please contact our sales office for details.



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Heat Shrinkable Solutions

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| DCPT | Flexible, flame-retardant, dual colour tubing | page 95 |
| DR-25 | Flexible, chemical & abrasion resistant tubing | page 96 |
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| HFT5000 | Heat Shrinkable woven tubing | page 98 |
| LSTT | Low shrink temperature tubing | page 99 |
| MT Series | Medical tubing overview | page 100 |
| RNF-100 | General purpose, flame retardant tubing | page 101 |
| RNF-3000 | 3:1 shrink ratio version of above | page 102 |
| RP-4800 | 4:1 shrink ratio, flame retardant tubing | page 103 |
| RT-375 | Optically clear, flame retardant, flexible tubing | page 104 |
| RT-555 | High performance, low out-gassing | page 105 |
| RW-175-E | High temperature, chemical resistant tubing | page 106 |
| RW-200-E | High temperature, fuel resistant, ruggedised tubing | page 107 |
| SRFR | Highly flexible silicone tubing, heat-shrinkable | page 108 |
| TFE | High temperature, heat-shrinkable PTFE tubing | page 109 |
| TFER | Higher shrink ratio version of above | page 110 |
| VERSAFIT® | Highly flame retardant, low shrink temperature | page 111 |
| ZHTM | Zerohal, medium wall, LFH tubing | page 112 |
| ZH-150 | Zerohal, high temperature, LFH tubing | page 113 |
| ZHT/ZHT-BR | Zerohal, coloured LFH tubing | page 114 |
| | | |

Dual Wall (Encapsulant or Adhesive Lined)

| ATUM | High shrink ratio, adhesive lined tubing | page 115 |
|-----------------|--|----------|
| CGAT | Adhesive lined, flexible, tubing | page 116 |
| D-150 and D-260 | Repair sleeves, adhesive lined | page 117 |
| HTAT | High temperature, adhesive lined | page 118 |
| SCL | Semi-rigid, encapsulant lined tubing | page 119 |
| SCT | Flame-Retardant, adhesive lined tubing | page 120 |

sales@is-rayfast.com

Selection Guide

Heat Shrinkable
All tubing RoHS compliant

| 1 | | | exible | | þ | | | gths | | slo | 논 |
|----|----------------------|----------|-----------------|----------|------------|-----------------|-------------------------|----------------|--------|-------------|----------------------|
| 2 | Material | | Highly Flexible | Flexible | Semi Rigid | Operating | | I.2m Lengths | Spools | Flat Spools | Min. Shrink Ratio |
| | Single Wall | Product | エ | 正 | Ø | Temperature | Size Range | - - | S | 正 | ≥ ∞ |
| | Polyolefin | CGPT | | | | -40°C to +135°C | 1.2mm - 102.0mm | | • | | 2:1 |
| 4 | Polyolefin | CRN | | | • | -55°C to +135°C | 1.2mm - 19.0mm | • | | | 2:1 |
| | Polyolefin | DCPT | | • | | -55°C to +135°C | 3.0mm - 51.0mm | | | | 2:1 |
| | Polyolefin | LSTT | | | | -40°C to +125°C | 1.6mm - 38.0mm | | | | 2:1 |
| | Polyolefin | RNF-100 | | | | -55°C to +135°C | 1.2mm - 102.0mm | | | | 2:1 |
| | Polyolefin | RNF-3000 | | • | | -55°C to +135°C | 1.5mm - 39.0mm | | | | 3:1 |
| | Polyolefin | RP-4800 | | • | | -55°C to +135°C | 25.4mm - 102.0mm | • | | | 4:1 |
| | Polyolefin | VERSAFIT | | | | -55°C to +135°C | 1.6mm - 104.2mm | | • | | 2:1 |
| | Folyolellii | VLNOALII | | | | -33 0 10 +133 0 | 1.0111111 - 104.2111111 | | | | 2.1 |
| | Elastomer | DR-25 | | • | | -75°C to +150°C | 3.2mm - 76.0mm | | • | | 2:1 |
| | Elastomer | DR-25-TW | • | | | -75°C to +150°C | 2.4mm - 38.0mm | | • | | 2:1 |
| | Fluoroelastomer | RW-200-E | | • | | -55°C to +200°C | 3.2mm - 51.0mm | | • | | 2:1 |
| | Silicone | SRFR | • | | | -75°C to +200°C | 2.9mm - 51.0mm | | • | | 1.5:1 |
| 10 | Fluoropolymer | RT-375 | | • | | -55°C to +150°C | 1.2mm - 25.4mm | | • | | 2:1 |
| | Fluoropolymer | RT-555 | | | • | -65°C to +200°C | 3.2mm - 50.8mm | | • | | 2:1 |
| | Fluoropolymer | RW-175-E | | | • | -55°C to +175°C | 1.2mm - 38.1mm | • | • | | 2:1 |
| 11 | Fluoropolymer | TFE | | | • | -67°C to +250°C | 0.8mm - 11.9mm | • | | | 1.8:1 |
| | Fluoropolymer | TFER | | | • | -67°C to +250°C | 2.0mm - 32.0mm | • | | | 3.2:1 |
| 12 | | | | | | | | | | | |
| | Polyolefin/Polyester | HFT5000 | • | | | -40°C to +125°C | 12.0mm - 70.0mm | | • | • | 2:1 |
| 13 | Polyolefin | ZH-150 | | • | | -75°C to +150°C | 3.0mm - 50.0mm | | • | | 2:1 |
| | Polyolefin | ZHT | | • | | -30°C to +125°C | 1.2mm - 80.0mm | | • | | 2:1 |
| 14 | Polyolefin | ZHTM | | • | | -30°C to +105°C | 3.0mm - 50.0mm | | • | | 2:1 |
| | Dual Wall / Adhesive | e lined | | | | | | | | | |
| 15 | Polyolefin | ATUM | | • | | -55°C to +110°C | 3.0mm - 52.0mm | • | • | | 3:1 |
| | Polyolefin | CGAT | | • | | -30°C to +80°C | 3.0mm - 39.0mm | • | • | | 3:1 |
| 16 | | | | | | | | | | | |
| | Fluoropolymer | D-150 | | | • | -65°C to +150°C | 1.1mm - 2.8mm | | | | n/a |
| 17 | Fluoropolymer | D-260 | | | • | -65°C to +260°C | 5.16mm - 16.26mm | | | | n/a |
| | Polyolefin | HTAT | | • | | -55°C to +125°C | 4.0mm - 48.0mm | • | • | | 4:1 |
| 18 | Polyolefin | SCL | | | • | -55°C to +110°C | 3.2mm - 25.4mm | • | | | 3:1 |
| | Polyolefin | SCT | | | • | -40°C to +150°C | 7.6mm - 17.8mm | • | | | 4:1 |
| | | | | | | | | | | | |

Selection Guide

Heat Shrinkable
All tubing BoHS compliant

| | Min. Shrink Temperature | | Clear/Natural | " | | Flame Retardant | Halogen Free | JL Approved | | /W-1 (UL/CSA) | Military Specs | FMVSS 302 | 6A | 2 |
|----|----------------------------|--------|---------------|---------|--|-----------------|--------------|-------------|-----|---------------|----------------|-----------|----------|-----|
| 1 | . Sh nper | 쑹 | ar/N | Colours | | me F | ogel | Арр | ₫ | -1 (L | tary | VSS | BR 1326A | _ |
| 1 | Min Ten | Black | Cle | Col | Comment | Flar | Hal | 占 | CSA | % | Μ | ΕM | BB | 3 |
| Ī | Single W | /all | | | | | | | | | | | | |
| | +80°C | • | • | • | General purpose (clear not FR) | • | | • | • | | | | | 4 |
| | +110°C | • | • | | General purpose, semi-rigid | • | | • | • | | • | | | 4 |
| | +95°C | | | • | Dual colour, earth identifier - Green/Yellow | • | | • | • | | | | | |
| | +65°C | • | • | • | Low shrink temperature for fast recovery | | | | | | | • | | |
| | +95°C | • | • | • | High performance and flexible (clear MIL only) | • | | • | • | | • | | | |
| | +80°C | • | • | • | Higher shrink ratio (clear not FR) | • | | • | • | | • | | | |
| | +95°C | • | | • | 4:1 shrink ratio tubing (black approved only) | • | | • | | | • | | | |
| | +70°C | • | | • | Highly flame retardant, multi-spec. Low shrink temp. | • | | • | | • | • | | | |
| | +150°C | • | | | Diesel and hydraulic fluid resistant tubing | • | | | | | • | | | |
| | +125°C | • | | | Thin wall, diesel resistant tubing | • | | | | • | • | | | |
| | +100°C | • | | | High temperature, chemical resistant tubing | • | | | | | • | | | |
| | +135°C | | | • | Very flexible in range of temp, with ablative properties | • | | • | | • | | | | |
| | 1100 0 | | | | very nexible in range of temp, with ablative proportion | | | | | | | | | |
| | +125°C | | • | | Clear high performance tubing | • | | • | • | • | • | | | 10 |
| | +150°C | • | | | Fluid and chemical resistant tubing, low outgassing | • | | • | | • | | | | |
| | +155°C | | • | | High temperature, thin wall, chemical resistant tubing | • | | • | | • | • | | | 11 |
| | +330°C | | • | | High temperature, chemically inert tubing PTFE | • | | | | | • | | | |
| | +340°C | | • | | High temperature, chemically inert tubing PTFE | • | | | | | • | | | 12 |
| | +80°C | • | | | Woven heat shrinkable tubing | | 0 | • | | | | • | | |
| | +150°C | • | | | Zero halogen, LFH tubing | • | • | | | | | | | 13 |
| | +120°C | • | | • | Zero halogen, coloured LFH tubing (BR 1326A version) | • | • | • | | | | | • | |
| | +80°C | • | | | Zero halogen, medium-wall LFH tubing | • | • | | | | • | | • | 14 |
| į, | | | _ | | • | | | | _ | | | | _ | |
| 4 | Dual Wa | II / A | dhe | sive | | | | | | | | | | 15 |
| | +80°C | • | | | Adhesive lined performance tubing | • | | • | | | • | • | | 15 |
| | +80°C | • | • | | Adhesive lined tubing | • | | • | | | | | | -10 |
| | - | | | • | C-Wrap repair sleeve | | | | | | | | | 16 |
| | - | • | | | Wraparound side entry repair | • | | | | | | | | 47 |
| | . 0000 | | | | High topopount we adhering the edition | | | | | | | | | 17 |
| | +80°C | • | | | High temperature adhesive lined tubing | • | | | | | | | | 10 |
| | +125°C | • | | | Encapsulant lined tubing | | | • | | | • | | | 18 |
| | +110°C | • | | | High temperature, adhesive lined tubing | • | | | | | | | | |

CGPT

Polyolefin

Commercial grade, flexible tubing

A tough and flexible general purpose polyolefin tubing, providing a good blend of chemical, electrical and physical performance properties. Suitable for electrical insulation, strain relief, cable bundling, colour coding, identification of wires, cables and electronic components.

Features & Benefits

- · Very good chemical & solvent resistance
- Excellent physical & electrical properties
- · Wide range of sizes and colours available

Operating Temperature

From -40°C to +135°C

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +120°C



Specifications & Approvals

- UL E35586. 600v, 125°C
- CSA LR 31929, 600v, 125°C

| | Inside Diameter | | Wall Thickness | Pack Size | Deat Manakan |
|---|---|----------------|----------------|-------------|--------------------------|
| | Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools Only | Part Number |
| | 1.2 | 0.6 | 0.45 mm | 600m | CGPT-1.2/0.6-Colour-SP |
| | 1.6 | 0.8 | 0.45 mm | 600m | CGPT-1.6/0.8-Colour-SP |
| | 2.4 | 1.2 | 0.50 mm | 300m | CGPT-2.4/1.2-Colour-SP |
| | 3.2 | 1.6 | 0.50 mm | 300m | CGPT-3.2/1.6-Colour-SP |
| 1 | 4.8 | 2.4 | 0.50 mm | 300m | CGPT-4.8/2.4-Colour-SP |
| | 6.4 | 3.2 | 0.65 mm | 150m | CGPT-6.4/3.2-Colour-SP |
| | 9.5 | 4.8 | 0.65 mm | 150m | CGPT-9.5/4.8-Colour-SP |
| | 12.7 | 6.4 | 0.65 mm | 150m | CGPT-12.7/6.4-Colour-SP |
| | 19.0 | 9.5 | 0.75 mm | 150m | CGPT-19/9.5-Colour-SP |
| | 25.4 | 12.7 | 0.90 mm | 60m | CGPT-25.4/12.7-Colour-SP |
| | 38.0 | 19.0 | 1.00 mm | 60m | CGPT-38/19-Colour-SP |
| 4 | 51.0 | 25.4 | 1.15 mm | 30m | CGPT-51/25.4-Colour-SP |
| | 76.0 | 38.0 | 1.25 mm | 15m | CGPT-76/38-Colour-SP |
| | 102.0 | 51.0 | 1.40 mm | 15m | CGPT-102/51-Colour-SP |
| | NAZ 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 1 261 12 | | | |

Wall thickness will be less if tubing recovery is restricted during shrinkage. Clear is not flame retardant



 * Green/Yellow tubing is available in a range of sizes 3.2/1.6 thru to 38/19 incl. ONLY

A tough and flexible general purpose polyolefin tubing, providing a good blend of chemical, electrical and physical performance properties. Suitable for electrical insulation, strain relief, cable bundling, colour coding, identification of wires, cables and electronic components. Features & Benefits · Very good chemical & solvent resistance

Specifications & Approvals

UL E35586, 600v, 125°C

CSA LR 31929, 600v, 125°C

RoHS compliant

- Excellent physical & electrical properties
- Wide range of sizes and colours available

Operating Temperature

From -40°C to +135°C

Installation

- Minimum shrink temperature +80°C
- · Minimum full recovery +120°C

| Inside Diameter Supplied (mm) Recovered (mm) | | Wall Thickness | Pack Size | Dord N. subser | | |
|---|------|----------------|-------------|----------------|------------------------|--|
| | | Nom. Recovered | Spools Only | Part Number | | |
| | 1.5 | 0.5 | 0.45 mm | 600m | CGPT-1.5/0.5-Colour-SP | |
| | 3.0 | 1.0 | 0.55 mm | 300m | CGPT-3/1-Colour-SP | |
| | 6.0 | 2.0 | 0.65 mm | 150m | CGPT-6/2-Colour-SP | |
| | 9.0 | 3.0 | 0.75 mm | 150m | CGPT-9/3-Colour-SP | |
| | 12.0 | 4.0 | 0.75 mm | 150m | CGPT-12/4-Colour-SP | |
| | 18.0 | 6.0 | 0.85 mm | 150m | CGPT-18/6-Colour-SP | |
| | 24.0 | 8.0 | 1.00 mm | 60m | CGPT-24/8-Colour-SP | |
| | 39.0 | 13.0 | 1.15 mm | 60m | CGPT-39/13-Colour-SP | |

Wall thickness will be less if tubing recovery is restricted during shrinkage. Clear is not flame retardant

| Colours Available | | | | | | | |
|-------------------|-----|--------|-------|------|-------|--------|--|
| | | | | | | CLEAR | |
| 0 | 2 | 4 | 5 | 6 | 9 | X | |
| Black | Red | Yellow | Green | Blue | White | Clear# | |

Denotes: Non flame retardant.

CRN

Polyolefin Semi-rigid, flame retardant tubing

CRN tubing is ideally suited for strain relief and insulation of potential weak points such as wire splices, crimps and terminations. The flame-retardant material exhibits excellent mechanical and chemical properties. It meets major military and industrial specifications for an all purpose, semi-rigid tubing.

Features & Benefits

- · Tough, semi-rigid wire protection
- Flame retardant

Operating Temperature

From -55°C to +135°C

Installation

- Minimum shrink temperature +110°C
- Minimum full recovery +135°C



Specifications & Approvals

- AMS-DTL-23053/6 class 1 (Clear class 2)
- UL E35586, 600v, 125°C
- CSA LR31929, 600v, 125°C (black only)

| Inside Diameter | | Wall Thickness | Pack Size | Dant Namelani |
|-----------------|----------------|----------------|-------------------|----------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | 1.2m Lengths only | Part Number |
| 1.2 | 0.6 | 0.51 mm | 60 | CRN-3/64-0-STK |
| 1.6 | 0.8 | 0.51 mm | 60 | CRN-1/16-0-STK |
| 2.4 | 1.2 | 0.51 mm | 60 | CRN-3/32-0-STK |
| 3.2 | 1.6 | 0.51 mm | 60 | CRN-1/8-0-STK |
| 4.8 | 2.4 | 0.64 mm | 60 | CRN-3/16-0-STK |
| 6.4 | 3.2 | 0.64 mm | 30 | CRN-1/4-0-STK |
| 9.5 | 4.8 | 0.76 mm | 30 | CRN-3/8-0-STK |
| 12.7 | 6.4 | 0.76 mm | 30 | CRN1/2-0-STK |
| 19.0 | 9.5 | 0.89 mm | 30 | CRN3/4-0-STK |
| | | | | |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

Colours Available

CLEAR

0 = Black X = Clear^s

S Denotes: Made to special order only, non flame retardant.

Features & Benefits

- · Very good chemical & solvent resistance
- Excellent physical & electrical properties
- Wide range of sizes available

Operating Temperature

From -55°C to +135°C

Installation

Minimum shrink temperature +95°C

| • | VG 95343 Part 5 | * | Minimum full recovery +120°C | | | | |
|--------------|-----------------|----------------|------------------------------|-------------|------------------|--|--|
| | Inside Diameter | | Wall Thickness | Pack Size | Part Number | | |
| | Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools Only | Part Number | | |
| | 3.0 | 1.5 | 0.51 mm | 300m | DCPT 3/1.5-45-SP | | |
| | 6.0 | 3.0 | 0.58 mm | 150m | DCPT 6/3-45-SP | | |
| 흕 | 8.0 | 4.0 | 0.64 mm | 150m | DCPT 8/4-45-SP | | |
| Shrink Ratio | 10.0 | 5.0 | 0.64 mm | 150m | DCPT 10/5-45-SP | | |
| Ę | 12.0 | 6.0 | 0.64 mm | 150m | DCPT 12/6-45-SP | | |
| | 19.0 | 9.0 | 0.76 mm | 150m | DCPT 19/9-45-SP | | |
| 2:1 | 26.0 | 13.0 | 0.89 mm | 60m | DCPT 26/13-45-SP | | |
| | 38.0 | 19.0 | 1.00 mm | 60m | DCPT 38/19-45-SP | | |
| | 51.0 | 19.0 | 1.02 mm | 60m | DCPT 51/19-45-SP | | |
| | 3.0 | 1.0 | 0.55 mm | 300m | DCPT 3/1-45-SP | | |
| 烏 | 6.0 | 2.0 | 0.65 mm | 150m | DCPT 6/2-45-SP | | |
| Shrink Ratio | 9.0 | 3.0 | 0.75 mm | 150m | DCPT 9/3-45-SP | | |
| riz | 12.0 | 4.0 | 0.75 mm | 150m | DCPT 12/4-45-SP | | |
| | 18.0 | 6.0 | 0.85 mm | 150m | DCPT 18/6-45-SP | | |
| 3:1 | 24.0 | 8.0 | 1.00 mm | 60m | DCPT 24/8-45-SP | | |
| | 39.0 | 13.0 | 1.15 mm | 60m | DCPT 39/13-45-SP | | |

 RoHS

Wall thickness will be less if tubing recovery is restricted during shrinkage.

Colours Available

Specifications & Approvals

UL E35586, 600v, 125°C

CSA LR31929, 600v, 125°C

45 = Grn/Ylw

DCPT

DR-25

Elastomer

Flexible, abrasion & diesel resistant

DR-25 is made from radiation cross-linked elastomeric material, for long term heat resistance. Ideally suited for high performance wiring harnesses. Used in a wide range of military, aerospace and other harsh environment applications.

Features & Benefits

- · Excellent chemical & solvent resistance
- Excellent abrasion/mechanical protection
- · Compatible with 'System 25' components

Operating Temperature

From -75°C to +150°C

Installation

- Minimum shrink temperature +150°C
- Minimum full recovery +175°C



Specifications & Approvals

- AMS-DTL-23053/16
- BS 4G-198 Part 3 10A
- VG 95343 Part 5 Type D
- VDE-0341 Part 9005

| | Inside D | iameter | Wall Thickness | Pack Size | David Marrishau |
|---|---------------|----------------|----------------|-------------|------------------|
| | Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools Only | Part Number |
| | 3.2 | 1.6 | 0.76 mm | 100m | DR-25-1/8-0-SP |
| | 4.8 | 2.4 | 0.84 mm | 100m | DR-25-3/16-0-SP |
| | 6.4 | 3.2 | 0.89 mm | 100m | DR-25-1/4-0-SP |
| | 9.5 | 4.8 | 1.02 mm | 100m | DR-25-3/8-0-SP |
| 1 | 12.7 | 6.4 | 1.22 mm | 60m | DR-25-1/2-0-SP |
| | 19.0 | 9.5 | 1.45 mm | 60m | DR-25-3/4-0-SP |
| | 25.4 | 12.7 | 1.78 mm | 30m | DR-25-1-0-SP |
| | 38.0 | 19.0 | 2.41 mm | 15m | DR-25-1-1/2-0-SP |
| | 51.0 | 25.4 | 2.79 mm | 15m | DR-25-2-0-SP |
| | 76.0 | 38.0 | 3.18 mm | 15m | DR-25-3-0-SP |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

14 DR25 is also available as a repair tape, e.g. T-DR-25-NR1-0. For more information please contact us. For supply to BS 4G-198 or AMS-DTL23053 add -BS or -MS suffix to part No respectively.

Colours Available

0 = Black

DR-25-TW

Flexible, abrasion & diesel resistant

DR-25-TW is a 'Thin-Wall' version of DR-25 offering similar properties and is ideal for use where space and weight saving are important.

Features & Benefits

- · Excellent chemical & solvent resistance
- Excellent abrasion/mechanical protection
- · Compatible with 'System 25' components
- Lightweight, thin wall

Operating Temperature

From -75°C to +150°C

Installation

- · Minimum shrink temperature +125°C
- Minimum full recovery +175°C

Specifications & Approvals

- VG-95343 Part 5 Type D
- VDE-0341 Part 9005
- RK 6008/2

| Inside Diameter | | Wall Thickness | Pack Size | Part Number |
|-----------------|------------------------------|----------------|-------------|---------------------|
| Supplied (mm) | Supplied (mm) Recovered (mm) | | Spools Only | Part Number |
| 2.4 | 1.2 | 0.51 mm | 150m | DR-25-TW-3/32-0-SP |
| 3.2 | 1.6 | 0.51 mm | 150m | DR-25-TW-1/8-0-SP |
| 4.8 | 2.4 | 0.51 mm | 150m | DR-25-TW-3/16-0-SP |
| 6.4 | 3.2 | 0.64 mm | 75m | DR-25-TW-1/4-0-SP |
| 9.5 | 4.8 | 0.64 mm | 75m | DR-25-TW-3/8-0-SP |
| 12.7 | 6.4 | 0.64 mm | 75m | DR-25-TW-1/2-0-SP |
| 19.0 | 9.5 | 0.76 mm | 75m | DR-25-TW-3/4-0-SP |
| 25.4 | 12.7 | 0.89 mm | 30m | DR-25-TW-1-0-SP |
| 31.5 | 15.0 | 1.10 mm | 30m | DR-25-TW-1-1/4-0-SP |
| 38.0 | 19.0 | 1.02 mm | 30m | DR-25-TW-1-1/2-0-SP |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

Colours Available

0 = Black

HFT5000

Polyolefin/Polyester construction Heat-shrinkable fabric tubing

HFT5000 is made from a very flexible heatshrinkable fabric and shrinks to fit securely around a range of shapes and sizes. Designed to provide mechanical abrasion protection, noise and rattle suppression, for components such as rubber hoses, plastic pipes and harness wiring bundles.

Extremely flexible and resistant to trapping water, heat and humidity. It also provides outstanding abrasion, chafing and cutting protection, even at high temperatures.

Operating Temperature

From -40°C to +125°C (3000 hours)

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +110°C



Specifications & Approvals

- UL E199379 135°C
- FMVSS 302

| Inside D | iameter | Std Pack Size | Part Number | | |
|---------------|----------------|---------------|--------------------|--|--|
| Supplied (mm) | Recovered (mm) | Spools (SP) | Part Number | | |
| 12.0 | 6.0 | 500m | HFT5000-12/6-0-SP | | |
| 20.0 | 10.0 | 400m | HFT5000-20/10-0-SP | | |
| 30.0 | 15.0 | 400m | HFT5000-30/15-0-SP | | |
| 40.0 | 20.0 | 300m | HFT5000-40/20-0-SP | | |
| 50.0 | 25.0 | 200m | HFT5000-50/25-0-SP | | |
| 60.0 | 30.0 | 200m | HFT5000-60/30-0-SP | | |
| 70.0 | 35.0 | 150m | HFT5000-70/35-0-SP | | |

The fully recovered wall thickness will be approximately 1mm and longitudinal shrinkage on full recovery is nominally between 10% and 20%.

| | Properties | Test | Results | | | |
|--|--|---------------------------|---|--|--|--|
| | Abrasion resistance | +23°C, +80°C, +135°C | No wear to underlying rubber hose | | | |
| | (200g load, 0.3mm radius metal blade, 10Hz, 10mm stroke, 144 000 cycles) | | | | | |
| | Thermal aging | 3000 hrs at +125°C | No deterioration at +80°C | | | |
| | Flammability | MVSS302 | Pass | | | |
| | Low temperature flexibility | 4 hrs at -40°C and +125°C | No cracking | | | |
| | Cold impact | 100mm at -40°C | No cracking | | | |
| | Thermal shock | -40°C and +125°C | No deterioration at +80°C | | | |
| | Fluid resistance: | 24hrs immersion at +23°C | No deterioration in abrasion resistance | | | |

LSTT
Polyolefin
Low shrink temperature, flexible

2

LSTT is a highly flexible, easy to handle and install low shrink temperature heat-shrinkable tubing. Ideal for covering heat sensitive devices and termination insulation. Meets automotive flame propagation standard MVSS 302.

Features & Benefits

- · Rapid recovery at low temperatures
- · Good physical & electrical performance
 - Not flame retardant

Operating Temperature

From -40°C to +125°C

Installation

- Minimum shrink temperature +65°C
- Minimum full recovery +110°C

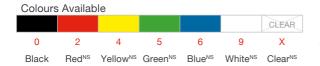
| 2:1 shrink |
|------------|
| |
| |
| |
| RoHS |

Specifications & Approvals

- FMVSS 302
- RW-2051

| Inside Diamet | | Diameter | Wall Thickness | Pack Size | Doub Normale and |
|---------------|------------|----------------|----------------|-----------|---------------------|
| Supp | olied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part Number |
| | 1.6 | 0.8 | 0.50 mm | 600m | LSTT-1.6-Colour-SP |
| | 2.4 | 1.2 | 0.55 mm | 300m | LSTT-2.4-Colour-SP |
| | 3.2 | 1.6 | 0.55 mm | 300m | LSTT-3.2-Colour-SP |
| | 4.8 | 2.4 | 0.55 mm | 300m | LSTT-4.8-Colour-SP |
| | 6.4 | 3.2 | 0.65 mm | 150m | LSTT-6.4-Colour-SP |
| | 9.5 | 4.8 | 0.65 mm | 150m | LSTT-9.5-Colour-SP |
| | 12.7 | 6.4 | 0.65 mm | 150m | LSTT-12.7-Colour-SP |
| | 19.0 | 9.5 | 0.80 mm | 150m | LSTT-19.0-Colour-SP |
| | 25.4 | 12.7 | 0.95 mm | 60m | LSTT-25.4-Colour-SP |
| | 38.0 | 19.0 | 1.05 mm | 60m | LSTT-38.0-Colour-SP |
| | 52.0 | 26.0 | 1.14 mm | 60m | LSTT-52.0-0-SP* |

Wall thickness will be less if tubing recovery is restricted during shrinkage.



NS Denotes Non-Standard colours, may be subject to MOQs.

2

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^{*}LSTT-52 is only available in black.

MT Series

Medical Grade Tubing Single and Dual Wall

Provides protective insulation for a wide range of medical grade applications, this heat shrink tubing provides a versatile solution for process aids, bonding joints, chemical resistance and electro-mechanical protection for critical medical components.

- Unique formulations for broad range of medical applications.
- · Robust and chemical resistant.
- Stable, maintains integrity in high temperature conditions.
- Compliant to RoHS and USP class VI biocompatibility.
- Select products registered with FDA through master file system (MAF).
- · Manufactured to ISO 10993 standards.



There is an extensive range of products available in various sizes, from a max of 12.7mm Ø to a min of 0.6mm Ø over 9 sizes and a selection of colours, please contact us for additional information.

| Base | Product | Design | Shrink | Sterilisation | | | | |
|---------|---------|----------------|--------|---------------|-------|-----|-------|----------|
| Polymer | Family | Market | Temp. | Auto-clave | Gamma | EtO | Steam | Dry Heat |
| PVDF | MT1000 | Surgical | 175°C | • | • | • | • | • |
| HDPE | MT2000 | Surgical | 140°C | | • | • | | |
| PVDF | MT3000 | Surgical | 150°C | • | • | • | | • |
| LDPE | MT5000 | Surgical | 110°C | | • | • | | |
| EMA | MT5500 | Surgical | 110°C | | • | • | | |
| FEP | MT-FEP | Surgical | 210°C | • | | • | • | • |
| LDPE | MT-LWA | Interventional | 110°C | n/a | n/a | n/a | n/a | n/a |

A Wide Range of Medical Applications

Products to suit different material requirements and almost any design situation. Here are just a few examples of the type, capabilities of the MT series of heat shrink products.

- Abrasion Protection for Medical Instruments MT1000 and MT3000
- · Balloon and Stent Process Aid MT-LWA
- Laparoscopic-Electrosurgical Device Insulation MT2000 and MT5000
- Protection and Insulation of Highly Flexible Joints MT5500 and MT3000





RNF-100 Polyolefin Flexible, flame retardant

Designed to provide superior mechanical (abrasion, cut-through, strain relief), thermal and fluid resistance performance. Used extensively in military applications for lightweight harness jackets, insulation, identification, colour coding and protection.

Features & Benefits

- Excellent physical, chemical properties
- Superior abrasion and solvent resistance
- Flexible; conforms to irregular shapes

Operating Temperature

From -55°C to +135°C

Installation

- Minimum shrink temperature +95°C
- Minimum full recovery +121°C

Specifications & Approvals

- AMS-DTL23053/5 class 1 (colours)
- VDE 0341 Part 9005, Type A, B (colours)
- BS 4G 198-3 Type 11B
- UL E35586, 600v, 125°C

| Inside Diameter | | Wall Thickness | Pack Size | | Part Number |
|-----------------|-----------|----------------|-------------|--------|-------------------------|
| Supplied | Recovered | Nom. Recovered | 1.2m Sticks | Spools | Part Number |
| 1.2 mm | 0.6 mm | 0.40 mm | 60m | 600m | RNF-100-3/64-Colour-xx |
| 1.6 mm | 0.8 mm | 0.43 mm | 60m | 600m | RNF-100-1/16-Colour-xx |
| 2.4 mm | 1.2 mm | 0.51 mm | 60m | 300m | RNF-100-3/32-Colour-xx |
| 3.2 mm | 1.6 mm | 0.51 mm | 60m | 300m | RNF-100-1/8-Colour-xx |
| 4.8 mm | 2.4 mm | 0.51 mm | 60m | 300m | RNF-100-3/16-Colour-xx |
| 6.4 mm | 3.2 mm | 0.64 mm | 30m | 150m | RNF-100-1/4-Colour-xx |
| 9.5 mm | 4.8 mm | 0.64 mm | 30m | 150m | RNF-100-3/8-Colour-xx |
| 12.7 mm | 6.4 mm | 0.64 mm | 30m | 150m | RNF-100-1/2-Colour-xx |
| 19.1 mm | 9.5 mm | 0.76 mm | 30m | 150m | RNF-100-3/4-Colour-xx |
| 25.4 mm | 12.7 mm | 0.89 mm | 30m | 60m | RNF-100-1-Colour-xx |
| 38.1 mm | 19.1 mm | 1.02 mm | 12m | 60m | RNF-100-1-1/2-Colour-xx |
| 50.8 mm | 25.4 mm | 1.14 mm | 12m | 30m | RNF-100-2-Colour-xx |
| 76.2 mm | 38.1 mm | 1.27 mm | 6m | 15m | RNF-100-3-Colour-xx |
| 101.6 mm | 50.8 mm | 1.40 mm | 6m | 15m | RNF-100-4-Colour-xx |

For supply to BS 4G-198 or AMS-DTL23053 add -BS or -MS suffix to part number respectively.

Wall thickness will be less if recovery is restricted. Where xx is either STK (sticks) or SP (spools).

Green

- # Denotes: Non flame retardant.
- NS Denotes Non-Standard colours, subject to MOQs.

Colours Available CLEAR 0 2 5 6 9 X 3 4 Black Red Yellow Blue White Brown^{NS} Orange^{NS} Violet^{NS}

sales@is-rayfast.com

Clear#

RNF-3000

Polyolefin

Flexible, flame retardant

High shrink ratio tubing with superior mechanical (abrasion, cut through, strain relief), thermal and fluid resistance performance. Used extensively in military applications for lightweight harness jackets, insulation, identification, colour coding and protection.

Features & Benefits

- · Excellent physical, chemical properties
- Superior abrasion and solvent resistance
- · Flexible; conforms to irregular shapes

Operating Temperature

From -55°C to +135°C

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +120°C



Specifications & Approvals

- VG 95343 Part 5 Type A (colours)
- VDE 0341 Part 9005
- BS 4G 198-3 Type 11B
- UL-E35586, 600V, +125°C (colours)

| Inside Diameter | | iameter | Wall Thickness | Pack | Size | David N. subser |
|-----------------|----------|-----------|----------------|-------------|--------|----------------------------|
| | Supplied | Recovered | Nom. Recovered | 1.2m Sticks | Spools | Part Number |
| | 1.5 mm | 0.5 mm | 0.45 mm | 60m | 600m | RNF-3000-1.5/0.5-Colour-xx |
| | 3.0 mm | 1.0 mm | 0.55 mm | 60m | 300m | RNF-3000-3/1-Colour-xx |
| | 6.0 mm | 2.0 mm | 0.65 mm | 60m | 150m | RNF-3000-6/2-Colour-xx |
| | 9.0 mm | 3.0 mm | 0.75 mm | 30m | 150m | RNF-3000-9/3-Colour-xx |
| | 12.0 mm | 4.0 mm | 0.75 mm | 30m | 150m | RNF-3000-12/4-Colour-xx |
| | 18.0 mm | 6.0 mm | 0.85 mm | 30m | 150m | RNF-3000-18/6-Colour-xx |
| | 24.0 mm | 8.0 mm | 1.00 mm | 30m | 60m | RNF-3000-24/8-Colour-xx |
| | 39.0 mm | 13.0 mm | 1.15 mm | 12m | 60m | RNF-3000-39/13-Colour-xx |

For supply to BS 4G-198 add -BS suffix to part No.
Wall thickness will be less if tubing recovery is restricted during shrinkage.
Where xx is either STK (sticks) or SP (spools).

16 # Denotes: Non flame retardant.

NS Denotes Non-Standard colours, may be subject to MOQs.

7 Colours Available

8 0 2 4 5 6 9 X 1 3 7 8

Black Red Yellow Green Blue White Clear* Brown** Orange** Violet** Grey**

2

High shrink ratio tubing, eliminates the need to remove any connectors or transitions. RP4800 provides excellent abrasion and fluid resistance, meeting industrial and military standards.

Features & Benefits

- Excellent mechanical & electrical characteristics
- · Excellent chemical & solvent properties
- Large shrink range with 4:1 ratio

Operating Temperature

110111-55 0 10 +155 0

• From -55°C to +135°C

Installation

- Minimum shrink temperature +95°C
- Minimum full recovery +121°C

| 4:1 shrink | |
|------------|--|
| | |
| | |
| | |
| RoHS | |

Specifications & Approvals

- · AMS-DTL23053/5 Class 1
- VG 95343 Part 5 Type A
- VDE 0341 Part 9005 Type A
- UL E35586 600V, 125°C (black only)

| | Inside Diameter | | Wall Thickness | Pack | Size | 5 |
|--|-----------------|-----------|----------------|-------------|--------|--------------------|
| | Supplied | Recovered | Nom. Recovered | 1.2m Sticks | Spools | Part Number |
| | 25.4 mm | 7.0 mm | 1.14 mm | 30m | 60m | RP-4800-No.1-0-xx |
| | 50.8 mm | 14.0 mm | 1.14 mm | 6m | 60m | RP-4800-No.2-0-xx |
| | 76.2 mm | 20.6 mm | 1.14 mm | 6m | 30m | RP-4800-No.3-0-xx |
| | 101.6 mm | 26.7 mm | 1.14 mm | 6m | 30m | RP-4800-No.4-0-xx |
| | 25.4 mm | 11.7 mm | 1.14 mm | 30m | 60m | RP-4800-No.5-0-xx |
| | 60.3 mm | 17.3 mm | 1.14 mm | 6m | 60m | RP-4800-No.6-0-xx |
| | 76.2 mm | 21.3 mm | 1.14 mm | 6m | 30m | RP-4800-No.7-0-xx |
| | 95.3 mm | 23.6 mm | 1.14 mm | 6m | 30m | RP-4800-No.8-0-xx |
| | 114.3 mm | 36.8 mm | 1.14 mm | 6m | 30m | RP-4800-No.9-0-xx |
| | 38.1 mm | 9.5 mm | 1.14 mm | 6m | 60m | RP-4800-No.10-0-xx |
| | 19.1 mm | 4.6 mm | 1.14 mm | 30m | 60m | RP-4800-No.11-0-xx |

For supply to MIL, Def Stan and BS add -MS suffix to part No. Wall thickness will be less if tubing recovery is restricted during shrinkage. Where xx is either STK (sticks) or SP (spools).

NS Denotes Non-Standard colours, may be subject to MOQs.



RT-375

Fluoropolymer

High clarity, flame retardant & flexible

RT-375 provides protection for wire and cable markers from extreme mechanical and chemical abuse, as well as providing UL VW-1 flame retardance and UV protection. The sleeve provides excellent clarity, allowing full visibility of the marker being protected.

Features & Benefits

- Exceptional clarity
- · Excellent chemical and fluid resistance
- · High degree of flame retardance

Operating Temperature

• From -55°C to +150°C

Installation

- Minimum shrink temperature +125°C
- Minimum full recovery +150°C



Specifications & Approvals

- · AMS-DTL 23053/18 Class 2
- BS 4G-198 Part 4 Type 20A
- UL-E85351 VW-1 600V, 150°C
- CSA LR31929 VW-1 600v, 150°C

| | Inside Diameter | | Wall Thickness | Pack Size | Doub Normalism |
|-----|-----------------|----------------|----------------|-----------|-------------------|
| | Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part Number |
| | 1.2 mm | 0.6 mm | 0.25 mm | 304m | RT-375-3/64-X-SP |
| | 1.6 mm | 0.8 mm | 0.25 mm | 304m | RT-375-1/16-X-SP |
| | 2.4 mm | 1.2 mm | 0.25 mm | 152m | RT-375-3/32-X-SP |
| | 3.2 mm | 1.6 mm | 0.25 mm | 152m | RT-375-1/8-X-SP |
| | 4.8 mm | 2.4 mm | 0.25 mm | 152m | RT-375-3/16-X-SP |
| | 6.4 mm | 3.2 mm | 0.30 mm | 152m | RT-375-1/4-X-SP |
| | 9.5 mm | 4.8 mm | 0.30 mm | 120m | RT-375-3/8-X-SP |
| | 12.7 mm | 6.4 mm | 0.30 mm | 120m | RT-375-1/2-X-SP |
| | 19.0 mm | 9.5 mm | 0.43 mm | 90m | RT-375-3/4-X-SP |
| 3 j | 25.4 mm | 12.7 mm | 0.48 mm | 76m | RT-375-1-X-SP |
| | 38.1 mm | 19.0 mm | 0.51 mm | 76m | RT-375-1-1/2-X-SP |
| 4 | 50.8 mm | 25.4 mm | 0.51 mm | 30m | RT-375-2-X-SP |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

For supply to BS 4G-198 add -BS suffix to part number.

Colours Available

CLEAR
X = Clear

www.is-rayfast.com | +44(0)1793 616700

Fluoropolymer

Fluid resistant, extended temperature



Specifications & Approvals

UL-E85381, 185°C for 100,000 hours

40,000-hr intermittent exposure.

continuous use, also listed for 200°C for

Offers resistance to high temperatures, solvents, corrosive chemicals and radiation. Low out-gassing (successfully tested for NASA out-gassing requirements). Use for insulation and strain relief on equipment and for protection of electronic instruments.

Features & Benefits

- · Extreme resistance to hydrocarbons
- · Low out-gassing
- · Highly flame retardant

Operating Temperature

From -65°C to +200°C

Installation

- Minimum shrink temperature +150°C
- Minimum full recovery +220°C

| Inside Diameter | | Wall Thickness | Pack Size | Doub Noveleau |
|-----------------|----------------|----------------|-----------|-------------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part Number |
| 3.2 | 1.57 | 0.30 | 100m | RT-555-1/8-0-SP |
| 4.8 | 2.36 | 0.36 | 100m | RT-555-3/16-0-SP |
| 6.4 | 3.18 | 0.41 | 100m | RT-555-1/4-0-SP |
| 9.5 | 4.75 | 0.48 | 100m | RT-555-3/8-0-SP |
| 12.7 | 6.35 | 0.48 | 60m | RT-555-1/2-0-SP |
| 15.9 | 7.95 | 0.56 | 60m | RT-555-5/8-0-SP |
| 19.0 | 9.53 | 0.69 | 60m | RT-555-3/4-0-SP |
| 25.4 | 12.70 | 0.79 | 30m | RT-555-1-0-SP |
| 31.8 | 15.88 | 0.84 | 30m | RT-555-1-1/4-0-SP |
| 38.1 | 19.05 | 0.94 | 15m | RT-555-1-1/2-0-SP |
| 50.8 | 25.40 | 1.02 | 15m | RT-555-2-0-SP |

Wall thickness will be less if tubing recovery is restricted during shrinking. Size selection - The largest size that will recover snugly over the component(s).

Colours Available

0 = Black

RW-175-E

Polyvinylidene Fluoride High temperature, chemical resistant

RW-175-E is an extremely tough, high temperature tubing offering outstanding abrasion and cut-through resistance. Ideal for strain relief and insulating densely packed electrical connections, while allowing visual inspection of covered components.

Features & Benefits

- · High temperature performance
- Resistant to most industrial solvents/fuels
- Low out-gassing version also available*

Operating Temperature

From -55°C to +175°C

Installation

- Minimum shrink temperature +155°C
- Minimum full recovery +175°C



Specifications & Approvals

- AMS-DTL 23053/8*
- VG 95343 Part 5 Type F
- UL-E35586 VW-1 600V, 150°C

| Inside Diameter | | Wall Thickness | Pack | Size | Deat March and | |
|-----------------|----------|----------------|----------------|------------|----------------|--------------------------|
| | Supplied | Recovered | Nom. Recovered | 1.2m Stick | Spools | Part Number |
| | 1.2 mm | 0.6 mm | 0.25 mm | 60m | 300m | RW-175-E-3/64-colour-xx |
| | 1.6 mm | 0.8 mm | 0.50 mm | 60m | 300m | RW-175-E-1/16-colour-xx |
| | 2.4 mm | 1.2 mm | 0.25 mm | 60m | 150m | RW-175-E-3/32-colour-xx |
| | 3.2 mm | 1.6 mm | 0.25 mm | 60m | 150m | RW-175-E-1/8-colour-xx |
| | 4.8 mm | 2.4 mm | 0.25 mm | 60m | 150m | RW-175-E-3/16-colour-xx |
| | 6.4 mm | 3.2 mm | 0.30 mm | 30m | 75m | RW-175-E-1/4-colour-xx |
| | 9.5 mm | 4.8 mm | 0.30 mm | 30m | 75m | RW-175-E-3/8-colour-xx |
| | 12.7 mm | 6.4 mm | 0.30 mm | 30m | 75m | RW-175-E-1/2-colour-xx |
| | 19.0 mm | 9.5 mm | 0.43 mm | 30m | 75m | RW-175-E-3/4-colour-xx |
| | 25.4 mm | 12.7 mm | 0.48 mm | 30m | 75m | RW-175-E-1-colour-xx |
| | 38.1 mm | 19.1 mm | 0.51 mm | 12m | 30m | RW-175-E-1-1/2-colour-xx |

Wall thickness will be less if tubing recovery is restricted during shrinkage. Where xx is either STK (sticks) or SP (spools).

* Applicable to low out-gassing variant part number 'RW-175' only (not RW-175-E).

Colours Available

8 CLEAR

X = Clear

0 = Black^{NS}

NS Denotes Non-Standard colour, only available for RW-175



Specifications & Approvals

VDE 0341 Pt 9005

VG 95343 Part 5 Type E

BS 4G-198 Part 3 Type 12A

RW-200-E Fluoroelastomer High temperature, chemically resistant

Resilient very high temperature tubing, resistant to a wide range of fuels, lubricants, acids and solvents at elevated temperatures. RW-200-E is highly flame retardant and meets strict military specifications.

Features & Benefits

- · Excellent fluid and temperature resistance
- · Flexibility at low temperatures
- · Highly flame retardant

Operating Temperature

From -55°C to +200°C

Installation

- · Minimum shrink temperature +100°C
- Minimum full recovery +175°C

| Inside Diameter | | Wall Thickness | Pack Size | Don't November |
|-----------------|----------------|----------------|-----------|---------------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part Number |
| 3.2 | 1.60 | 0.76 mm | 50m | RW-200-E-1/8-0-SP |
| 4.8 | 2.40 | 0.84 mm | 50m | RW-200-E-3/16-0-SP |
| 6.4 | 3.20 | 0.89 mm | 50m | RW-200-E-1/4-0-SP |
| 9.5 | 4.80 | 1.02 mm | 50m | RW-200-E-3/8-0-SP |
| 12.7 | 6.40 | 1.22 mm | 30m | RW-200-E-1/2-0-SP |
| 19.0 | 9.50 | 1.45mm | 30m | RW-200-E-3/4-0-SP |
| 25.4 | 12.70 | 1.78 mm | 30m | RW-200-E-1-0-SP |
| 38.1 | 19.10 | 2.41 mm | 15m | RW-200-E-1-1/2-0-SP |
| 50.8 | 25.40 | 2.79 mm | 15m | RW-200-E-2-0-SP |

Wall thickness will be less if tubing recovery is restricted during shrinkage. For supply to BS 4G-198 add -BS to suffix to part number.

Colours Available

0 = Black

SRFR

Silicone Rubber

High elasticity & temperature withstand

Silicone heat shrinkable tubing is highly flexible at extreme temperatures, with an excellent balance of physical and electrical properties. SRFR offers physical strength, resists extreme heat shocks & exhibits good thermal insulation.

Features & Benefits

- Heat shrinkable at 1.5:1 min, shrink ratio
- Highly flame retardant
- Flexible at both high and low temperatures
- · Good chemical & solvent resistance

Operating Temperature

From -75°C to +200°C

Installation

- Minimum shrink temperature +135°C
- Minimum full recovery +175°C



Specifications & Approvals

UL E85381 VW-1 600v. 200°C

| Inside D | iameter | Wall Thickness | Pack Size | David Manuala au |
|---------------|----------------|----------------|-----------|-------------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part Number |
| 2.9 | 1.7 | 1.0 mm | 50m | SRFR-2.9/1.7-8-SP |
| 4.0 | 2.9 | 1.0 mm | 50m | SRFR-4.0/2.9-8-SP |
| 7.8 | 4.6 | 1.0 mm | 50m | SRFR-7.8/4.6-8-SP |
| 10.0 | 6.5 | 1.5 mm | 30m | SRFR-10/6.5-8-SP |
| 15.0 | 9.6 | 1.5 mm | 30m | SRFR-15/9.6-8-SP |
| 21.0 | 13.0 | 2.0 mm | 30m | SRFR-21/13-8-SP |
| 29.0 | 20.0 | 2.0 mm | 15m | SRFR-29/20-8-SP |
| 41.0 | 27.0 | 3.0 mm | 15m | SRFR-41/27-8-SP |
| 51.0 | 33.0 | 3.0 mm | 15m | SRFR-51/33-8-SP |

Spools are made up of 5m lengths.

Wall thickness will be less if tubing recovery is restricted during shrinkage.

Colours Available

8 = Grey

High temperature, chemically inert

PTFE modified



Specifications & Approvals

RW-2055

AMS-DTL-23053/12 Class 3

Provides insulation and mechanical protection in extreme thermal and chemical environments, ideal for electrical insulation, hydraulic hoses and couplings, against contamination and corrosion. High mechanical strength and low friction co-efficient makes TFE ideal protection for bearing shafts and similar applications.

Features & Benefits

- · Highly flame retardant
- · Excellent chemical & solvent resistance

Operating Temperature

From -67°C to +250°C

Installation

- Minimum shrink temperature +330°C
- Minimum full recovery temperature +340°C

| Inside E | Diameter | Wall Thickness | Pack Size | David Marrish an |
|---------------|----------------|----------------|--------------|------------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | 1.2m Lengths | Part Number |
| 0.8 | 0.38 | 0.23 mm | 60m | TFE-30-X-STK |
| 0.9 | 0.46 | 0.23 mm | 60m | TFE-28-X-STK |
| 1.1 | 0.56 | 0.25 mm | 60m | TFE-26-X-STK |
| 1.2 | 0.68 | 0.25 mm | 60m | TFE-24-X-STK |
| 1.4 | 0.81 | 0.30 mm | 60m | TFE-22-X-STK |
| 1.5 | 0.99 | 0.30 mm | 60m | TFE-20-X-STK |
| 1.9 | 1.24 | 0.30 mm | 60m | TFE-18-X-STK |
| 2.3 | 1.55 | 0.30 mm | 60m | TFE-16-X-STK |
| 3.0 | 1.83 | 0.30 mm | 60m | TFE-14-X-STK |
| 3.8 | 2.26 | 0.30 mm | 60m | TFE-12-X-STK |
| 4.8 | 2.84 | 0.30 mm | 60m | TFE-10-X-STK |
| 6.1 | 3.58 | 0.38 mm | 30m | TFE-8-X-STK |
| 7.6 | 4.52 | 0.38 mm | 30m | TFE-6-X-STK |
| 9.4 | 5.69 | 0.38 mm | 30m | TFE-4-X-STK |
| 10.9 | 7.06 | 0.38 mm | 30m | TFE-2-X-STK |
| 11.9 | 8.81 | 0.38 mm | 30m | TFE-0-X-STK |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

Colours Available

CLEAR

X = Clear

TFER

PTFE modified

High temperature, chemically inert

Provides insulation and mechanical protection in extreme thermal and chemical environments. Ideal for electrical insulation, hydraulic hoses and couplings, against contamination and corrosion. High mechanical strength and low friction co-efficient makes TFER ideal protection for bearing shafts and similar applications.

Features & Benefits

- · Highly flame retardant
- · Excellent chemical & solvent resistance

Operating Temperature

From -67°C to +250°C

Installation

- Minimum shrink temperature +330°C
- Minimum full recovery +340°C



Specifications & Approvals

- AMS-DTL-23053/12 Class 5
- · RW-2054

| Inside D | iameter | Wall Thickness | Pack Size | Doub Noveleau |
|---------------|----------------|----------------|--------------|------------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | 1.2m Lengths | Part Number |
| 2.0 | 0.6 | 0.23 mm | 60m | TFER-5/64-X-STK |
| 3.2 | 1.0 | 0.25 mm | 60m | TFER-1/8-X-STK |
| 6.4 | 1.6 | 0.30 mm | 30m | TFER-1/4-X-STK |
| 9.5 | 2.4 | 0.30 mm | 30m | TFER-3/8-X-STK |
| 12.7 | 3.7 | 0.38 mm | 30m | TFER-1/2-X-STK |
| 15.9 | 4.5 | 0.38 mm | 30m | TFER-5/8-X-STK |
| 19.0 | 5.7 | 0.38 mm | 30m | TFER-3/4-X-STK |
| 25.4 | 7.1 | 0.38 mm | 30m | TFER-1-X-STK |
| 32.0 | 8.8 | 0.38 mm | 12m | TFER-1-1/4-X-STK |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

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Colours Available

CLEAR

X = Clear

Polyolefin

Highly flame retardant, very flexible

 RoHS

Recommended for electrical insulation and protection of in-line components, terminals and splices, requiring the highest levels of flame retardance. Versafit offers high flexibility for light duty wiring harnesses, as well as mechanical and strain relief protection.

Features & Benefits

- · Low shrink temperature
- Highly flame retardant
- 2:1 shrink ratio

Operating Temperature

From -55°C to +135°C

Installation

- Minimum shrink temperature +70°C
- Minimum full recovery +90°C

Specifications & Approvals

- AMS-DTL-23053/5 Classes 1 & 3
- UL E35586 VW-1 600V 125°C
- BS 4G-198 Part 3 Type 11A
- RW-3009

| Inside D | Inside Diameter | | Pack Size | Dout Namehou |
|---------------|-----------------|----------------|-----------|---------------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part Number |
| 1.63 | 0.6 | 0.40 mm | 300m | VERSAFIT-3/64-0-SP |
| 1.85 | 0.8 | 0.43 mm | 300m | VERSAFIT-1/16-0-SP |
| 2.79 | 1.2 | 0.51 mm | 150m | VERSAFIT-3/32-0-SP |
| 3.43 | 1.6 | 0.51 mm | 150m | VERSAFIT-1/8-0-SP |
| 5.21 | 2.4 | 0.51 mm | 150m | VERSAFIT-3/16-0-SP |
| 7.11 | 3.2 | 0.64 mm | 75m | VERSAFIT-1/4-0-SP |
| 10.16 | 4.8 | 0.64 mm | 75m | VERSAFIT-3/8-0-SP |
| 13.72 | 6.4 | 0.64 mm | 75m | VERSAFIT-1/2-0-SP |
| 20.45 | 9.5 | 0.76 mm | 75m | VERSAFIT-3/4-0-SP |
| 25.53 | 12.7 | 0.89 mm | 30m | VERSAFIT-1-0-SP |
| 39.88 | 19.1 | 1.02 mm | 38m | VERSAFIT-1-1/2-0-SP |
| 52.83 | 25.4 | 1.14 mm | 38M | VERSAFIT-2-0-SP |

Wall thickness will be less if tubing recovery is restricted during shrinkage. For supply to BS 4G-198 add -BS suffix to part number.



NS Denotes Non-Standard colours, that may be subject to MOQs and are only available in sizes from 3/64" thru to 1"

ZHTM

Polyolefin LFH, medium wall

A thicker wall, flexible tubing with excellent fire safety characteristics, combined with low smoke emission and good mechanical and fluid resistance.

Features & Benefits

- · Low smoke emission
- · Low evolution of acid gases
- · No added halogens
- · Very flexible
- Low fire hazard

Operating Temperature

From -30°C to +105°C

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +121°C





Specifications & Approvals

- BS 4G-198 Part 3 Type 15
- BR 1326A
- VDE 0341 Part 9005

| Inside D | iameter | Wall Thickness | Pack Size | Deat Manager |
|---------------|----------------|----------------|-----------|-----------------|
| Supplied (mm) | Recovered (mm) | Recovered (mm) | Spools | Part Number |
| 3.0 | 1.5 | 0.70 mm | 60m | ZHTM-3/1.5-0-SP |
| 5.0 | 2.5 | 0.75 mm | 60m | ZHTM-5/2.5-0-SP |
| 8.0 | 4.0 | 0.80 mm | 60m | ZHTM-8/4-0-SP |
| 12.0 | 6.0 | 0.90 mm | 30m | ZHTM-12/6-0-SP |
| 18.0 | 9.0 | 1.00 mm | 30m | ZHTM-18/9-0-SP |
| 24.0 | 12.0 | 1.10 mm | 30m | ZHTM-24/12-0-SP |
| 40.0 | 20.0 | 1.30 mm | 30m | ZHTM-40/20-0-SP |
| 50.0 | 30.0 | 1.50 mm | 30m | ZHTM-50/30-0-SP |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

For supply to BS 4G-198 add -BS suffix to part number.

Colours Available

0 = Black



Specifications & Approvals

• RW-3044

ZH-150 INSTALITE

Polyolefin LFH, thin wall

INSTALITE ZH-150 tubing is the first heat shrinkable tubing to combine high-temperature and zero halogen properties in a lightweight material.

Features & Benefits

- · Halogen free
- · High temperature
- · Fluid resistance: Aerospace & Military
- Very flexible
- · Ruggedised, abrasion resistant

Operating Temperature

From -75°C to +150°C

Installation

- Minimum shrink temperature +150°C
- Minimum full recovery +175°C

| Inside D | Inside Diameter | | Pack Size | Don't November |
|---------------|-----------------|----------------|-----------|------------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part Number |
| 3.0 | 1.5 | 0.70 mm | 150m | ZH150-3/1.5-0-SP |
| 5.0 | 2.5 | 0.75 mm | 150m | ZH150-5/2.5-0-SP |
| 8.0 | 4.0 | 0.80 mm | 75m | ZH150-8/4-0-SP |
| 12.0 | 6.0 | 0.90 mm | 75m | ZH150-12/6-0-SP |
| 18.0 | 9.0 | 1.00 mm | 75m | ZH150-18/9-0-SP |
| 24.0 | 12.0 | 1.10 mm | 75m | ZH150-24/12-0-SP |
| 40.0 | 20.0 | 1.30 mm | 30m | ZH150-40/20-0-SP |
| 50.0 | 30.0 | 1.50 mm | 30m | ZH150-50/30-0-SP |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

Colours Available

0 = Black

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ZHT and ZHT-BR

Polyolefin LFH, thin wall, colours

A zero-halogen thin wall heat-shrinkable tube available in a range of colours. Specifically designed for railway, transportation, marine, offshore and construction markets

Operating Temperature

- ZHT from -30°C to +125°C
- ZHT-BR from -40°C to +135°C

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +120°C

ZHT can be supplied as UL approved - File No. E180908. Please specify if UL approval is required on order, together with adding suffix 'UL' to the part number.*

ZHT-BR is approved to BR 1326A.



Specifications & Approvals

ZHT is LUL approved - Complies with LU Standard 1-085 'Fire Safety Performance of Materials' (as a 'minor use' item).

| Inside D | Inside Diameter | | Pack Size | Down N | |
|---------------|-----------------|----------------|-----------|------------|---------------|
| Supplied (mm) | Recovered (mm) | Nom. Recovered | Spools | Part N | umber |
| 1.2 | 0.6 | 0.45 mm | 150m | ZHT-1.2-# | - |
| 1.6 | 0.8 | 0.43 mm | 150m | ZHT-1.6-# | ZHT-BR-1.6-# |
| 2.4 | 1.2 | 0.51 mm | 150m | ZHT-2.4-# | ZHT-BR-2.4-# |
| 3.2 | 1.6 | 0.51 mm | 150m | ZHT-3.2-# | ZHT-BR-3.2-# |
| 4.8 | 2.4 | 0.51 mm | 150m | ZHT-4.8-# | ZHT-BR-4.8-# |
| 6.4 | 3.2 | 0.65 mm | 75m | ZHT-6.4-# | ZHT-BR-6.4-# |
| 9.5 | 4.8 | 0.65 mm | 75m | ZHT-9.5-# | ZHT-BR-9.5-# |
| 12.7 | 6.4 | 0.65 mm | 75m | ZHT-12.7-# | ZHT-BR-12.7-# |
| 19.1 | 9.5 | 0.75 mm | 30m | ZHT-19.1-# | ZHT-BR-19.1-# |
| 25.4 | 12.7 | 0.90 mm | 30m | ZHT-25.4-# | ZHT-BR-25.4-# |
| 38.1 | 19.0 | 1.00 mm | 30m | ZHT-38.1-# | - |
| 50.8 | 25.4 | 1.15 mm | 30m | ZHT-50.8-# | - |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

THT and ZHT-BR supplied in spools as standard and ZHT-BR can be supplied in smaller boxed packs.

*Please note that when ordering 'UL' approved ZHT tubing, MOQ's and longer lead times may apply



ATUM



Specifications & Approvals

- AMS-DTL-23053/4 Class 3
- UL E85381 600v, 110°C (Black only)

ATUM has an internal adhesive coating that, when heated, melts and flows to form a positive environmental barrier to prevent moisture penetration. Used to seal back-end connectors, wire splices, break-outs, cable jackets and electrical components.

Features & Benefits

- · Environmentally seals and protects
- Excellent mechanical protection
- Bonds to plastics, rubbers and metals.

Operating Temperature

From -55°C to +110°C

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +110°C

| | Inside Diameter | | Inside Diameter Nom Wall Thickness | | Pack Size | | Davit Nivershau |
|----------|-----------------|-----------|------------------------------------|---------------|-------------|--------|-----------------|
| | Supplied | Recovered | Total Wall | Adhesive Wall | 1.2m Sticks | Spools | Part Number |
| | 3.0 mm | 1.0 mm | 1.00 mm | 0.50 mm | 30m | 150m | ATUM-3/1-0-xx |
| ⊳ | 6.0 mm | 2.0 mm | 1.00 mm | 0.50 mm | 30m | 250m | ATUM-6/2-0-xx |
| ATUM | 9.0 mm | 3.0 mm | 1.40 mm | 0.60 mm | 30m | 200m | ATUM-9/3-0-xx |
| <u>~</u> | 12.0 mm | 4.0 mm | 1.78 mm | 0.75 mm | 30m | 200m | ATUM-12/4-0-xx |
| Ratio | 19.0 mm | 6.0 mm | 2.25 mm | 0.80 mm | 30m | 150m | ATUM-19/6-0-xx |
| ₽. | 24.0 mm | 8.0 mm | 2.54 mm | 1.00 mm | 30m | 80m | ATUM-24/8-0-xx |
| | 40.0 mm | 13.0 mm | 2.54 mm | 1.00 mm | 12m | 60m | ATUM-40/13-0-xx |
| | 4.0 mm | 1.0 mm | 1.00 mm | 0.50 mm | 30m | 150m | ATUM-4/1-0-xx |
| >. | 8.0 mm | 2.0 mm | 1.00 mm | 0.50 mm | 30m | 200m | ATUM-8/2-0-xx |
| ATUM 4:1 | 12.0 mm | 3.0 mm | 1.40 mm | 0.60 mm | 30m | 200m | ATUM-12/3-0-xx |
| 4. | 16.0 mm | 4.0 mm | 1.78 mm | 0.75 mm | 30m | 200m | ATUM-16/4-0-xx |
| Ratio | 24.0 mm | 6.0 mm | 2.25 mm | 0.80 mm | 30m | 80m | ATUM-24/6-0-xx |
| 0 | 32.0 mm | 8.0 mm | 2.54 mm | 1.00 mm | 12m | 60m | ATUM-32/8-0-xx |
| | 52.0 mm | 13.0 mm | 2.54 mm | 1.00 mm | 6m | 30m | ATUM-52/13-0-xx |

For supply to AMS-DTL23053 add -MS suffix to part number. Wall thickness will be less if tubing recovery is restricted during shrinkage. Where xx is either STK (sticks) or SP (spools). Standard colour. Size selection - The largest size that will recover snugly over the component(s).

Colours Available

0 = Black

CGAT

Commercial Grade, Polyolefin Adhesive lined

Used to seal back-end connector, wire splices, break outs, cable jackets and electrical components. Includes an internal adhesive coating, that when heated, melts and flows to form a positive environmental barrier to prevent moisture

Features & Benefits

- · Environmentally seals and protects
- Excellent mechanical protection
- High strength bonding

Operating Temperature

From -30°C to +80°C

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +115°C



Specifications & Approvals

- UL E85381, 600v, 80°C
- FMVSS 302

| Inside Diameter | | Nom Wal | Iom Wall Thickness | | Size | Dout Number |
|-----------------|-----------|------------|--------------------|-------------|-------|-----------------|
| Supplied | Recovered | Total Wall | Adhesive Wall | 1.2m Sticks | Spool | Part Number |
| 3.0 mm | 1.0 mm | 1.00 mm | 0.50 mm | 30m | 150m | CGAT-3/1-0-xx |
| 6.0 mm | 2.0 mm | 1.00 mm | 0.50 mm | 30m | 250m | CGAT-6/2-0-xx |
| 9.0 mm | 3.0 mm | 1.35 mm | 0.60 mm | 30m | 200m | CGAT-9/3-0-xx |
| 12.0 mm | 4.0 mm | 1.50 mm | 0.70 mm | 30m | 200m | CGAT-12/4-0-xx |
| 18.0 mm | 6.0 mm | 1.70 mm | 0.80 mm | 30m | 150m | CGAT-18/6-0-xx |
| 24.0 mm | 8.0 mm | 1.90 mm | 1.00 mm | 30m | 80m | CGAT-24/8-0-xx |
| 39.0 mm | 13.0 mm | 2.10 mm | 1.00 mm | 12m | 60m | CGAT-39/13-0-xx |

Wall thickness will be less if tubing recovery is restricted during shrinkage.

Where xx is either STK (sticks) or SP (spools).

Size selection - The largest size that will recover snugly over the component(s).

Colours Available

0 = Black

CLEAR X = Clears

^s Denotes: Made to special order only, non flame retardant.

D-150 and D-260

Fluoropolymer Sleeve Adhesive lined, Repair sleeves

C-Wrap RoHS compliant



C-Wrap

Heat shrinkable side-entry sleeve designed to repair and seal a damaged wire jacket that is either chafed or has a radial crack or cut on the insulation. Consisting of two pieces: the outer tubing and an adhesive inner layer.

Operating temperature -65°C to +150°C

RAYSEAL

Wraparound self-adhering heat shrinkable repair sleeve with high-temperature adhesive lining, for fast, reliable, sealed repairs to larger gauge cables, maintains the cable jacket properties as close as possible to its original specification.

Operating temperature -65°C to +260°C Fluid resistance: Resists aggressive fluids used in military and aerospace platforms.

| Conduc | Conductor / Cable | | ions (mm) | Colour | Product I | Reference |
|----------|-------------------|--------------------------|----------------|--------|-------------|---------------|
| AWG | Wire OD (mm) | (mm) Cut Width* Open Len | | - | Part Number | Kit Part No.# |
| C-WRAP s | mall Gauge, Side | Entry Repair | | | | |
| 26 - 24 | 0.80 - 1.10 | 20 mm | n/a | Green | D-150-C-11 | - |
| 22 - 20 | 1.10 - 1.50 | 20 mm | n/a | Red | D-150-C-12 | - |
| 18 - 16 | 1.50 - 2.30 | 20 mm | n/a | Blue | D-150-C-13 | - |
| 14 - 12 | 2.30 - 2.80 | 20 mm | n/a | Yellow | D-150-C-14 | - |
| RAYSEAL | Wraparound Lai | rge Gauge, S | Side Entry Rep | air | | |
| 10 - 8 | 3.48 - 5.16 | 45 mm | 24.5 (35.6) | Black | D-260-C-A | EF7428-000 |
| 6 - 4 | 5.72 - 7.82 | 45 mm | 31.8 (43.2) | Black | D-260-C-B | EF7429-000 |
| 2 - 0 | 9.04 - 11.81 | 45 mm | 44.5 (55.9) | Black | D-260-C-C | EF7430-000 |
| 00 - 000 | 12.32 - 14.99 | 45 mm | 53.3 (67.8) | Black | D-260-C-D | EF7431-000 |
| 0000 | 14.99 - 16.26 | 45 mm | 63.5 (78.8) | Black | D-260-C-E | EF7432-000 |

^{*} Cut length is the nominal dimension presented along the length of the cable.

[#] Kit part ref contains abrasive pad, cleaning wipes and PTFE tape.

HTAT

High Temperature, Polyolefin Adhesive lined

HTAT has an internal adhesive coating that when heated melts and flows to form a positive environmental barrier to prevent moisture penetration.

Features & Benefits

- · Environmentally seals and protects
- Excellent abrasion & mechanical protection
- Bonds to metals, rubbers and plastics including PVC and polyethylene

Operating Temperature

From -55°C to +125°C

Installation

- Minimum shrink temperature +80°C
- Minimum full recovery +110°C



Specifications & Approvals

RW-2052

| Inside D | Inside Diameter | | Thickness | Pack | Size | Doub Noveleau |
|----------|-----------------|-----------|-----------|-------------|--------|-----------------|
| Supplied | Recovered | Recovered | Adhesive | 1.2m Sticks | Spools | Part Number |
| 4.0 mm | 1.0 mm | 1.00 mm | 0.40 mm | 30m | 150m | HTAT-4/1-0-xx |
| 8.0 mm | 2.0 mm | 1.00 mm | 0.50 mm | 30m | 75m | HTAT-8/2-0-xx |
| 12.0 mm | 3.0 mm | 1.40 mm | 0.60 mm | 30m | 75m | HTAT-12/3-0-xx |
| 16.0 mm | 4.0 mm | 1.75 mm | 0.75 mm | 30m | 50m | HTAT-16/4-0-xx |
| 24.0 mm | 6.0 mm | 2.25 mm | 0.80 mm | 30m | 50m | HTAT-24/6-0-xx |
| 32.0 mm | 8.0 mm | 2.50 mm | 1.00 mm | 12m | 30m | HTAT-32/8-0-xx |
| 48.0 mm | 13.0 mm | 2.55 mm | 1.00 mm | 6m | 30m | HTAT-48/13-0-xx |

Wall thickness will be less if tubing recovery is restricted during shrinkage. Where xx is either STK (sticks) or SP (spools).

Colours Available

0 = Black

Designed to encapsulate components, splices and terminations where moisture resistance and mechanical protection are required. Encapsulant melts and flows to fill surface irregularities of the substrate. While still hot, the tubing can be blocked to form a wire breakout. Features & Benefits Excellent moisture resistance

- Semi-rigid encapsulant lined tubing
- Good chemical & solvent resistance

Operating Temperature

From -55°C to +110°C

Installation

- Minimum shrink temperature +125°C
- Minimum full recovery +135°C

| Inside Diameter | | Nominal Wa | II Thickness | Pack Size | Part Number | |
|-----------------|-----------|------------|--------------|------------|-----------------|--|
| Supplied | Recovered | Recovered | Encapsulant | 1.2m Stick | Part Number | |
| 3.2 mm | 0.6 mm | 0.96 mm | 0.51 mm | 30m | SCL-1/8-0*-STK | |
| 4.8 mm | 1.5 mm | 1.09 mm | 0.64 mm | 30m | SCL-3/16-0*-STK | |
| 6.4 mm | 2.0 mm | 1.19 mm | 0.69 mm | 30m | SCL-1/4-0*-STK | |
| 9.5 mm | 3.4 mm | 1.27 mm | 0.76 mm | 30m | SCL-3/8-0*-STK | |
| 12.7 mm | 5.0 mm | 1.39 mm | 0.89 mm | 30m | SCL-1/2-0*-STK | |
| 19.0 mm | 8.0 mm | 1.65 mm | 1.02 mm | 30m | SCL-3/4-0*-STK | |
| 25.4 mm | 10.2 mm | 1.90 mm | 1.02 mm | 30m | SCL-1-0*-STK | |

RoHS

Wall thickness will be less if tubing recovery is restricted during shrinkage. Colour as standard is Black (0)*, with optional colour per size, see table below.

Colours Available

ΑII

Specifications & Approvals

AMS-DTL 23053/4. Class 1

UL-E35581 600V, 125°C



9.5mm 19.0mm 12.7mm 4.8mm

NS Denotes: Non standard colours available in quoted size only.

6.4mm

SCT

Flame Retardant, Polyolefin Adhesive Lined

Specially designed to insulate and seal wire splices and components in a harsh high temperature environment. Formulated to function at an extended temperature range.

Features & Benefits

- Flame retardant and mechanically tough, the tubing provides strain relief and abrasion protection.
- Thick adhesive liner forms an effective barrier against fluids and moisture.

Operating Temperature

From -40°C to +150°C

Installation

- Minimum shrink temperature +110°C
- Minimum full recovery +135°C



Flammability Rating

ASTM D 2671 procedure B

| Inside D | iameter | Recovered Wall Thickness | | |
|----------|-----------|--------------------------|----------------|--------------------|
| Supplied | Recovered | Total Wall | Melt-able Wall | Part Number |
| 7.6 mm | 1.7 mm | 1.52 mm | 0.76 mm | SCT-No.1-E6-0-1200 |
| 9.0 mm | 2.3 mm | 1.52 mm | 0.76 mm | SCT-No.2-E5-0-1200 |
| 11.6 mm | 2.5 mm | 2.29 mm | 1.40 mm | SCT-No.3-E3-0-1200 |
| 17.8 mm | 4.4 mm | 2.54 mm | 1.52 mm | SCT-No.4-E2-0-1200 |

Wall thickness will be less if tubing recovery is restricted during shrinking. Marking - Tubing will be printed with its numbered size 'e.g. SCT-1' in white.

Colours Available

0 = Black



Wire and Cable Heat-shrink Tubing

Non-shrink Tubing

INTRODUCTION

Non Shrink

Range of Non-Shrink Tubing and Conduit

Suitable for applications where use of heat guns is not possible or not required

Typical Features & Benefits

- Mechanical protection
- · Chemical/fluid resistance
- Electrical insulation
- · Moisture protection
- Strain relief, Flexibility
- · Flame-retardant, Low smoke
- · Aesthetic enhancement
- · Fast and efficient installation.



Cut Piece Service

Many of our tubing products can be supplied pre-cut to length. Please contact our sales office for details.



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CONTENTS

Non Shrink

| Cold Applied Sleeving | | |
|-----------------------|---------------------------------------|----------|
| CR | Neoprene sleeves, pre-cut lengths | page 124 |
| CY | Coloured LFH polyolefin sleeve | page 125 |
| HCTE | Helical ETFE conduit, flame retardant | page 126 |
| SR | Silicone tubing, cold applied | page 127 |
| STW | PTFE thin wall sleeving | page 128 |
| TW | PTFE standard wall sleeving | page 129 |
| UL-Y | UL approved PVC coloured sleeving | page 130 |
| Υ | PVC Sleeving, various colours | page 131 |

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CR

Neoprene Sleeve Non-shrink, insulating sleeves

CR sleeves are made from highly elastic extruded Neoprene, pre-lubricated as standard. They are particularly useful for binding ends of braided mains leans into plugs and portable equipment.

Can be stretched 5x in fitting and 2x in use.

Features & Benefits

Available in a wide range of colours, see chart.

Operating Temperature

From -65°C to +95°C

Installation

Recommended that best applied using expanding tool, please contact us for details.





Specifications

- BS3858/1 except for light fastness.
- BS3G198 part 1, type 1
- · Def Stan 59-15, type D2c

| Dimensions | | Pack Size | Doub Normalian | |
|------------------|----------------|-------------|----------------|-----------------|
| As Supplied (mm) | Max Cable (mm) | Length (mm) | Qty | Part Number |
| 1.2 | 2.4 | 20 | 1000 | CR12x20-Colour |
| 1.5 | 3.0 | 20 | 1000 | CR15x20-Colour |
| 2.0 | 4.0 | 20 | 1000 | CR20x20-Colour |
| 3.0 | 6.0 | 25 | 1000 | CR30x25-Colour |
| 5.0 | 10.0 | 25 | 100 | CR50x25-Colour |
| 7.5 | 15.0 | 25 | 100 | CR75x25-Colour |
| 10.0 | 19.8 | 25 | 100 | CR100x25-Colour |
| 15.0 | 30.0 | 25 | 100 | CR150x25-Colour |
| 20.0 | 40.0 | 25 | 100 | CR200x25-Colour |

Colours Available

Black Blue Brown Grey Green Grn/Ylw Red Orange Yellow White Pink Violet

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CY

LFH, Polyolefin Sleeve Non-shrink insulating Sleeve



This limited fire hazard sleeving is halogen free, making it ideal for protecting wire and cables in areas where smoke and fume emissions must be minimised. Supplied on 100m continuous reels. Low smoke, low toxicity and zero halogen.

Can be stretched 5x in fitting and 2x in use.

Features & Benefits

Available in various colours, see chart

Operating Temperature

From -25°C to +90°C

Ideal for protecting wire and cable in areas where smoke and fume emissions must be minimised.

Specifications

Vertical burn test pass: UL 1581Smoke density pass: ASTM E-662Oxygen index: 37% ISO 4589-2

| Internal Diameter | Wire Size | Spool Size | |
|-------------------|------------|------------|------------------|
| As Supplied (mm) | mm² | m | Part Number |
| 1.5 | - | 100 | CY1.5-ZH-Colour |
| 2.0 | - | 100 | CY2.0-ZH-Colour |
| 3.0 | 0.5 - 0.75 | 100 | CY3.0-ZH-Colour |
| 4.0 | 1.5 - 2.5 | 100 | CY4.0-ZH-Colour |
| 5.0 | 2.5 - 4.0 | 100 | CY5.0-ZH-Colour |
| 6.0 | 6.0 | 100 | CY6.0-ZH-Colour |
| 8.0 | 10.0 | 100 | CY8.0-ZH-Colour |
| 10.0 | 16.0 | 100 | CY10.0-ZH-Colour |
| 12.0 | 35.0 | 100 | CY12.0-ZH-Colour |
| 15.0 | 50.0 | 100 | CY15.0-ZH-Colour |

Colours Available

| Black | Blue | Brown | Grey | Red | White |
|-------|------|-------|------|-----|-------|

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HCTE

Cross-linked ETFE (Helical Conduit)
Flexible, Flame Retardant, Fluid Resistant

HCTE conduit can be used as an electrical harness component alone or in conjunction with adaptors and heat shrinkable moulded parts, for a totally integrated harness system.

Features & Benefits

- · Excellent crush resistance
- · Highly flame retardant
- · Superior flexibility and fluid resistance

Operating Temperature

 From -55°C to +200°C and up to 300°C for limited periods

Installation

Recommended that no more than 70% of the internal area be occupied by wires in any application.



Specifications & Approvals

VG 96936 Part 6

| | Int. Diameter | Ext. Diameter | Weight | Pack Size | Doub Normalian |
|---|---------------|---------------|--------|-----------|----------------|
| | Minimum (mm) | Maximum (mm) | g/m | Spools | Part Number |
| | 4.60 | 8.10 | 18 | 60m | HCTE-0187-0-SP |
| | 6.90 | 10.50 | 22 | 60m | HCTE-0281-0-SP |
| | 7.70 | 11.80 | 26 | 60m | HCTE-0312-0-SP |
| | 9.20 | 12.90 | 30 | 60m | HCTE-0375-0-SP |
| 1 | 10.80 | 14.50 | 37 | 60m | HCTE-0437-0-SP |
| | 12.30 | 16.50 | 52 | 30m | HCTE-0500-0-SP |
| | 15.40 | 19.50 | 64 | 30m | HCTE-0625-0-SP |
| | 17.90 | 23.60 | 74 | 30m | HCTE-0750-0-SP |
| | 21.80 | 27.20 | 96 | 30m | HCTE-0875-0-SP |
| | 24.70 | 31.10 | 112 | 30m | HCTE-1000-0-SP |
| | 30.70 | 35.30 | 130 | 30m | HCTE-1250-0-SP |
| 4 | 36.50 | 46.50 | 169 | 30m | HCTE-1500-0-SP |
| | 39.60 | 50.17 | 177 | 15m | HCTE-1625-0-SP |
| | 42.67 | 52.88 | 191 | 15m | HCTE-1750-0-SP |
| | 49.20 | 59.23 | 220 | 15m | HCTE-2000-0-SP |

Colours Available

0 / Black

COLD
Applied

RoHS
compliant

Specifications & Approvals

BS2848 Type 5 Class 180TB

Silicone Rubber High elasticity push-on tubing

Silicone rubber has a good resistance to low and high temperatures and has good compatibility with numerous chemicals and excellent ageing characteristics. Extremely useful for cable harnessing because of its high elasticity and flexibility.

Features & Benefits

- · Excellent fluid and temperature resistance
- Flexibility at low temperatures
- Wide range of sizes available

Operating Temperature

- From -60°C to +180°C
- Intermittent temperature 250°C

Installation

· Push on application, no heat required

| Inside Diameter | Wall Thickness | Pack Size | Barri N. arabarr |
|--------------------|--------------------|-------------|--------------------|
| Nom. Supplied (mm) | Nom. Standard (mm) | Spools (SP) | Part Number |
| 0.50 | 0.5 | 50m | SR-0.5/0.5-Colour |
| 0.75 | 0.5 | 50m | SR-0.75/0.5-Colour |
| 1.00 | 0.5 | 50m | SR-1.0/0.5-Colour |
| 1.50 | 0.5 | 50m | SR-1.5/0.5-Colour |
| 2.00 | 0.5 | 50m | SR-2.0/0.5-Colour |
| 2.50 | 0.5 | 50m | SR-2.5/0.5-Colour |
| 3.00 | 0.5 | 50m | SR-3.0/0.5-Colour |
| 4.00 | 0.5 | 25m | SR-4.0/0.5-Colour |
| 5.00 | 0.5 | 25m | SR-5.0/0.5-Colour |
| 6.00 | 0.5 | 25m | SR-6.0/0.5-Colour |
| 8.00 | 0.5 | 25m | SR-8.0/0.5-Colour |
| 10.00 | 0.5 | 25m | SR-10.0/0.5-Colour |



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STW PTFE Sleeving

Thin wall, push-on tubing

Provides superior temperature and chemical resistance along with excellent mechanical and electrical properties. The thin wall allows protection of wire, splices, electrical connectors and components used in confined spaces and in close proximity to other components.

Features & Benefits

- · Wide temperature performance
- Excellent chemical resistance
- · Wide range of colours and sizes available

Operating Temperature

From -70°C to +260°C

Installation

· Push on application, no heat required



Specifications & Approvals

- BS2848 Type 6 Class 250T
- · Colours conform to BS 6746C

| Inside Diameter | Wall Thickness | Order Qty | Pack Size | Dowt Name box |
|--------------------|--------------------|-----------|-----------|---------------|
| Nom. Supplied (mm) | Nom. Standard (mm) | Minimum | Spools | Part Number |
| 0.71 | 0.15 | 1000m | 500m | STW-22-Colour |
| 0.89 | 0.18 | 500m | 500m | STW-20-Colour |
| 1.02 | 0.18 | 500m | 500m | STW-19-Colour |
| 1.14 | 0.20 | 500m | 500m | STW-18-Colour |
| 1.27 | 0.20 | 500m | 500m | STW-17-Colour |
| 1.42 | 0.20 | 500m | 500m | STW-16-Colour |
| 1.57 | 0.20 | 500m | 500m | STW-15-Colour |
| 1.73 | 0.20 | 500m | 500m | STW-14-Colour |
| 1.93 | 0.20 | 500m | 250m | STW-13-Colour |
| 2.16 | 0.20 | 500m | 250m | STW-12-Colour |
| 2.44 | 0.20 | 500m | 250m | STW-11-Colour |
| 2.72 | 0.20 | 500m | 250m | STW-10-Colour |
| 3.02 | 0.20 | 300m | 150m | STW-9-Colour |
| 3.43 | 0.20 | 200m | 100m | STW-8-Colour |
| 3.84 | 0.20 | 200m | 100m | STW-7-Colour |
| 4.29 | 0.20 | 200m | 50m | STW-6-Colour |
| 4.83 | 0.25 | 150m | 50m | STW-5-Colour |

Colours Available

Natural Black Blue Yellow Green Red

White



Specifications & Approvals

- BS2848 Type 6 Class 250T
- Colours conform to BS 6746C

PTFE Sleeving Standard Wall, push-on tubing

Thicker wall version PTFF tube allows enhanced protection of wire, cable, electrical and electronic components, for commercial and high performance Military and Aerospace systems. As well as having superior temperature and chemical resistance, provides excellent mechanical and electrical properties.

Features & Benefits

- Superior temperature performance
- Excellent chemical resistance
- Wide range of colours and sizes available

Operating Temperature

From -70°C to +260°C

Installation

· Push on application, no heat required

| | Part Number | Pack Size | Order Qty | Wall Thickness | Inside Diameter |
|---|--------------|-----------|-----------|--------------------|--------------------|
| | Part Number | Spools | Minimum | Nom. Standard (mm) | Nom. Supplied (mm) |
| | TW-22-Colour | 500m | 500m | 0.25 | 0.71 |
| | TW-20-Colour | 500m | 500m | 0.30 | 0.89 |
| 1 | TW-19-Colour | 500m | 500m | 0.30 | 1.02 |
| | TW-18-Colour | 500m | 500m | 0.30 | 1.14 |
| 1 | TW-17-Colour | 500m | 500m | 0.30 | 1.27 |
| | TW-16-Colour | 500m | 500m | 0.30 | 1.42 |
| 1 | TW-15-Colour | 500m | 500m | 0.30 | 1.57 |
| | TW-14-Colour | 500m | 500m | 0.30 | 1.73 |
| | TW-13-Colour | 250m | 250m | 0.30 | 1.93 |
| 1 | TW-12-Colour | 250m | 250m | 0.30 | 2.16 |
| | TW-11-Colour | 250m | 250m | 0.30 | 2.44 |
| 1 | TW-10-Colour | 200m | 200m | 0.30 | 2.72 |
| | TW-9-Colour | 150m | 150m | 0.38 | 3.02 |
| 1 | TW-8-Colour | 100m | 100m | 0.38 | 3.45 |
| | TW-7-Colour | 100m | 100m | 0.38 | 3.84 |
| 1 | TW-6-Colour | 50m | 100m | 0.38 | 4.29 |
| | TW-5-Colour | 50m | 100m | 0.38 | 4.83 |

Colours Available



UL-Y

UL Approved, 300V PVC Sleeve Non-shrink, insulating sleeves

This UL approved PVC sleeve is rated by Underwriters Laboratories at 300v. It is highly flame retarded and passes VW1 flame test. It is also approved to UL 224.

Ideal for insulating wire in areas of high temperatures

Features & Benefits

- Passes VW1
- UL 224, file E183946
- · Available in various colours

Operating Temperature

From -40°C to +105°C

Insulation resistance: 10¹² Ohm/cm Dielectric strength: 25 kV/mm Tensile strength: 22 Mpa



Specifications & Approvals

- UL224 File No. E183946
- Passes VW1 flame test specification

| Internal Dia. | Nominal Wall | Spool Size | Dout Namehou |
|------------------|--------------|------------|-----------------------|
| As Supplied (mm) | mm | m | Part Number |
| 1.0 | 0.4 | 100 | UL-Y-1.0-M300-Colour |
| 1.5 | 0.4 | 100 | UL-Y-1.5-M300-Colour |
| 0 2.0 | 0.4 | 100 | UL-Y-2.0-M300-Colour |
| 2.5 | 0.4 | 100 | UL-Y-2.5-M300-Colour |
| 3.0 | 0.5 | 100 | UL-Y-3.0-M300-Colour |
| 4.0 | 0.5 | 100 | UL-Y-4.0-M300-Colour |
| 2 5.0 | 0.5 | 100 | UL-Y-5.0-M300-Colour |
| 6.0 | 0.5 | 100 | UL-Y-6.0-M300-Colour |
| 7.0 | 0.5 | 100 | UL-Y-7.0-M300-Colour |
| 8.0 | 0.6 | 100 | UL-Y-8.0-M300-Colour |
| 9.0 | 0.6 | 100 | UL-Y-9.0-M300-Colour |
| 10.0 | 0.6 | 100 | UL-Y-10.0-M300-Colour |
| 12.0 | 0.6 | 100 | UL-Y-12.0-M300-Colour |
| 5 14.0 | 0.7 | 100 | UL-Y-14.0-M300-Colour |
| 16.0 | 0.7 | 100 | UL-Y-16.0-M300-Colour |
| 6 20.0 | 0.8 | 100 | UL-Y-20.0-M300-Colour |
| 25.0 | 0.8 | 100 | UL-Y-25.0-M300-Colour |

Colours Available

Black Blue Brown Green Yellow Grey White

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Red

PVC Sleeve Non-shrink insulating Sleeve



Specifications & Approvals

Specification BS2848/3/105T

The Y-105T type PVC sleeving is a flexible general purpose sleeving and is manufactured from premium virgin grade compound in a wide range of sizes. Supplied on continuous coils of 100 metres, please note that reels are also available please contact us.

Ideal for insulating wire in areas where space is at a premium.

Features & Benefits

- Flammability: Self-extinguishing in 30 sec
- Available in various colours

Operating Temperature

From -40°C to +105°C

Insulation resistance: 1012 Ohm/cm Dielectric strength: 25 kV/mm

| Internal Dia. | Nom. Wall | Spool Size | Part Number |
|------------------|-----------|------------|--------------------|
| As Supplied (mm) | mm | m | Part Number |
| 1.0 | 0.5 | 100 | Y-1.0-105T-Colour |
| 1.5 | 0.5 | 100 | Y-1.5-105T-Colour |
| 2.0 | 0.5 | 100 | Y-2.0-105T-Colour |
| 3.0 | 0.5 | 100 | Y-3.0-105T-Colour |
| 4.0 | 0.5 | 100 | Y-4.0-105T-Colour |
| 5.0 | 0.5 | 100 | Y-5.0-105T-Colour |
| 6.0 | 0.5 | 100 | Y-6.0-105T-Colour |
| 7.0 | 0.5 | 100 | Y-7.0-105T-Colour |
| 8.0 | 0.5 | 100 | Y-8.0-105T-Colour |
| 9.0 | 0.5 | 100 | Y-9.0-105T-Colour |
| 10.0 | 0.5 | 100 | Y-10.0-105T-Colour |
| 12.0 | 0.5 | 100 | Y-12.0-105T-Colour |
| 15.0 | 0.5 | 100 | Y-15.0-105T-Colour |
| 20.0 | 0.5 | 100 | Y-20.0-105T-Colour |
| 25.0 | 0.5 | 50 | Y-25.0-105T-Colour |



