



Shrink-Kon®

To insulate and protect cables



CABLE JOINTS, CABLE TERMINATIONS, CABLE GLANDS, CABLE CLEATS
FEEDER PILLARS, FUSE LINKS, ARC FLASH, CABLE ROLLERS, CUT-OUTS

11KV 33KV CABLE JOINTS & CABLE TERMINATIONS
FURSE EARTHING
www.cablejoints.co.uk
Thorne and Derrick UK

Tel 0044 191 490 1547 Fax 0044 191 477 5371
Tel 0044 117 977 4647 Fax 0044 117 9775582

3.1 HEAT SHRINK TECHNOLOGIES 214

Selection guide	218
-----------------	-----

Thin wall heat shrink tubing	220
-------------------------------------	-----

Product reference structure	220
-----------------------------	-----

Type PLG - HSB boxes	221
----------------------	-----

Type PLG - flexible	222
---------------------	-----

Type PLG - pre-cut bags	224
-------------------------	-----

Shrink-Kon® Set	225
-----------------	-----

Type CMP - dual listed	226
------------------------	-----

Type MLP - flexible for high specifications	227
---	-----

Type GYS - flexible green and yellow	229
--------------------------------------	-----

Type GYS - HSB boxes	230
----------------------	-----

Type PIG - very flexible for highly contoured components	231
--	-----

Type PIG - HSB boxes	232
----------------------	-----

Type PKG - flexible for moist environments	233
--	-----

Type PKG - HSB boxes	235
----------------------	-----

Type KYN - semi-rigid transparent	236
-----------------------------------	-----

Type VIT - highly flexible, flame retardant	237
---	-----

Type ZHFR - flexible, halogen free & flame retardant	238
--	-----

Type SSB - Shrink-Shield	239
--------------------------	-----

Medium & thick wall heat shrink tubing and tooling	240
---	-----

Type TBM - rated for 600V, 90°C continuous use	240
--	-----

Type TBW - rated for 600V, 90°C continuous use	241
--	-----

Low voltage kits up to 600V	242
-----------------------------	-----

Type TEB - cable breakouts	243
----------------------------	-----

Type TEC - end caps	244
---------------------	-----

TBTA-ZH - self amalgamating tape	245
----------------------------------	-----

Hot Air Tool	246
--------------	-----

Technical Information	247
-----------------------	-----

3.2 RESIN TECHNOLOGIES 248



Shrink-Kon®

Heat shrink technologies

Thomas & Betts has you covered when it comes to insulation!

- **Easy to use**
- **Heat shrinkable**
- **Heavy, medium, and thin walls products**

Shrink-Kon® Thin Wall Tubing

Manufactured from crosslinked Polyolefin, these products are used to insulate bare Sta-Kon® and Color Keyed® connectors and splices. They also provide a degree of strain relief and may be used to harness wires. Available in cut pieces or reels.

Featured Products Include:

- Single wall non-lined 2:1 and 3:1 thin wall tubing
- 3:1 and 4:1 dual wall adhesive lined thin-wall PKG series provides excellent flexibility with environmental sealing capability



*Protect against moisture,
corrosion, and abrasion!*

- Transparent heat shrink tubing for use on power connections and data connections
- Zero Halogen and flame retardant version for use in contained areas

Shrink-Kon® Medium Wall Tubing

More flexible than heavy-wall products, with excellent resistance to impact and abrasion.

- Seals and protects cable splices and terminations
- Thermoplastic adhesive liner guarantees complete environmental protection and insulation



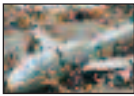
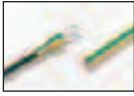












Thick Wall Shrink-Kon® Heat-Shrinkable Insulators

When it comes to moisture-proofing connections and terminations, Thomas & Betts's heat-shrinkable tubing, cable breakouts and end caps have proven themselves over years of service to the industry. Made of thermally stabilized cross-linked polyolefin, these heat-shrinkable insulators can be used over lead, steel, aluminum, copper, standard plastic, and elastomeric insulating materials.

Thomas & Betts heat-shrinkable insulators are designed to be easy to use. They provide an appropriate level of insulation and abrasion protection.

Selection guide

Heat shrink technologies

	Product type	General description	Typical application
	PLG/ PLG in HSB Boxes	Multipurpose tube in flexible polyolefin	General purpose, flexible heat shrink tubing for the protection, insulation and bundling of cables
	CMP	Multipurpose tube in flexible polyolefin-Dual listed	Typical applications are mechanical and electrical insulation, corrosion protection, bundling, mechanical protection and much more
	MLP	Multipurpose tube in flexible polyolefin-Dual listed	Typical applications are insulation, corrosion protection, component strain relief and connections in applications requiring the highest specifications (e.g. aeronautical and military)
	GYS/ GYS in HSB Boxes	Striped green and yellow, Flexible polyolefin	For identifying and marking earthing connectors and cables
	PIG/ PIG in HSB Boxes	Very flexible polyolefin, High shrink ratio	For highly contoured components with large diameter variations. Green and yellow for earthing applications
	PKG/ PKG in HSB Boxes	Flexible polyolefin, High shrink ratio, adhesive bonds to plastics, rubber, neoprene, steel and polyethylene	Adhesive-lined heat shrink tubing ideal for a moisture-resistant insulation
	KYN	High specifications, semi-rigid Kynar®* heat shrink tubing with excellent mechanical and electrical insulation performance	Ideal for specific applications where mechanical and chemical protection are required. Enables see through inspections
	VIT	High flexibility Viton®** fluoroelastomer for enhanced protection in extreme electrical, chemical and thermal environments	Its specificity make it the product of choice for heavy-duty conditions e.g. sensors in vehicle engine compartments
	ZHFR	Zero halogen, low smoke, flexible heat shrink tubing	Particularly recommended for use in contained areas and with Halogen free wires and cables
	SSB	Insulation and shielding in one process Inner aluminium layer and silver coloured outer PVC/Polyester layer	Typical applications including shielding of both power and signal cables to reduce EMI radiation and susceptibility
	TBM	Medium heat shrink tubing ideal for the protection of cable joints and terminations in low voltage power applications	For a variety of low voltage applications where lighter weight and greater flexibility are important
	TBW	Thick wall heat shrink ideal for underground low voltage power applications and terminations	This heavy wall product provides maximum reliability for insulating and protecting cable joints
	VMS (Low voltage kits)	Medium and heavy wall cable jointing kit for polymeric insulated cables	Low voltage jointing applications
	TEB	Medium and heavy wall adhesive lined heat shrink cable breakouts	To insulate and seal low voltage cable crutches
	TEC	Medium and heavy wall adhesive lined heat shrink end caps	To seal and protect cable-ends against the ingress of moisture and contamination
	TBTA-ZH (Self amalgamating tape)	Self-amalgamating tape which provides a thick insulating layer	Flawless electrical stability and for long term resistance to moisture penetration

* Kynar® is a registered trademark of ATOFINA

** Viton® is a registered trademark of DuPont de Nemours

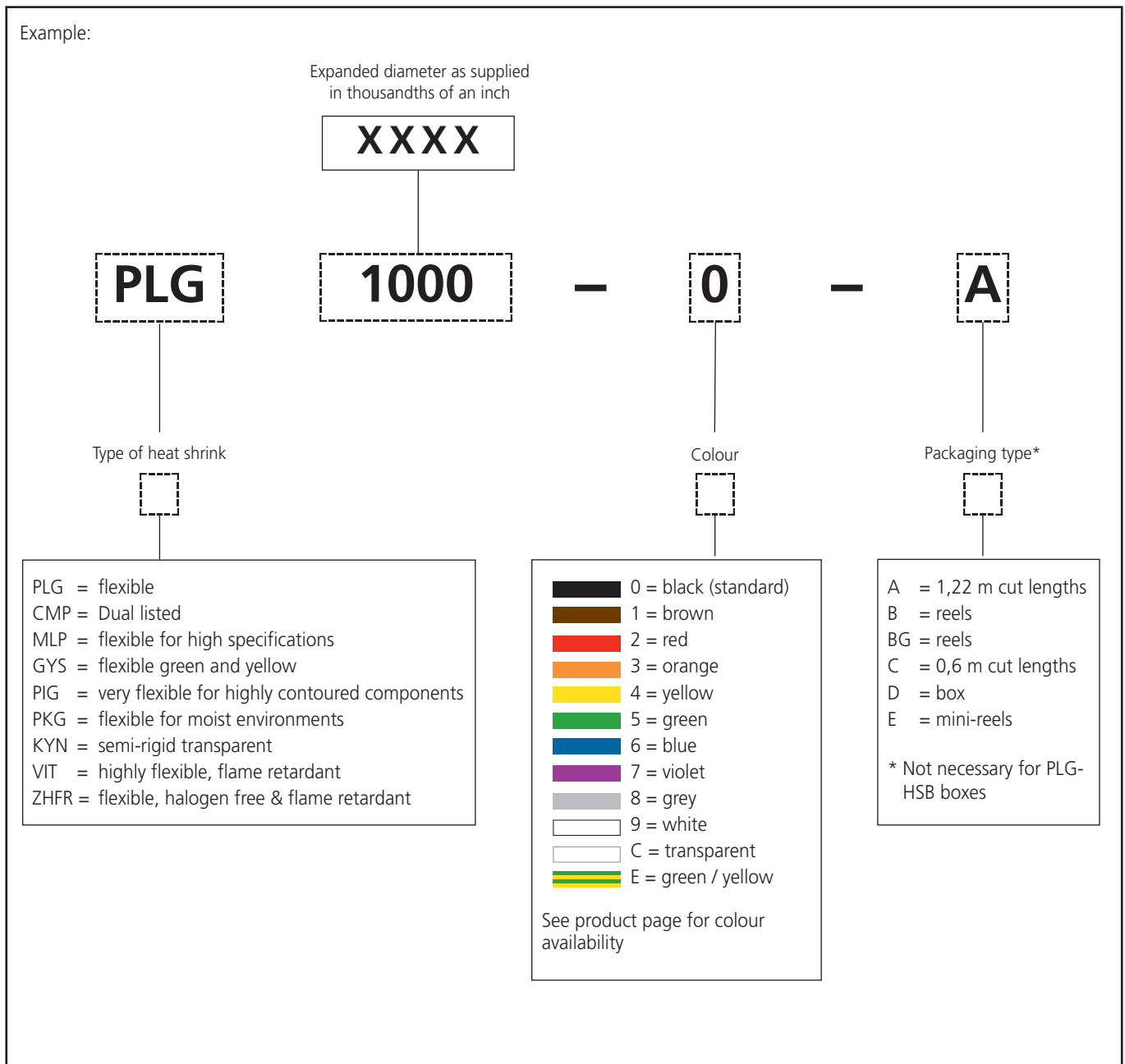
Characteristics	Shrink ratio	Temperature range	Flame rating	Certification(s)	Page
Single wall	2:1	-55°C to +125°C	Flame retardant***		221
Single wall	2:1	-55°C to +125°C	Flame retardant***	UL, CSA	226
Single wall	2:1	-55°C to +135°C	Flame retardant***	UL, CSA, MIL	227
Single wall	2:1	-55°C to +135°C	Flame retardant	MIL	229
Single wall	3:1	-55°C to +135°C	Flame retardant***	MIL	231
Dual wall	3:1 and 4:1	-55°C to +110°C (outer jacket)	Flame retardant***		233
Non polyolefin: crosslinked polyvinylidene fluoride (Kynar®*)	2:1	-55°C to +175°C	High flame retardancy	MIL	236
Non polyolefin: crosslinked fluoroelastomer (Viton®**)	2:1	-55°C to +220°C	High flame retardancy	MIL	237
Single wall	2:1	-40°C to +105°C	Flame retardant	DEF STAN	238
Dual wall	2:1	-10°C to +125°C	-		239
Medium wall	3:1	-55°C to +110°C	Non Flame retardant		240
Thick wall	3:1	-55°C to +110°C	Non Flame retardant		241
Medium and thick wall	3:1	-55°C to +110°C	Non Flame retardant		242
Medium and thick wall	>2:1	-55°C to +100°C	Non Flame retardant		243
Medium and thick wall	>2:1	-55°C to +100°C	Non Flame retardant		244
EPR based tape	1:3	-55°C to +105°C	Flame retardant		245

* Kynar® is a registered trademark of ATOFINA

** Viton® is a registered trademark of DuPont de Nemours

*** except transparent version

Product reference structure Thin wall heat shrink tubing



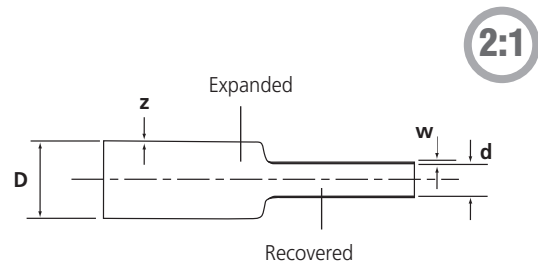
Type PLG - HSB boxes Thin wall heat shrink tubing

- PLG heat shrink tubing in a compact, handy sized box used for electrical maintenance and repair
- Convenient amount of heat shrink, for small users
- Offered in 10 sizes to cover a heat shrink range from Ø 1.2 mm to Ø 25.4 mm
- Stackable boxes for easy storage
- Flexible, rapid shrinkage, non-melting for effective electrical insulation
- Flame retardant
- Available colours: see below (see page 220 for product reference structure)



Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +125°C
Shrinking temperature	+110°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per box [m]
	D [inch]	D [mm]				
HSB46	³ / ₆₄	1.2	0.6	0.20	0.4	12.0
HSB63	¹ / ₁₆	1.6	0.8	0.20	0.4	12.0
HSB93	³ / ₃₂	2.4	1.2	0.25	0.5	11.5
HSB125	¹ / ₈	3.2	1.6	0.25	0.5	11.5
HSB187	³ / ₁₆	4.7	2.4	0.25	0.5	9.5
HSB250	¹ / ₄	6.4	3.2	0.30	0.6	7.5
HSB375	³ / ₈	9.5	4.7	0.30	0.6	6.5
HSB500	¹ / ₂	12.7	6.4	0.30	0.7	6.0
HSB750	³ / ₄	19.1	9.5	0.40	0.7	5.0
HSB1000	1	25.4	12.7	0.45	0.8	3.3

For other colours add colour suffix to Product Reference:

1 = brown, 2 = red, 4 = yellow, 5 = green, 6 = blue, 8 = grey, 9 = white and C = transparent



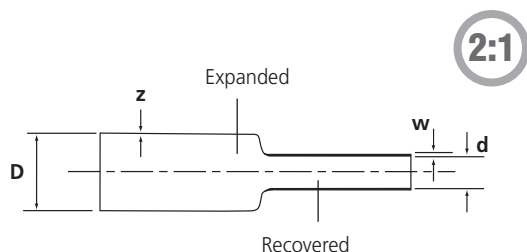
Type PLG - flexible Thin wall heat shrink tubing



- Multi-purpose use for insulation, bundling, identification, strain relief and much more
- Heat shrink tubing with 14 nominal diameters to enclose components from Ø 1.2 mm to Ø 101.6 mm
- Flame retardant
- Flexible, rapid shrinkage, non melting for effective electrical insulation
- Available colours: see below (see page 220 for product reference structure)
- Special colours available on request

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +125°C
Shrinking temperature	+110°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Total length per box [m]	Quantity per box [pieces 1.22m]
	D [inch]	D [mm]					
PLG46-0-A	³ / ₆₄	1.2	0.6	0.20	0.4	30.5	25
PLG63-0-A	¹ / ₁₆	1.6	0.8	0.20	0.4	30.5	25
PLG93-0-A	³ / ₃₂	2.4	1.2	0.25	0.5	30.5	25
PLG125-0-A	¹ / ₈	3.2	1.6	0.25	0.5	30.5	25
PLG187-0-A	³ / ₁₆	4.7	2.4	0.25	0.5	30.5	25
PLG250-0-A	¹ / ₄	6.4	3.2	0.30	0.6	30.5	25
PLG375-0-A	³ / ₈	9.5	4.8	0.30	0.6	30.5	25
PLG500-0-A	¹ / ₂	12.7	6.4	0.40	0.7	30.5	25
PLG750-0-A	³ / ₄	19.1	9.5	0.40	0.7	12.2	10
PLG1000-0-A	1	25.4	12.7	0.45	0.8	12.2	10
PLG1500-0-A	1 ¹ / ₂	38.0	19.0	0.50	1.0	6.1	5
PLG2000-0-A	2	50.8	25.4	0.55	1.1	6.1	5
PLG3000-0-A	3	76.2	38.1	0.65	1.3	2.4	2
PLG4000-0-A	4	101.6	50.8	0.70	1.4	1.2	1

For other colours add colour suffix to Product Reference:

0 = black, 1 = brown, 2 = red, 4 = yellow, 5 = green, 6 = blue, 8 = grey, 9 = white and C = transparent



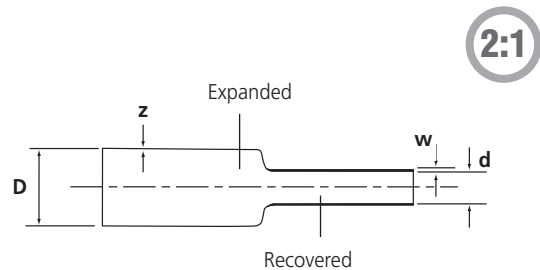
Type PLG - flexible Thin wall heat shrink tubing

- Multi-purpose use for insulation, bundling, identification, strain relief and much more
- Heat shrink tubing with 14 nominal diameters to enclose components from Ø 1.2 mm to Ø 101.6 mm
- Flame retardant
- Flexible, rapid shrinkage, non-melting for effective electrical insulation
- Available colours: see below (see page 220 for product reference structure)
- Special colours available on request



Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +125°C
Shrinking temperature	+110°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per	
	D [inch]	D [mm]				reel [m]	mini-reel [m]
PLG46-0-E	3/64	1.2	0.6	0.20	0.4	-	150
PLG63-0-E	1/16	1.6	0.8	0.20	0.4	-	150
PLG93-0-E	3/32	2.4	1.2	0.25	0.5	-	150
PLG125-0-E	1/8	3.2	1.6	0.25	0.5	-	150
PLG187-0-B	3/16	4.7	2.4	0.25	0.5	300	-
PLG187-0-E	3/16	4.7	2.4	0.25	0.5	-	75
PLG250-0-B	1/4	6.4	3.2	0.30	0.6	300	-
PLG250-0-E	1/4	6.4	3.2	0.30	0.6	-	75
PLG375-0-B	3/8	9.5	4.8	0.30	0.6	150	-
PLG375-0-E	3/8	9.5	4.8	0.30	0.6	-	75
PLG500-0-B	1/2	12.7	6.4	0.40	0.7	100	-
PLG500-0-E	1/2	12.7	6.4	0.40	0.7	-	50
PLG750-0-B	3/4	19.1	9.5	0.40	0.7	50	-
PLG750-0-E	3/4	19.1	9.5	0.40	0.7	-	30
PLG1000-0-B	1	25.4	12.7	0.45	0.8	50	-
PLG1000-0-E	1	25.4	12.7	0.45	0.8	-	30
PLG1500-0-B	1 1/2	38.1	19.0	0.50	1.0	50	-
PLG1500-0-E	1 1/2	38.1	19.0	0.50	1.0	-	30
PLG2000-0-B	2	50.8	25.4	0.55	1.1	50	-
PLG2000-0-E	2	50.8	25.4	0.55	1.1	-	30
PLG3000-0-B	3	76.2	38.1	0.65	1.3	25	-
PLG4000-0-B	4	101.6	50.8	0.70	1.4	25	-

For other colours add colour suffix to Product Reference:

0 = black, 1 = brown, 2 = red, 4 = yellow, 5 = green, 6 = blue, 8 = grey, 9 = white and C = transparent



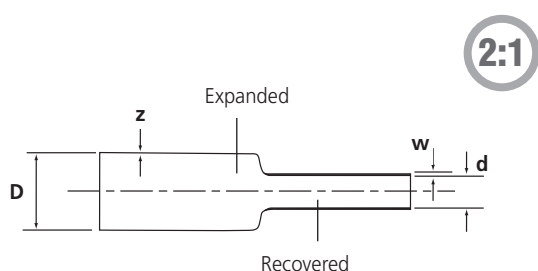
Type PLG - pre-cut bags Thin wall heat shrink tubing



- The Shrink-Kon® Pre-cut packs of PLG heat shrink are available to replenish the Shrink-Kon® Set or for use on displays
- 9 different expanded diameters
- 6 different colours
- Packed in small quantities
- Flexible, rapid shrinkage, non-melting for effective electrical insulation
- Flame retardant
- Available colours: see below (see page 220 for product reference structure)

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +125°C
Shrinking temperature	+110°C
Material	Crosslinked polyolefin
IP rating	IP60
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Colour	Length [cm]	Quantity [pieces]
	[inch]	[mm]						
PLG 63-0-5R	1/16	1.6	0.8	0.20	0.4	Black	5	50
PLG 63-C-5R	1/16	1.6	0.8	0.20	0.4	Transparent	5	50
PLG 93-0-5R	3/32	2.4	1.2	0.25	0.5	Black	5	50
PLG 93-C-5R	3/32	2.4	1.2	0.25	0.5	Transparent	5	50
PLG125-9-10R	1/8	3.2	1.6	0.25	0.5	White	10	25
PLG125-4-10R	1/8	3.2	1.6	0.25	0.5	Yellow	10	25
PLG125-C-10R	1/8	3.2	1.6	0.25	0.5	Transparent	10	25
PLG125-0-10R	1/8	3.2	1.6	0.25	0.5	Black	10	25
PLG187-0-10R	3/16	4.8	2.4	0.25	0.5	Black	10	25
PLG187-6-5R	3/16	4.8	2.4	0.25	0.5	Blue	5	40
PLG187-4-5R	3/16	4.8	2.4	0.25	0.5	Yellow	5	40
PLG187-C-5R	3/16	4.8	2.4	0.25	0.5	Transparent	5	40
PLG250-6-10R	1/4	6.4	3.2	0.30	0.6	Blue	10	20
PLG250-0-10R	1/4	6.4	3.2	0.30	0.6	Black	10	20
PLG250-9-5R	1/4	6.4	3.2	0.30	0.6	White	5	40
PLG250-4-5R	1/4	6.4	3.2	0.30	0.6	Yellow	5	40
PLG375-0-10R	3/8	9.5	4.7	0.30	0.6	Black	10	15
PLG375-6-10R	3/8	9.5	4.7	0.30	0.6	Blue	10	15
PLG500-2-10R	1/2	12.7	6.4	0.40	0.7	Red	10	15
PLG500-0-18R	1/2	12.7	6.4	0.40	0.7	Black	18	8
PLG750-6-10R	3/4	19.1	9.5	0.40	0.7	Blue	10	10
PLG750-0-18R	3/4	19.1	9.5	0.40	0.7	Black	18	6
PLG1000-0-18R	1	25.4	12.7	0.45	0.8	Black	18	3

Other dimensions or colours available upon request.

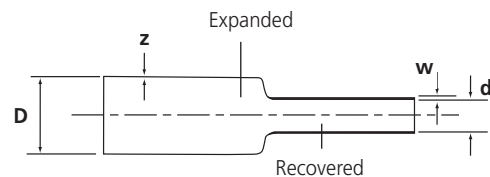
Shrink-Kon® Set Thin wall heat shrink tubing

- A kit comprising PLG heat shrink with or without hot air tool in a handy carry case
 - Maintenance and repair, research and development, small series manufacture and much more
 - 9 different expanded diameters
 - 6 different colours
 - 23 types
 - Flame retardant
 - Case made from shock-resistant plastic
 - All types available in refill packages
 - **Product Ref.: SK-1400GTG** (with GR121)
 - **Product Ref.: SK-1400GTG-UK** (with GR321)
 - **Product Ref.: SK-1400G** (without hot air tool)
- See page 246 for tooling specifications



Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +125°C
Shrinking temperature	+110°C
Material	Crosslinked polyolefin
IP rating	IP60
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free



Set contents Product Ref.	Expanded diameter as supplied D		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Colour	Length [cm]	Quantity [pieces]
	[inch]	[mm]						
PLG63-0	1/16	1.6	0.8	0.20	0.4	Black	5	20
PLG63-C	1/16	1.6	0.8	0.20	0.4	Transparent	5	20
PLG93-C	3/32	2.4	1.2	0.25	0.5	Transparent	5	20
PLG93-0	3/32	2.4	1.2	0.25	0.5	Black	10	15
PLG125-C	1/8	3.2	1.6	0.25	0.5	Transparent	10	15
PLG125-4	1/8	3.2	1.6	0.25	0.5	Yellow	10	10
PLG125-9	1/8	3.2	1.6	0.25	0.5	White	10	10
PLG125-0	1/8	3.2	1.6	0.25	0.5	Black	10	12
PLG187-C	3/16	4.8	2.4	0.25	0.5	Transparent	5	10
PLG187-4	3/16	4.8	2.4	0.25	0.5	Yellow	5	10
PLG187-6	3/16	4.8	2.4	0.25	0.5	Blue	5	20
PLG187-0	3/16	4.8	2.4	0.25	0.5	Black	10	12
PLG250-4	1/4	6.4	3.2	0.30	0.6	Yellow	5	16
PLG250-6	1/4	6.4	3.2	0.30	0.6	Blue	10	12
PLG250-9	1/4	6.4	3.2	0.30	0.6	White	5	16
PLG250-0	1/4	6.4	3.2	0.30	0.6	Black	10	10
PLG375-6	3/8	9.5	4.8	0.30	0.6	Blue	10	10
PLG375-0	3/8	9.5	4.8	0.30	0.6	Black	18	4
PLG500-2	1/2	12.7	6.4	0.40	0.7	Red	10	6
PLG500-0	1/2	12.7	6.4	0.40	0.7	Black	18	4
PLG750-6	3/4	19.1	9.5	0.40	0.7	Blue	10	4
PLG750-0	3/4	19.1	9.5	0.40	0.7	Black	18	4
PLG1000-0	1	25.4	12.7	0.45	0.8	Black	18	3

Type CMP - dual listed

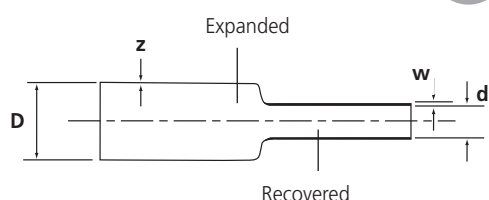
Thin wall heat shrink tubing



E79546



702106



- Typical applications are mechanical and electrical insulation, corrosion protection, bundling, mechanical protection and much more
- Internal diameters from 1.2 mm to 51 mm
- Flame retardant
- Flammability per UL 224
- The tubing is marked
- Available colours: see below (see page 220 for product reference structure)

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +125°C
Shrinking temperature	+110°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicon, Cadmium and Lead free Transparent version: Halogen free

Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per reel [m]	Total length per box [m]	Quantity per box [pieces 1.22m]
	[inch]	[mm]						
CMP46-0-A	³ / ₆₄	1.2	0.6	0.20	0.4	-	30.5	25
CMP46-0-BG	³ / ₆₄	1.2	0.6	0.20	0.4	300	-	-
CMP63-0-A	¹ / ₁₆	1.6	0.8	0.20	0.4	-	30.5	25
CMP63-0-BG	¹ / ₁₆	1.6	0.8	0.20	0.4	300	-	-
CMP93-0-A	³ / ₃₂	2.4	1.2	0.25	0.5	-	30.5	25
CMP93-0-BG	³ / ₃₂	2.4	1.2	0.25	0.5	300	-	-
CMP125-0-A	¹ / ₈	3.2	1.6	0.25	0.5	-	30.5	25
CMP125-0-BG	¹ / ₈	3.2	1.6	0.25	0.5	300	-	-
CMP187-0-A	³ / ₁₆	4.7	2.4	0.25	0.5	-	30.5	25
CMP187-0-BG	³ / ₁₆	4.7	2.4	0.25	0.5	300	-	-
CMP250-0-A	¹ / ₄	6.4	3.2	0.30	0.6	-	30.5	25
CMP250-0-BG	¹ / ₄	6.4	3.2	0.30	0.6	300	-	-
CMP375-0-A	³ / ₈	9.5	4.8	0.30	0.6	-	30.5	25
CMP375-0-BG	³ / ₈	9.5	4.8	0.30	0.6	150	-	-
CMP500-0-A	¹ / ₂	12.7	6.4	0.30	0.7	-	30.5	25
CMP500-0-BG	¹ / ₂	12.7	6.4	0.30	0.7	100	-	-
CMP750-0-A	³ / ₄	19.1	9.5	0.40	0.7	-	12.2	10
CMP750-0-BG	³ / ₄	19.1	9.5	0.40	0.7	50	-	-
CMP1000-0-A	1	25.4	12.7	0.45	0.8	-	12.2	10
CMP1000-0-BG	1	25.4	12.7	0.45	0.8	50	-	-
CMP1500-0-BG	1 ¹ / ₂	38.0	19.0	0.50	1.0	50	-	-
CMP2000-0-BG	2	51.0	25.4	0.55	1.1	50	-	-

* Transparent version not UL recognized

For other colours add colour suffix to Product Reference:

0 = black, 1 = brown, 2 = red, 4 = yellow, 5 = green, 6 = blue, 8 = grey, 9 = white and C = transparent



Type MLP - flexible for high specifications Thin wall heat shrink tubing

- Typical applications are insulation, corrosion protection, component strain relief and connections in applications requiring the highest specifications (e.g. aeronautical and military applications)
- Internal diameters from 1.2 mm to 25.4 mm
- Dual Listed
- Meets MIL-DTL-23053/5 requirements, Class 1 and Class 2
- Weather UV-resistant
- Good chemical resistance
- Flame retardant
- Available colours: see below (see page 220 for product reference structure)



Technical Information

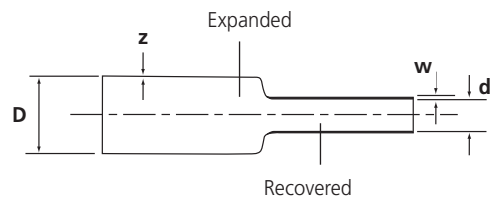
Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +135°C
Shrinking temperature	+90°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free



E79546



702106



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Total length per box [m]	Quantity per box [pieces 1.22m]
	[inch]	[mm]					
MLP46-0-A	³ / ₆₄	1.2	0.6	0.20	0.4	30.5	25
MLP63-0-A	¹ / ₁₆	1.6	0.8	0.20	0.4	30.5	25
MLP93-0-A	³ / ₃₂	2.4	1.2	0.25	0.5	30.5	25
MLP125-0-A	¹ / ₈	3.2	1.6	0.25	0.5	30.5	25
MLP187-0-A	³ / ₁₆	4.7	2.4	0.25	0.5	30.5	25
MLP250-0-A	¹ / ₄	6.4	3.2	0.30	0.6	30.5	25
MLP375-0-A	³ / ₈	9.5	4.8	0.30	0.6	30.5	25
MLP500-0-A	¹ / ₂	12.7	6.4	0.30	0.7	30.5	25
MLP750-0-A	³ / ₄	19.1	9.5	0.40	0.7	12.2	10
MLP1000-0-A	1	25.4	12.7	0.45	0.8	12.2	10

For other colours add colour suffix to Product Reference:

0 = black, 1 = brown, 2 = red, 4 = yellow, 5 = green, 6 = blue, 8 = grey, 9 = white and C = transparent



Type MLP - flexible for high specifications

Thin wall heat shrink tubing

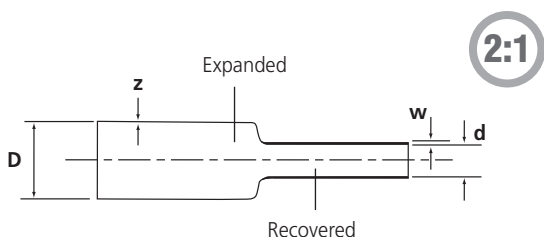


- Typical applications are insulation, corrosion protection, component strain relief and connections in applications requiring the highest specifications (e.g. aeronautical and military applications)
- Internal diameters from 1.2 mm to 25.4 mm
- Dual Listed
- Meets MIL-DTL-23053/5 requirements, Class 1 and Class 2
- Weather UV-resistant
- Good chemical resistance
- Flame retardant
- Available colours: see below (see page 220 for product reference structure)



E79546

702106



Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +135°C
Shrinking temperature	+90°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free

Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per reel [m]
	D [inch]	D [mm]				
MLP46-0-BG	³ / ₆₄	1.2	0.6	0.20	0.4	300
MLP63-0-BG	¹ / ₁₆	1.6	0.8	0.20	0.4	300
MLP93-0-BG	³ / ₃₂	2.4	1.2	0.25	0.5	300
MLP125-0-BG	¹ / ₈	3.2	1.6	0.25	0.5	300
MLP187-0-BG	³ / ₁₆	4.7	2.4	0.25	0.5	300
MLP250-0-BG	¹ / ₄	6.4	3.2	0.30	0.6	300
MLP375-0-BG	³ / ₈	9.5	4.8	0.30	0.6	150
MLP500-0-BG	¹ / ₂	12.7	6.4	0.30	0.7	100
MLP750-0-BG	³ / ₄	19.1	9.5	0.40	0.7	50
MLP1000-0-BG	1	25.4	12.7	0.45	0.8	50

For other colours add colour suffix to Product Reference:

0 = black, 1 = brown, 2 = red, 4 = yellow, 5 = green, 6 = blue, 8 = grey, 9 = white and C = transparent

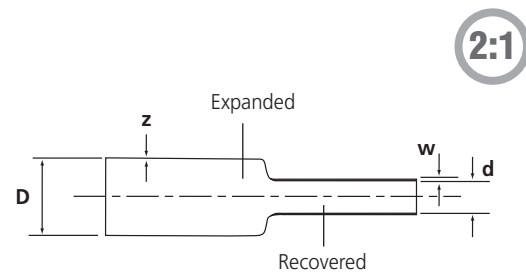
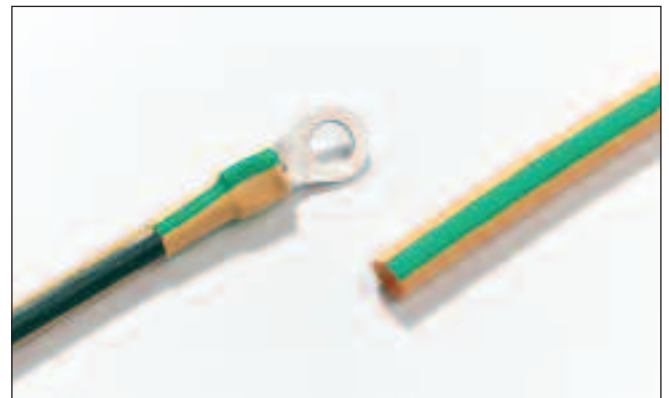


Type GYS - flexible green and yellow Thin wall heat shrink tubing

- For identifying and marking earthing connectors and cables
- Mechanical and electrical insulation, corrosion protection
- Internal diameters from 3.2 mm to 25.4 mm
- Flame retardant
- Meets MIL-DTL-23053/5 requirements, Class 1 and Class 2 (see page 220 for product reference structure)

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +135°C
Shrinking temperature	+90°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Green / Yellow striped
Other properties	Silicone, Cadmium and Lead free



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per mini-reel [m]	Total length per box [m]	Quantity per box [pieces 1.22m]
	D [inch]	D [mm]						
GYS125-E-A	1/8	3.2	1.6	0.25	0.51	-	30.5	25
GYS125-E-E	1/8	3.2	1.6	0.25	0.51	150	-	-
GYS187-E-A	3/16	4.8	2.4	0.25	0.51	-	30.5	25
GYS187-E-E	3/16	4.8	2.4	0.25	0.51	75	-	-
GYS250-E-A	1/4	6.4	3.2	0.32	0.64	-	30.5	25
GYS250-E-E	1/4	6.4	3.2	0.32	0.64	75	-	-
GYS375-E-A	3/8	9.5	4.8	0.32	0.64	-	30.5	25
GYS375-E-E	3/8	9.5	4.8	0.32	0.64	75	-	-
GYS500-E-A	1/2	12.7	6.4	0.32	0.64	-	30.5	25
GYS500-E-E	1/2	12.7	6.4	0.32	0.64	50	-	-
GYS750-E-A	3/4	19.1	9.5	0.38	0.76	-	12.2	10
GYS750-E-E	3/4	19.1	9.5	0.38	0.76	30	-	-
GYS1000-E-A	1	25.4	12.7	0.45	0.89	-	12.2	10
GYS1000-E-E	1	25.4	12.7	0.45	0.89	30	-	-

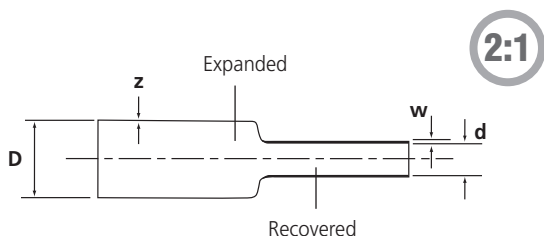
Type GYS - HSB boxes Thin wall heat shrink tubing



- For identifying and marking earthing connectors and cables
- GYS heat shrink in a compact, handy sized box
- Convenient amount of heat shrink, for small users
- Offered in 7 sizes to cover a heat shrink range from 3.2 mm to 25.4 mm diameters
- Stackable boxes for easy storage
- Flame retardant
- Meets MIL-DTL-23053/5 requirements, Class 1 and Class 2
- Mechanical and electrical insulation, corrosion protection (see page 220 for product reference structure)

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +135°C
Shrinking temperature	+90°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Green / Yellow striped
Other properties	Silicone, Cadmium and Lead free

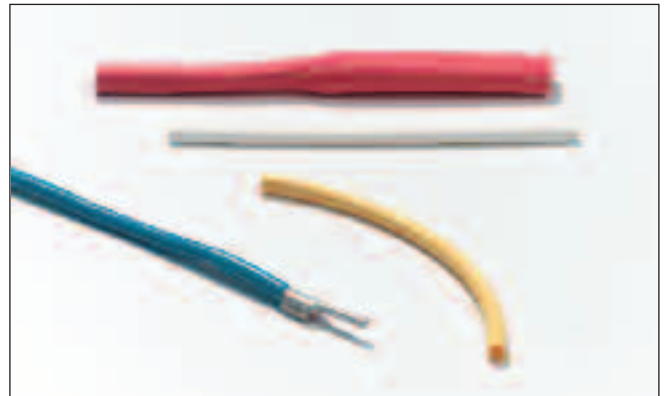


Product Ref.	Expanded diameter as supplied D		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per box [m]
	[inch]	[mm]				
GYS125-E-D	1/8	3.2	1.6	0.25	0.51	11.5
GYS187-E-D	3/16	4.8	2.4	0.25	0.51	9.5
GYS250-E-D	1/4	6.4	3.2	0.32	0.64	7.5
GYS375-E-D	3/8	9.5	4.8	0.32	0.64	6.5
GYS500-E-D	1/2	12.7	6.4	0.32	0.64	6.0
GYS750-E-D	3/4	19.1	9.5	0.38	0.76	5.0
GYS1000-E-D	1	25.4	12.7	0.45	0.89	3.3

Type PIG - very flexible for highly contoured components

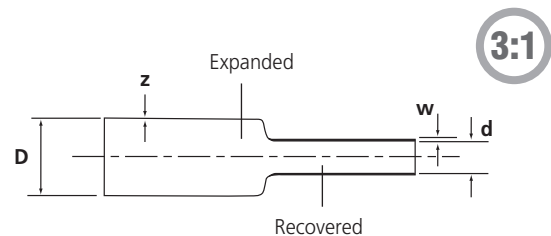
Thin wall heat shrink tubing

- Heat shrink tubing to enclose highly contoured components with large diameter variations. Provides mechanical and electrical protection
- Meets UL 224 requirements
- Internal diameters from 1.6 mm to 40 mm
- Excellent mechanical strength
- Resistant to common fluids and solvents
- Flame retardant
- Meets MIL-DTL-23053/5 requirements, Class 1 and Class 2 (except green / yellow version)
- Available colours: see below (see page 220 for product reference structure)
- Special colours available on request



Technical Information

Wall thickness	Thin
Shrink ratio	3:1
Tube characteristics	Single wall
Temperature range	-55°C to +135°C
Shrinking temperature	+90°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per reel [m]
	D [inch]	D [mm]				
PIG0150-0-B*	1/16	1.6	0.5	0.15	0.45	300
PIG0301-0-B*	1/8	3.2	1.0	0.18	0.55	300
PIG0451-0-B	3/16	4.5	1.5	0.20	0.60	300
PIG0602-0-B	1/4	6.4	2.0	0.22	0.65	300
PIG0903-0-B	3/8	9.5	3.0	0.25	0.75	150
PIG1204-0-B	1/2	12.7	4.0	0.25	0.75	100
PIG1806-0-B	3/4	19.0	6.0	0.27	0.80	50
PIG2408-0-B	1	25.4	8.0	0.33	1.00	50
PIG4013-0-B	1 1/2	40.0	13.0	0.38	1.15	50

* Not available in green / yellow

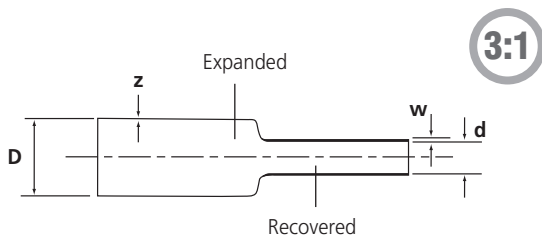
For other colours add colour suffix to Product Reference:

0 = black, 1 = brown, 2 = red, 4 = yellow, 6 = blue, 8 = grey, 9 = white, C = transparent and E = green / yellow striped



Type PIG - HSB boxes

Thin wall heat shrink tubing



- PIG heat shrink in a compact, handy sized box
- Workshop, installation, laboratory and much more
- Heat shrink tubing to enclose highly contoured components with large diameter variations. Provides mechanical and electrical protection
- Convenient amount of heat shrink, for small users
- Offered in 8 sizes to cover a heat shrink range from Ø 1.6 mm to Ø 25.4 mm
- Stackable boxes for easy storage
- Meets UL 224 requirements
- Excellent mechanical strength
- Resistant to common fluids and solvents
- Flame retardant
- Meets MIL-DTL-23053/5 requirements, Class 1 and Class 2 (except green / yellow version)
- Available colours: see below (see page 220 for product reference structure)
- Special colours available on request

Technical Information

Wall thickness	Thin
Shrink ratio	3:1
Tube characteristics	Single wall
Temperature range	-55°C to +135°C
Shrinking temperature	+90°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free Transparent version: Halogen free

Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per box [m]
	D [inch]	D [mm]				
PIG0150-0-D*	1/16	1.6	0.5	0.15	0.45	10.5
PIG0301-0-D*	1/8	3.2	1.0	0.18	0.55	10.0
PIG0451-0-D	3/16	4.5	1.5	0.20	0.60	9.0
PIG0602-0-D	1/4	6.4	2.0	0.22	0.65	7.0
PIG0903-0-D	3/8	9.5	3.0	0.25	0.75	6.0
PIG1204-0-D	1/2	12.7	4.0	0.25	0.75	5.5
PIG1806-0-D	3/4	19.0	6.0	0.27	0.80	4.5
PIG2408-0-D	1	25.4	8.0	0.33	1.00	3.3

* Not available in green/yellow

For other colours add colour suffix to Product Reference:

0 = black, 1 = brown, 2 = red, 4 = yellow, 6 = blue, 8 = grey, 9 = white, C = transparent and E = green / yellow striped



Type PKG - flexible for moist environments Thin wall heat shrink tubing

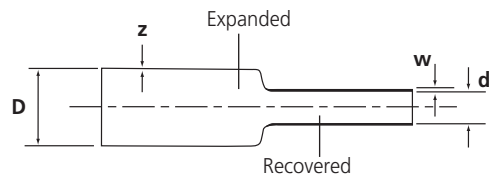
- Crosslinked modified Polyolefin with thermoplastic adhesive lining
- Particularly suitable for corrosion and damp protected casings as well as highly contoured components
- Flame retardant
- Moisture resistant, good chemical resistance
- High mechanical stability
- The high shrink ratio and flexibility of this range allows the user maximum coverage with minimal parts
- The adhesive lining bonds to plastic, rubber, neoprene, steel and polyethylene
- Available colours: see below (see page 220 for product reference structure)



Technical Information

Wall thickness	Thin
Shrink ratio	3:1
Tube characteristics	Dual wall
Temperature range	-55°C to +110°C (outer jacket)
Shrinking temperature	+95°C
Material	Crosslinked polyolefin with adhesive lining
IP rating	IP65
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free

3:1



Product Ref.	Expanded diameter as supplied D [mm]	Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per reel [m]	Total length per bag [m]	Quantity per bag [pieces 0.6 m]
PKG0301-0-B	3.0	1.0	0.4	1.0	300	-	-
PKG0301-0-C	3.0	1.0	0.4	1.0	-	12.0	20
PKG0602-0-B	6.0	2.0	0.5	1.0	300	-	-
PKG0602-0-C	6.0	2.0	0.5	1.0	-	9.0	15
PKG0903-0-B	9.0	3.0	0.5	1.4	150	-	-
PKG0903-0-C	9.0	3.0	0.5	1.4	-	6.0	10
PKG1204-0-B	12.0	4.0	0.5	1.8	100	-	-
PKG1204-0-C	12.0	4.0	0.5	1.8	-	5.4	9
PKG1806-0-B	18.0	6.0	0.6	2.2	50	-	-
PKG1806-0-C	18.0	6.0	0.6	2.2	-	3.6	6
PKG2408-0-B	24.0	8.0	0.7	2.5	50	-	-
PKG2408-0-C	24.0	8.0	0.7	2.5	-	3.0	5
PKG4013-0-B	40.0	13.0	0.7	2.5	30	-	-
PKG4013-0-C	40.0	13.0	0.7	2.5	-	2.4	4

For other colours add colour suffix to Product Reference:
0 = black and C = transparent



Type PKG - flexible for moist environments

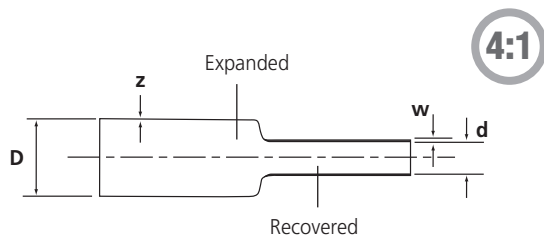
Thin wall heat shrink tubing



- Crosslinked modified Polyolefin with thermoplastic adhesive lining
- Particularly suitable for corrosion and damp protected casings as well as highly contoured components
- Flame retardant
- Moisture resistant, good chemical resistance
- High mechanical stability
- The high shrink ratio and flexibility of this range allows the user maximum coverage with minimal parts
- The adhesive lining bonds to plastic, rubber, neoprene, steel and polyethylene
- Available colours: see below (see page 220 for product reference structure)

Technical Information

Wall thickness	Thin
Shrink ratio	4:1
Tube characteristics	Dual wall
Temperature range	-55°C to +110°C (outer jacket)
Shrinking temperature	+95°C
Material	Crosslinked polyolefin with adhesive lining
IP rating	IP65
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free



Product Ref.	Expanded diameter as supplied D [mm]	Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per reel [m]	Total length per bag [m]	Quantity per bag [pieces 0.6m]
PKG0401-0-B	4.0	1.0	0.4	1.0	300	-	-
PKG0401-0-C	4.0	1.0	0.4	1.0	-	12.0	20
PKG0802-0-B	8.0	2.0	0.5	1.0	150	-	-
PKG0802-0-C	8.0	2.0	0.5	1.0	-	9.0	15
PKG1203-0-B	12.0	3.0	0.5	1.4	100	-	-
PKG1203-0-C	12.0	3.0	0.5	1.4	-	6.0	10
PKG1604-0-B	16.0	4.0	0.5	1.7	50	-	-
PKG1604-0-C	16.0	4.0	0.5	1.7	-	5.4	9
PKG2406-0-B	24.0	6.0	0.6	2.1	50	-	-
PKG2406-0-C	24.0	6.0	0.6	2.1	-	3.0	5
PKG3208-0-B	32.0	8.0	0.7	2.4	50	-	-
PKG3208-0-C	32.0	8.0	0.7	2.4	-	3.0	5
PKG5213-0-B	52.0	13.0	0.7	2.4	30	-	-
PKG5213-0-C	52.0	13.0	0.7	2.4	-	1.8	3

For other colours add colour suffix to Product Reference:
0 = black and C = transparent



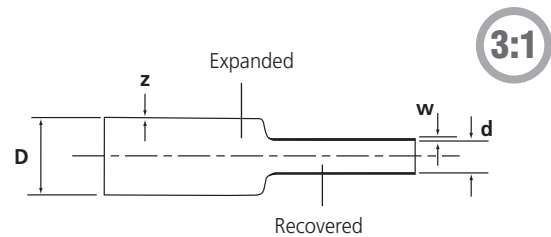
Type PKG - HSB boxes Thin wall heat shrink tubing

- PKG heat shrink in a compact, handy sized box
- Convenient amount of heat shrink, for small users
- Particularly suitable for corrosion and damp protected casings as well as highly contoured components
- Offered in 6 sizes to cover a heat shrink range from Ø 3.0 mm to Ø 24.0 mm
- Stackable boxes for easy storage
- The adhesive lining bonds to plastic, rubber, neoprene, steel and polyethylene
- Flame retardant
- Moisture resistant
- Available colours: see below (see page 220 for product reference structure)



Technical Information

Wall thickness	Thin
Shrink ratio	3:1
Tube characteristics	Dual wall
Temperature range	-55°C to +110°C (outer jacket)
Shrinking temperature	+95°C
Material	Crosslinked polyolefin with adhesive lining
IP rating	IP65
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free



Product Ref.	Expanded diameter as supplied D [mm]	Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Length per box [m]
PKG0301-0-D	3.0	1.0	0.4	1.0	5.0
PKG0602-0-D	6.0	2.0	0.5	1.0	3.5
PKG0903-0-D	9.0	3.0	0.5	1.4	3.0
PKG1204-0-D	12.0	4.0	0.5	1.8	2.5
PKG1806-0-D	18.0	6.0	0.6	2.2	2.0
PKG2408-0-D	24.0	8.0	0.7	2.5	1.5

For other colours add colour suffix to Product Reference:

0 = black and C = transparent



Type KYN - semi-rigid transparent

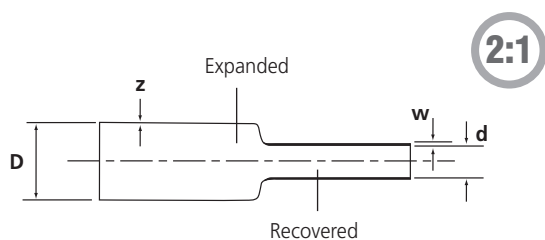
Thin wall heat shrink tubing



- In areas of heavy mechanical loads, high temperatures and chemical stress. Insulation in densely packed wiring, in heating elements and much more
- Internal diameters from 1.2 mm to 25.4 mm
- High mechanical strength
- Excellent electrical insulation performance
- High flame retardancy
- Highly abrasion and cut resistant
- Resistant to Diesel
- Very good resistance against chemicals and solvents
- Meets MIL-DTL-23053/8 requirements

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +175°C
Shrinking temperature	+175°C
Material	Crosslinked and rigid Polyvinylidene Fluoride (Kynar®*)
IP rating	IP60
Standard colour	Transparent
Other properties	Silicone, Cadmium, Lead and Halogen free



* registered trademark of ATOFINA

Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Total length per box [m]	Quantity per box [pieces 1.22m]
	D [inch]	D [mm]					
KYN46-C-A	$\frac{3}{64}$	1.2	0.6	0.12	0.25	30.5	25
KYN63-C-A	$\frac{1}{16}$	1.6	0.8	0.12	0.25	30.5	25
KYN93-C-A	$\frac{3}{32}$	2.4	1.2	0.12	0.25	30.5	25
KYN125-C-A	$\frac{1}{8}$	3.2	1.6	0.12	0.25	30.5	25
KYN187-C-A	$\frac{3}{16}$	4.8	2.4	0.12	0.25	30.5	25
KYN250-C-A	$\frac{1}{4}$	6.4	3.2	0.15	0.30	12.2	10
KYN375-C-A	$\frac{3}{8}$	9.5	4.8	0.15	0.30	12.2	10
KYN500-C-A	$\frac{1}{2}$	12.7	6.0	0.15	0.30	12.2	10
KYN750-C-A	$\frac{3}{4}$	19.1	9.5	0.20	0.40	12.2	10
KYN1000-C-A	1	25.4	12.7	0.25	0.50	12.2	10

Type VIT - highly flexible, flame retardant Thin wall heat shrink tubing

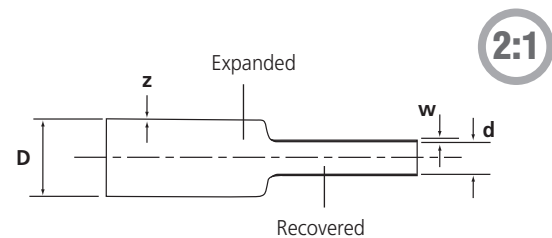
- High flexibility makes it suitable even under heavy-duty conditions e.g. sensors in vehicle engine compartments
- Excellent strength and resistance against corrosive fluids even at high temperatures
- Internal diameters from 3.2 mm to 38.1 mm
- Offers excellent resistance to aggressive fuels and chemicals
- High flame retardancy
- Meets MIL-DTL-23053/13 requirements



Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-55°C to +220°C
Shrinking temperature	+175°C
Material	Viton®*, Crosslinked fluoroelastomer
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium and Lead free

*Viton® is a registered trademark of DuPont.



Product Ref.	Expanded diameter as supplied		Fully recovered diameter d [mm]	Wall thickness before shrinking z [mm]	Wall thickness after shrinking w [mm]	Total length per box [m]	Quantity per box [pieces 0.6m]
	D [inch]	D [mm]					
VIT125-0-C	1/8	3.2	1.6	0.40	0.8	6.0	10
VIT187-0-C	3/16	4.8	2.4	0.45	0.9	6.0	10
VIT250-0-C	1/4	6.4	3.2	0.45	0.9	6.0	10
VIT375-0-C	3/8	9.5	4.8	0.45	0.9	4.8	8
VIT500-0-C	1/2	12.7	6.4	0.45	0.9	4.2	7
VIT750-0-C	3/4	19.1	9.5	0.55	1.3	3.6	6
VIT1000-0-C	1	25.4	12.7	0.70	1.4	2.4	4
VIT1500-0-C	1 1/2	38.1	19.0	0.80	1.9	1.8	3

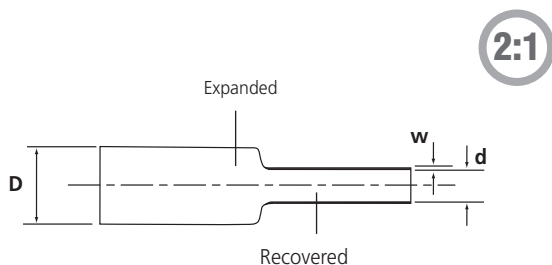
Type ZHFR - flexible, Halogen free & flame retardant Thin wall heat shrink tubing



- Flexible
- Low smoke generation when burnt
- Halogen free
- Flame retardant
- Particularly recommended for use in contained areas and with Halogen free wires and cables
- Meets DEF STAN 59-97, issue 3, type 8
- Available colours: see below (see page 220 for product reference structure)
- Special colours available on request

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Single wall
Temperature range	-40°C to +105°C
Shrinking temperature	+115°C
Material	Crosslinked polyolefin
IP rating	IP60
Standard colour	Black
Other properties	Silicone, Cadmium, Lead and Halogen free



Product Ref.	Expanded diameter as supplied D		Fully recovered diameter d [mm]	Wall thickness after shrinking w [mm]	Length per mini-reel [m]
	[inch]	[mm]			
ZHFR93-0-E	³ / ₃₂	2.4	0.8	0.45	135
ZHFR125-0-E	¹ / ₈	3.2	1.6	0.51	135
ZHFR187-0-E	³ / ₁₆	4.8	2.4	0.51	70
ZHFR250-0-E	¹ / ₄	6.4	3.2	0.64	70
ZHFR375-0-E	³ / ₈	9.5	4.8	0.64	70
ZHFR500-0-E	¹ / ₂	12.7	6.4	0.64	45
ZHFR750-0-E	³ / ₄	19.1	9.5	0.76	25
ZHFR1000-0-E	1	25.4	12.7	0.89	25

For other colours add colour suffix to Product Reference:
0 = black, 4 = yellow, 9 = white

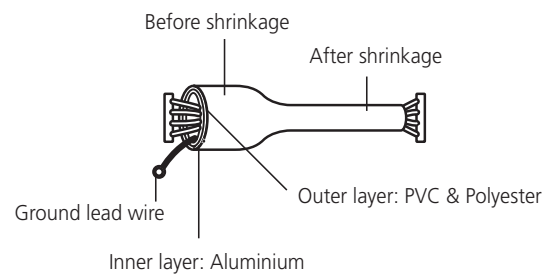


Type SSB - Shrink-Shield Thin wall heat shrink tubing

- Insulation and shielding in one process
- Shrink-Shield in the handy format of the HSB boxes
- Typical applications including shielding of both power and signal cables to reduce EMI radiation and susceptibility
- Inner aluminium layer and silver coloured outer PVC/Polyester layer
- Shrinks from 90°C
- Fulfills UL 224 VW-1 requirements

Technical Information

Wall thickness	Thin
Shrink ratio	2:1
Tube characteristics	Dual wall
Temperature range	-10°C to +125°C
Shrinking temperature	+90°C
Material outer layer	PVC & Polyester
Material inner layer	Aluminium
Standard colour	Silver



Product Ref.	Flat width [mm]	Expanded diameter as supplied [mm]	Fully recovered diameter [mm]	Wall thickness after shrinking [mm]	Length per box [m]
SSB010-1	12.5	6.4	3.2	0.14	10
SSB015-1	16.0	9.6	4.8	0.14	8
SSB020-1	22.0	13.0	6.5	0.14	7
SSB025-1	27.0	16.0	8.0	0.14	6
SSB040-1	42.0	25.4	12.7	0.14	4

For technical information on the shielding please consult the information available on the European online catalogue.

Type TBM - rated for 600V, 90°C continuous use

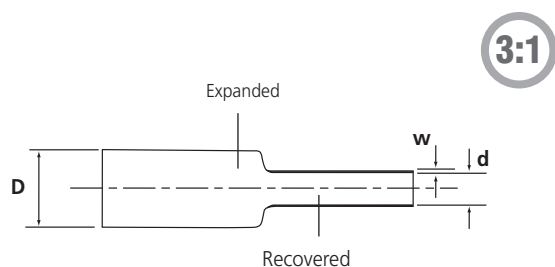
Medium wall heat shrink tubing



- TBM is an excellent product for sealing and insulating cable splices, connections, terminations and jacket repairs where light weight and high flexibility are required
- The tubing is designed to withstand the severe mechanical requirements of submersible and direct-buried installations
- High resistance to abrasion, corrosion and chemicals
- Excellent weatherability
- 11 standard sizes in medium wall: internal diameters from 10.2 mm to 228.6 mm
- Meets requirements of ESI 09-11

Technical Information

Wall thickness	Medium
Shrink ratio	3:1
Tube characteristics	Dual wall
Temperature range	-55°C to +110°C
Shrinking temperature	+120°C
Material	Crosslinked polyolefin with thermoplastic adhesive liner
IP rating	IP67
Standard colour	Black
Other properties	Silicone, Halogen, Cadmium and Lead free



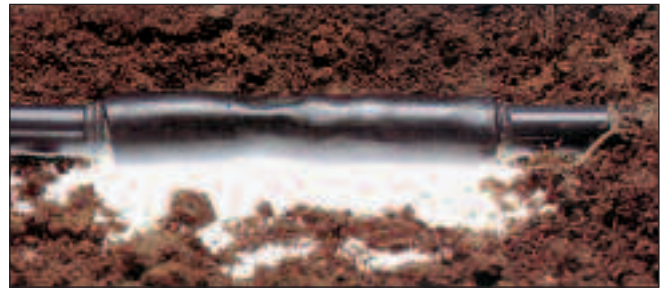
Product Ref.	Expanded diameter as supplied D [mm]	Fully recovered diameter d [mm]	Wall thickness after shrinking w [mm]	Length per bag [m]	Quantity per bag [pieces 1.22m]
TBM0400	10.2	3.8	2.0	6.1	5
TBM0750	19.1	5.6	2.0	6.1	5
TBM0950	24.1	8.1	2.0	3.6	3
TBM1100	27.9	10.2	2.0	3.6	3
TBM1500	38.1	12.7	2.0	2.4	2
TBM2050	52.1	19.1	2.0	1.2	1
TBM2750	69.9	25.4	2.0	1.2	1
TBM3500	88.9	30.0	2.4	1.2	1
TBM4700	119.4	39.9	2.7	1.2	1
TBM6700	170.2	58.4	2.8	1.2	1
TBM9000	228.6	77.0	3.0	1.2	1

Do not stock at temperatures over 40°C. Do not expose directly to sun rays for long periods.

Type TBW - rated for 600V, 90°C continuous use

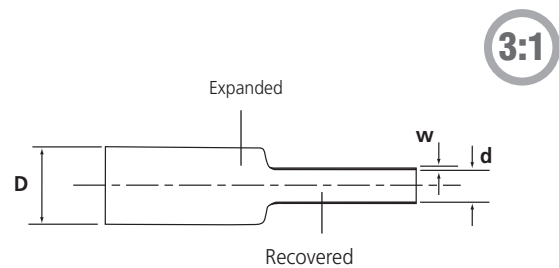
Thick wall heat shrink tubing

- TBW is an excellent product for sealing and insulating cable splices, connections, terminations and jacket repairs.
- The tubing is designed to withstand the severe mechanical requirements of submersible and direct-buried installations
- Low voltage power applications 600V
- High resistance to abrasion, corrosion and chemicals
- Excellent weatherability
- 9 standard sizes in thick wall: internal diameters from 8.9 mm to 119.9 mm
- Meets requirements of ESI 09-11



Technical Information

Wall thickness	Thick
Shrink ratio	3:1
Tube characteristics	Dual wall
Temperature range	-55°C to +110°C
Shrinking temperature	+120°C
Material	Crosslinked polyolefin with thermoplastic adhesive liner
IP rating	IP67
Standard colour	Black
Other properties	Silicone, Halogen, Cadmium and Lead free



Product Ref.	Expanded diameter as supplied D [mm]	Fully recovered diameter d [mm]	Wall thickness after shrinking w [mm]	Length per bag [m]	Quantity per bag [pieces 1.22m]
TBW0350	8.9	3.0	1.8	6.1	5
TBW0500	13.0	4.1	2.4	6.1	5
TBW0750	19.1	6.1	2.4	6.1	5
TBW1100	27.9	8.9	3.0	2.4	2
TBW1500	38.1	11.9	4.1	2.4	2
TBW2000	50.8	16.0	4.1	1.2	1
TBW2700	68.1	22.1	4.1	1.2	1
TBW3500	89.9	30.0	4.1	1.2	1
TBW4700	119.9	39.9	4.3	1.2	1

Do not stock at temperatures over 40°C. Do not expose directly to sun rays for long periods.

Low voltage kits up to 600V Medium and Thick wall heat shrink tubing



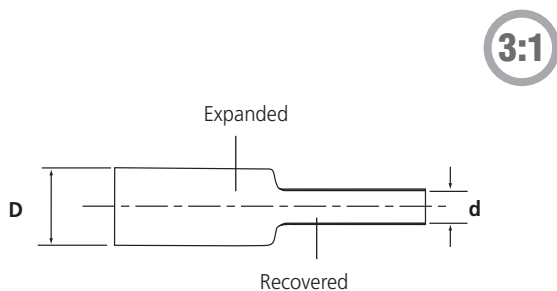
- VMS heat shrinkable sleeves (TBM and TBW) are suitable for jointing multi-core, polymeric insulated energy cables in the low voltage range
- Quick, simple installation
- Exceptionally good electrical insulation and environmental protection
- Good mechanical load-bearing ability
- No maintenance time necessary
- Unlimited storage life
- Tested to DIN 47632 / VDE 0278 Part 1 and 3

Standard Content

- 1 Outer sleeve (TBW)
- 4 Inner sleeves (TBM) for VMS2 to VMS9, 5 inner sleeves for VMS1
- Cleaning cloths
- Abrasive cloth
- Installation instructions

Technical Information

Wall thickness	Medium (TBM) and thick (TBW)
Shrink ratio	3:1
Tube characteristics	Dual wall
Temperature range	-55°C to +110°C
Shrinking temperature	+120°C
Material	Crosslinked polyolefin with thermoplastic adhesive liner
IP rating	IP67
Standard colour	Black
Other properties	Silicone and Halogen free



Product Ref.	CONTENT PER KIT								
	Wire range	Inner sleeves	Shrinkage		Length	Outer sleeve	Shrinkage		Length
	[mm ²]	[pieces]	Expanded D [mm]	Recovered d [mm]	[mm]	[pieces]	Expanded D [mm]	Recovered d [mm]	[mm]
VMS1	1.5 - 6	5	12	3	50	1	30	10	200
VMS2	2.5 - 16	4	12	3	125	1	40	12	500
VMS3	6 - 35	4	20	6	125	1	54	18	500
VMS6	16 - 50	4	20	6	250	1	70	25	700
VMS7	35 - 150	4	30	10	300	1	90	30	800
VMS8	120 - 240	4	40	12	300	1	90	30	800
VMS9	185 - 300	4	54	18	300	1	120	40	900

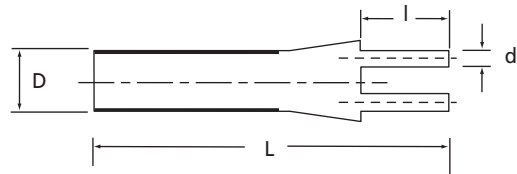
Type TEB - cable breakouts Medium and Thick wall heat shrink tubing

- Cable Breakouts are designed for the insulation and sealing of cable crutches
- They offer extreme strain relief and mechanical protection
- Adhesive line provides complete sealing
- UV-resistant
- They also provide good insulation and resistance to common fluids and solvents



Technical Information

Wall thickness	Medium and thick
Shrink ratio	Various
Tube characteristics	Dual wall
Temperature range	-55°C to +100°C
Shrinking temperature	+135°C
Material	Crosslinked polyolefin with thermoplastic adhesive liner
IP rating	IP67
Standard colour	Black
Other properties	Silicone, Halogen, Cadmium and Lead free

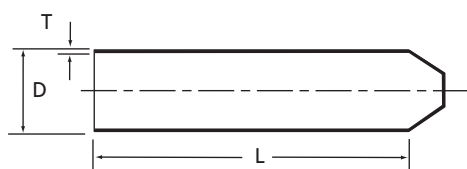


Product Ref.	Breakout Main ø Expanded D [mm]	Breakout Main ø Recovered [mm]	Finger ø Expanded d [mm]	Finger ø recovered [mm]	Cable size [mm²]	Core Ø range [mm]	Overall Ø range [mm]	Recovered Full Length L [mm]	Recovered Finger Length l [mm]	Number of break-outs	Quantity [pieces]
TEB2 2-BREAKOUTS											
TEB2-30/15	30	9.4	15	4.1	-	-	-	84.6	27.0	2	10
TEB2-50/21	50	24.0	21	7.0	-	-	-	107.1	30.6	2	10
TEB3 3-BREAKOUTS											
TEB3-38/11	38	14.0	11	4.0	10 - 25	5.1 - 7.7	16.5 - 22.0	110.0	20.0	3	10
TEB3-60/24	60	22.0	24	8.0	35 - 70	8.8 - 12.0	24.5 - 32.0	185.0	45.0	3	10
TEB3-80/36	80	33.0	36	16.0	95 - 150	13.7 - 17.0	36.0 - 44.0	210.0	50.0	3	10
TEB3-110/48	110	47.0	48	20.0	185 - 300	17.0 - 24.3	49.0 - 62.0	260.0	75.0	3	10
TEB3-125/55	125	47.0	55	20.0	185 - 500	17.0 - 31.1	49.0 - 77.5	260.0	75.0	3	10
TEB4 4-BREAKOUTS											
TEB4-38/11	38	14.0	11	4.0	10 - 25	5.1 - 7.7	17.5 - 24.5	110.0	20.0	4	10
TEB4-55/20	55	22.0	20	8.5	35 - 50	8.8 - 10.0	27.0 - 31.0	190.0	45.0	4	10
TEB4-72/25	72	22.0	25	8.5	35 - 70	8.8 - 12.0	27.0 - 35.5	190.0	45.0	4	10
TEB4-100/35	100	33.0	35	14.0	95 - 150	13.7 - 17.0	40.0 - 49.0	215.0	50.0	4	10
TEB4-125/54	125	47.0	54	22.0	185 - 400	19.2 - 27.4	54.5 - 69.0	245.0	72.0	4	10

Type TEC - end caps Medium and Thick wall heat shrink tubing



>2:1



- End Caps are designed to seal and to protect cable-ends against the ingress of moisture and contamination
- They offer extreme strain relief and mechanical protection
- Adhesive line provides complete sealing
- They also provide optimal sealing and resistance to chemicals and solvents
- UV-resistant

Technical Information

Wall thickness	Medium and thick
Shrink ratio	> 2:1
Tube characteristics	Dual wall
Temperature range	-55°C to +100°C
Shrinking temperature	+120°C
Material	Crosslinked polyolefin with thermoplastic adhesive liner
IP rating	IP67
Standard colour	Black
Other properties	Silicone, Halogen, Cadmium and Lead free

Product Ref.	Expanded diameter as supplied [mm]	Fully recovered diameter D [mm]	Recovered length L [mm]	Wall thickness after shrinking T [mm]	Cable diameter [mm ²]	Quantity [pieces]
TEC 15/4.5	15.0	4.5	44.0	1.0	5 - 12	100
TEC 25/9	25.0	9.0	69.0	2.7	10 - 22	50
TEC 36/15	36.0	15.0	93.0	2.8	17 - 30	10
TEC 55/25	55.0	25.0	107.0	3.3	28 - 47	10
TEC 80/40	80.0	40.0	127.0	3.6	45 - 70	10
TEC 102/60	102.0	60.0	152.0	3.6	68 - 90	5
TEC 124/60	124.0	60.0	152.0	3.6	75 - 110	5
TEC 148/57	148.0	57.0	152.0	4.5	80 - 135	5

TBTA-ZH - self amalgamating tape

Heat shrink technologies

- Self amalgamating tape
- Thomas & Betts TBTA-ZH tape provides a thick insulating layer with flawless electrical stability and a long term resistance to moisture penetration, which demands waterproofing
- To repair and maintain cable sleeving up to 30 Kv
- For installations, where open flame and heat may not be used
- Excellent resistance to UV rays and Ozone
- Easy to apply - no tools or heating required
- Excellent protection at low temperatures

Technical Information

Stretch ratio	3:1
Temperature range	-55°C to +105°C
Material	EPR based tape
IP rating	IP67
Standard colour	Black
Other properties	Silicone, Halogen, Cadmium and Lead free

3:1



TBTA-ZH must be stretched on application for the self-adhesive properties to be activated. TBTA-ZH has a stretch ratio of more than 3:1.

Installation notes

1. The surface of the connection and the cable entry must be clean
2. TBTA-ZH should be used under high tension as the stretching process activates the adhesive
3. By wrapping the TBTA-ZH tape around the cable, a sealed casing is created
4. If a cable or pipe needs protection, the TBTA-ZH tape should be wrapped around itself twice at the beginning point and then should overlap throughout by 50%. This means that the tape will also stretch when the cable is under tension
5. Finally, the surface (see point 4) should be covered once more using 100% tape overlap
6. At the end, the tape should be held at the overlap point and torn off
7. To conclude the installation, the ripped off end should be pressed firmly to close.

Product Ref.	Roll length [m]	Width [mm]	Thickness [mm]
TBTA-ZH-19	9.0	19	0.76
TBTA-ZH-25	9.0	25	0.76
TBTA-ZH-38	9.0	38	0.76
TBTA-ZH-51	9.0	51	0.76

Hot air tool Heat shrink technologies



The Hot Air Tool from Thomas & Betts achieves a rapid shrink action. This tool is ideal for industrial and military applications.

Technical Information

Property	Typical performance
Power Consumption	1400W
Temperature	+350°C to +500°C
Air Flow	350 / 500 l/min
Static pressure max.	1250 Pa
Weight	570 g
Electronics	Flicker-conformity



WT992GR



WT993GR



WT994GR



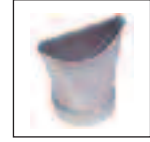
WT995GR



WT996GR



WT998GR



WT999GR

Product Ref.	Description
GR121	Hot Air Tool (European Plug and WT993GR nozzle)
GR321	Hot Air Tool (UK Plug and WT993GR nozzle)
WT992GR	Wide slot nozzle
WT993GR	Reflector nozzle
WT994GR	Reduction nozzle Ø 20mm
WT995GR	Welding nozzle
WT996GR	Overlap welding nozzle
WT998GR	Solder sleeve reflector nozzle
WT999GR	Glass protection nozzle

Technical Information Heat shrink technologies

Product name	Material	Mechanical Behaviour	Operating temp.	Shrink Ratio	Expanded Diameter	Silicon free	Cadmium + Lead free	Non Halogen	Spec Gravity	Longitudinal Shrinkage	Tensile Strength after Heatshock		Elongation after Heatshock	Ultimate Elongation	
											Heatshock	Heatshock			
Test Method															
PLG	PE-Polyolefin	Flexible	-55°C to +125°C	2:1	1.2-101.6mm / 3/164"-4"	Yes	No*	No*	1.3g/cm ³ (1)	ASTM-D 2671 (3)	IEC 811-1-2 (4) IEC 811-1-3 (6) ASTM-D 2671 (3) ASTM-D 638 (9)	400% / 4h at 200°C (4)	400% / 4h at 200°C (4)	450%	
CMP	PE-Polyolefin	Flexible	-55°C to +125°C	2:1	1.2-51.0mm / 3/164"-2"	Yes	No*	No*	1.3g/cm ³ (1)	-10% (9)	13 MPa / 4h at 200°C (4)	400% / 4h at 200°C (4)	450%		
MLP	PE-Polyolefin	Flexible	-55°C to +135°C	2:1	1.2-25.4mm / 3/164"-1"	Yes	Yes	Yes	1.3g/cm ³ (1)	-5% (9)	19 MPa / 4h at 250°C (4)	No cracking or flowing (3)	500%		
GYS	PE-Polyolefin	Flexible	-55°C to +135°C	2:1	3.2-25.4mm / 1/8"-1"	Yes	No	No	1.3g/cm ³ (1)	-10% (9)	14 MPa / 4h at 200°C (4)	400% / 4h at 200°C (4)	450%		
PIG	PE-Polyolefin	Very Flexible	-55°C to +135°C	3:1	1.6-40.0mm / 1/16"-1 1/2"	Yes	No	No	1.3g/cm ³ (1)	-5% (9)	19 MPa / 4h at 250°C (4)	No cracking or flowing (3)	500%		
PIG green yellow	PE-Polyolefin	Very Flexible	-55°C to +135°C	3:1	4.5-40.0mm / 3/16"-1 1/2"	Yes	No	No	1.3g/cm ³ (1)	-10% (9)	14 MPa / 4h at 200°C (4)	400% / 4h at 200°C (4)	450%		
PIG clear	PE-Polyolefin	Very Flexible	-55°C to +135°C	3:1	1.6-40.0mm / 1/16"-1 1/2"	Yes	Yes	Yes	1.0g/cm ³ (1)	-5% (9)	15 MPa / 4h at 250°C (4)	No cracking or flowing (3)	550%		
PKG	PE-Polyolefin	Flexible	-55°C to +135°C	3:1 / 4:1	3.0-52.0mm / 1/16"-2"	Yes	Yes	No	1.3g/cm ³ (1)	-15% (3;1) (9) / -18% (4;1) (9)	15 MPa / 4h at 200°C (4)	360% / 4h at 200°C (4)	400%		
KYN	Kynar** PVDF	Semi-Rigid	-55°C to +175°C	2:1	1.2-25.4mm / 3/164"-1"	Yes	Yes	No	1.8g/cm ³ (1)	-6% (9)	48 MPa / 4h at 250°C (4)	300% / 4h at 250°C (4)	450%		
VIT	Viton***	Flexible	-55°C to +220°C	2:1	3.2-38.1mm / 1/8"-1 1/2"	Yes	Yes	No	1.9g/cm ³ (1)	-10% (9)	17 MPa / 4h at 300°C (4)	250% / 4h at 300°C (4)	520%		
ZHR	PE-Polyolefin	Flexible	-40°C to +105°C	2:1	2.4-25.4mm / 3/32"-1"	Yes	Yes	Yes	1.45g/cm ³ (2)	-10% (9)	9 MPa / 4h at 150°C	100% / 4h at 150°C (3)	200%		
TBM	PE-Polyolefin	Semi-Rigid	-55°C to +110°C	3:1	10.2-228.6mm	Yes	Yes	Yes	1.10g/cm ³ (1)	+1% to -10% (9)	4h at 225°C	No cracking or flowing (3)	600%		
TBW	PE-Polyolefin	Semi-Rigid	-55°C to +110°C	3:1	8.9-119.9mm	Yes	Yes	Yes	1.10g/cm ³ (1)	+1% to -10%	4h at 225°C	No cracking or flowing (3)	550%		
LV-Kit	PE-Polyolefin	Semi-Rigid	-55°C to +110°C	3:1	various	Yes	Yes	Yes	1.10g/cm ³	+1% to -10%	4h at 225°C	No cracking or flowing	-		
TEB	PE-Polyolefin	Semi-Rigid	-55°C to +100°C	various	30.0-125.0mm	Yes	Yes	Yes	1.10g/cm ³	-15%	6MPa (9)	200% (3) (9)	300%		
TEC	PE-Polyolefin	Semi-Rigid	-55°C to +100°C	various	15.0-148.0mm	Yes	Yes	Yes	1.10g/cm ³	-15%	6MPa (9)	200% (3) (9)	300%		
TBTA-ZH	EPR-Tape	Flexible	-55°C to +105°C	1:3	19.0-51.0mm	Yes	Yes	Yes	-	-	-	-	750%		
Chemicals															
Product name	Tensile Strength	Secant Modulus	Tensile Strength after heat aging	Elongation after heat aging	Low temp. Flexibility	Combustion behaviour / Flammability	Shrink temp.	Storage temp.	Resistance against Absorption	Water Resistance	Fungus Resistance	Dielectric Strength	Spec Volume Resistance	Chemicals	
Test Method	IEC 60684-2 (10) ISO 37 (7) Def Stan 59-97 (3) ASTM-D412 (8) ASTM-D 638M (9) Def Stan 59-97 (3)	UL 224 (11) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	ASTM-D 2671 Meth. C (27) UL 224 (11), UL 224 (14) ASTM-D 876 (15), ASTM-D 635 (16) FMVSS 302 (17), ESI 09-13 (18) ASTM-D 257 (32) ASTM-D 267 Proc. A (33)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)	UL 224 (11), ISO 37 (13) ASTM-D 2671 (3) IEC811-1-2 (4) ISO-188 (12) ASTM-D 638 (9)
PLG	175 MPa (6)	175 MPa max. (10)	12 MPa / 168h at 158°C (11)	300% / 168h at 158°C (11)	Does not break at -55°C (27)	Flame retardant**** (14)(17)	+110°C	+30°C	Good	0.3% (19)	Very good	24kV / mm (25)	10.15 Ohm x cm		
CMP	15 MPa (6)	175 MPa max. (10)	12 MPa / 168h at 158°C (11)	300% / 168h at 158°C (11)	Does not break at -55°C (27)	Flame retardant**** (14)(17)	+110°C	+30°C	Good	0.3% (19)	Very good	24kV / mm (25)	10.15 Ohm x cm		
MLP	17 MPa (6)	175 MPa max. (10)	13 MPa / 168h at 175°C (9)	300% / 168h at 175°C (9)	Does not break at -55°C (27)	Flame retardant**** (14)(17)	+90°C	+30°C	Good	0.2% (19)	Very good	24kV / mm (25)	10.16 Ohm x cm		
GYS	15 MPa (6)	175 MPa max. (10)	12 MPa / 168h at 175°C (11)	300% / 168h at 175°C (11)	Does not break at -55°C (27)	Flame retardant**** (14)	+90°C	+30°C	Good	0.2% (19)	Very good	24kV / mm (25)	10.16 Ohm x cm		
PIG	17 MPa (6)	175 MPa max. (10)	13 MPa / 168h at 175°C (11)	300% / 168h at 175°C (11)	Does not break at -55°C (27)	Flame retardant**** (14)(17)	+90°C	+30°C	Good	0.2% (19)	Very good	24kV / mm (25)	10.16 Ohm x cm		
PIG green yellow	17 MPa (6)	175 MPa max. (10)	12 MPa / 168h at 175°C (11)	300% / 168h at 175°C (11)	Does not break at -55°C (27)	Flame retardant**** (14)	+90°C	+30°C	Good	0.2% (19)	Very good	24kV / mm (25)	10.16 Ohm x cm		
PIG clear	20 MPa (6)	175 MPa max. (10)	18 MPa / 168h at 175°C (3)	500% / 168h at 175°C (3)	Does not break at -55°C (27)	Flame retardant**** (14)	+90°C	+30°C	Good	0.2% (19)	Very good	24kV / mm (25)	10.16 Ohm x cm		
PKG	15 MPa (6)	175 MPa max. (10)	12 MPa / 168h at 158°C (6)	320% / 168h at 158°C (6)	Does not break at -55°C (27)	Flame retardant**** (15)(17)	+95°C	+30°C	Good	0.2% (19)	Very good	22kV / mm (25)	10.14 Ohm x cm		
KYN	50 MPa (6)	750 MPa max. (10)	40 MPa / 168h at 158°C (4)	230% / 168h at 158°C (4)	Does not break at -55°C (27)	Flame retardant (11)	+175°C	+30°C	Very good	0.07% (19)	Very good	31.5kV / mm (25)	10.13 Ohm x cm		
VIT	18 MPa (6)	70 MPa max. (10)	14 MPa / 168h at 158°C (6)	220% / 168h at 158°C (6)	Does not break at -55°C (27)	Flame retardant (33)	+175°C	+30°C	Very good	0.2% (19)	Very good	16kV / mm (25)	10.13 Ohm x cm		
ZHR	10 MPa (6)	175 MPa max. (10)	12 MPa / 168h at 158°C	150% / 168h at 158°C	Does not break at -40°C (27)	Flame retardant (16)	+115°C	+30°C	Good	0.2% (21)	Very good	24kV / mm (24)	10.16 Ohm x cm		
TBM	14.5 MPa (7)(8)	90MPa (3)	12MPa (9)(9)	500% / 168h at 150°C (8)(13)	Does not break at -55°C (27)	Non Flame retardant	+120°C	+30°C	Good	0.2% (21)	Very good	20kV / mm (24)(28)	10.16 Ohm x cm		
TBW	14.5 MPa (7)(8)	90MPa (3)	-	500% / 168h at 150°C (8)(13)	Does not break at -55°C (27)	Non Flame retardant	+120°C	+30°C	Good	0.2% (21)	Very good	20kV / mm (28)	10.16 Ohm x cm		
LV-Kit	-	90MPa (3)	12MPa (9)(9)	500% (9)(9)	Does not break at -55°C	Non Flame retardant	+120°C	+30°C	Good	0.2%	Very good	20kV / mm	10.16 Ohm x cm		
TEB	10 MPa (9)	80MPa (3)	9 MPa / 168h at 120°C (12)	250% / 168h at 120°C (12)	-55°C	Non Flame retardant (18)	+135°C	+30°C	Good	1% (20)	Very good	12kV / mm	10.11 Ohm x cm		
TEC	12 MPa (9)	80MPa (3)	10 MPa / 168h at 120°C (12)	250% / 168h at 120°C (12)	-55°C (27)	Non Flame retardant	+120°C	+30°C	Good	1% (20)	Very good	12kV / mm (24)	10.12 Ohm x cm		
TBTA-ZH	2.5 MPa (3)	-	-	-	-	Flame retardant	+120°C	+30°C	Good	0.06% (31)	Very good	30kV / mm (31)	n.a.		

*** VITON is a registered trademark of DuPont
 **** Except transparent version
 ***** Outer Jacket only

* Transparent version is halogen free
 ** Kynar is a registered trademark of ATOFINA



Rezi-Kon™

Cast resin joints

3.1 HEAT SHRINK TECHNOLOGIES	214
3.2 RESIN TECHNOLOGIES	248
Straight joints for non-armoured cables	252
Straight joints for armoured cables	253
Straight joints for control cables	254
Straight joints for telephone cables	255
Branch joints for non-armoured cables	256
Branch joints for armoured cables	257
Resin bags	258
Insulated connectors	258
Separate earth kits	259



Rezi-Kon™ Cast resin joints

The new range of Rezi-Kon™ cast resin joints from Thomas & Betts provide a convenient and reliable solution for splicing and branching low voltage cables, in applications like street and leisure lighting, airfield lighting, utility / home connections.

The Rezi-Kon™ cable joints are made of a Polycarbonate shell filled with a Polyurethane resin, which provides a watertight connection that can be immediately operational.

They are available in two styles, for a complete range of cable sizes from 1.5 to 400 mm²:

- straight: for splicing or repairing existing cables
- branch: for tapping a new cable on an existing line

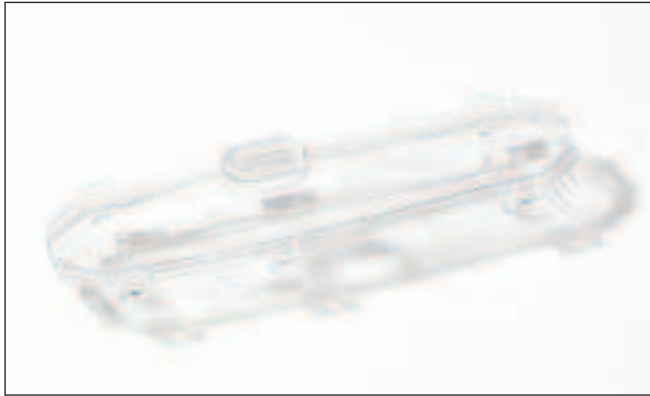


A range of high performance cast resin joints, for a quick and reliable installation on the field

- Suitable for voltages up to 3.6 kV
- Easy to use on the field: no heat source or power required
- Quick and easy to install, immediately operational
- Can be buried
- Watertight: protection against water ingress from the cable and from the shell
- Excellent electrical properties
- BS EN 50393-2006 compliant
- Halogen free
- The shell and the resin meet the requirements of the petro-chemical industry and are suitable for immersion in hydrocarbons
- Exclusive shell design, with a unique “clip” system for easy assembly and watertight closing
- Transparent shell, for a better inspection before and during the casting
- High grade Polycarbonate: UV-resistant, impact resistant, chemical resistant, flame retardant
- 2-component Polyurethane resin
- Reduced exothermic properties (generates little heat during the reaction of polymerisation), therefore suitable for all kinds of cables (power, phone, control)
- Duo-bag packaging: pre-filled bag for correct mix ratio and safe mixing (no contact with the components)
- Range of exclusive insulated connectors

Straight joints for non-armoured cables

Resin technologies



A range of high performance cast resin joints, for a quick and reliable installation on the field with a watertight protection. Recommended for the connection of low voltage non-armoured cables (up to 3.6 kV), from 1.5 to 400 mm².

- Watertight protection, both longitudinal (from inside the cable) and transversal (from the shell)
- For permanent installation
- Easy to install, allows easy cable crossing
- BS EN 50393-2006 compliant
- The shell and the resin meet the requirements of the petrochemical industry and are suitable for immersion in hydrocarbons

Each kit is supplied in a box containing:

- 1 Polycarbonate shell (upper and lower halves)
- the 2-component Polyurethane resin, in pre-filled duo-bag containing the correct volume to suit the size of cable joint
- a pair of gloves, a reel of tape, a strip of sand paper, an instruction sheet

Technical Information

Material	PC - Polycarbonate and PU - Polyurethane
Voltage	3.6 kV
IP Rating	Watertight
Flammability rating	Flame retardant
Colour	Transparent
Other properties	Halogen free, good chemical resistance, UV-resistant, impact resistant

Product ref.	Conductor cross section [mm ²]																
	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	400
CRJ-S4	■	■	■														
CRJ-S10	■	■	■	■	■	■											
CRJ-S16			■	■	■	■	■										
CRJ-S25					■	■	■	■									
CRJ-S50							■	■	■	■							
CRJ-S120									■	■	■	■	■				
CRJ-S240												■	■	■	■	■	
CRJ-S400															■	■	■

Tables are valid for non-armoured cables with four conductors

Straight joints for armoured cables

Resin technologies

A range of high performance cast resin joints, for a quick and reliable installation on the field with a watertight protection. Recommended for the connection of low voltage armoured cables (up to 3.6 kV), from 1.5 to 400 mm².

- Available in 2 versions: with mechanical connectors or without connector
- Watertight protection, both longitudinal (from inside the cable) and transversal (from the shell)
- For permanent installation
- Easy to install, allows easy cable crossing
- BS EN 50393-2006 compliant
- The shell and the resin meet the requirements of the petro-chemical industry and are suitable for immersion in hydrocarbons

Each kit is supplied in a box containing:

- 1 Polycarbonate shell (upper and lower halves)
- the 2-component Polyurethane resin, in pre-filled duo-bag containing the correct volume to suit the size of cable joint
- an earth kit: 2 constant force springs + 1 braided cable
- a pair of gloves, a reel of tape, a strip of sand paper, an instruction sheet

Technical Information

Material***	PC - Polycarbonate and PU - Polyurethane
Voltage	3.6 kV
IP Rating	Watertight
Flammability rating	Flame retardant
Colour	Transparent
Other properties	Halogen free, good chemical resistance, UV-resistant, impact resistant



Product Ref. with insulated connector	Product Ref. without connector	Conductor cross section [mm ²]																
		1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	400
CRJ-S4-UK-CO	CRJ-S4-UK	■	■	■														
CRJ-S10-UK-CO	CRJ-S10-UK	■	■	■	■	■												
CRJ-S16-UK-CO	CRJ-S16-UK		■	■	■	■	■											
CRJ-S25-UK-CO	CRJ-S25-UK					■	■	■										
CRJ-S50-UK-CO	CRJ-S50-UK							■	■	■								
CRJ-S120-UK-CO	CRJ-S120-UK									■	■	■	■					
CRJ-S240-UK-CO*	CRJ-S240-UK**												■	■	■	■		
CRJ-S400-UK-CO*	CRJ-S400-UK**																■	■

* Supplied with non-insulated mechanical connectors and heat shrink sleeves. The earth kit is a cage shaped conductor

** The earth kit is a cage shaped conductor

*** Material: Styrene and PU - Polyurethane for Product Ref. CRJ-S400-UK-CO and CRJ-S400-UK

Table is valid for armoured cables with four conductors

Straight joints for control cables

Resin technologies



A range of high performance cast resin joints, for a quick and reliable installation on the field. Recommended for the connection of multi-core control cables (up to 48 cores).

- Watertight protection, both longitudinal (from inside the cable) and transversal (from the shell)
- For permanent installation
- Easy to install, allows easy cable crossing

Each kit is supplied in a box containing:

- 1 Polycarbonate shell (upper and lower halves)
- the 2-component Polyurethane resin, in pre-filled duo-bag containing the correct volume to suit the size of cable joint
- an earth kit: 2 constant force springs + 1 braided cable
- the adequate quantity of insulated crimp connectors (butt splices)
- a pair of gloves, a reel of tape, a strip of sand paper, an instruction sheet

Technical Information

Material	PC - Polycarbonate and PU - Polyurethane
Voltage	3.6 kV
IP Rating	Watertight
Flammability rating	Flame retardant
Colour	Transparent
Other properties	Halogen free, good chemical resistance, UV-resistant, impact resistant

Product Ref.	Conductor cross section [mm ²]	2 cores	4 cores	5 cores	7 cores	8 cores	10 cores	11 cores	16 cores	27 cores	30 cores	48 cores
CRJ-SCC4-UK-CO	1.5	■	■									
	2.5	■	■									
CRJ-SCC8-UK-CO	1.5	■	■	■	■							
	2.5	■	■	■	■							
CRJ-SCC16-UK-CO	1.5				■	■	■	■	■			
	2.5				■	■	■	■	■			
CRJ-SCC48-UK-CO	1.5							■	■	■	■	■
	2.5							■	■	■	■	■

Straight joints for telephone cables

Resin technologies

A range of high performance cast resin joints, for a quick and reliable installation on the field. Recommended for the connection of multi-pair telephone cables (up to 100 pairs).

- Watertight protection, both longitudinal (from inside the cable) and transversal (from the shell)
- For permanent installation
- Easy to install, allows easy cable crossing

Each kit is supplied in a box containing:

- 1 Polycarbonate shell (upper and lower halves)
- the 2-component Polyurethane resin, in pre-filled duo-bag containing the correct volume to suit the size of cable joint
- an earth kit: 2 constant force springs + 1 braided cable
- the adequate quantity of insulation displacement connectors (IDC)
- a pair of gloves, a reel of tape, a strip of sand paper, an instruction sheet



Technical Information

Material	PC - Polycarbonate and PU - Polyurethane
Voltage	3.6 kV
IP Rating	Watertight
Flammability rating	Flame retardant
Colour	Transparent
Other properties	Halogen free, good chemical resistance, UV-resistant, impact resistant

Product Ref.	Conductor cross section [mm ²]	2 pairs	5 pairs	10 pairs	15 pairs	25 pairs	40 pairs	50 pairs	100 pairs
CRJ-ST5-UK-CO	0.9	■	■						
CRJ-ST15-UK-CO	0.9		■	■	■				
CRJ-ST25-UK-CO	0.9				■	■			
CRJ-ST50-UK-CO	0.9					■	■		
CRJ-ST100-UK-CO	0.9							■	■

Branch joints for non-armoured cables

Resin technologies



A range of high performance cast resin joints, for a quick and reliable installation on the field with a watertight protection. Recommended for the connection of low voltage non-armoured cables (up to 3.6 kV), from 1.5 to 400 mm².

- Watertight protection, both longitudinal (from inside the cable) and transversal (from the shell)
- For permanent installation
- Easy to install, allows easy cable crossing
- BS EN 50393-2006 compliant
- The shell and the resin meet the requirements of the petrochemical industry and are suitable for immersion in hydrocarbons

Each kit is supplied in a box containing:

- 1 Polycarbonate shell (upper and lower halves)
- the 2-component Polyurethane resin, in pre-filled duo-bag containing the correct volume to suit the size of cable joint
- a pair of gloves, a reel of tape, a strip of sand paper, an instruction sheet

Technical Information

Material	PC - Polycarbonate and PU - Polyurethane
Voltage	3.6 kV
IP Rating	Watertight
Flammability rating	Flame retardant
Colour	Transparent
Other properties	Halogen free, good chemical resistance, UV-resistant, impact resistant

Product Ref.		Conductor cross section [mm ²]																
		1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	400
CRJ-SB4	Main cable	■	■	■														
	Branch cable	■	■	■														
CRJ-SB10	Main cable	■	■	■	■	■	■											
	Branch cable	■	■	■	■	■	■											
CRJ-SB25	Main cable					■	■	■	■									
	Branch cable	■	■	■	■	■	■	■										
CRJ-SB50*	Main cable							■	■	■	■							
	Branch cable	■	■	■	■	■	■	■	■									
CRJ-SB120*	Main cable									■	■	■	■	■				
	Branch cable	■	■	■	■	■	■	■	■	■								
CRJ-SB240*	Main cable												■	■	■	■	■	■
	Branch cable	■	■	■	■	■	■	■	■	■								
CRJ-SB400*	Main cable																■	■
	Branch cable	■	■	■	■	■	■	■	■	■								

* Shell in Styrene

Tables are valid for non-armoured cables with four conductors

Branch joints for armoured cables

Resin technologies

A range of high performance cast resin joints, for a quick and reliable installation on the field with a watertight protection. Recommended for making cable taps, with low voltage armoured cable (up to 3.6 kV), from 1.5 to 400 mm².

- Available in 2 versions: with mechanical connectors or without connector
- Watertight protection, both longitudinal (from inside the cable) and transversal (from the shell)
- For permanent installation
- Easy to install
- BS EN 50393-2006 compliant
- The shell and the resin meet the requirements of the petrochemical industry and are suitable for immersion in hydrocarbons



Each kit is supplied in a box containing:

- 1 Polycarbonate shell (upper and lower halves)
- the 2-component Polyurethane resin, in pre-filled duo-bag containing the correct volume to suit the size of cable joint
- an earth kit: 3 constant force springs + 1 braided cable
- a pair of gloves, a reel of tape, a strip of sand paper, an instruction sheet

Technical Information

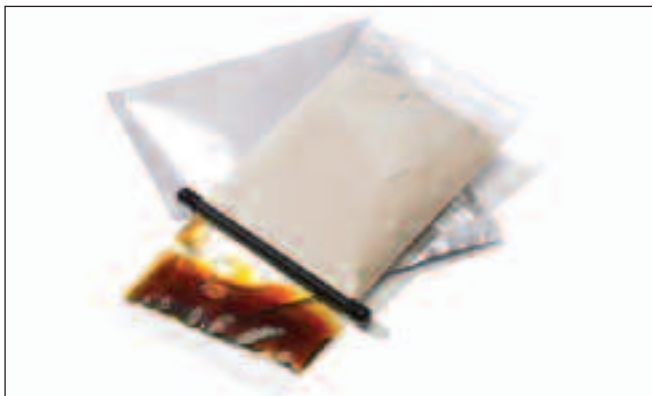
Material	PC - Polycarbonate and PU - Polyurethane
Voltage	3.6 kV
IP Rating	Watertight
Flammability rating	Flame retardant
Colour	Transparent
Other properties	Halogen free, good chemical resistance, UV-resistant, impact resistant

Product Ref. with connectors	Product Ref. without connectors		Conductor cross section [mm ²]																
			1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	400
SERVICE BRANCH JOINTS																			
CRJ-SB4-UK-CO	CRJ-SB4-UK	Main cable																	
		Branch cable																	
CRJ-SB10-UK-CO	CRJ-SB10-UK	Main cable																	
		Branch cable																	
CRJ-SB25-UK-CO	CRJ-SB25-UK	Main cable																	
		Branch cable																	
CRJ-SB50-UK-CO*	CRJ-SB50-UK*	Main cable																	
		Branch cable																	
CRJ-SB120-UK-CO*	CRJ-SB120-UK*	Main cable																	
		Branch cable																	
CRJ-SB240-UK-CO*	CRJ-SB240-UK*	Main cable																	
		Branch cable																	
CRJ-SB400-UK-CO*	CRJ-SB400-UK*	Main cable																	
		Branch cable																	
MAIN BRANCH JOINTS																			
CRJ-MB120-UK-CO*	CRJ-MB120-UK*	Main cable																	
		Branch cable																	
CRJ-MB240-UK-CO*	CRJ-MB240-UK*	Main cable																	
		Branch cable																	
CRJ-MB400-UK-CO*	CRJ-MB400-UK*	Main cable																	
		Branch cable																	

* Shell in Styrene
Table is valid for armoured cables with four conductors

Resin bags

Resin technologies



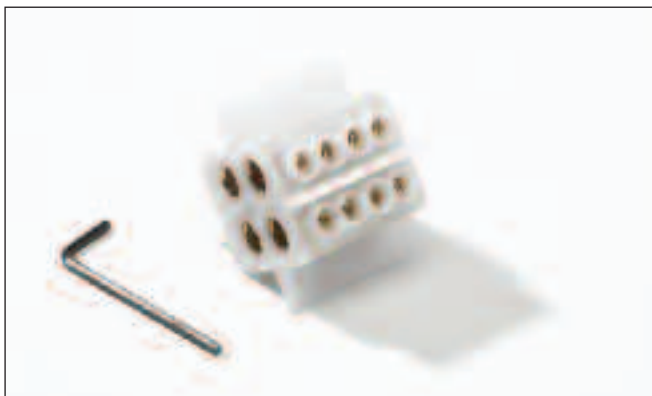
Product Ref.	Volume [litre]	Weight [g]	Quantity [pieces]
CRJ-PU-0075	0.075	107	1
CRJ-PU-0175	0.175	250	1
CRJ-PU-0300	0.300	429	1
CRJ-PU-0550	0.550	787	1
CRJ-PU-1000	1	1287	1
CRJ-PU-2000	2	2860	1
CRJ-PU-3000	3	4290	1

The convenient pre-filled duo-bag guarantees a correct mix ratio and a safe mixing, by preventing the installer from having possible contact with the components.

- 2-component Polyurethane in ready-to-mix duo-bag packaging
- No need to open the bag, just remove the separation for a safe mixing without contact with the components
- Pre-filled duo-bag, always the correct mix ratio and the exact volume for the joint size
- Low exothermic properties, can be used with all kind of cables (power, phone, control)
- For permanent application
- Excellent electrical and mechanical properties: good elasticity and adhesion to all kinds of cables
- Transparent bag, for a better inspection of the mixing process
- Specific colour after mixing: beige
- 3 years shelf life (outer protective envelope in aluminium)
- BS EN 50393-2006 compliant
- Meet the requirements of the petrochemical industry and are suitable for immersion in hydrocarbons
- Halogen free.

Insulated connectors

Resin technologies



Product Ref.	Cable range [mm ²]	Quantity [pieces]
CRJ-IC-010	0.75 - 10	1
CRJ-IC-025	4 - 25	1
CRJ-IC-050	16 - 50	1
CRJ-IC-120	35 - 120	1

Exclusive connectors, specially designed for the straight Rezi-Kon™ joints.

- Safe and easy connection: the 4 conductors always remain separated from each other
- Insulation in Polypropylene, contacts in brass
- 4 screws per contact
- Suitable for voltages up to 1 kV

Technical Information

Material	Brass
Insulation	P.P. - Polypropylene
Voltage	1 kV
Colour	White

Separate earth kits
Resin technologies

A range of separate earth kits, to achieve the earth continuity of armoured cables. Available for straight joints and branch joints.

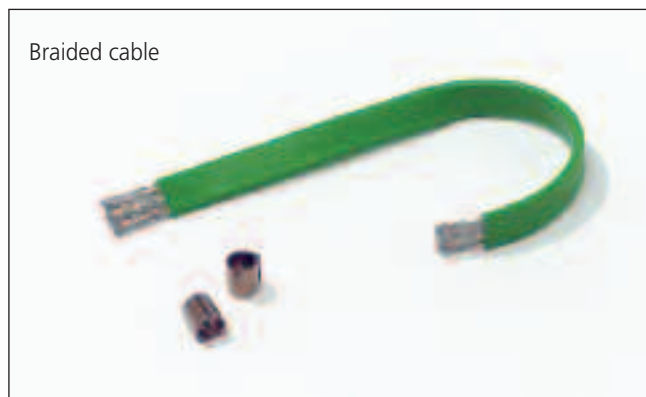
Each kit consists of:

- a piece of insulated braided cable, or round cable (for the smallest S4 and SB4 sizes) or cage-shape conductor (for the large size joints)
- 2 or 3 pieces of Constant Force Springs (2 for straight joints, 3 for branch joints)

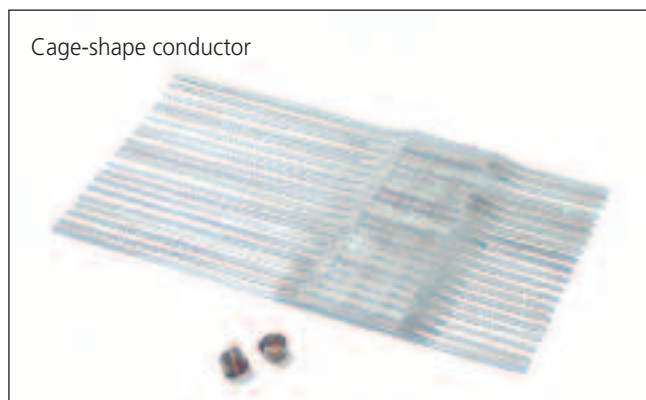
Product Ref.	Shape	For joint kit*	Quantity [pieces]
EARTH KITS FOR STRAIGHT JOINTS			
CRJ-EK-S4	round	CRJ-S4-XX-YY	1
CRJ-EK-S10	braided	CRJ-S10-XX-YY	1
CRJ-EK-S16	braided	CRJ-S16-XX-YY	1
CRJ-EK-S25	braided	CRJ-S25-XX-YY	1
CRJ-EK-S50	braided	CRJ-S50-XX-YY	1
CRJ-EK-S120	braided	CRJ-S120-XX-YY	1
CRJ-EK-S240	cage	CRJ-S240-XX-YY	1
CRJ-EK-S400	cage	CRJ-S400-XX-YY	1
EARTH KITS FOR BRANCH JOINTS			
CRJ-EK-SB4	round	CRJ-SB4-XX-YY	1
CRJ-EK-SB10	braided	CRJ-SB10-XX-YY	1
CRJ-EK-SB25	braided	CRJ-SB25-XX-YY	1
CRJ-EK-SB50	braided	CRJ-SB50-XX-YY	1
CRJ-EK-SB120	braided	CRJ-SB120-XX-YY	1
CRJ-EK-SB240	braided	CRJ-SB240-XX-YY	1
CRJ-EK-SB400	braided	CRJ-SB400-XX-YY	1

* XX can be left empty or replaced by UK
YY can be left empty or replaced by CO

Braided cable



Cage-shape conductor



CABLE JOINTS, CABLE TERMINATIONS, CABLE GLANDS, CABLE CLEATS
FEEDER PILLARS, FUSE LINKS, ARC FLASH, CABLE ROLLERS, CUT-OUTS

11KV 33KV CABLE JOINTS & CABLE TERMINATIONS
FURSE EARTHING
www.cablejoints.co.uk
Thorne and Derrick UK

Tel 0044 191 490 1547 Fax 0044 191 477 5371
Tel 0044 117 977 4647 Fax 0044 117 9775582