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PRODUCT CATALOGUE

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COMPANY

VISION AND HISTORY



Vision

Powering a brighter Southern Africa, together.

To build a reliable and sustainable energy future for Southern Africa through exceptional products, world-class service, and innovative engineering solutions.

History

Airshrink SA is a South African manufacturer of heat shrink tubing and extruded products, initially established in 1986. In 2001, with a change of ownership, a renewed focus was placed on heat shrinkable tubing, which allowed the company to develop and expand its product offering, culminating in the addition of the specialised cable accessory company Cable Installation Products (CiP) in the 2010s. CiP, in turn, has developed into a leading South African cable accessory company offering excellent products, service, and technical expertise. Being based in Johannesburg, the companies have access to South Africa's industrial and commercial hub, which has allowed the group to service both the South African and neighbouring international markets.

To better serve our customers' and the market's needs, we established partnerships with some leading international cable accessory manufacturers, including Elcon Megarad, Ampletek, and Melec. Our partnerships provide us with valuable expertise and high-quality, industry-tested products that meet both local and international specifications. By providing unparalleled service with our exceptional team, we aim to build lasting relationships with all our stakeholders.

Airshrink and CiP have a comprehensive portfolio of products that meet the needs and specifications of various municipalities, supply authorities, OEMs, and industries. Our robust distributor network enables us to cover most of Southern Africa, ensuring that our products are readily available. Our training centre is EWSETA-accredited, which allows us to train the next generation of cable jointers and deliver on our vision of a stable energy network. Our continued investment in staff, processes, and equipment enables us to offer tailored engineering solutions for a variety of challenges.

ACCREDITATIONS AND PARTNERS



CONTENT

Company Vision and History

Page 03

Accreditations and Partners

Page 04

Product Profile

Page 07

Heatshrink

Page 09

Thin Wall: ATW...CL

Page 10

Thin Wall Adhesive Lined: ADW3

Page 11

Thin Wall Adhesive Lined: ADW4

Page 12

Medium Wall: AMWA

Page 13

Low Voltage Cable Accessories

Page 14

LV Heat Shrink Joints: ALVJ

Page 15

LV Heat Shrink Joints: CLVJ

Page 16

LV Polyurethane Resin Joints: ARJP

Page 17

LV Clear Epoxy Resin Joints: ARJP...CL / CRJ

Page 18

LV Terminations: ALVTO / CLVTO

Page 19

LV Breakout Boot: ALB

Page 20

LV Torque Shears: ATSL...LV / ATSC...LV

Page 21

Medium Voltage Cable Accessories

Page 22

MV Heat Shrink Joints: CJ

Page 23

MV Heat Shrink Terminations: CT

Page 24

MV Heat Shrink Terminations and Joints: ABC

Page 25

MV Cold Shrink Terminations: CCST

Page 26

MV Cold Shrink Joints: CCSJ

Page 27

MV Joints: MIRP

Page 28

MV Screened Front and Rear Separable Connectors: AQT3 / AHT3

Page 29

MV Screened Rear Separable Connectors with Surge Arrestor: AHY10WZ

Page 31

MV Screened Front Connectors: AZT / AZC

Page 32

MV Inner Cone Plug-In Termination: ACBN

Page 33

MV Flexible Un-Screened Silicone Busing Boot: CSB1

Page 34

MV Anti-Tracking Heat Shrinkable Busing Boot: AHMR / S

Page 35

MV Flexible Un-Screened Seperable Connector: AUSCC12 / 630

Page 36

MV Flexible Un-Screened Seperable Connector: AUSCC24 / 630

Page 37

MV Anti-Track Tubing: AAT

Page 38

MV Busbar Insulation Tubing: ABTM / ABTH

Page 39

MV Busbar Insulation Tape: ABIT

Page 40

MV Overhead Line Sleeve: AOPS

Page 41

MV Torque Shears: ATSL / ATSC

Page 42

CONTENT

Other Products

Tape: ASCM19 / ARAM / ABFM / AGFM

Tape: ABFMR / ASM18 / 25 / 50

Cable Repair Sleeve: ACRS

Cable End Caps: AEC

ATCM25 / Clamps

Heat Guns and Burners

Tools and Toolkits

Page 44

Page 45

Page 46

Page 47

Page 48

Page 49

Page 50

Page 51

Training and Skills Development

Page 52

Design Information

Page 54

Busbar Sizing Guide, Calculations and Cable Sizing

Page 55

Cable Dimensions Reference Guide

Page 56

Busbar Sizing/Layflat to Diameter/Circumference to Layflat/Imperial to Metric

Page 58

General Tips on Selecting, Applying, and Shrinking Heatshrink

Page 59

Contact Us

Page 60

PRODUCT PROFILE



Airshrink

Airshrink tubing shrinks when exposed to air. Supplied in expanded form in any length or colour, diameters ranging from 1 mm to 90 mm. All you do is remove it from its container, slip it on and let the air do the rest. One hour later, you have the perfect shrink. Airshrink is ideally suited to irregular-shaped objects and tight bends.

Applications include:

- Insulation and colour coding of busbars, lugs, etc.
- Strain relief on lugs
- Sound sticks for mines
- Coating of gym equipment (barbells, handles, and footrests)
- Covering on lawn mower handles (insulation and comfort)
- Anti-rattle sleeves (automotive seat springs)
- Covering of canoe paddles
- Automotive coil and leaf springs (dampening)



Heatshrink

Standard heatshrink is a cross-linked polyolefin product that can be supplied in either general-purpose or flame-retardant form. Heat shrink's high dielectric strength and excellent mechanical properties makes it suitable for a variety of applications.

Applications include:

- Insulation and colour coding of busbars, lugs etc.
- Cable and component identification
- Mechanical strain relief and protection

Specialised heatshrink and components range with a thicker wall, higher shrink ratios, adhesive-lined, RoHS and REACH compliant, halogen-free, and product suitable for applications up to 36 kV.

Other products include:

- Heatshrink with excellent resistance to diesel, chemicals and hydraulic fluids
- Medium and thick wall adhesive and non-adhesive lined for use in low voltage and medium voltage joints and terminations
- Wrap around cable repair sleeves
- Heatshrinkable ladder / rail type and continuous reel marker sleeves



Spiral Bind

General-purpose helically split thermoplastic tube manufactured in a range of diameters and colours. The main application is for organising and protecting cables and hoses.

Other applications include:

- Harness for wires and electrical cables (e.g. computer, Hi-Fi & telephone systems)
- Breakout on cable bundling systems
- Colour coding and mechanical protection on regulator hoses

PRODUCT PROFILE



Straws, Leashes, and TPU Solid Extrusions Cords

Rigid and flexible PVC extrusions and profiles available in colours used as leashes in sporting goods, such as surfboards, body boards, sunglasses as well as a host of applications in the promotional markets (flag posts and drinking straws). High-strength polymeric rope makes this product ideal as tie-down for tarpaulins on trucks and LDVs.



Control Cable Sleeves

Semi-rigid HDPE, polyacetal, polypropylene and PTFE sleeves used in automotive control cables e.g. accelerator, clutch and brake cables.

Harness Tubing

Flexible PVC used to secure and protect numerous wires, in the manufacture of wiring harnesses. Tubing available in different colours and sizes.



Low Voltage Cable Accessories (up to 1 kV)

- LV heat shrink terminations
- LV heat shrink, polyurethane- and epoxy resin joints
- Mechanical torque shear lugs and connectors
- LV breakout boots
- Cable end caps (adhesive lined)

Other Products

- Expandable braided sleeving
- Heat guns and gas burners
- Hot melt tape
- Mastic / putty tape



Cable Installation Products

Medium Voltage Cable Accessories (up to 36 kV)

- Heat shrink terminations and cable joints
- Cold shrink terminations and cable joints
- MIRP (Moulded Insulated Resin Protected) cable joints
- Screened front, rear and surge protection separate connectors
- Unscreened bushing boots
- Unscreened separable connectors
- Anti-tracking heat shrinkable bushing boots
- Inner cone plug-in terminations
- Anti-track heat shrink tubing
- Busbar insulation heat shrink tubing
- Busbar insulation tape
- Mechanical torque shear lugs and connectors
- Overhead line insulation sleeve



HEATSHRINK



ATW...CL is a non-flame retardant clear tubing which has excellent oil resistance and clarity.

DIMENSIONS

Product	Inside Diameter (mm)		Wall Thickness (mm)		Reel Length (m)
	Supplied	Recovered	Supplied	Recovered	
ATW1.2CL	1.2	0.6	0.18	0.36	200
ATW1.6CL	1.6	0.8	0.18	0.36	200
ATW2.4CL	2.4	1.2	0.18	0.36	200
ATW3.2CL	3.2	1.6	0.20	0.40	200
ATW4.8CL	4.8	2.4	0.23	0.46	100
ATW6.4CL	6.4	3.2	0.28	0.60	100
ATW9.5CL	9.5	4.8	0.30	0.60	100
ATW12.7CL	12.7	6.4	0.33	0.66	100
ATW16CL	16	8.0	0.38	0.76	100
ATW19CL	19	9.5	0.40	0.80	100
ATW25.4CL	25.4	12.7	0.45	0.90	50
ATW32CL	32	16	0.45	0.90	50
ATW38.1CL	38.1	19.1	0.50	1.0	50
ATW50.8CL	50.8	25.4	0.50	1.0	25
ATW76CL	76	38	0.65	1.30	25

KEY FEATURES

- **Shrink ratio 2 : 1**
- **Operating temperature -55 °C to 125 °C**
- **Minimum shrink temperature 70 °C**
- **High chemical resistance**
- **Good abrasion resistance**
- **Excellent oil resistance**

APPLICATION

- Oil barrier in paper cable joints.
- Abrasion and oil resistant heatshrink cover for write-on and wraparound labels.
- Clear retainer for shock absorbers on safety harnesses.
- Strain relief for electrical and electronic connections where visibility of connection is required.

TECHNICAL DATA



Properties	Test Methods	Typical Values
Tensile (MPa)	UL 224	> 15
Elongation (%)	UL 224	> 300
Heat ageing : Tensile (MPa) : Elongation (%)	UL 224 (158°C x 168 hrs)	> 12 > 250
Heat shock (250°C x 4hrs)	UL 224	Pass
Low temperature flexibility	ASTM D 2671 (4 hrs @ -35°C)	No cracks / pass
Fluid resistance * (MPa)	ASTM D 2671	Tensile > 10
Dielectric strength (kV/mm)	ASTM D 2671	> 20
Volume resistivity (Ω/cm)	ASTM D 257	10 ¹⁴



THIN WALL ADHESIVE LINED

ADW3



ADW3 is a co-extrusion of polyolefin and hot melt adhesive, this flame-retardant, highly flexible, thin-wall tubing is designed for applications demanding superior performance and reliability.

Being ROHS compliant guarantees that the product is free of restricted substances like Cadmium (Cd), Lead (Pb), Hexavalent Chromium (Cr6), and Mercury (Hg), which meets stringent automotive industry standards.

DIMENSIONS

Product	Inside Diameter (mm)		Wall Thickness (mm)	Reel Length (m)
	Supplied	Recovered	Recovered	
ADW331	3.2	1.0	0.90	100
ADW341	4.8	1.5	1.00	100
ADW362	6.4	2.0	1.25	100
ADW393	9.5	3.0	1.40	100
ADW3124	12.7	4.0	1.70	100
ADW3196	19.1	6.0	1.95	100
ADW3258	25.4	8.0	2.05	75
ADW33813	38.1	13.0	2.50	30
ADW35016	50.8	16	2.80	15

KEY FEATURES

- **Shrink ratio 3 : 1**
- **Operating temperature -45 °C to 125 °C**
- **Minimum shrink temperature, 70 °C**
- **Cross-linked polyolefin**
- **Adhesive lined**
- **Excellent flame retardant properties VW-1**
- **Colours: Black/Clear (other colours on request)**
- **Excellent oil and chemical resistance**
- **In compliance with SAE-AMS-DTL-23053/4**

APPLICATION

ADW3 Standard

- Provides environmental sealing and insulation for electrical/electronic connections.
- Enables flexible wire and cable bundling for automotive and marine harnesses.
- Fast recovery at low temperatures, ideal for electronics and telecommunications.

ADW3...CL

- Durable, abrasion and oil-resistant coating for identification labels, tags, and write-and-wrap labels (hydraulic hoses).
- Provides strain relief and environmental sealing for electrical/electronic connections requiring visibility.
- Engineered for applications where substrates must stay visible and protected from fluid ingress.

TECHNICAL DATA



Properties	Test Method	Typical Values
Cold impact	ASTM D 746-13 (-40°C)	No cracking
Heat shock	(250°C, 4 hrs)	No cracking / dripping
Sealing efficiency	200°C, 3 min) Reheat (150°C, 5 min)	No opening on reheat
Tensile strength (MPa)	ASTM D 638-10	12.8
Elongation at break (%)	ASTM D 638-10	390
Dielectric strength (kV/mm)	ASTM D 2671-09	19.7
Volume resistivity (Ω/cm)	ASTM D 257-07	2x10 ¹⁵
Flammability	ASTM D 2671-09	Pass (self extinguishing)
Corrosion	(121°C, 16hrs)	No corrosion
Water absorption (%)	ASTM D 570-98 (23°C, 24 hrs)	0.25
Heat resistance	(175°C, 168 hrs)	No cracks / dripping / flowing of outer walls
Longitudinal shrinkage (%)	UL224	0±5

THIN WALL ADHESIVE LINED

ADW4



ADW4 is a flame-retardant, adhesive-lined Heatshrink tubing designed for robust performance. Its high shrink ratio and exceptional sealing properties make it an ideal choice for reliable electrical and electronic connections in demanding applications.

DIMENSIONS

Product	Inside Diameter (mm)		Wall Thickness (mm)	
	Supplied	Recovered	Supplied	Recovered
ADW491BK	8.9	1.6	1.0	2.5
ADW4122BK	11	2.4	1.1	2.1
ADW4194BK	19	4.0	1.2	3.0



KEY FEATURES

- *Shrink ratio 4 : 1*
- *Operating temperature -55 °C to 135 °C*
- *Minimum/ fully recovered shrink temperature 90 °C to 110 °C*
- *Good flame retardant properties*
- *Good electrical and fungal resistant properties*
- *Colours: Black*

APPLICATION

- Automotive wiring harnesses.
- Low voltage joints.
- Low voltage submersible connections.
- Waterproof strain relief connections.

TECHNICAL DATA

Properties	Test Methods	Typical Values
Tensile (MPa)	UL224	> 14
Elongation (%)	UL224	> 400
Heat ageing: Tensile (MPa) : Elongation (%)	UL224 (175°C x 168 hrs)	> 12 > 250
Heat shock (25°C x 4hrs)	UL224	Pass
Low temperature flexibility	ASTM D 2671 (4 hrs@ -55°C)	No cracking
Copper stability	ASTM D 2671 (175°C x 168 hrs)	Pass
Flammability	VW-1	Pass*
Dielectric strength (kV/mm)	ASTM D 2671	> 20
Volume resistivity (Ω/cm)	ASTM D 257	10 ¹⁴

MEDIUM WALL

AMWA



AMWA are medium wall polyolefin tubes offering exceptional insulation and environmental sealing. With UV resistance and superior mechanical properties, engineered for reliable performance in challenging conditions.

DIMENSIONS

Product	Inside Diameter (mm)		Wall Thickness Recovered	Standard Length
	Supplied	Recovered	(mm)	(mm)
AMWA12/3	12	3	1.8	1200
AMWA22/6	22	6	2.2	1200
AMWA28/6	28	6	2.5	1200
AMWA33/8	33	8	2.5	1200
AMWA40/12	40	12	2.5	1200
AMWA55/16	55	16	2.7	1200
AMWA63/19	63	19	2.8	1200
AMWA75/22	75	22	3.0	1200
AMWA85/25	85	25	3.0	1200
AMWA95/25	95	25	3.0	1200
AMWA105/30	105	30	3.3	1200
AMWA115/34	115	34	3.3	1200
AMWA130/36	130	36	3.5	1200
AMWA140/42	140	42	3.5	1200
AMWA160/50	160	50	3.5	1200
AMWA180/60	180	58	3.5	1200

KEY FEATURES

- **Shrink ratio 3 : 1**
- **Operating temperature -55 °C to 110 °C**
- **Minimum full recovery temperature 120 °C**
- **Exceptional impact and abrasion resistance**
- **Excellent environmental and UV resistance**
- **High electrical insulation properties**
- **Colours: Black**

APPLICATION

- Inner and outer sleeves for joints from 1 kV to 36 kV.
- Strain relief / protection of connector components.
- Water proofing of cable and wire harnesses.
- Encapsulation and weatherproofing of irregular shapes.
- Cable outer sheath repairs.



TECHNICAL DATA

Properties	Test Methods	Typical Values
Tensile (MPa)	ASTM D 2671	≥ 14
Elongation (%)	ASTM D 2671	≥ 400
Heat ageing: Tensile (MPa) : Elongation(%)	ASTM D 2671 (150°C, 168 hrs)	≥ 12 > 300
Water absorption (%)	ISO 62 (23°C, 14 days)	< 0.15
Eccentricity (%)	ASTM D 2671	< 40
Copper stability	ASTM D 2671	Pass
ESCR (environmental stress crack resistance)	ASTM D 1693 (50°C)	No cracking
Dielectric strength (kV/mm)	ASTM D 2671	≥18
Volume resistivity (Ω/cm)	ASTM D 257 / IEC 93	10 ¹³
Density (g/cm ³)	ASTM D792	1.05
Longitudinal shrink (%)	UL224	≤10
Adhesive Lining		
Water absorption (%)	ISO 62	< 0.2
Softening point (°C)	ASTM E28	85 ± 5
Peel strength (N/cm)	DIN 30672	4
Resistance to fungus and decay	ISO 846	Pass

LOW VOLTAGE PRODUCTS



LOW VOLTAGE HEAT SHRINK JOINTS

ALVJ



ALVJ are low voltage heat shrink joints designed for both standard and submersible cables. The hot melt adhesive combined with the use of ABFM black mastic forms an excellent water seal. The outer sleeve is UV resistant and has excellent mechanical properties.

DIMENSIONS

Product	Cable Size: 2 to 4 core 600 / 1000 V	
	Min (mm ²)	Max (mm ²)
ALVJ1.5/4	1,5	4
ALVJ6/16	6	16
ALVJ16/25	16	25
ALVJ25/50	25	50
ALVJ50/95	50	95
ALVJ70/150	70	150
ALVJ120/185	120	185
ALVJ185/300	185	300

ALVJ...TS is available to accommodate torque shear connectors.
(Connectors not included)

ALVJ...TS OPTIONAL EXTRA



KEY FEATURES

- **Shrink ratio 3 : 1**
- **Operating temperature -55 °C to 110 °C**
- **Minimum full recovery temperature 120 °C**
- **Exceptional impact and abrasion resistance**
- **Excellent environmental crack and UV resistance**
- **Hot melt ensures an excellent water seal**
- **High electrical insulation properties**
- **Colour: Black**
- **ALVJS: Submersible**
- **ALVJB: Budget (no roll springs and braid)**
- **ALVJ...TS: Torque shear connector compatible**

APPLICATION

- Voltage rating 600 / 1000 V.
- Easy and quick installation.
- Normal and submersible joints.
- Suitable for 2 - 4 core PVC SWA cables.



TECHNICAL DATA

Properties	Test Methods	Typical Values
Tensile (MPa)	ASTM D 2671	> 14
Elongation (%)	ASTM D 2671	> 400
Heat ageing: Tensile (MPa) : Elongation (%)	ASTM D 2671 (150°Cx168 hrs)	> 10 > 300
Water absorption (%)	ISO 62 (23°C, 14 days)	< 0.15
Eccentricity (%)	ASTM D 2671	< 40
Copper stability	ASTM D 2671	Pass
ESCR (environmental stress crack resistance)	ASTM D 1693 (50°C)	No cracking
Dielectric strength (kV/mm)	ASTM D 2671	> 20
Volume resistivity (Ω/cm)	ASTM D 257 / IEC93	10 ¹⁴
Density (g/cm ³)	ASTM D 792	1.05
Longitudinal shrink (%)	UL224	≤10
Adhesive Lining		
Water absorption (%)	ISO 62	< 0.2
Softening point (°C)	ASTM E28	85 ± 5
Peel strength (N/cm)	DIN 30672	4
Resistance to fungus and decay	ISO 846	Pass



LOW VOLTAGE HEAT SHRINK JOINTS

CLVJ



CLVJ are low voltage heat shrinkable cable joints designed to join 2 - 4 core, 1 kV PVC and XLPE cables. Core separators are included to further improve the electrical insulation properties. Each kit includes black filler mastic (ABFM) and this combined with the hot melt adhesive lining in the medium wall tube (AMWA) ensures an excellent water / moisture seal.

DIMENSIONS

Product	Cable Size: 2 to 4 core 600 / 1000 V	
	Min (mm ²)	Max (mm ²)
CLVJ1.5/2.5	1.5	2.5
CLVJ4/10	4	10
CLVJ16/25	16	25
CLVJ35/50	35	50
CLVJ70/95	70	95
CLVJ120/150	120	150
CLVJ185/240	185	240
CLVJ300	300	300

TEST	SUB- CLAUSe	Samples Types of Joints	REQUIREMENTS
		II A1/B1	
AC voltage withstand (in air)	8.3	X	No Failure
Insulated resistance (in air)	8.4	X	Insulated resistance $\geq 50M\Omega$
Impact at ambient temperature	8.5	X	No Failure
Insulated resistance (immersed)	8.4	X	Insulated resistance $\geq 50M\Omega$
Heating cycle in air	8.6	X	63 Cycles
Heating cycle in water ^b	8.6	X	9 Cycles
Insulated resistance ^b (immersed)	8.4	X	Insulated resistance $\geq 50M\Omega$
Heating cycle in water	8.6	X	63 Cycles
AC voltage withstand (immersed)	8.3	X	No Failure
Insulated resistance (immersed)	8.4	X	Insulated resistance $\geq 50M\Omega$
Examination	8.8	X	To be recorded
Thermal short circuit (Earth fault) test		X	10kA for 1 second - No Failure

KEY FEATURES

- **Shrink ratio 3 : 1**
- **Operating temperature -55 °C to 110 °C**
- **Minimum recovery temperature 120 °C**
- **Exceptional impact and abrasion resistance**
- **Excellent environmental crack and UV resistance**
- **Hot melt glue ensures excellent water seal**
- **High electrical insulation properties**
- **Colour: Black**
- **Type tested and in compliance with BS EN50393 and NRS074-2**
- **Complies to Eskom and eThekweni specifications**
- **Mechanical torque shear connectors/ferrules included**

APPLICATION

- Voltage rating 600 / 1000 V.
- Easy and quick installation.
- Normal and submersible joints.
- Suitable for 2 - 4 core cables, 1.5 - 300 mm².



TECHNICAL DATA

Properties	Test Methods	Typical Values
Tensile (MPa)	ASTM D 2671	> 14
Elongation (%)	ASTM D 2671	> 400
Heat ageing: Tensile (MPa) : Elongation (%)	ASTM D 2671 (150°Cx168 hrs)	> 10 > 300
Water absorption (%)	ISO 62 (23°C, 14 days)	< 0.15
Eccentricity (%)	ASTM D 2671	< 40
Copper stability	ASTM D 2671	Pass
ESCR (environmental stress crack resistance)	ASTM D 1693 (50°C)	No cracking
Dielectric strength (kV/mm)	ASTM D 2671	> 20
Volume resistivity (Ω/cm)	ASTM D 257 / IEC93	10 ¹⁴
Density (g/cm ³)	ASTM D 792	1.05
Longitudinal shrink (%)	UL224	≤10
Adhesive Lining		
Water absorption (%)	ISO 62	< 0.2
Softening point (°C)	ASTM E28	85 ± 5
Peel strength (N/cm)	DIN 30672	4
Resistance to fungus and decay	ISO 846	Pass



LOW VOLTAGE POLYURETHANE RESIN JOINTS

ARJP



ARJP low-voltage resin straight-through joint and splicing kits are engineered for connecting 2 – 4 core PVC and XLPE cables. The two-component polyurethane (PU) resin fully solidifies, providing superior insulation and water-blocking performance.

Tested to BS EN50393:2015 test sequence for joints for solid extruded dielectric insulated cables and for transition joints between solid extruded dielectric insulated cables and impregnated paper insulated cables.

DIMENSIONS

Product	Min. Cable OD	Max. Cable OD	Mould Length	Cable Size
	(mm)	(mm)	(mm)	(mm ²)
ARJEP0	6	20	185	1.5 - 4
ARJP1	9	30	240	4 - 10
ARJP2	17	34	270	10 - 16
ARJP2.5	22	42	310	16 - 35
ARJP3	28	52	400	35 - 50
ARJP3.5	32	56	435	50 - 95
ARJP4	38	65	580	70 - 150
ARJP5	48	80	660	150 -240

KEY FEATURES

- *Amber polyurethane resin*
- *600 / 1000 V, 1.5 mm² – 300 mm², 2 – 4 core cables*
- *Two-year shelf life*
- *Quick-setting in humid and cold conditions, with excellent insulation and water-blocking*
- *Low-viscosity resin in transparent shatterproof polypropylene / polycarbonate shells with easy-mix twin-pack*
- *Exothermic temperature of 54 °C*



TECHNICAL DATA

TEST	SUB-CLAUSE	Samples Types of Joints	REQUIREMENTS
		II A1/B1	
AC voltage withstand (in air)	8.3	X	No failure
Insulated resistance (in air)	8.4	X	Insulated resistance ≥50 MΩ
Impact at ambient temperature	8.5	X	No failure
Insulated resistance (immersed)	8.4	X	Insulated resistance ≥50 MΩ
Heating cycle in air	8.6	X	63 Cycles
Heating cycle in water ^b	8.6	X	9 Cycles
Insulated resistance ^b (immersed)	8.4	X	Insulated resistance ≥50 MΩ
Heating cycle in water	8.6	X	63 Cycles
AC voltage withstand (immersed)	8.3	X	No failure
Insulated resistance (immersed)	8.4	X	Insulated resistance ≥50 MΩ
Examination	8.8	X	To be recorded
Thermal short circuit (Earth fault) test		X	10 kA for 1 second - No failure

OPTIONAL EXTRA



LOW VOLTAGE EPOXY CLEAR RESIN JOINTS

ARJP...CL / CRJ



KEY FEATURES

- Clear epoxy resin
- 600 / 1000 V, 1.5 mm² – 300 mm², 2 – 4 core cables
- Two-year shelf life
- Quick-setting in humid and cold conditions, with excellent insulation and water-blocking
- Low-viscosity resin in transparent shatterproof polypropylene / polycarbonate shells with easy-mix twin-pack
- Exothermic temperature of 54 °C
- Type tested and in compliance with BS EN50393 and NRS074
- In compliance with Eskom and Municipality specifications

ARJP...CL / CRJ...ES low-voltage resin straight-through joint and splicing kits are designed for connecting PVC and XLPE cables. The two-component, flame-retardant clear epoxy resin remains flexible, offering superior insulation and water-blocking properties.

Complies with BS EN50393:2015 Test sequence for joints for solid extruded dielectric insulated cables and for transition joints between solid extruded dielectric insulated cables and impregnated paper insulated cables.



DIMENSIONS

Product	Min. Cable OD	Max. Cable OD	Mould Length	Cable Size
	(mm)	(mm)	(mm)	(mm ²)
CRJ0	6	20	185	1.5 - 2.5
CRJ2	17	34	270	4 - 10
CRJ3	28	52	400	16 - 25
CRJ3.5	32	56	435	35 - 50
CRJ4	38	65	580	70 - 95
CRJ5	48	80	660	120 - 150
CRJ6	48	80	660	185 - 240

Product	Min. Cable OD	Max. Cable OD	Mould Length	Cable Size
	(mm)	(mm)	(mm)	(mm ²)
ARJEP0CL	6	20	185	1.5 - 4
ARJP1CL	9	30	240	4 - 10
ARJP2CL	17	34	270	10 - 16
ARJP2.5CL	22	42	310	16 - 35
ARJP3CL	28	52	400	35 - 50
ARJP3.5CL	32	56	435	50 - 95
ARJP4CL	38	65	580	70 - 150
ARJP5CL	48	80	660	150 - 240

TECHNICAL DATA



TEST	SUB-CLAUSE	Samples Types of Joints	REQUIREMENTS
		II A1/B1	
AC voltage withstand (in air)	8.3	X	No failure
Insulated resistance (in air)	8.4	X	Insulated resistance ≥50MΩ
Impact at ambient temperature	8.5	X	No failure
Insulated resistance (immersed)	8.4	X	Insulated resistance ≥50MΩ
Heating cycle in air	8.6	X	63 Cycles
Heating cycle in water ^b	8.6	X	9 Cycles
Insulated resistance ^b (immersed)	8.4	X	Insulated resistance ≥50MΩ
Heating cycle in water	8.6	X	63 Cycles
AC voltage withstand (immersed)	8.3	X	No failure
Insulated resistance (immersed)	8.4	X	Insulated resistance ≥50MΩ
Examination	8.8	X	To be recorded
Thermal short circuit (Earth fault) test		X	10kA for 1 second - No failure

OPTIONAL EXTRA



LOW VOLTAGE TERMINATIONS

ALVTO / CLVTO



CIP low-voltage heat shrink terminations are designed to withstand UV exposure and harsh environments. Kits can be tailored to include medium-wall tubing (AMWA), coloured thin-wall tubing (ATW), or thin-wall tubing (ATW...UV), with black filler mastic (ABFM) and water-blocked copper earth braid for a secure water seal.

Complies with BS EN50393:2015 Test sequence for joints for solid extruded dielectric insulated cables and for transition joints between solid extruded dielectric insulated cables and impregnated paper insulated cables.

DIMENSIONS

Product	Cable Size: 2 to 4 core 600 / 1000 V	
	Min (mm ²)	Max (mm ²)
ALVTO0/10	0	10
ALVTO16/35	16	35
ALVTO50/70	50	70
ALVTO50/95	50	95
ALVTO95/120	95	120
ALVTO95/185	95	185
ALVT240/300	240	300

Product	Cable Size: 2 to 4 core 600 / 1000 V	
	Min (mm ²)	Max (mm ²)
CLVTO4/35	4	35
CLVTO25/70	25	70
CLVTO70/95	70	95
CLVTO50/150	50	150
CLVTO120/150	120	150
CLVTO95/185	95	185
CLVTO120/240	120	240
CLVTO185/240	185	240

KEY FEATURES

- Type tested, meets BS EN50393 and NRS074-2 standards
- Operating temperature from -55 °C to 110 °C
- Superior UV and environmental resistance for demanding conditions
- Excellent electrical insulation and water-blocking properties
- Fast, simple installation, energisable immediately
- Complies with Eskom specifications

TECHNICAL DATA

TEST	SUB-CLAUSE	Samples Types of Termination		REQUIREMENTS
		I	II	
		D1	D1	
Impulse voltage withstand at ambient temperature	8.2	-	X	No failure or flashover
AC voltage withstand (in air)	8.3	X	X	No failure
Insulated resistance (in air)	8.4	X	X	Insulated resistance ≥50 MΩ
Heating cycle in air	8.6	X	X	63 Cycles
Heating cycle in water (Crutch immersed)	8.6	X	X	63 Cycles
AC voltage withstand (Crutch immersed)	8.3	X	X	No Failure
Insulated resistance (Crutch immersed)	8.4	X	X	Insulated resistance ≥50 MΩ
Examination	8.8	X	X	To be recorded

OPTIONAL EXTRA



LOW VOLTAGE BREAKOUT BOOT

ALB



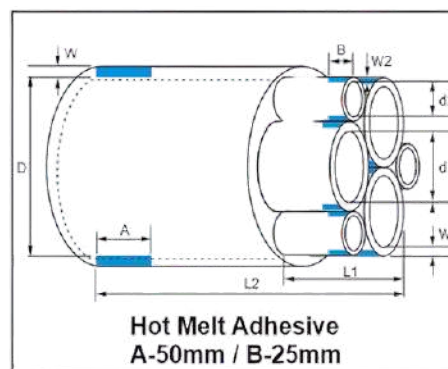
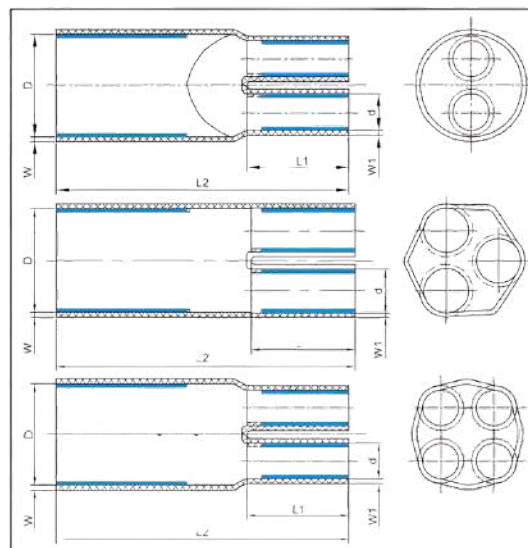
ALB cable breakout boots (inner coated with a hot-melt adhesive) are manufactured from cross-linked polyolefin and designed to offer excellent sealing and insulating properties when used on a cable crutch.

TECHNICAL DATA

Properties	Test Methods	Typical Values
Tensile strength (MPa)	ASTM D 2671	≥13
Tensile strength (after thermal ageing MPa)	ASTM D 2671 / 120°C, 168 hrs	≥10
Ultimate elongation (%)	ASTM D 2671	≥ 300
Ultimate elongation (after thermal ageing %)	ASTM D 2671 / 120°C, 168 hrs	≥250
Dielectric strength (kV/mm)	IEC 60243	≥15 ≥20 (6Core)
Volume resistivity (Ω/cm)	IEC 60093	10 ¹⁴
Water absorption (%)	ISO 62	≤1%
Operating temperature (°C)		-40 - 100
Minimum shrink temp. (°C)		110
Min. full shrink temp. (°C)		130

KEY FEATURES

- *Excellent UV and environmental resistance*
- *Adhesive lining offers reliable sealing properties*
- *Excellent electrical and mechanical properties*
- *Abrasion and corrosion resistance*
- *Available in 2, 3, 4 and 6 cores*



DIMENSIONS



Size (mm)	D(Body)		d - Large Finger		d - Small Finger		Length ±10%		Recovered Wall ±20%			
	Supplied	Recovered	Supplied	Recovered	Supplied	Recovered	L2-Total	L1-Finger	W (Body)	W1 (Large Finger)	W2 (Small Finger)	Cable Size (mm²)
2 Cores												
ALB22/8-2	22	8	9	3.5			55	18	2.2	1.8		2.5-6
ALB45/15-2	45	15	18	6			110	30	2.2	2.0		16-50
ALB60/23-2	60	23	25	8			140	40	2.5	2.0		
3 Cores												
ALB38/15-3	38	15	14	4.5			90	22	2.2	2.0		25-50
ALB60/25-3	60	25	25	8			150	45	3.0	2.5		50-150
ALB80/38-3	80	38	35	14			170	45	3.5	3.0		95-300
4 Cores												
ALB40/15-4	40	15	14	4			95	20	2.0	2.0		2.5-35
ALB75/27-4	75	27	28	9			160	40	3.0	3.0		35-185
ALB90/37-4	90	37	32	11			170	50	3.5	2.5		50-300
ALB86/40-6	83	41	31	12	20	8	215	60	3.3	2.9	2.6	
ALB133/53-6	130	55	53	17	30	12	220	70	3.6	3.1	2.6	

LOW VOLTAGE TORQUE SHEARS

ATSL...LV / ATSC...LV



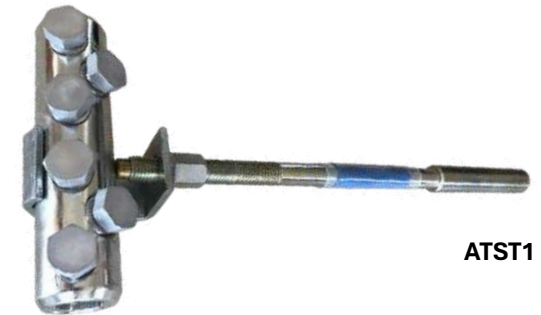
KEY FEATURES

- Compatible with aluminium and copper cables
- Reduces inventory requirements
- Installs with standard socket or wrench, no crimping tools required
- Solid palm and centre connector with anti-oxidising paste to block moisture
- Grooved inner barrel enhances shear bolt action for reliable electrical connectivity
- Once sheared, bolts stay locked permanently
- Complies to IEC 61238-1 class A and B, BS EN 50483-6 2009

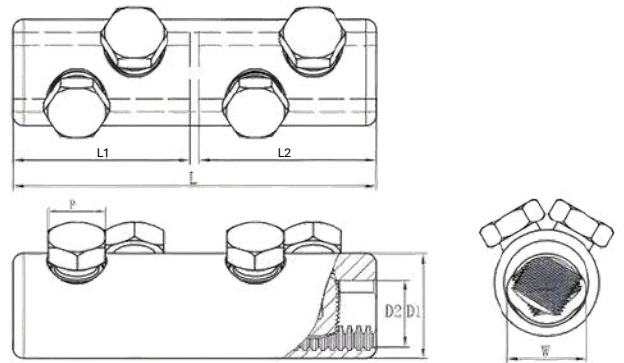
ATSL...LV and ATSC...LV are mechanical torque shear lugs and connectors engineered for low-voltage applications. Featuring an aluminium electro-tin-plated body with aluminium shear bolts, accommodates conductor sizes from 1.5 mm² to 240 mm². Suitable for indoor and outdoor use, all palm holes are designed to fit M12 bolts.

CONNECTORS

Product	Conductor Size (mm ²)	No. of Bolts	Dimensions (mm)					
			L1	L2	D1	D2	W	P
ATSC1.5/16B2LV	1.5 - 16	2	30.5	14	12	6		8
ATSC6/25/B2LV	6 - 25	2	40	16	16	9		8
ATSC6/50B2LV	6 - 50	2	37.5	16	18	10	12	10
ATSC16/95B2LV	16 - 95	2	55	24	25	14	16	13
ATSC25/150B2LV	25 - 150	2	70	30	28	17	21	17
ATSC50/240B4LV	50 - 240	4	120	56	35	22	26	19
ATSC120/300B4LV	120 - 300	4	140	68.3	38	24	29	22
ATSC185/400B6LV	185 - 400	6	160	78.3	42	26	32	22

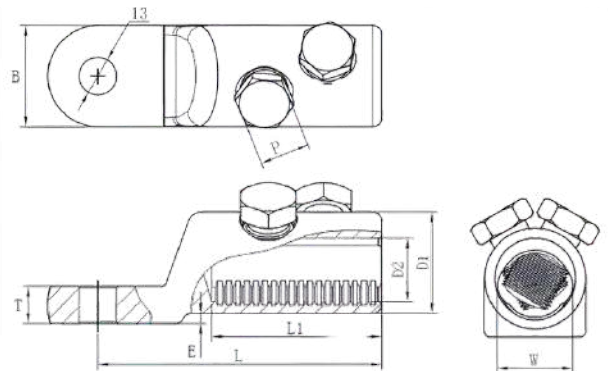


ATST1



LUGS

Product	Conductor Size (mm ²)	No. of Bolts	Dimensions (mm)								
			L1	L	D1	D2	T	P	B	E	W
ATSL6/25/12/1LV	6 - 25	1	19	40	15.5	9	6	8	24	2	
ATSL6/50/12/B1LV	6 - 50	1	24	50	19	10	6	10	24	2	12
ATSL16/95/12/B1LV	16 - 95	1	25	52	25	14	8	13	25	2	16
ATSL50/150/12/B1LV	50 - 150	1	38.8	71.6	28	17	10	17	28	2	21
ATSL50/240/12/B2LV	50 - 240	2	56	97	35	22	13	19	35	3	26
ATSL120/300/12/B2LV	120 - 300	2	68.3	105.7	38	24	14	22	38	4	29
ATSL185/400/12/B3LV	185 - 400	3	78.3	119	42	26	16	22	42	4	32



MEDIUM VOLTAGE PRODUCTS

CiP
Cable Installation Products

CiP
Cable Installation Products

CiP
Cable Installation Products

CiP
Cable Installation Products

MEDIUM VOLTAGE HEAT SHRINK JOINTS

CJ



CiP and Elcon Megarad heat shrink cable joints are designed for applications ranging from 6.6 kV to 36 kV, single or three-core, PILC or XLPE cables. Compliant with SANS 1332, IEC 60055-1, and SANS 60502-4, our kits meet the stringent demands of both local and international municipalities and supply authorities. Kits feature premium, clearly labelled components, with a detailed instruction manual and a bill of materials for seamless installation.

KEY FEATURES

- Application range from 6.6 kV to 36 kV
- Eskom compliant kits available
- UV and weather resistance
- Wide range of cable sizes supported
- Unlimited shelf life
- Excellent sealing performance
- Enhanced electrical, environmental, and mechanical reliability
- Clear, full-colour instruction manual
- Suitable for both armoured and unarmoured cables

OTHER ACCESSORIES



ATSC

TECHNICAL DATA

Seq	Test	Rated Voltage 12 / 24 / 36 kV	Requirements
1	DC voltage dry	15 min at 6 U ₀	No breakdown or flashover
	AC voltage dry	5 min at 4.5 U ₀	No breakdown or flashover
2	Impact test at ambient temperature *	Insulation resistance	Conductor to screen 10 MΩ Screen to water 50 MΩ minimum
3	Impulse voltage at elevated temperature	10 impulses of each polarity	No breakdown or flashover
4	Electrical heat cycling in air	3 cycles at 1.5 U ₀	No breakdown or flashover
5	Electrical heat cycling in water	60 cycles at 1.5 U ₀	No breakdown or flashover
6	Thermal short circuit (conductor)	2 short circuits at Θ _{sc}	No visible deterioration
7	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
8	AC voltage dry	15 min at 2.5 U ₀	No breakdown or flashover
9	Examination	For visual information only	a. no cracking b. no moisture path c. no corrosion, erosion or tracking d. no leakage of insulation material

Test requirements for the PILC cable in accordance with Cenelec HD 629.2 S2:2006/A1:2008 or IEC 60055-1:2005. *SANS 1332 Requirement.

Seq	Test	Rated Voltage 12 / 24 / 36 kV	Requirements
1	AC voltage withstand	5 min at 4.5 U ₀	No breakdown or flashover
	DC voltage withstand	15 min at 4 U ₀	No breakdown or flashover
2	Partial discharge	10 pC max at 1.73 U ₀	No breakdown or flashover
3	Impact test at ambient temperature *	Insulation resistance	Conductor to screen 10 MΩ Screen to water 50 MΩ minimum
4	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
5	Heat cycles in air	30 cycles at 2.5 U ₀	No breakdown or flashover
6	Heat cycles in water	30 cycles at 2.5 U ₀	No breakdown or flashover
7	Partial discharge at ambient temperature	10 pC max at 1.73 U ₀	No breakdown or flashover
8	Thermal short circuit (screen)	2 short circuits at I _{sc}	No visible deterioration
9	Thermal short circuit (Conductor)	2 short circuits at Θ _{sc}	No visible deterioration
10	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
11	AC voltage withstand - dry	15 min at 2.5 U ₀	No breakdown or flashover
12	Examination	For visual information only	a. no cracking b. no moisture path c. no corrosion, erosion or tracking d. no leakage of insulation material

Test requirements for the XLPE cable in accordance with IEC 60502-4: 2010 or SANS 60502-4:2013. *SANS 1332 Requirement.

MEDIUM VOLTAGE HEAT SHRINK TERMINATIONS

CT



KEY FEATURES

- Application range from 6.6 kV to 36 kV
- Eskom compliant kits available
- KIPTS tested
- UV and weather resistance
- Supports a wide range of cable sizes
- Unlimited shelf life
- Excellent sealing performance
- Enhanced electrical, environmental, and mechanical reliability
- Full-colour, well-illustrated instruction manual
- Suitable for armoured and unarmoured cables

OTHER ACCESSORIES



ATSL

CiP and Elcon Megarad heat shrink cable terminations are designed for applications ranging from 6.6 kV to 36 kV, single or three-core, PILC or XLPE cables, with indoor and outdoor kits available. Compliant with SANS 1332, IEC 60055-1, and SANS 60502-4, the terminations are built to meet various municipal and international standards.

The kits include clearly labelled components, a detailed instruction manual and a bill of materials for easy installation.

TECHNICAL DATA

Seq	Test	Rated Voltage 12 / 24 / 36 kV	Requirements
1	DC voltage dry	15 min at 6 U ₀	No breakdown or flashover
	AC voltage dry	5 min at 4.5 U ₀	No breakdown or flashover
2	Impulse voltage at elevated temperature	10 impulses of each polarity	No breakdown or flashover
3	Electrical heat cycling in air	63 cycles at 1.5 U ₀	No breakdown or flashover
4	Thermal short circuit (conductor)	2 short circuits at Θ_{sc}	No visible deterioration
5	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
6	AC voltage dry	15 min at 2.5 U ₀	No breakdown or flashover
7	Humidity (Indoor only)	300 hrs at 1.25 U ₀	No breakdown or flashover
8	Salt fog (Outdoor only)	1000 hrs at 1.25 U ₀	No breakdown or flashover
9	Examination	For visual information only	a. no cracking b. no moisture path c. no corrosion, erosion or tracking d. no leakage of insulation material

Test requirements for the PILC cable in accordance with Cenelec HD 629.2 S2:2006/A1:2008 or IEC 60055-1:2005

Seq	Test	Rated Voltage 12 / 24 / 36 kV	Requirements
1	AC voltage withstand	5 min at 4.5 U ₀	No breakdown or flashover
	DC voltage withstand	15 min at 4 U ₀	No breakdown or flashover
2	Partial discharge	10 pC max at 1.73 U ₀	No breakdown or flashover
3	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
4	Heat cycles in air	60 cycles at 2.5 U ₀	No breakdown or flashover
5	Immersion test for outdoor terminations only	10 cycles at 2.5 U ₀	No breakdown or flashover
6	Partial discharge at ambient temperature	10 pC max at 1.73 U ₀	No breakdown or flashover
7	Thermal short circuit (screen)	2 short circuits at I _{sc}	No visible deterioration
8	Thermal short circuit (conductor)	2 short circuits at Θ_{sc}	No visible deterioration
9	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
10	AC voltage withstand - dry	15 min at 2.5 U ₀	No breakdown or flashover
11	Humidity (Indoor only)	300 hrs at 1.25 U ₀	No breakdown or flashover
12	Salt fog (Outdoor only)	1 000 hrs at 1.25 U ₀	No breakdown or flashover
13	Examination	For visual information only	a. no cracking b. no moisture path c. no corrosion, erosion or tracking d. no leakage of insulation material

Test requirements for the XLPE cable in accordance with IEC 60502-4:2010 or SANS 60502-4:2013

MEDIUM VOLTAGE ABC HEAT SHRINK TERMINATIONS AND JOINTS

ABC



KEY FEATURES

- Application range from 6.6 kV to 36 kV
- Eskom compliant kits available
- KIPTS tested
- UV and weather resistance
- Supports a wide range of cable sizes
- Unlimited shelf life
- Excellent sealing performance
- Enhanced electrical, environmental, and mechanical reliability
- Full-colour, well-illustrated instruction manual
- Suitable for armoured and unarmoured cables

OTHER ACCESSORIES



ATSL

TECHNICAL DATA

Seq	Test	Rated Voltage 12 / 24 / 36 kV	Requirements
1	AC voltage withstand	5 min at 4.5 U ₀	No breakdown or flashover
	DC voltage withstand	15 min at 4 U ₀	No breakdown or flashover
2	Partial discharge	10 pC max at 1.73 U ₀	No breakdown or flashover
3	Impact test at ambient temperature *	Insulation resistance	Conductor to screen 10 MΩ Screen to water 50 MΩ minimum
4	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
5	Heat cycles in air (joints)	30 cycles at 2.5 U ₀	No breakdown or flashover
6	Heat cycles in air (terminations)	60 cycles at 2.5 U ₀	No breakdown or flashover
7	Heat cycles in water (joints)	30 cycles at 2.5 U ₀	No breakdown or flashover
8	Immersion test for outdoor terminations only	10 cycles at 2.5 U ₀	No breakdown or flashover
9	Partial discharge at ambient temperature	10 pC max at 1.73 U ₀	No breakdown or flashover
10	Thermal short circuit (screen)	2 short circuits at I _{sc}	No visible deterioration
11	Thermal short circuit (conductor)	2 short circuits at I _{sc}	No visible deterioration
12	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
13	AC voltage withstand - dry	15 min at 2.5 U ₀	No breakdown or flashover
14	Humidity (Indoor only)	300 hrs at 1.25 U ₀	No breakdown or flashover
15	Salt fog (Outdoor only)	1000 hrs at 1.25 U ₀	No breakdown or flashover
16	Examination	For visual information only	a. no cracking b. no moisture path c. no corrosion, erosion or tracking d. no leakage of insulation material

Test requirements for XLPE cable in accordance with IEC 60502-4: 2010 or SANS 60502-4:2013. *SANS 1332 Requirement.

CiP and Elcon Megarad heat shrink ABC cable terminations and joints are designed for applications ranging from 6.6 kV to 36 kV, with indoor and outdoor kits available. Compliant with SANS 1332, IEC 60055-1, and SANS 60502-4, and meets various municipal and international standards.

Kits include clearly labelled components, a detailed instruction manual and a bill of materials for easy installation.

MEDIUM VOLTAGE COLD SHRINK TERMINATION

CCST



Silicone rubber cold shrinkable indoor and outdoor terminations are pre-expanded and assembled on a removable supporting plastic core rated up to 11 kV and 33 kV.

KEY FEATURES

- Application range from 11 kV to 33 kV
- Operating temperature -50°C to 150°C
- Shrink ratio 2 : 1
- Indoor and outdoor terminations
- Simple installation, no tools required
- Seal tight, retains pressure for years
- Moisture resistance
- Acid and alkaline resistance
- Ozone and ultraviolet light resistance

OTHER ACCESORIES



ATSL

DIMENSIONS

Voltage (kV)	Cable Cross Section (mm ²)	Diameter range of cable insulation layer (mm)
11	25 - 95	16 - 22
	95 - 300	21 - 31
	400 - 630	33 - 41
33	50 - 120	25 - 31
	95 - 240	28 - 36
	240 - 400	35 - 42
	400 - 630	40 - 48

TECHNICAL DATA

Seq	Test	Rated Voltage 12 / 24 / 36 kV	Requirements
1	AC voltage withstand	5 min at 4.5 U ₀	No breakdown or flashover
2	Partial discharge	10 pC max at 1.73 U ₀	No breakdown or flashover
3	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
4	Heat cycles in air	60 cycles at 2.5 U ₀	No breakdown or flashover
5	Immersion test for outdoor terminations only	10 cycles at 2.5 U ₀	No breakdown or flashover
6	Partial discharge at ambient temperature	10 pC max at 1.73 U ₀	No breakdown or flashover
7	Thermal short circuit (conductor)	2 short circuits at Θ _{ac}	No visible deterioration
8	Impulse voltage at ambient temperature	10 impulses of each polarity	No beakdown or flashover
9	AC voltage withstand - dry	15 min at 2.5 U ₀	No breakdown or flashover
10	Humidity (Indoor only)	300 hrs at 1.25 U ₀	No breakdown or flashover
11	Salt fog (Outdoor only)	1 000 hrs at 1.25 U ₀	No breakdown or flashover
12	Examination	For visual information only	a. no cracking b. no moisture path c. no corrosion, erosion or tracking d. no leakage of insulation material

Test requirements for the XLPE cable in accordance with IEC 60502-4: 2010 or SANS 60502-4:2013

CCSJ



Kits feature premium, clearly labelled components, with a detailed instruction manual and bill of materials for seamless installation.

- *Application range from 6.6 kV to 36 kV*
- *Flameless installation, ideal for high risk environments*
- *UV and weather resistance*
- *Accommodates a wide range of cable sizes*
- *18 -month shelf life*
- *Excellent sealing performance*
- *Enhanced electrical, environmental, and mechanical reliability*
- *Clear, full-colour instruction manual*
- *Suitable for armoured and unarmoured cables*

ATSC

Seq	Test	Rated Voltage 12 / 24 / 36 kV	Requirements
1	AC voltage withstand	5 min at 4.5 U ₀	No breakdown or flashover
	DC voltage withstand	15 min at 4 U ₀	No breakdown or flashover
2	Partial discharge	10 pC max at 1.73 U ₀	No breakdown or flashover
3	Impact test at ambient temperature *	Insulation resistance	Conductor to screen 10 MΩ Screen to water 50 MΩ minimum
4	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
5	Heat cycles in air	30 cycles at 2.5 U ₀	No breakdown or flashover
6	Heat cycles in water	30 cycles at 2.5 U ₀	No breakdown or flashover
7	Partial discharge at ambient temperature	10 pC max at 1.73 U ₀	No breakdown or flashover
8	Thermal short circuit (screen)	2 short circuits at I _{sc}	No visible deterioration
9	Thermal short circuit (Conductor)	2 short circuits at Θ _{sc}	No visible deterioration
10	Impulse voltage at ambient temperature	10 impulses of each polarity	No beakdown or flashover
11	AC voltage withstand - dry	15 min at 2.5 U ₀	No breakdown or flashover
12	Examination	For visual information only	a. no cracking b. no moisture path c. no corrosion, erosion or tracking d. no leakage of insulation material

Test requirements for the XLPE cable in accordance with IEC 60502-4: 2010 or SANS 60502-4:2013. *SANS 1332 Requirement.

MEDIUM VOLTAGE JOINTS

MIRP



The patented MIRP 15 kV joint is designed with WT Henley's extensive experience gained over the years in harsh weather and environmental conditions. Each kit includes high-quality, clearly labelled components and comes with a detailed, well-illustrated installation manual for straightforward setup.



KEY FEATURES

- Type tested to HD629.2S2 and IEC61442
- Suitable for 15 kV, PILC, XLPE and transition joints
- MIRP1 35 - 185 mm², MIRP2 240 - 300 mm²
- Modular joint systems
- Solder-less earthing
- Connectors included
- Resin protection
- Proven reliability
- Quick installation, Easy-fit insulation
- Dehydrated silica sand / PU (polyurethane) resin mix possesses high impact strength, improves insulation properties and keeps water out

TECHNICAL DATA

Test	Requirements
DC voltage dry (15 min, 6 U ₀)	No breakdown or flashover
AC voltage dry (5 min, 4.5 U ₀)	No breakdown or flashover
Impulse voltage at elevated temperature (10 +VE & 10 -VE) - 95 kV	No breakdown or flashover
Heating cycle voltage in air (63 cycles, 1.5 U ₀)	No breakdown or flashover
Heating cycle voltage in water (63 cycles, 1.5 U ₀)	No breakdown or flashover
AC voltage dry (4 hrs, 3 U ₀)	No breakdown or flashover
Impulse voltage at ambient temperature	No breakdown or flashover
AC voltage dry (15 min, 2.5 U ₀)	No breakdown or flashover

Test requirements for accessories rated 3.6 / 6 kV up to 20.8 / 36 kV - HD629.2S2



SCREENED FRONT AND REAR SEPARABLE CONNECTORS

AQT3 / AHT3



Screened front (T) and rear connectors are engineered for reliable performance in cable branch boxes, ring main units, switchgear, transformers, motors, and cable-to-cable connections.

DIMENSIONS

"Z"	630 A Cable Size (mm ²)	Cable Adaptor	
		Range (mm)	ID (mm)
24 kV			
35/50	35 - 50	16 - 20	14.5
70/120	70 - 120	21 - 25	19
150/240	150 - 240	26 - 31	23
300/400	300 - 400	32 - 38	28
36 kV			
35/70	35 - 70	24 - 28	20
95/150	95 - 150	28 - 33	25
185/240	185 - 240	33 - 38	30
300/400	300 - 400	39 - 43	35
500	500	44 - 50	40

KEY FEATURES

- Type C, 11 / 24 / 36 kV 630 A, 35 - 630 mm²
- Type C, 36 kV 1250 A, 35 - 1000 mm²
- Each connector rigorously tested and QC-approved (AC withstand, partial discharge) before dispatch
- EPDM construction enhances safety
- Cable adaptor made from stress reducing material to optimise electric field balance at cable crossings
- Complies with IEC 60502, verified by KEMA Report No. 70951914-TDT09-72776A
- Tri-Furcating kit required for all three core installations
- T-body design enables cost-effective upgrades with rear connector compatibility

OTHER ACCESORIES



ATSLC

ORDER INFORMATION

Type	Product Code	Voltage
T-Front	AQT3-24/630K-Z	24 kV
Rear	AHT3-24/630K-Z	24 kV
T-Front	AQT3-36/630K-Z	36 kV
Rear	AHT3-36/630K-Z	36 kV
T-Front	AQT3-36/1250K-Z	36 kV

DIMENSIONS

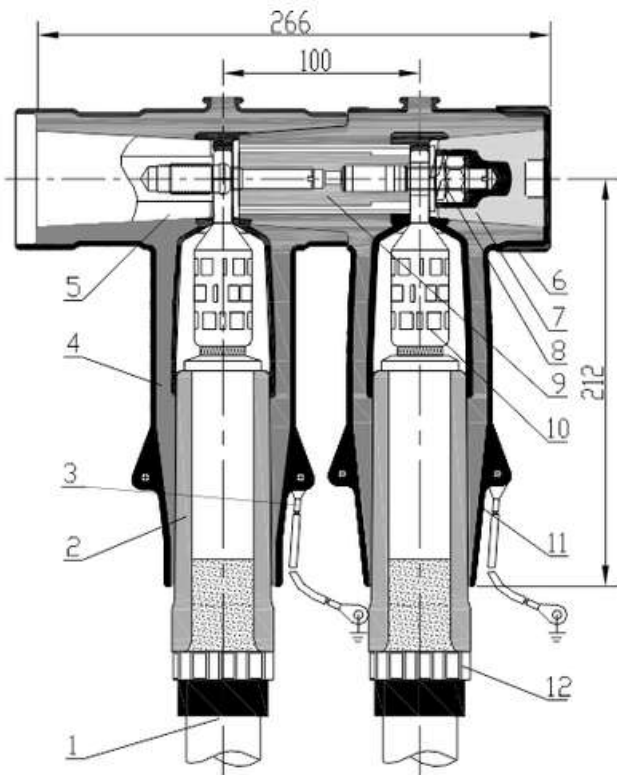
"Z"	1250 A Cable Size (mm ²)	Cable Adaptor	
		Range (mm)	ID (mm)
36 kV			
35/70	35 - 70	24 - 28	20
95/150	95 - 150	28 - 33	25
185/300	185 - 300	33 - 38	30
400	400	39 - 43	35
500	500	44 - 50	40
630	630	50 - 55	45
800	800	55 - 61	50
1000	1000	61 - 68	56

AQT3 - 1250A crimp only, order on request.



SCREENED FRONT AND REAR SEPARABLE CONNECTORS

AQT3 / AHT3



1. Cable
2. Stress reducing cable adaptor
3. Earth wire
4. Front T connector EDPM body
5. Type C bushing
6. Conductive screen cover
7. Insulation plug
8. Bolt
9. Copper link rod
10. Cable lug / connector
11. Rear EDPM connector body
12. Position device

KEY FEATURES

- *Fully insulated*
- *Easy installation, high tolerance*
- *Excellent stress control*
- *Compact design*

KIT CONTENT [FRONT CONNECTOR]

Description	QTY
Front connector body	3
Insulating plug	3
Cable adaptor	3
Screen cover	3
Bolt	3
Earth wire	3
Semi-conductive tape	1
Abrasive paper	1
Lubricant	1
Tube spanner/fixing tool	1
Dielectric tissue	9
Cable stripping ruler	1
Installation sheet	1
Certificate of Conformity	1
Packing list	1
Factory test record	1

KIT CONTENT [REAR CONNECTOR]

Description	QTY
Rear connector body	3
Cable adaptor	3
Linking rod	3
Bolt	3
Earth wire	3
Semi-conductive tape	1
Abrasive paper	1
Lubricant	1
Dielectric tissue	9
Cable stripping ruler	1
Installation sheet	1
Certificate of Conformity	1
Packing list	1
Factory test record	1

SCREENED REAR SEPARABLE CONNECTORS SURGE ARRESTER

AHY10WZ



AHYWZ arrester protects medium-voltage systems in substations, ring main units, and transformers from lightning and voltage surges, preventing failures and outages.

KEY FEATURES

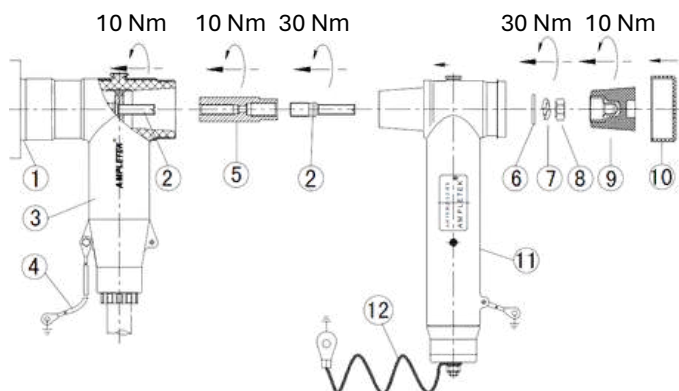
- Protects the electrical equipment from lightning and overvoltage surges
- Explosion protective separable device
- Reliable operation despite long-term ageing or lightning strikes
- The arrester protects from explosions or permanent earthing faults
- Compatible with AQT3 front connectors

KIT CONTENT [REAR CONNECTOR]

Description	QTY
Rear connector body c/w surge arrester	3
Linking rod	3
Bolt	3
Lubricant	1
Dielectric tissue	4
Installation instruction	1
Certificate of Conformance	1
Packing list	1
Factory test record	1

TECHNICAL DATA

Description	24 kV (5 kA) AHY5WZ 34 / 90 - 24	24 kV (10 kA) AHY10WZ 34 / 85 - 24	36 kV AHY5WZ 51 / 134 - 36
System nominal voltage (kV rms)	20	20	40.5
Rated voltage (kV)	34	34	51
Continuous operation voltage (kV)	27.2	27.2	40.8
Lightning impulse current residual voltage (kV)	≤ 90	≤ 85	≤ 134
At D.C 1 mA voltage U _{1mA} (kV)	≥ 48	≥ 48	≥ 73
Leaking current at D.C. 0.75 U _{1mA} (μA)	≤ 50	≤ 50	≤ 50
2 ms rectangular current withstand (A)	150	400	400
A.C. withstand voltage test for EPDM housing (5 min) (kV)	54	54	81



1. Bushing
2. Bolt
3. Front T-connector body
4. Earth wire
5. Copper linking rod
6. Flat ring washer
7. Spring washer
8. Nut
9. Insulation Ring
10. Conductive screen cover
11. Rear connector body
12. Tinned soft wire

SCREENED CONNECTORS

AZT

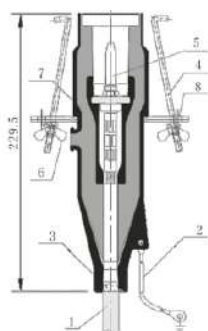
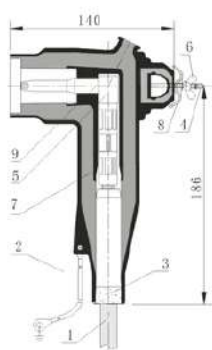


Manufactured from durable EPDM material. AMPLETEK straight and elbow screened connectors are designed for reliable performance in ring main units and transformers.

DIMENSIONS

Type	Product Code	Voltage
Elbow Connector	AZT2-24 / 250-35 / 50	24 kV
Straight Connector	AZC2-24 / 250-35 / 50	24 kV
Elbow Connector	AZT2-24 / 250-70 / 95	24 kV
Straight Connector	AZC2-24 / 250-70 / 95	24 kV

Product Code	Cable Size (mm ²)	Cable Adaptor	
		Range (mm)	ID (mm)
24 kV			
AZT400	35 - 70	20 - 24	16
AZT400	95 - 150	24 - 28	20
ATT400	185 - 300	28 - 33	25
AZT400	400	33 - 38	30
36 kV			
AZT400	35 - 70	24 - 28	20
AZT400	95 - 150	28 - 33	25
AZT400	185 - 300	33 - 38	30
AZT400	400	39 - 43	35



KEY FEATURES

- Type A, 24 kV 250 A, 35 - 95 mm²
- Type B, 24 / 36 kV 400 A, 35 - 400 mm²
- Each connector is rigorously tested and QC-approved (AC withstand, partial discharge) before dispatch
- Triple-layer EPDM construction enhances product safety
- Pins available for Cu and Al conductors
- Cable adaptor crafted from stress-reducing material to stabilise electric fields at cable crossings
- Compliant with IEC 60502-4 and CENELEC EN50180 standards
- Fully insulated, submersible, and screened for reliable performance
- Screen break design allows for cable outer sheath testing without removing the connectors from the bushing

TECHNICAL DATA

Description	AZT 24 / 250	AZT 24 / 400	AZT 36 / 400
Max. system voltage (Um)	24 kV	24 kV	36 kV
Continuous current	250 A	400 A	400 A
Basic impulse voltage level	125 kV	125 kV	170 kV
AC voltage withstand	32 kV	54 kV	81 kV
Partial discharge at 24 kV	≤ 10pC	≤ 10pC	≤ 10 pC
Short circuit withstand, 1 sec	10 kA	18 kA	18 kA
Overload (8 hrs max)	300A	600 A	600 A

KIT CONTENT

Description	QTY
Connector body	3
Earth wire	3
Elbo connector lug	3
Compression plate	3
Pin lug	3
Fixing tool	1
Bolt and wing nut	6
Abrasive paper	1
Lubricant	1
Dielectric tissue	6
Installation sheet	1
Certificate of Conformity	1
Packing list	1
Factory test record	1

INNER CONE PLUG-IN CABLE TERMINATION

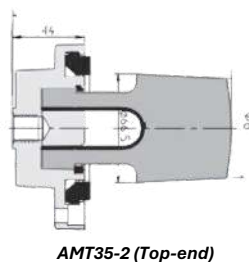
ACBN



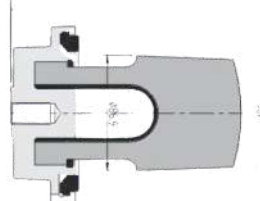
CiP AMLETEK provides inner cone plug in terminations for gas insulated switchgear and transformers, meeting EN50181 bushing connection standards. Kits are available for size 2 (800 A) and size 3 (1250 A), supporting system voltages up to 42 kV.

DIMENSIONS

Product	Size	Nominal current (A)	System voltage (kV)	Cross section (mm ²)	DIA over conductor (mm)	DIA over insulation (mm)
ACBN - 12 - 2	2	630	12	70 - 500	9.8 - 26.7	20 - 36.9
ACBN - 24 - 2	2	630	24	35 - 500	7.0 - 26.7	19.6 - 36.1
ACBN - 36 - 2	2	630	36	50 - 300	8.3 - 20.5	26.3 - 38.5
ACBN - 12 - 3	3	1250	12	300 - 630	20.5 - 30	30.7 - 40.2
ACBN - 24 - 3	3	1250	24	185 - 630	16 - 30	28.6 - 42.6
ACBN - 36 - 3	3	1250	36	50 - 300	8.3 - 20.5	26.3 - 38.5
ACBN - 36 - 3	3	1250	36	400 - 630	27.2 - 30.4	48 - 51.2
ACBN - 36 - 3	3	1250	36	800	34.25	53.93
ACBN - 36 - 3	3	1250	36	1000	38.81	58.49
ACBN - 36 - 4	4	1250	36	800	34.25	53.93
ACBN - 36 - 4	4	1250	36	1000	38.81	58.49



AMT35-2 (Top-end)



AMT35-3 (Top-end)

KEY FEATURES

- Screened inline connection for gas insulated switchgear and transformers up to 42 kV
- Metal-enclosed, suitable for outdoor environments
- Special designs for wind power and offshore use with bronze protection cover
- Optional voltage detection point
- Termination compatible with EN50180 and EN50181 inner cone connections
- Contact parts designed for stranded circular copper or aluminium conductors in accordance with IEC-60228

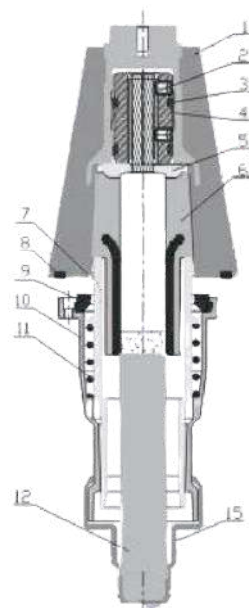
APPLICATION

- Terminate single-core XLPE cables into ring main units and switchgear.
- Enable plug and play setups in industrial power and renewable energy applications.

TECHNICAL DATA

Item	Size 2	Size 3	Requirements
U ₀ / u (kV)	19 / 33	20.8 / 36	
U _m (kV)	38	42	
AC withstand voltage 5 min (kV)	70	117	No breakdown or flashover
PD at ambient temperature (kV)	≤ 10 pC	≤ 10 pC	max. 10 pC at 2 U ₀
Impulse voltage at ambient temperature (kV)	170	200	10 Impulses of each polarity, No breakdown
Thermal short circuit (conductor) (kA)	23 / 2 sec	23 / 2 sec	2 short circuits to raise conductor, No breakdown
Dynamic short circuit (conductor) (kA) 10 ms	83	83	No breakdown

Testing methods in accordance with GB/T12706.4-2008



1. Inner cone socket
2. Bolt
3. Spring
4. Contacting ring
5. Pressure ring
6. Cable adaptor
7. Plastic bushing
8. Bushing sealing ring
9. Metal sheath seal ring
10. Metal sheath
11. Compression spring
12. Cable
13. Protective cover

FLEXIBLE UN-SCREENED SILICONE BUSHING BOOT

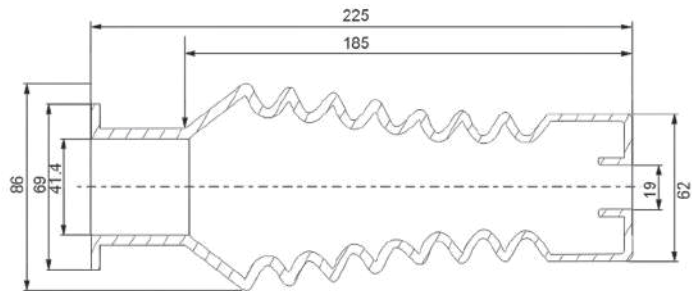
CSB1



Pre-moulded, un-screened silicone bushing boots for switchgear and transformer connections up to 17.5 kV. Protect, insulate, and seal, improving phase-to-phase and phase-to-ground insulation while preventing flashover in areas with insufficient air clearances.

DIMENSIONS

Product	Cross Section (mm ²)	Cable Diameter (mm)
CSB1	25 - 150	16 - 25
CSBRC	25 - 400	16 - 40



KEY FEATURES

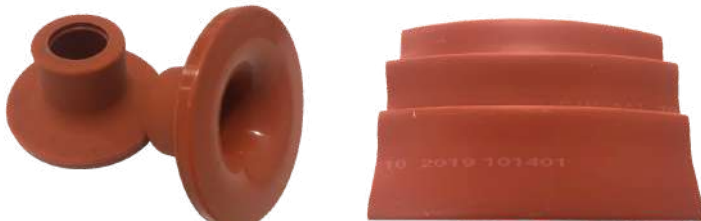
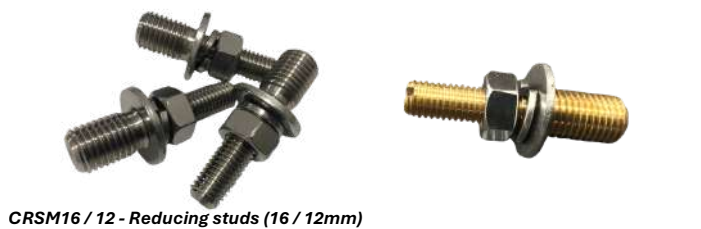
- Straight and right-angle applications
- Simple to install and remove
- No special tools needed
- Strong insulation properties
- Blocks moisture in high-humidity areas
- Resistance to weathering and tracking (High erosion resistance)
- Long shelf life
- Meets IEC60502-4 and GB12706.4-2008 standards
- Immediate energising after installation

APPLICATION

- Busbar insulation for LV and MV applications

TECHNICAL DATA

Properties	Test Methods	Typical Values
Breakdown strength (kV / mm)	IEC 243	≥ 20
Broken extension rate (%)	ASTM D 2671	≥ 300
Tensile strength (MPa)	ASTM D 2671	≥ 6
Volume conduct rate (Ω / m)	IEC 93	≥ 10 ¹⁴
Maximum system voltage (kV)		17.5



CSBRC - Reducing collar

AAT - Anti-track tubing shim sleeves

ANTI-TRACKING HEAT SHRINKABLE BUSHING BOOT

AHMR / S



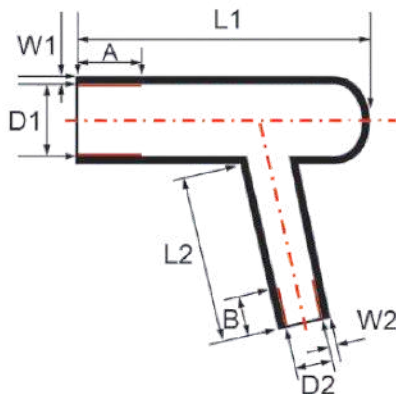
AHMR right angled, and AHMS straight anti-tracking heat shrinkable bushing boots are designed to insulate bushings in switchgear and transformers. They protect, insulate, and seal, particularly in air-insulated switchgear where air clearances are inadequate.

DIMENSIONS

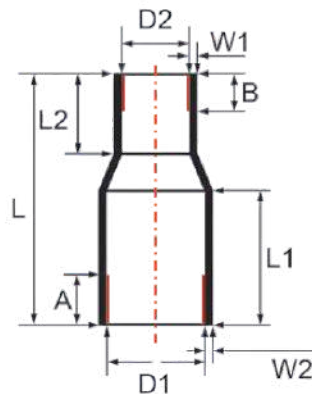
Product	As supplied (mm)		After recovery (mm)						
	D1 (min.)	D2 (Min.)	D1 (Max.)	D2 (Max.)	L1 (Nom.)	L2 (±10%)	L (±10%)	W1 (±10%)	W2 (±10%)
AHMR80 / 36	80	35	36	18	170	125		4.2	3.5
AHMR80 / 50	80	50	36	18	170	125		3.8	3.5
AHMR95 / 70	95	70	38	28	160	140		4.2	4.8
AHMS80 / 34	80	34	35	20	145	30	220	3.2	3.2
AHMS80 / 35	80	58	35	20	145	30	220	3.2	3.2

Note: D1 and D2 are inner diameter

Anti-track red mastic: A-50 mm, B-25 mm.



AHMR



AHMS

KEY FEATURES

- **Minimum recovery temperature 110 °C**
- **Compatible with heat shrink terminations up to 36 kV**
- **UV resistant**
- **High resistance to harsh weather and environmental conditions**
- **Red mastic inner lining provides effective moisture protection**
- **Erosion and tracking resistance**
- **Excellent electrical and mechanical properties**

TECHNICAL DATA

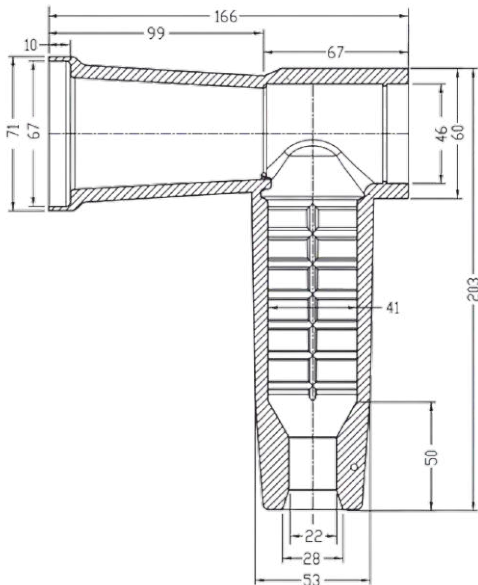
Properties	Test Methods	Typical Values
Tensile strength (MPa)	ASTM D 2671	≥ 12
Tensile strength after thermal ageing (Mpa)	ASTM D 2671 / 120°C, 168 hrs	≥ 8.5
Ultimate elongation (%)	ASTM D 2671	≥ 300
Ultimate elongation after thermal ageing (%)	ASTM D 2671 / 120°C, 168 hrs	≥ 200
Dielectric strength (kV / mm)	IEC 243	≥ 15
Volume resistance (Ω / m)	IEC 93	≥ 10 ¹⁴
Tracking resistance	ASTM D 2303 / 3.75 kV, 1 hr	Pass
Water absorption (%)	ISO 62	≤ 1
Flammability (oxygen index)	ISO 4589	≥ 25
Copper corrosion	ASTM D 2671 / 120°C, 168 hrs	No Corrosion
Cold bend	ASTM D 2671 / -40°C, 4 hrs	No Cracking

FLEXIBLE UN-SCREENED SEPARABLE CONNECTOR

AUSCC12 / 630



These T-shaped (right-angled), pre-moulded, un-screened silicone separable connectors are designed for 12 kV Type "C" 630 A bushings. Their compact design suits gas-insulated secondary switchgear with limited bushing spacing. The pre-moulded shape ensures full contact with the Type "C" bushing profile, effectively minimising unwanted leakage currents.



Note: Dimensions in mm



CRSM16 / 12 - Reducing studs (16 / 12mm)

KEY FEATURES

- Strong moisture sealing
- Fast, simple installation and removal, no special tools needed
- Fits cables 35 – 300 mm² and supports bulky torque shear lugs
- Compact design increases air clearances (Phase-to-phase and phase-to-earth)
- Meets IEC 60502-4 and NRS 1332 standards
- Non-tracking elastomeric housing, erosion resistance, with excellent dielectric and environmental resistance
- Securely stays on Type C bushings, compatible with all indoor terminations

APPLICATION

- Compact SF6 gas-insulated secondary switchgear (RMUs and Type B mini-substations).
- Air filled metal enclosure.
- Distribution transformers.
- CT and VT metering units.

TECHNICAL DATA

Properties	Test Methods	Typical Values
Breakdown strength (kV / mm)	IEC 243	≥ 20
Broken extension Rate (%)	ASTM D 2671	≥ 300
Tensile strength (MPa)	ASTM D 2671	≥ 6
Volume conduct rate (Ω / m)	IEC 93	≥ 10 ¹⁴
Maximum system voltage (kV)		17.5



Phase indicator colours available



Set of screws



AAT - Anti-track tubing shim sleeves

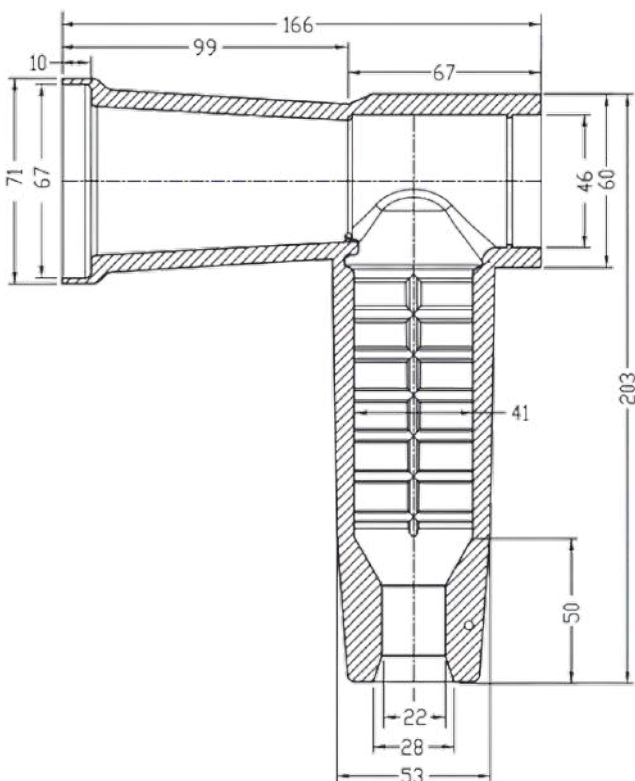
FLEXIBLE UN-SCREENED SEPARABLE CONNECTOR

AUSCC24 / 630



These are insulated, T-shaped (right-angled), pre-moulded, unscreened separable connectors made of silicone, designed for use with Type "C" 630 A bushings up to 24 kV. Their compact design makes them ideal for tight spaces in gas-insulated switchgear, where bushing spacing is minimal. The pre-moulded shape ensures complete contact with the entire bushing profile, enhancing its ability to prevent unwanted leakage currents.

Product	D Min	D Max	Recommended Cable Size (mm ²)
AUSCC24 / 630 / 1	26	30	35 - 150
AUSCC24 / 630 / 2	31.5	42	150 - 300



Note: Dimensions in mm

KEY FEATURES

- Compatible with any CiP or Elcon Megarad termination on PILC or XLPE cables
- Fits cables 35 – 300 mm² and supports bulky torque shear lugs
- Easy install, insulation plug screws directly onto the reducing stud
- Excellent moisture sealing
- Simple to remove and reinstall, no special tools needed
- Compact for better air clearances (Phase-to-phase and phase-to-earth)
- Non-tracking elastomeric housing, erosion resistance, with excellent dielectric and environmental resistance

TECHNICAL DATA

Seq.	Tests	Rated Voltage 12 kV / 24 kV	Requirements
1	AC voltage withstand	5 min at 4.5 U ₀	No breakdown or flashover
	DC voltage withstand	15 min at 4 U ₀	No breakdown or flashover
2	Partial discharge	10 pC max at 1.73 U ₀	No breakdown or flashover
3	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
4	Heat cycles in air	60 cycles at 2.5 U ₀	No breakdown or flashover
5	Heat cycles in water	10 cycles at 2.5 U ₀	No breakdown or flashover
6	Disconnect / connect ¹	Five complete operations	No visible damage
7	Partial discharge at ambient temperature	10 pC max at 1.73 U ₀	No breakdown or flashover
8	Impulse voltage at ambient temperature	10 impulses of each polarity	No breakdown or flashover
9	AC voltage withstand - dry	15 min at 2.5 U ₀	No breakdown or flashover
10	Humidity (Indoor only)	300 hrs at 1.25 U ₀ see table 13	No breakdown or flashover
11	Examination	For information only	No visible damage



CRSM16 / 12 - Reducing studs (16 / 12mm) supplied

ANTI-TRACK TUBING

AAT



AAT is designed for high creep resistance and non tracking properties in both indoor and outdoor termination applications.

DIMENSIONS

Product	Suitable for cable sizes (11 kV, XLPE) (mm ²)	Inside Diameter (mm)		Wall Thickness Recovered (mm)	Reel Length (m)
		Supplied	Recovered		
AAT30 / 10	16 - 50	30	10	2.8	25
AAT38 / 12	70 - 150	38	12	2.8	25
AAT49 / 16	185 - 300	40	16	2.9	25
AAT55 / 18	185 - 300	45	18	2.9	25
AAT65 / 21	185 - 400	54	24	3.0	25
AAT76 / 28	400 - 1000	60	29	3.0	15
AAT85 / 30		85	30	3.5	15
AAT100 / 40		100	40	4.0	15



Phase Indicator Markers

KEY FEATURES

- Shrink ratio 3 : 1
- Minimum shrink temperature: 110 °C
- Halogen-free
- Creep resistance and anti-tracking properties
- Colours: Red
- UV resistant

APPLICATION

- Terminations for indoor and outdoor use up to 36 kV.
- Medium voltage switchgear for indoor and outdoor applications.
- Insulation for medium voltage busbars.

TECHNICAL DATA



Properties	Test Methods	Typical Values
Tensile (MPa)	ASTM D 2671	> 11
Elongation (%)	ASTM D 2671	> 400
Heat ageing tensile strength (MPa)	ASTM D 2671 (120°C x 168 hrs)	> 10
Heat ageing ultimate elongation (%)	ASTM D 2671 (120°C x 168 hrs)	> 250
Dielectric constant	IEC 250	≤ 3.0 (max)
Tracking resistance	ASTM D 2303	3.75 kV, 1 hr (Pass)
Dielectric strength (kV/mm)	IEC 250	> 15
Copper corrosion	ASTM D 2671 (120°C x 168 hrs)	No corrosion
Cold bend	ASTM D 2671 (-40°C x 4 hrs)	No cracking
Water absorption (%)	ISO62 / 23°C, 14 days	< 0.15



BUSBAR INSULATION TUBING

ABTM / ABTH



ABTM / ABTH is manufactured from specially formulated, radiation cross-linked, halogen-free compounds, offering high resistance to tracking and arcing. This improves the insulation performance of busbars in switchgear and substations.

DIMENSIONS

Product	Inside Diameter (mm)		Wall Thickness (mm)	Reel Length (m)
	Supplied	Recovered	Recovered	
Medium Wall (25 kV)				
ABTM15 / 6	15	6	2.0	25
ABTM30 / 12	30	12	2.3	25
ABTM40 / 16	40	16	2.5	25
ABTM50 / 20	50	20	2.5	25
ABTM65 / 26	65	25	2.6	25
ABTM75 / 30	75	30	2.6	25
ABTM100 / 40	100	40	3.0	25
ABTM120 / 50	120	50	3.0	25
Thick Wall (36 kV)				
ABTH30 / 12	30	12	3.6	15
ABTH40 / 16	40	16	3.6	15
ABTH65 / 26	65	25	3.6	15
ABTH75 / 30	75	30	3.6	15
ABTH100 / 40	100	40	3.6	15
ABTH120 / 48	120	50	3.6	15
ABTH150 / 60	150	60	3.6	15

KEY FEATURES

- Shrink ratio 2.5 : 1
- Operating temperature range -40 °C to 125 °C
- Minimum full-shrink temperature 125 °C
- Flexible for easy installation
- Resistance to tracking and excellent insulation properties
- UV resistance
- Colours: Red
- Suitable for use in corrosive environments

APPLICATION

- Suitable for applications in LV and MV (36 kV) switchgear and electrical equipment.

TECHNICAL DATA



Properties	Test Method	Typical Values
Tensile (MPa)	ASTM D 2671	≥ 14
Elongation (%)	ASTM D 2671	≥ 800
Longitudinal shrinkage (%)	ASTM D 2671	± 10
Heat ageing: Tensile (MPa) : Elongation (%)	ASTM D2671 (120°C, 168 hrs)	≥ 10 ≥ 200
Low temperature properties	ASTM D 2671 (-40°C, 4 hrs)	No cracking
Water absorption (%)	ISO 62 / 23°C, 14 days	≤ 0.5
Copper corrosion	UL 224	No corrosion
Flammability (Oxygen Index)	IEC 4589	≥ 25
Dielectric strength (kV/mm)	IEC 250	≥ 19
Volume resistivity (Ω/cm)	IEC 93	≥ 10 ¹⁴



HEAT SHRINKABLE BUSBAR INSULATION TAPE

ABIT



ABIT is manufactured from radiation cross-linked polyolefin, featuring a dual-layer structure, insulation material and hot-melt adhesive. This design ensures effective electrical insulation and shock protection for busbars up to 36 kV.

DIMENSIONS

Product	Width of Tape Supplied (mm)	Wall Thickness Recovered (mm)	Reel Length (m)
ABIT-1	25	1	10
ABIT-2	50	1	10

KEY FEATURES

- *Shrink ratio 30%*
- *Operating temperature range -55 °C to 105 °C*
- *Minimum full-shrink temperature 100 °C*
- *UV resistance*
- *Colours: Red*

APPLICATION

- Busbar insulation for LV and MV applications

TECHNICAL DATA

Properties	Test Method	Typical Values
Tensile (MPa)	ASTM D 2671	≥ 11.8
Elongation (%)	ASTM D 2671	≥ 550
Heat ageing: Tensile (MPa) : Elongation (%)	120°C, 168 hrs	> 10 > 450
Dielectric strength (kV/mm)	IEC243	≥ 20
Water absorption (%)	ISO 62 / 23°C, 14 days	< 0.5
Copper corrosion	ASTM D 2671(120°C, 168 hrs)	No corrosion
Flammability	ASTM D 2671	Self-extinguishing in 60sec
Dielectric constant	IEC 250	≤ 3.5
Volume resistance (Ω/cm)	IEC 9 3	> 10 ¹³



OVERHEAD LINE SLEEVE

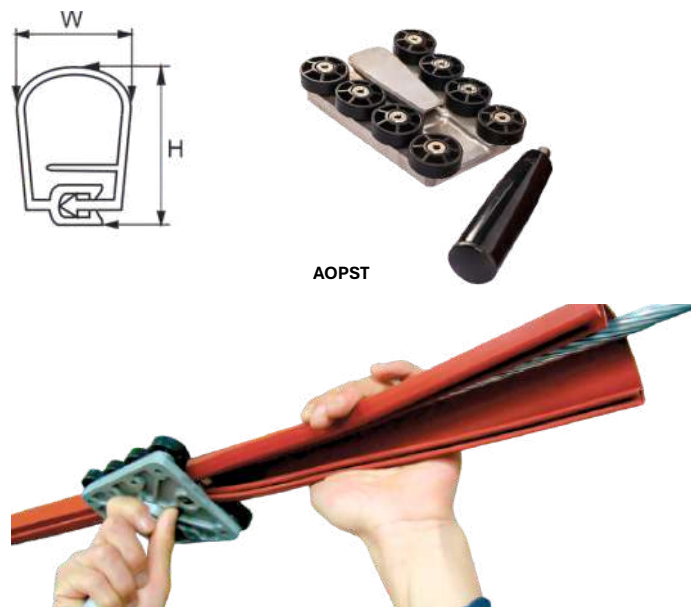
AOPS



AOPS delivers reliable insulation and protection for bare overhead line systems, preventing electrical outages from accidental contact with trees, animals, or objects, as well as issues caused by windy conditions or proximity to steel structures.

DIMENSIONS

Product	Sleeve Size (ø)	Voltage Rating (kV)	Conductor Size (mm ²)	Max Conductor OD (mm)	Standard Length (m)	Width (W) mm	Height (H) mm	Tool
AOPS14/35	14	35	≤70	12	20	23.8	34	AOPST1
AOPS18/35	18	35	95	18	20	28	37.5	AOPST2
AOPS20/35	20	35	120-150	22	20	30	40	AOPST2
AOPS28/35	28	35	185-240	30	20	35	48	AOPST2
AOPS38/35	38	35	≥300	38	20	43	53	AOPST2



KEY FEATURES

- Supports voltages up to 35 kV
- Prevents tapping via hooking or other methods
- Superior UV and abrasion resistance for durability in harsh environments
- Excellent erosion and tracking resistance
- Fast and simple installation
- Optional red mastic sealant for enhanced performance
- Available in red, yellow, green, and black
- Accommodates a range of sizes

TECHNICAL DATA

Properties	Test Methods	Typical Values
Tensile strength (MPa)	ASTM D 421	≥ 10
Elongation at break (%)	ASTM D 421	≥ 500
Volume resistance (Ω/cm)	ASTM D 4325	≥ 1x10 ¹³
Tear strength (N/mm)	ASTM D 624	48.6

MEDIUM VOLTAGE TORQUE SHEARS

ATSL / ATSC



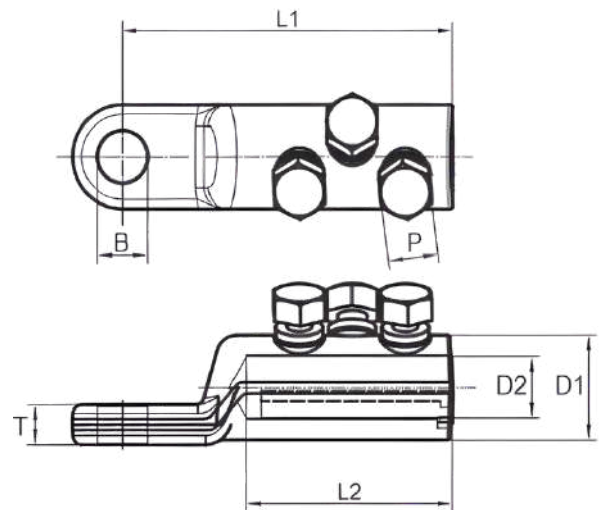
ATSL and ATSC are mechanical torque shear lugs and connectors engineered for medium-voltage applications. Featuring an aluminium electro-tin-plated body with aluminium shear bolts, accommodates conductor sizes 16 mm² to 1000 mm². Suitable for indoor and outdoor use, all palm holes are designed to fit M12 / M16 bolts.

KEY FEATURES

- Compatible with aluminium and copper cables
- Torque-controlled shear-off bolts ensure a reliable electrical connection
- Accommodates various conductor types, shapes, and materials
- Installs with standard socket or wrench, no costly crimping tools needed
- Solid palm design prevents moisture ingress
- Grooved inner barrel enhances electrical contact
- Non-removable bolts after shearing
- Meets IEC 61238-1 Class A and B, BS EN 50483-6:2009 standards
- Solid centre on connectors ensures water-blocking
- Includes anti-oxidising paste for aluminium conductors
- Range-taking design reduces inventory levels

LUGS

Product	Conductor Size (mm ²)	No. of Bolts	Dimensions (mm)						
			L1	L2	D1	D2	T	P	B
ATSL25 / 95 / 12B1	25 - 95	1	64.6	33.8	24	13.3	9	13	13
ATSL25 / 95 / 16B1	25 - 95	1	64.6	33.8	24	13.3	9	13	17
ATSL35 / 150 / 12B1	35 - 150	1	72.5	38.8	28	16	10	17	13
ATSL35 / 150 / 16B1	35 - 150	1	72.5	38.8	28	16	10	17	17
ATSL70 / 240 / 12B2	70 - 240	2	97.5	61.3	33	20	13	19	13
ATSL70 / 240 / 16B2	70 - 240	2	97.5	61.3	33	20	13	19	17
ATSL120 / 300 / 12B2	120 - 300	2	106.5	68.3	38	24	14	22	13
ATSL120 / 300 / 16B2	120 - 300	2	106.5	68.3	38	24	14	22	17
ATSL185 / 400 / 12B2	185 - 400	3	120	78.3	42	26	16	22	13
ATSL185 / 400 / 16B2	185 - 400	3	120	78.3	42	26	16	22	17
ATSL300 / 630 / 12B3	300 - 630	3	140	90.3	52	33	20	24	13
ATSL300 / 630 / 16B3	300 - 630	3	140	90.3	52	33	20	24	17
ATSL800 / 1000 / 20B4	800 - 1000	4	165	105	65	41	30	22	21

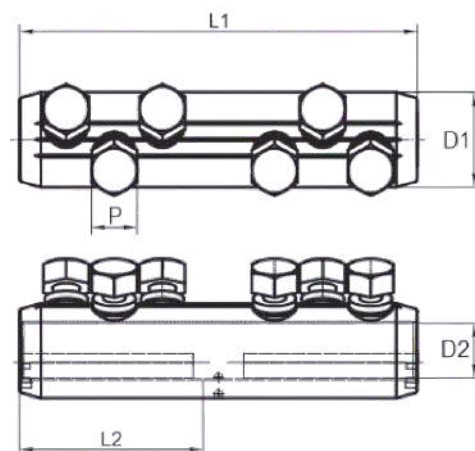


MEDIUM VOLTAGE TORQUE SHEARS

ATSL / ATSC

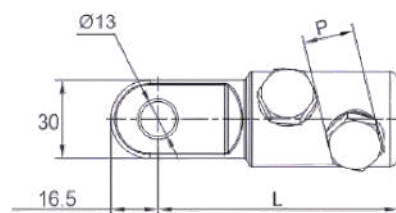
CONNECTORS

Product	Conductor Size (mm ²)	No. of Bolts	Dimensions (mm)				
			L1	L2	D1	D2	P
ATSC10 / 35B2	10 - 35	2	45	21	19	8.3	9
ATSC25 / 95B2	25 - 95	2	70	33.5	24	13.3	13
ATSC35 / 150B2	35 - 150	2	80	38.5	28	16	17
ATSC70 / 240B4	70 - 240	4	125	61	33	20	19
ATSC120 / 300B4	120 - 300	4	140	68	38	24	22
ATSC185 / 400B6	185 - 400	6	170	83	42	26	22
ATSC300 / 630B6	300 - 630	6	200	97	52	33	24
ATSC800 / 1000B8	800 - 1000	8	220	105	65	41	22

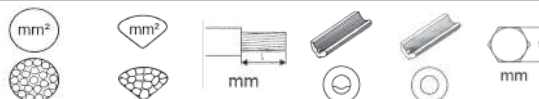


CENTRE LUGS

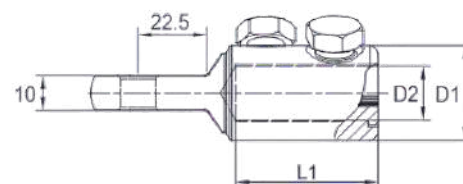
Product	Conductor Size (mm ²)	No. of Bolts	Dimensions (mm)				
			L1	L	D1	D2	P
ATSLC25 / 95B1	25 - 95	1	33.8	71	24	13.3	13
ATSLC35 / 150B1	35 - 150	1	38.8	82.5	29	16	17
ATSLC70 / 240B2	70 - 240	2	61.3	103	33	20	19
ATSLC300 / 630B3	300 - 630	3	90.3	142	52	33	24



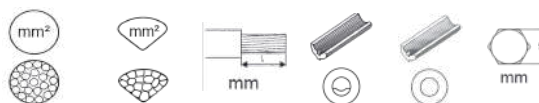
LUGS



Product	Al Circular	Al Sector	Strip Length (mm)	Retain Insert	Remove Insert	Head Size (mm) (P)
ATSL25 / 95	25 - 95	25 - 70	35	25 - 50	70 - 95	13
ATSL35 / 150	35 - 150	35 - 120	41	35 - 70	95 - 150	17
ATSL70 / 240	70 - 240	70 - 185	64	70 - 120	150 - 240	19
ATSL120 / 300	120 - 300	120 - 240	71	120 - 185	240 - 300	22
ATSL185 / 400	185 - 400	185 - 300	81	185 - 240	300 - 400	22
ATSL300 / 630	300 - 630	300 - 500	92	300 - 400	500 - 630	24
ATSL800 / 1000	800 - 1000	800	108			22



CONNECTORS



Product	Al Circular	Al Sector	Strip Length (mm)	Retain Insert	Remove Insert	Head Size (mm) (P)
ATSC10 / 35B2	10 - 35	10 - 25	23			9
ATSC25 / 95B2	25 - 95	25 - 70	35	25 - 50	70 - 95	13
ATSC35 / 150B2	35 - 150	35 - 120	40	35 - 70	95 - 150	17
ATSC35 / 150B4	35 - 150	35 - 120	53	35 - 70	95 - 150	17
ATSC70 / 240B4	70 - 240	70 - 185	63	70 - 120	150 - 240	19
ATSC120 / 300B4	120 - 300	120 - 240	70	120 - 185	240 - 300	22
ATSC185 / 400B6	185 - 400	185 - 300	85	185 - 240	300 - 400	22
ATSC300 / 630B6	300 - 630	300 - 500	99	300 - 400	500 - 630	24
ATSC800 / 1000B8	800 - 1000	800	108			22



ATST1

OTHER PRODUCTS



OTHER PRODUCTS

ASCM19 / ARAM / ABFM / AGFM



ASCM19 stress control mastic used on connectors and screen cuts in medium voltage joints and terminations up to 36 kV.

ARAM red anti-track mastic used in medium voltage (MV) termination installations to deliver a watertight seal on breakout boots, anti-track tubing, and lugs.

ABFM and AGFM butyl self-amalgamating sealing mastics are suitable for low voltage and medium voltage applications, providing reliable sealing and waterproofing for electrical joints, terminations, and telecom installations.

KEY FEATURES

- *Excellent adhesive properties*
- *Excellent sealing properties*
- *Anti-ageing properties*
- *Excellent dielectric properties (ASCM19, ARAM)*
- *Thermal stability (ASCM19)*
- *Weather resistant (ARAM)*
- *Mildew resistant (ARAM)*
- *Chemical resistant (ARAM)*
- *UV resistant (ABFM, AGFM)*

APPLICATION

- Waterproofing and sealing of power cable joints and terminations.

TECHNICAL DATA

Properties	Test Methods	ASCM19	ARAM	ABFM AGFM
Density (g/m ³)	ASTM D 792		1.2	1.3
Tensile strength (Mpa)	ASTM D 638	1.8	0.1	0.1
Ultimate elongation (%)	ASTM D 638	> 300	> 1000	> 1000
Dielectric strength (kV/mm)	IEC 250		≥ 10	≥ 15
Dielectric constant	IEC 250	21.8	3	2 - 3
Volume resistance (Ω/cm)	ASTM D527		10 ¹³	10 ¹³
50 Hz loss factor (tgδ)			0.035	0.035
Service temp. (max°C)		-20 to 90	-20 to 90	-40 to 90
Adhesive and self amalgamation		Good	Good	Good
Thickness x width x length (mm)		0.96 x 19 x 4500	1.5 x 25 x 500	2.5 x 35 x 1200 2.5 x 35 x 1500

OTHER PRODUCTS

ABFMR



ABFMR self-amalgamating putty tape is ideal for low and medium voltage applications, providing void filling, insulation, sealing, and waterproofing for electrical joints, terminations, and telecom installations. For best results, stretch and wrap or mould with a 50% overlap, ensuring a smooth finish on irregular shapes.

KEY FEATURES

- *Performs well in high ambient temperatures*
- *Superior self-amalgamating and sealing capabilities*
- *Easily fills irregular shapes*
- *Suitable for applications up to 600 / 1000 V*
- *Soft and flexible*
- *Non-corrosive with strong ageing resistance*
- *5-year shelf life*
- *Excellent UV resistance*

APPLICATION

- Moisture block in MV and LV heatshrink joints

DIMENSIONS

Product	Description	Size (mm)
ABFMR-1500	Black void filling insulation putty	3.2 x 38 x 1500

ASM18 / 25 / 50



ASM18, ASM25 and ASM50 self-amalgamating EPR rubber tapes are non-adhesive but fuse to it self within hours, creating a seamless, waterproof, and electrically insulating layer. To apply, remove the separator film, lightly stretch, and wrap with a 50% overlap.

KEY FEATURES

- *Self-Amalgamating tape*
- *Sealing, insulating and waterproofing*
- *Water, ozone and corona resistant*
- *Suitable for use in HV and MV applications*
- *High dielectric strength*
- *Forms stable, long lasting joint*
- *Excellent UV resistance*
- *For indoor and outdoor applications*

APPLICATION

- Waterproofing of power cable joints
- Corrosion protection if wrapped around metal pipes
- Temporary repairs to water hose and pipe leaks

TECHNICAL DATA

Properties	ASM18	ASM25	ASM50
Electrical resistivity (Ω/cm)	10 ¹⁴	10 ¹⁴	10 ¹⁴
Dielectric power factor (%)	0.3	0.3	0.3
Dielectric strength (kV/mm)	> 25	> 25	> 25
Tensile strength (kg/mm)	0.2	0.2	0.2
Elongation at break (%)	> 600	> 600	> 600
Thickness (mm)	0.75	0.76	0.75
Width x length	18 mm x 10 m	25.4mm x 10 m	50 mm x 10 m

CABLE REPAIR SLEEVE

ACRS



ACRS is a wrap-around sleeve designed for quick and efficient repair of power and telecom cables. Its hot melt adhesive lining creates a reliable waterproof seal.

DIMENSIONS

Product	Inside Diameter (mm)		Wall Thickness Recovered (mm)	Standard Length (mm)
	Supplied	Recovered		
ACRS50/15	50	15	3.0	1000
ACRS75/22	75	22	3.2	1000
ACRS105/30	105	30	3.5	1000
ACRS146/38	146	38	3.5	1000
ACRS188/55	188	55	3.5	1000

KEY FEATURES

- Shrink ratio 3 : 1
- Operating temperature -35 °C to 105 °C
- Minimum shrink temperature 120 °C
- Excellent impact and abrasion
- Glass fibre-reinforced version available upon request

APPLICATION

- Permanent sheath repairs on both power and telecom cables.
- Temporary repairs to low pressure gas lines.
- Temporary repairs to low pressure water and sewerage pipes.

TECHNICAL DATA

Properties	Test Methods	Typical Values
Tensile (MPa)	UL 224	> 14
Elongation (%)	UL 224	> 300
Heat ageing: Tensile (MPa) : Elongation (%)	UL224 (135°C x 168 hrs)	> 10 > 150
Water absorption (%)	ISO 62	< 0.15
Eccentricity (%)	UL 224	< 30
Mould resistance	ASTM D638 G21	No growth
ESCR	ASTM D 1693 (50 °C)	No cracking
Dielectric strength (kV/mm)	ASTM D 2671	> 20
Volume resistivity (Ω/cm)	ASTM D 257	10 ¹⁴

CABLE END CAPS

AEC



AEC are adhesive lined, cross-linked polyolefin end caps feature a flexible hot melt adhesive that ensures a watertight seal upon recovery, suitable for sealing power or telecom cable ends.

DIMENSIONS

Product	Inside Diameter (mm)		Wall Thickness Recovered (mm)	Cable Diameter (mm)
	Supplied	Recovered		
AEC14/5	14	5	2.0	5 - 12
AEC25/8	25	8	2.3	10 - 20
AEC40/15	40	15	3.0	18 - 32
AEC55/25	55	25	3.3	28 - 48
AEC75/35	75	35	3.5	45 - 70
AEC100/40	100	40	4.0	55 - 90
AEC120/60	120	60	4.0	65 - 110
AEC145/60	145	60	4.0	65 - 138

KEY FEATURES

- *Shrink Ratio 2 : 1*
- *Operating temperature -55 °C to 110 °C*
- *Shrink temperature 120 °C*
- *UV stable*
- *Adhesive lined for excellent moisture seal*
- *Colour: Black*

APPLICATION

- Seals ends of power and telecom cables.
- Caps hydraulic and pneumatic tubes to block dust and moisture ingress.

TECHNICAL DATA



Properties	Test Methods	Typical Values
Operating temperature (°C)	IEC 216	-55 to 110
Tensile (MPa)	ASTM D 638	> 14
Elongation (%)	ASTM D 638	> 400
Aged elongation (%)	150 °C x 168 hrs	> 300
Volume resistance (Ω/cm)	IEC 93	10 ¹⁴
Dielectric strength (kV/mm)	IEC 243	> 15
Copper corrosion		None



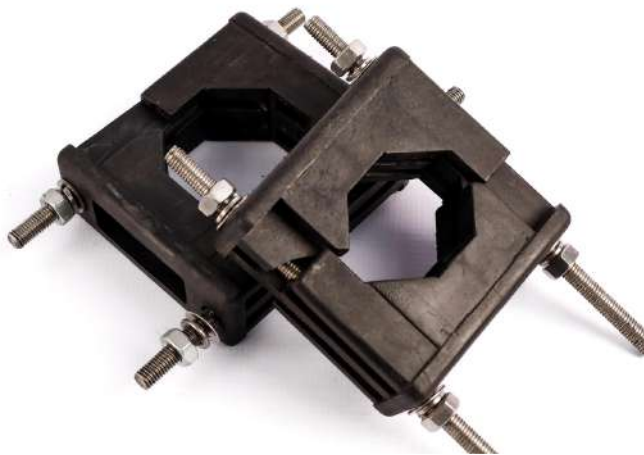
OTHER PRODUCTS

ATCM25



ATCM25 is an all-metal, open-weave tinned copper shielding mesh designed for use on medium voltage joints and terminations.

CLAMPS



CiP cable clamps securely fasten and support LV, MV, and HV power cable systems, installed at regular intervals to ensure stable electrical setups. They offer robust protection and support, particularly during short circuits, while preventing excessive cable movement to safeguard equipment from damage.

DIMENSIONS

Product	Min Cable Dia (mm)	Max Cable Dia (mm)
CLAMP 50 / 75SNW	50	75
CLAMP 75 / 100SNW	75	100

KEY FEATURES

- *Easy to apply screening tape*
- *Replaces metallic screens on medium voltage cables*
- *Not suitable for use as an earth strap, designed for low-current applications*

APPLICATION

- Creates a conductive connection between cable sheaths or armouring and earthing components

TECHNICAL DATA

Properties	Typical Values
Thickness (mm)	0.76
Width x Length	25.4 mm x 4.5 m

KEY FEATURES

- *High-quality polypropylene clamps*
- *Mild or stainless steel threaded rods, nuts, and washers*
- *Excellent resistance to harsh weather and environmental conditions*
- *Designed UV resistant and V-0 flame-retardancy*
- *Excellent oxidation and corrosion resistance*
- *Customised single-core and trefoil clamps available*

MARKETS

- RMU, Indoor, Outdoor Applications
- Wind farms
- Solar Power Plant
- Power Transmission
- Mining
- Oil & Gas Industry



HEAT GUNS AND BURNERS

ELECTRICAL HEAT GUNS



The Steinel range of robust, electronically controlled hot air guns featuring adjustable temperature and airflow for continuous operation are available for purchase from CiP. This professional tool is versatile for a wide range of hot air applications.

APPLICATION

- Shrinks heat shrink sleeves and welds plastics.
- Bends plastic pipes and solders plumbing joints.
- Strips paint, removes stickers, and loosens nuts and bolts.

KEY FEATURES

- *Airflow rate adjustable in three stages*
- *Electronic temperature control*
- *9 adjustable temperature levels 80°C to 630°C (AHG2120E)*
- *Adjustable airflow rate*
- *Built for reliable continuous operation*
- *Cool air stage for rapid cooling on nozzle change*
- *3-year manufacturer warranty*

TECHNICAL DATA

Properties	Typical Values AHG2120E	Typical Values AHL1620S
Dimensions (L x W x H) mm	253 x 87 x 200	252 x 86 x 200
Output (W)	2200	1600
Voltage	220 - 230 V, 50 - 60 Hz	220 - 230 V, 50 - 60 Hz
Airflow (l/min)	150 - 500	350 - 450
Temperature (°C)	80 - 630	300 - 500
Weight (g)	838	717

SIEVERT GAS BURNERS



AGB38

AGB38PRO

The AGB SIEVERT gas burner's advanced, safe design makes it a key tool for craftsmen focused on efficiency and quality. Its windproof, soot-free yellow and blue flame is ideal for heat shrinking both MV and LV tubing and components. The design pulls in fresh air, keeping the burner head cool to prevent damage to heat shrinkable materials.

KEY FEATURES

- *Exact and quick flame setting*
- *High-quality brass parts*
- *Double-molded soft grip for comfort and usability*
- *Swivel hose fitting prevents hose drag*
- *Working pressure: 2 bar*
- *Burner diameter: 38 mm*
- *Gas consumption: 1200 g/h at 2 bar*

TECHNICAL DATA

Properties	Typical Values AGB38	Typical Values AGB38PRO
Ignition type	No	Piezo
Flame adjustment	Yes	Yes
Additional fittings	No	Yes
Accessories	No	Hook and stand



TOOLS AND TOOLKIT

JTK-26



Item	Description
1	Toolbag large double, 430 x 330 x 160 mm
2	Hacksaw, heavy duty, 300 mm
3	Screwdriver set, 7 piece
4	Pliers, flat nose, 140 mm
5	Pliers long nose, heavy duty, 160 mm
6	Side cutter, 160 mm
7	Pliers, groove joint, 180 mm
8	Pliers, groove joint, 250 mm
9	Pliers, flat nose, 150 mm
10	File, round, 200 mm
11	File, flat, 150 mm
12	Hammer, ballpeen, 300 g
13	Tape measure, 3 m
14	Brush file, 230 mm
15	Insulated cable stripping knife, 180 mm
16	Insulated, cable stripping knife, hooked, 180 mm
17	Scoring tool, fixed blade, 0.4 mm
18	Nipper, end cut, 160 mm
19	Tin snip, 265 mm
20	Torque shear tool



Part Code	Total length	Brush width	Weight
ACSK1	180 mm	50 mm	112 g



Part Code	Total length	Brush width	Weight
ACSK2	180 mm	40 mm	118 g



Part Code	Total length	Brush width	Weight
AST0.4	123 mm	0,4 mm	48 g



Part Code	Total length	Brush width	Weight
ABF1	229 mm	40 mm	60 g

KEY FEATURES

- **Blade - Stainless steel**
- **Ergonomic dual moulded handle, non-slip**
- **Fixed sturdy straight blade**
- **Protective blade cover, for safety**
- **Tested to DIN EN60900, 1000 V**

- **Blade - tough, drop-forged, heat-treated chrome vanadium steel**
- **Ergonomic dual moulded handle, non-slip**
- **Protective blade cover, for safety**
- **Tested to DIN EN60900, 1000 V**

- **Fixed blade ensures correct cutting depth**
- **Blade - Tungsten**
- **Protective blade cover for safety**

- **For cleaning the lead sheath of the PILC cables**
- **Features stainless steel brush strands for effective cleaning.**

SKILLS DEVELOPMENT



TRAINING & SKILLS DEVELOPMENT



PRACTICAL AND THEORETICAL TRAINING

Airshrink and CiP offer a range of training modules tailored to the requirements of our customers. These include courses designed for the novice, intermediate, and the professional cable jointer with a wealth of experience. Training offered ranges from a 1-day practical demonstration, to a full 5-day EWSETA accredited course covering theory and practical installation of various cable accessories.

- Training on cable jointing and termination of Low and Medium Voltage cables is aligned to the requirements of SANS 10198:
 - Part 9 - Cables up to 3.3 kV
 - Part 10 - Paper insulated cables not exceeding 33 kV (PILC)
 - Part 11 - Screened polymeric insulated cables not exceeding 33 kV (XLPE)
- Practical and theoretical training is available as per SAQA unit standards ID 259187 and 259189.
- Training can be arranged at CiP's training centre in Klipriver Business Park or at the customer's premises.
- Course duration depends on the requirements of the customer and is generally between 2 to 5 days for training while demonstrations can be done in 1-day.
- Our training is presented by well-experienced cable jointers and engineers with many years of experience in this field.
- Trainees receive individual attention and are assessed by registered assessors.
- Where required, assessments are moderated by registered and accredited moderators.
- Certificates issued will either be a certificate of attendance or a certificate of competence, based on the course selected and the attendee's performance.
- All material used meets the requirements of SANS 1332.

DESIGN INFORMATION



BUSBAR SIZING GUIDE

Busbar Sizes (mm)	Heatshrink Code (Low Voltage)	Heatshrink Layflat Size (mm)	Airshrink Code (Low Voltage)	Airshrink Dimensions Expanded ID (mm)
12 x 1.5 / 12.5 x 3	ATW12.7	20	AS0807	10.40
14 x 4	ATW19	30	AS0907	11.70
15 x 3	ATW19	30	AS1007	13.00
16 x 3	ATW19	30	AS1107	14.30
16 x 4	ATW19	30	AS1210	15.60
20 x 3 / 20 x 4 / 20 x 6	ATW19	30	AS1410	18.20
25 x 3	ATW25.4	40	AS1610	20.80
25 x 5 / 25 x 6 / 25 x 6.3	ATW25.4	40	AS1810	23.40
30 x 3 / 30 x 6 / 30 x 6.3	ATW38.1	60	AS1910	25.70
30 x 10 / 30 x 12 / 31.5 x 6.3	ATW38.1	60	AS2210	28.60
40 x 4 / 40 x 6 / 40 x 6.3 / 40 x 10	ATW38.1	60	AS2510	32.50
50 x 6 / 50 x 6.3	ATW38.1	60	AS3010	39.00
50 x 10 / 50 x 12 / 50 x 16 / 60 x 3 / 60 x 6	ATW50.8	80	AS3510	45.50
60 x 10 / 63 x 6 / 63 x 6.3	ATW80.5	80	AS4010	52.00
80 x 6 / 80 x 8 / 80 x 10 / 80 x 12	ATW76	120	AS5010	65.00
100 x 6 / 100 x 10 / 100 x 12 / 100 x 16	ATW76	120	AS6010	78.00
120 x 10 / 120 x 16.5	ATW100	160	AS7010	91.00

CABLE SIZING GUIDE

Cable Size (mm ²)	Approx. Core OD (mm) Including Insulation (LV)	Heatshrink Size (ID)	Heatshrink Layflat Size (mm)
0.5	2.1	2.4	3.8
1	2.6	3.2	5
1.5	3.2	4.8	7.5
2.5	3.7	4.8	7.5
4	4.5	6.4	10
6	5.1	6.4	10
10	6.0	9.5	15
16	6.9	9.5	15
25	9.0	12.7	20
35	10.8	12.7	20
50	12.6	19	30
70	14.5	19	30
95	16.5	19	30
120	18.5	25.4	40
150	22.0	25.4	40
185	23.5	25.4	40
240	27.0	38.1	60
300	30.0	38.1	60
500	36.5	50.8	80
630	42.8	50.8	80

- The information detailed above is intended as a guide only.
- Insulation outer diameter depends on cable rating and manufacturer with the above guide referring to 600 / 1000 V PVC insulated cable manufactured to SANS 1507.

CABLE (mm ³)	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300
PVC 2 Core																
PVC CABLE SWA 600 / 1000 V 2 CORE																
Cable OD	14	15	16.5	17.5	19.5	21.5	21.5	23	26.5							
Core Insulation Diameter	3.5	4	5	5.5	6	7	6.5	7.5	8.5							
PVC 3 Core																
PVC CABLE SWA 600 / 1000 V 3 CORE																
Cable OD	14	15.5	17.5	18.5	20.5	22.5	28.5	30.5	33	36.5	41.5	44	47.5	53	58.5	63.5
Core Insulation Diameter	3.5	4	5	5.5	6	7	7.5	8.5	10	11.5	13	14.5	16	18	20.5	22.5
PVC 4 Core																
PVC CABLE SWA 600 / 1000 V 4 CORE																
Cable OD	15	16	18	19.5	21.5	25	28.5	31	35	40	45	50	54	59.5	66.5	72.5
Core Insulation Diameter	3.5	4	5	5.5	6	7	8.5	9.5	11	12.5	14.5	16	17.5	20	22.5	25
XLPE 3 Core																
XLPE CABLE 600 / 1000 V 3 CORE																
Cable OD	14	15	16	17	19	21	27	25.5	28	33.5	37	41	44	50	54.5	59.5
Core Insulation Diameter	3	2.5	4	4.5	5.5	6.5	7.5	8	9	11	12	13.5	15	17	19.5	21.5
XLPE 4 Core																
XLPE CABLE 600 / 1000 V 4 CORE																
Cable OD	15	16	19	18.5	20.5	23	27	29.5	32.5	38	42.5	46.5	52.5	57.5	63.5	69.5
Core Insulation Diameter	3	3.5	3.9	4.5	5.5	6.5	7.5	8.5	10	12	13.5	15	17	19	21.5	24

MEDIUM VOLTAGE CABLE DIMENSIONS REFERENCE GUIDE

CABLE (mm ³)	16	25	35	50	70	95	120	150	185	240	300	400	500	630	800	1000
XLPE 3 Core																
XLPE, 3800 / 6600 V, 3 CORE, SWA																
Cable OD		44.5	47	51	55	55.5	62.5	66	71	77	83.5					
Core Insulation Diameter		13	14	15.5	17	19	20.5	22	23.5	26	28.5					
XLPE, 6350 / 11000 V, 3 CORE, (No Armour)																
Cable OD		41.5	44	47	50.5	54	57.3	61	63.5	70	74.5					
Core Insulation Diameter		14.5	16	17	18.8	20.5	22	23.5	25	27.5	30					
XLPE, 6350 / 11000 V, 3 CORE, SWA																
Cable OD	45.3	49.3	52.1	55.1	58.5	62.8	67.1	71.2	75.5	81.3	85.4	96.1				
Core Insulation Diameter	13.5	14.7	15.9	17.1	18.6	20.4	22.1	23.3	25.1	27.5	29.1	33.8				
XLPE, 12700 / 22000 V, 3 CORE, SWA																
Cable OD			62	65	70	75	78	81	86	92	98					
Core Insulation Diameter			20	21	23	24.5	26	27.5	29.5	32	34					
XLPE, 19000 / 33000 V, 3 CORE, SWA																
Cable OD				79	83	88	91	94	99	105	110					
Core Insulation Diameter				26.5	28	30	31	32.5	34.5	37	39.5					

CABLE (mm ²)	16	25	35	50	70	95	120	150	185	240	300	400	500	630	800	1000
XLPE 1 Core																
XLPE, 3800 / 6600 V, 1 CORE, SWA																
Cable OD				28	29.5	31.5	33	34.5	37	39.5	42.5	47.5	53.5	57	61	66
Core Insulation Diameter				15.5	17	19	20.5	22	23.5	25.5	28.5	33	37.5	40.5	44.5	49
XLPE, 6350 / 11000 V, 1 CORE, SWA																
Cable OD				30	31.5	33.5	35	37.5	39	41.5	44	48.5	54	57.5	61.5	66.5
Core Insulation Diameter				17.5	19	21	22	23.5	25	27.5	30	34	38	41	44.5	49.5
XLPE, 12700 / 22000 V, 1 CORE, SWA																
Cable OD				34.5	37	39	40.5	42	43.5	46	50	54	58.5	62	66	71
Core Insulation Diameter				21.5	23.5	25	26.5	28	29.5	32	34	38	42	45.5	49	53.5
XLPE, 19000 / 33000 V, 1 CORE, SWA																
Cable OD				40	42	44	46	48	50	53	55	60	64	68	74	79
Core Insulation Diameter				26.5	28	30	31	32.5	34.5	37	39.5	43.5	47	51	55.5	59.5
PILC 3 Core																
PILC, 3800 / 6600 V, 3 CORE, SWA																
Cable OD	35.5	38	41	44	43.5	47.5	50.5	53.5	57.5	63	67.5					
Core Insulation Diameter	9.7	10.6	11.7	12.8	12.8	14.3	15.5	16.5	18.2	20.2	22.1					
PILC, 6350 / 11000 V, 3 CORE, SWA																
Cable OD		43	45.5	48.5	48.5	52	55	58.5	62	66.5	72					
Core Insulation Diameter		12.4	13.5	14.6	14.6	16	17.2	18.4	19.9	21.9	23.9					
PILC, 12700 / 22000 V, 3 CORE, SWA																
Cable OD				64.5	68.5	73	70.5	73.5	77.5	82.5	87					
Core Insulation Diameter				20.5	22.5	24.3	23.5	24.7	26.5	28.2	30.1					
PILC, 19000 / 33000 V, 3 CORE, SWA																
Cable OD						79	82.5	86.5	91	96.5	103					
Core Insulation Diameter						26.8	28.2	29.7	31.5	33.8	36.2					
PILC 1 Core																
PILC, 3800 / 6600 V, 1 CORE																
Cable OD								35	37	39.5	42	47	51	54		
Core Insulation Diameter								20.9	22.8	25	27.5	30.2	33.6	37		
PILC, 6350 / 11000 V, 1 CORE																
Cable OD								38.5	41	43.5	47.5	51	54.5	58	62.2	69.5
Core Insulation Diameter								22.7	24.5	26.8	29.2	31.9	35.4	38.3	42.2	46.9
PILC, 12700 / 22000 V, 1 CORE																
Cable OD								44.5	48	50.5	53.5	56.5	60	65.5	70	75.5
Core Insulation Diameter								27.7	29.5	31.8	34.2	36.9	40.4	43.3	47.2	52
PILC, 19000 / 33000 V, 1 CORE																
Cable OD								48.5	50.5	53	55.5	58.5	62.5	68	72.5	77.5
Core Insulation Diameter								29.7	31.5	33.8	36.2	38.9	42.4	45.3	49.2	54

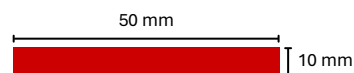
1. BUSBAR

How to calculate the correct size of Airshrink or Heatshrink for your busbar dimensions.

1. Add all four sides.
2. Divide by 3.1415 (π).
3. This result gives the actual OD (outer diameter) of your busbar and thus the min ID (inner diameter) that your Airshrink or Heatshrink needs to shrink down to.
4. Add 10% to this result to allow sufficient clearance. This will ensure that your Airshrink or Heatshrink slips over easily.

Example

Busbar Size: 50 x 10
 $= (50+50+10+10)/3.1415$
 $= 120/3.1415$
 $= 38.198 \text{ mm} + 10\%$
 $= \underline{42.02 \text{ mm}}$



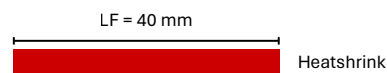
This is the most suitable diameter (ID) for your application. Now choose the Airshrink/Heatshrink size that suits this busbar size. (AS3510 or ATW50.8)

2. LAYFLAT TO DIAMETER

Heatshrink sizes are given as the internal diameter (ID) as supplied and **NOT** the layflat (LF) size. If you are not sure of the correct ID you can calculate as follows:

Example:

Heatshrink size: 25.4 mm
 $ID = (LF \times 2)/3.1415 (\pi)$
 $= (40 \times 2)/3.1415$
 $= 80/3.1415$
 $= \underline{25.46 \text{ mm}}$



3. CIRCUMFERENCE TO LAYFLAT

To calculate the Layflat if you have the diameter (D) it can be done as follows:

Example:

Heatshrink Size: 25.4 mm
 Circumference (C) is the same as 2 x Layflat (LF)
 $C = 3.1415 \times ID$
 $2LF = 3.1415 \times ID$
 $2LF = 3.1415 \times 25.4$
 $2LF = 79.79$
 $LF = \frac{79.79}{2}$
 $= \underline{39.9 \text{ mm}}$

4. IMPERIAL TO METRIC

Inch	1/32"	3/64"	1/16"	5/64"	3/32"	1/8"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
mm	0.8	1.2	1.6	2	2.4	3.2	4.8	6.4	9.5	12.7	15.9	19.1	25.4	31.8	38.1	50.8	76.2	101.6

GENERAL TIPS ON SELECTING, APPLYING, AND SHRINKING HEATSHRINK

1. SELECTION:

- Confirm the OD (outside diameter) of the cable/object you need to cover.
- Decide on the wall thickness you require. Based on the thickness, you may need to choose one size up or select a heat shrink with a higher shrink ratio. Standard thin wall Heatshrink has a 2:1 ratio which means it will shrink to half its supplied size. (Example: 25.4 will shrink to 12.7 mm ID (inside diameter)).
- **Take note that all Heatshrink sizes are given as the ID and not in mm² or layflat (see pages 43 & 44).** Should you not have the ID refer to page 44 and see the calculation necessary to determine the ID.
- When selecting Heatshrink, ensure it has a minimum shrinkage of 20% and a maximum of 80% to ensure the product's performance aligns with the specified requirements.
- Will the Heatshrink be applied to the cable before or after crimping a lug or ferrule? If applied afterward, verify that the Heatshrink size can fit over the lug/ferrule and still shrink to the cable's outer diameter. If not, choose a Heatshrink with a higher shrink ratio.
- Additional factors to consider include:
 - Do you need a moisture-sealed or watertight connection? This requires adhesive-lined Heatshrink (refer to pages 15–17).
 - Will the Heatshrink be exposed to cleaning fluids, fuels, oils, or harsher chemicals? Consider diesel-resistant, Kynar, Viton, or Teflon Heatshrink.
 - What are the minimum and maximum operating temperatures? Diesel-resistant, Kynar, and Teflon materials typically support higher temperatures, up to 250°C.
 - Are you covering labels that must remain visible and moisture-free after application? Clear Heatshrink options, including adhesive-lined, are available.
 - Are there specific approvals or specifications needed, such as Military, Halogen-Free, RoHS, Flame Retardant, REACH, UL, IEC, or UV stability?
 - What is the operating voltage?
 - Do you require high abrasion properties?
 - Standard or specialised colours. (Standard-Black, Clear, Red, White, Blue, Yellow, Green/Yellow).

2. APPLICATION AND SHRINKING:

- Maintain a clean work area and ensure cables or components are free of contaminants.
- When cutting Heatshrink to size, consider the following:
 - Use a sharp knife or guillotine to ensure clean cuts, as jagged edges may cause splitting or tearing during heating. If trimming is needed post-shrink, allow the Heatshrink to cool completely first.
 - In order to allow for continuation of insulation determine a suitable overlap.
 - Cut slightly longer to accommodate longitudinal shrinkage, **which may be up to 5%.**
- Position the Heatshrink sleeve centrally over ferrules or objects.
- Before applying heat:
 - Review the installation instructions for any updates or changes.
 - Ensure all other Heatshrink or components are placed on the cable and that ferrules/lugs are crimped or connected.
 - Remove all sharp edges that may cause the Heatshrink to split.
 - Abrade the surface (if required) and ensure it is clean and degreased.
 - If using an adjustable heat gun, verify the correct temperature setting to prevent uneven shrinkage, improper insulation, damage, or air entrapment.
- Begin shrinking from the centre, moving outward circumferentially until the adhesive melts, the sleeve achieves a uniform wall thickness, and has fully recovered.
- For long Heatshrink tubing (e.g., on cables), start at one end and progress to the other.
- For thicker wall Heatshrink requiring higher shrink temperatures, a propane gas torch may be used, keeping in mind:
 - Work in a well-ventilated area.
 - Use a clean-burning torch (e.g. propane) to avoid conductive contaminant deposits.
 - Adjust to a soft blue flame with an orange/yellow tip, avoiding a pencil-like blue flame.
 - Move the torch continuously to prevent overheating and ensure proper shrinkage.
- Keep the following in mind during the shrinking process:
 - Keep the heat aimed in the shrink direction to pre-heat the material.
 - Apply the heat circumferentially around and outwards on all tubes, this ensures correct heat application to achieve a consistent wall thickness.
 - Follow manufacturer guidelines for shrinking tubing and moulded parts.
 - After shrinking, verify the tubing is smooth and free of wrinkles, as wrinkles suggest improper heating or air entrapment, potentially leading to failure in medium voltage (MV) applications overtime.
- Allow the Heatshrink to cool before applying mechanical stress or trimming to size.

CONTACT

INFORMATION AND MORE



GET IN TOUCH

Whether you have a question, need advice, or want to place an order, our team is here to help. Reach out to us and we'll make sure you receive the professional support you need, quickly and easily.



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For a more comprehensive range of LV and MV cable accessories, please refer to our CiP catalogue online. Alternatively, you can request a copy directly from us, simply contact your sales representative for assistance.

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