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## LV&MV Power cable accessories

## PRODUCT CATALOGUE

STOCK : 002130

SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD.  
Woer mansion, North Lanjing Rd, Pingshan, Shenzhen P.R. CHINA

Tel: 86-755-28299160, 26620597  
Fax: 86-755-28299160  
Email: woer@woer.com  
Http://www.woer.com



SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD

# Global Solution Provider

PEOPLE. PRODUCT. POWER.

Shenzhen Woer Heat-shrinkable Material Co., Ltd (Stock Code: 002130) is a high-tech enterprise with headquarter in Shenzhen, China. Founded in 1998, Woer has undergone dynamic growth and become one of the largest manufacturers of heat & cold shrinkable insulation material.

The Woer brand has always been a guarantee for the supply of products and services. From product design and raw materials purchasing to final inspection and testing, Woer has a perfect quality assurance program covering the entire production process. So far, we have been successfully certified by ISO 9001, ISO 14001, ISO/TS 16949, UL, CSA, 3C, etc. Also, we've got the Type Test certification from KEMA in 2007, and were authenticated by CNAS in 2011.

Woer Power Division, a major part of Woer Corporation, is well-known for its outstanding products and professional services. For more than 18 years, Woer Power Division has been developing, manufacturing and marketing a broad range of cable accessories for reliable power delivery. And it has made tremendous contribution to the innovation of product design and manufacture. All our experiences, together with a strong commitment to R&D, have prepared us to be a global leader in cable accessories industry.

At Woer, we know this can be done.



# Our Technology

We offer a full range of products for a wide variety of applications using heat shrink, cold shrink and cold applied technologies. Woer technology is based on specially formulated thermoplastic polymer materials or high quality silicone rubber. The compounds for these materials are designed, selected and mixed in our own factory. Sophisticated process controls during extrusion, injection moulding, cross-linking and expansion ensure high quality and reliability of our products.

Innovation is the soul of a high-tech enterprise. To achieve this, we established several material labs and two fully equipped high voltage test labs with AC voltage withstand up to 1200kV. All the labs were authenticated by CNAS in 2011. Also, electrical, material and mechanical engineers are working in cross functional teams focused on new technologies and product developments.



Materials Laboratory



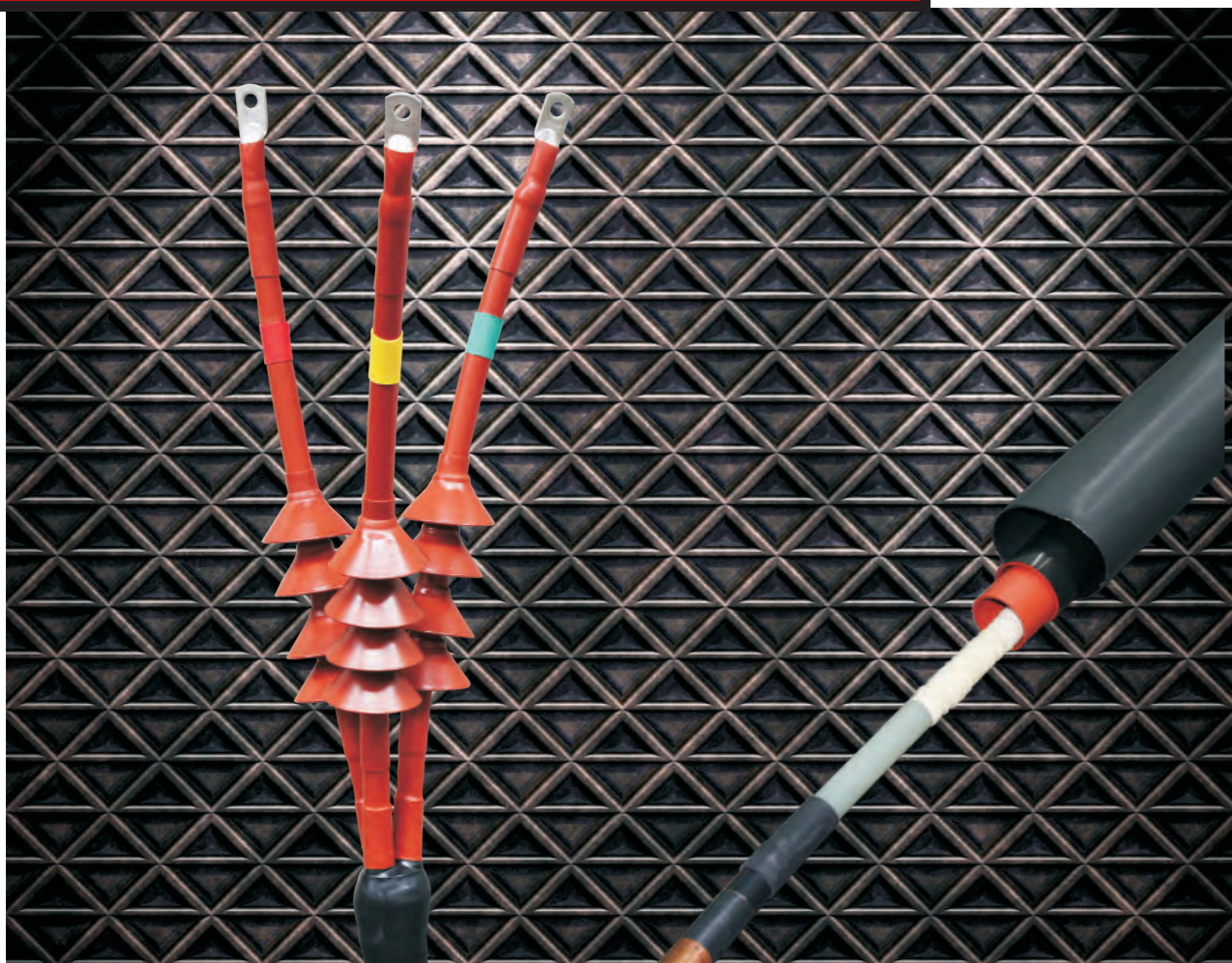


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# Heat Shrink Cable Accessories



Heat shrink cable accessories are made of rubber/plastic composites. After exposure to radiation, the semi-finished product is heated and stretched to expand its dimension. It is then rapidly cooled in order to keep its shape. When installing, the cable accessories will shrink back down to the original dimensions by applying heating because of their “shape memory effect”. Therefore, the heat shrink cable accessories will provide excellent insulation, sealing and mechanical protection for power cables.

## RST Heat Shrink Termination for LV Cables



Termination kit for 4-core cables

The terminations are designed for 1-, 2-, 3-, 4- and 5-core cables with or without armour. The terminations are also applicable to 3+1, 4+1 and 3+2 cables. The cable crutch is sealed by a breakout inner coated with adhesive. Heat shrink insulation tubes seal between the cable lug and the bottom end of the core insulation. For single core cables only an insulation tube is needed. All materials are resistant to UV and weathering.

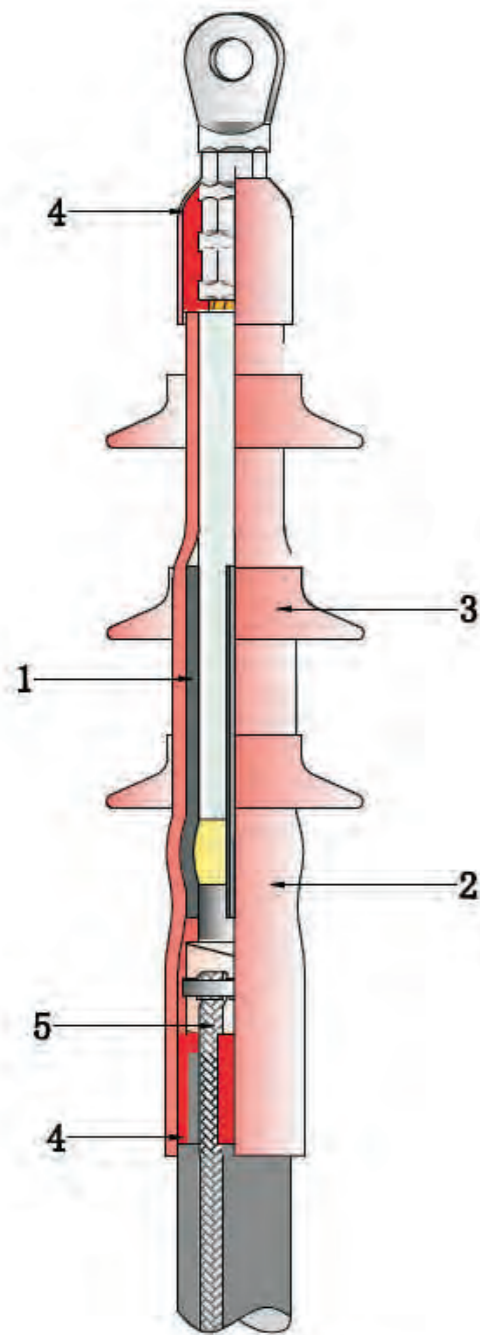
### Selection Table

Voltage	Cores	Cross Section / mm <sup>2</sup>	Kit No.
0.6/1(1.2)kV	4, 5, 3, 2, 1	4-6	0.6/1kVRST-4(5,3,2,1)/(-1)
		10-16	0.6/1kVRST-4(5,3,2,1)/0
		25-50	0.6/1kVRST-4(5,3,2,1)/1
		70-120	0.6/1kVRST-4(5,3,2,1)/2
		150-240	0.6/1kVRST-4(5,3,2,1)/3
		300-400	0.6/1kVRST-4(5,3,2,1)/4

**Note:**

- Solderless earth connection system for armoured cables is available on request.
- Lugs and other accessories need to be ordered separately.
- Terminations and components for other cable types are available on request.

## RSNY/RSWY Heat Shrink Termination For MV Cables Up To 42kV



### Design of Termination

Woer provides a universal system for indoor and outdoor terminations for paper or polymeric insulated cables.

#### 1. Electrical Stress Control

Yellow stress relief mastic is laid around the end of the screen cut. Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable end.

#### 2. Excellent Anti-tracking Properties

Anti-tracking insulation tubes and rain sheds have an excellent tracking and erosion resistance. This ensures Woer terminations do not track even in severe service conditions.

#### 3. Additional Creepage

Anti-tracking rain sheds increase surface creepage distance.

#### 4. Moisture Sealing

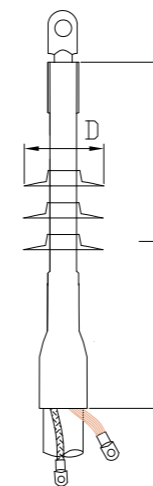
Durable sealing is achieved by hot-melted adhesive on the inside of sealing tube and anti-tracking insulation tube. In case of 3-core cables, the crutch area is sealed and protected with an adhesive-coated breakout which is installed over the cores and the end of oversheath.

#### 5. Earth Connection

Either soldering or solderless earth connection is available to connect metal screen or armour to ground. For cables with wire screen, copper wires are imbedded in the sealing mastic to prevent any corrosion by moisture sealing.



## RSNY-1 Indoor termination for screened, 1-core polymeric insulated cables 6kV, 10kV, 20kV, 30kV and 35kV



The indoor termination is designed for screened single core polymeric insulated MV cables up to 35kV.

Yellow stress relief mastic is laid around the end of the screen cut. Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable screen end. Anti-tracking insulation tube and sealing tube seal between the end of the oversheath and the cable lug. Anti-tracking rain sheds increase surface creepage distance to ensure safety.

Solderless earth connection is supplied with the standard kit. For soldering earth connection, please order separately.

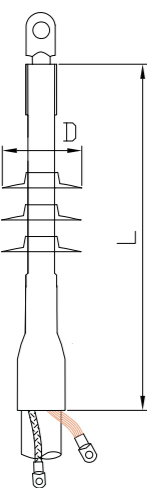
Nominal voltage $U_n/U_m(U_m)$	Cross section (mm <sup>2</sup> )	Kit No.	Dimensions(mm)		No. of skirts
			L	D	
3.6 / 6(7.2)kV	25-50	6kVRSNY-1/1	800	105	0
	70-120	6kVRSNY-1/2		105	
	150-240	6kVRSNY-1/3		105	
	300-400	6kVRSNY-1/4		105	
	500-630	6kVRSNY-1/5		140	
	800-1000	6kVRSNY-1/6		140	
	1200	6kVRSNY-1/7		140	
6 / 10(12)kV 6.35 / 11(12)kV 8.7 / 15(17.5)kV	25-50	10kVRSNY-1/1	800	105	0
	70-120	10kVRSNY-1/2		105	
	150-240	10kVRSNY-1/3		105	
	300-400	10kVRSNY-1/4		105	
	500-630	10kVRSNY-1/5		140	
	800-1000	10kVRSNY-1/6		140	
	1200	10kVRSNY-1/7		140	
12 / 20(24)kV 12.7 / 22(24)kV	35-50	20kVRSNY-1/1	800	105	2
	70-120	20kVRSNY-1/2		105	
	150-240	20kVRSNY-1/3		105	
	300-400	20kVRSNY-1/4		140	
	500-630	20kVRSNY-1/5		140	
	800-1000	20kVRSNY-1/6		140	
	1200	20kVRSNY-1/7		140	
18 / 30(36)kV 19 / 33(36)kV	35-50	30kVRSNY-1/1	800	105	4
	70-120	30kVRSNY-1/2		105	
	150-240	30kVRSNY-1/3		140	
	300-400	30kVRSNY-1/4		140	
	500-630	30kVRSNY-1/5		140	
	800-1000	30kVRSNY-1/6		140	
	1200	30kVRSNY-1/7		140	
20.8 / 36(42)kV 26 / 35(42)kV	50	35kVRSNY-1/1	800	140	4
	70-120	35kVRSNY-1/2		140	
	150-240	35kVRSNY-1/3		140	
	300-400	35kVRSNY-1/4		140	
	500-630	35kVRSNY-1/5		140	
	800-1000	35kVRSNY-1/6		140	
	1200	35kVRSNY-1/7		140	

### Note:

- Lugs need to be ordered separately.
- RSNY-1 is for cables with copper wire screen without armour.
- Solderless earth connection have to be ordered separately as follows:
  - For cables with copper wire screen and wire armour, add suffix -WA. For example, 6kVRSNY-1/1-WA.
  - For cables with copper tape screen without armourwire, add suffix -X. For example, 6kVRSNY-1/1-X.

## RSWY-1

### Outdoor termination for screened, 1-core polymeric insulated cables 6kV, 10kV, 20kV, 30kV and 35kV



The outdoor termination is designed for screened single core polymeric insulated MV cables up to 35kV.

Yellow stress relief mastic is laid around the end of the screen cut. Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable screen end. Anti-tracking insulation tube and sealing tube seal between the end of the oversheath and the cable lug. Anti-tracking rain sheds increase surface creepage distance to ensure safety.

Solderless earth connection is supplied with the standard kit. For soldering earth connection, please order separately.

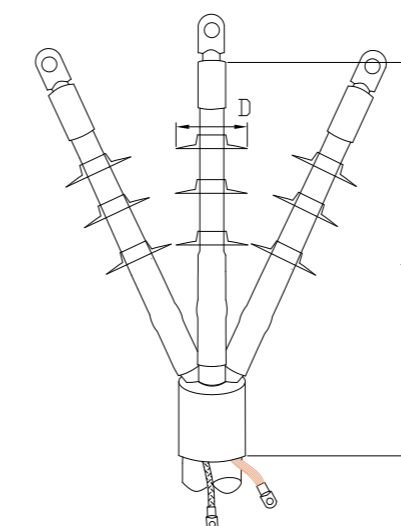
Nominal voltage $U_0/U(U_m)$	Cross section (mm <sup>2</sup> )	Kit No.	Dimensions(mm)		No. of skirts
			L	D	
3.6 / 6(7.2)kV	25-50	6kVRSWY-1/1	800	105	3
	70-120	6kVRSWY-1/2		105	
	150-240	6kVRSWY-1/3		105	
	300-400	6kVRSWY-1/4		105	
	500-630	6kVRSWY-1/5		140	
	800-1000	6kVRSWY-1/6		140	
	1200	6kVRSWY-1/7		140	
6 / 10(12)kV 6.35 / 11(12)kV 8.7 / 15(17.5)kV	25-50	10kVRSWY-1/1	800	105	3
	70-120	10kVRSWY-1/2		105	
	150-240	10kVRSWY-1/3		105	
	300-400	10kVRSWY-1/4		105	
	500-630	10kVRSWY-1/5		140	
	800-1000	10kVRSWY-1/6		140	
	1200	10kVRSWY-1/7		140	
12 / 20(24)kV 12.7 / 22(24)kV	35-50	20kVRSWY-1/1	800	105	4
	70-120	20kVRSWY-1/2		105	
	150-240	20kVRSWY-1/3		105	
	300-400	20kVRSWY-1/4		140	
	500-630	20kVRSWY-1/5		140	
	800-1000	20kVRSWY-1/6		140	
	1200	20kVRSWY-1/7		140	
18 / 30(36)kV 19 / 33(36)kV	35-50	30kVRSWY-1/1	800	105	6
	70-120	30kVRSWY-1/2		105	
	150-240	30kVRSWY-1/3		140	
	300-400	30kVRSWY-1/4		140	
	500-630	30kVRSWY-1/5		140	
	800-1000	30kVRSWY-1/6		140	
	1200	30kVRSWY-1/7		140	
20.8 / 36(42)kV 26 / 35(42)kV	50	35kVRSWY-1/1	800	140	6
	70-120	35kVRSWY-1/2		140	
	150-240	35kVRSWY-1/3		140	
	300-400	35kVRSWY-1/4		140	
	500-630	35kVRSWY-1/5		140	
	800-1000	35kVRSWY-1/6		140	
	1200	35kVRSWY-1/7		140	

**Note:**

1. Lugs need to be ordered separately.
2. RSWY-1 is for cables with copper wire screen without armour.
3. Solderless earth connection have to be ordered separately as follows:
  - For cables with copper wire screen and wire armour, add suffix -WA. For example, 6kVRSWY-1/1-WA.
  - For cables with copper tape screen without armourwire, add suffix -X. For example, 6kVRSWY-1/1-X.

## RSNY-3

### Indoor termination for screened, 3-core polymeric insulated cables 6kV, 10kV, 20kV, 30kV and 35kV



The indoor termination is designed for screened three core polymeric insulated MV cables up to 35kV.

Yellow stress relief mastic is laid around the end of the screen cut. Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable screen end. All phase cores are covered with anti-tracking insulation tube and sealing tube. Anti-tracking rain sheds increase surface creepage distance to ensure safety. The crutch area is sealed and protected with an adhesive-coated breakout which is installed over the cores and the end of oversheath. In case of 6kV and 10kV cables, a 3-core rain shed is supplied in the kit.

Solderless earth connection is supplied with the standard kit. For soldering earth connection, please order separately.

Nominal voltage $U_0/U(U_m)$	Cross section (mm <sup>2</sup> )	Kit No.	Dimensions(mm)		No. of skirts
			L	D	
3.6 / 6(7.2)kV	25-50	6kVRSNY-3/1	750	105	0
	70-120	6kVRSNY-3/2		105	
	150-240	6kVRSNY-3/3		105	
	300-400	6kVRSNY-3/4		105	
	500-630	6kVRSNY-3/5		140	
6 / 10(12)kV 6.35 / 11(12)kV 8.7 / 15(17.5)kV	25-50	10kVRSNY-3/1	750	105	0
	70-120	10kVRSNY-3/2		105	
	150-240	10kVRSNY-3/3		105	
	300-400	10kVRSNY-3/4		105	
	500-630	10kVRSNY-3/5		140	
12 / 20(24)kV 12.7 / 22(24)kV	35-50	20kVRSNY-3/1	900	105	6
	70-120	20kVRSNY-3/2		105	
	150-240	20kVRSNY-3/3		105	
	300-400	20kVRSNY-3/4		140	
	500-630	20kVRSNY-3/5		140	
18 / 30(36)kV 19 / 33(36)kV	35-50	30kVRSNY-3/1	1100	105	12
	70-120	30kVRSNY-3/2		105	
	150-240	30kVRSNY-3/3		140	
	300-400	30kVRSNY-3/4		140	
	500-630	30kVRSNY-3/5		140	
20.8 / 36(42)kV 26 / 35(42)kV	50	35kVRSNY-3/1	1100	140	12
	70-120	35kVRSNY-3/2		140	
	150-240	35kVRSNY-3/3		140	
	300-400	35kVRSNY-3/4		140	
	500-630	35kVRSNY-3/5		140	

**Note:**

1. Lugs need to be ordered separately.
2. RSNY-3 is for cables with copper wire screen without armour.
3. Solderless earth connection have to be ordered separately as follows:
  - For cables with copper wire screen and wire armour, add suffix -WA. For example, 6kVRSNY-3/1-WA.
  - For cables with copper tape screen without armourwire, add suffix -X. For example, 6kVRSNY-3/1-X.

## RSWY-3

### Outdoor termination for screened, 3-core polymeric insulated cables 6kV, 10kV, 20kV, 30kV and 35kV

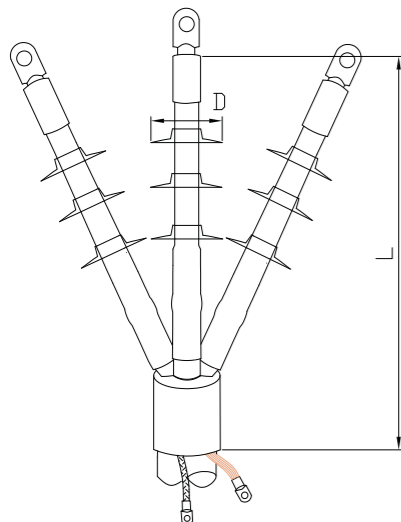


The outdoor termination is designed for screened three core polymeric insulated MV cables up to 35kV.

Yellow stress relief mastic is laid around the end of the screen cut.

Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable screen end. All phase cores are covered with anti-tracking insulation tube and sealing tube. Anti-tracking rain sheds increase surface creepage distance to ensure safety. The crutch area is sealed and protected with an adhesive-coated breakout which is installed over the cores and the end of overshooth. In case of 6kV and 10kV cables, a 3-core rain shed is supplied in the kit.

Solderless earth connection is supplied with the standard kit. For soldering earth connection, please order separately.



Nominal voltage $U_0/U(U_m)$	Cross section (mm <sup>2</sup> )	Kit No.	Dimensions(mm)		No. of skirts
			L	D	
3.6 / 6(7.2)kV	25-50	6kVRSWY-3/1	900	105	6
	70-120	6kVRSWY-3/2		105	
	150-240	6kVRSWY-3/3		105	
	300-400	6kVRSWY-3/4		105	
	500-630	6kVRSWY-3/5		140	
6 / 10(12)kV 6.35 / 11(12)kV 8.7 / 15(17.5)kV	25-50	10kVRSWY-3/1	900	105	6
	70-120	10kVRSWY-3/2		105	
	150-240	10kVRSWY-3/3		105	
	300-400	10kVRSWY-3/4		105	
	500-630	10kVRSWY-3/5		140	
12 / 20(24)kV 12.7 / 22(24)kV	35-50	20kVRSWY-3/1	900	105	12
	70-120	20kVRSWY-3/2		105	
	150-240	20kVRSWY-3/3		105	
	300-400	20kVRSWY-3/4		140	
	500-630	20kVRSWY-3/5		140	
18 / 30(36)kV 19 / 33(36)kV	35-50	30kVRSWY-3/1	1100	105	18
	70-120	30kVRSWY-3/2		105	
	150-240	30kVRSWY-3/3		140	
	300-400	30kVRSWY-3/4		140	
	500-630	30kVRSWY-3/5		140	
20.8 / 36(42)kV 26 / 35(42)kV	50	35kVRSWY-3/1	1100	140	18
	70-120	35kVRSWY-3/2		140	
	150-240	35kVRSWY-3/3		140	
	300-400	35kVRSWY-3/4		140	
	500-630	35kVRSWY-3/5		140	

**Note:**

1. Lugs need to be ordered separately.
2. RSWY-3 is for cables with copper wire screen without armour.
3. Solderless earth connection have to be ordered separately as follows:
  - For cables with copper wire screen and wire armour, add suffix -WA. For example, 6kVRSWY-3/1-WA.
  - For cables with copper tape screen without armourwire, add suffix -X. For example, 6kVRSWY-3/1-X.

## RSJ

### Heat Shrink Joints for LV Cables



#### Joint Kit for LV 4-Core Cable

The joints are designed for 1-, 2-, 3-, 4- and 5-core cables with or without armour. The joints are also applicable to 3+1, 4+1 and 3+2 cables.

The connectors are insulated and sealed with adhesive coated insulation tubes. The outer tube provides mechanical protection and chemical resistance as expected from cable overshooth. All joints are designed to allow crossing of cable cores.

#### Selection Table

Voltage $U_0/U(U_m)$	Cores	Cross Section / mm <sup>2</sup>	Kit No.
0.6/1(1.2)kV	4, 5, 3, 2, 1	4-6	0.6/1kVRSJ-4(5,3,2,1)/(-1)
		10-16	0.6/1kVRSJ-4(5,3,2,1)/0
		25-50	0.6/1kVRSJ-4(5,3,2,1)/1
		70-120	0.6/1kVRSJ-4(5,3,2,1)/2
		150-240	0.6/1kVRSJ-4(5,3,2,1)/3
300-400	0.6/1kVRSJ-4(5,3,2,1)/4		

**Note:**

- Joints and components for other cable types are available on request.
- Solderless earth connection system for armoured cables is available on request.
- Connectors and other accessories need to be ordered separately.

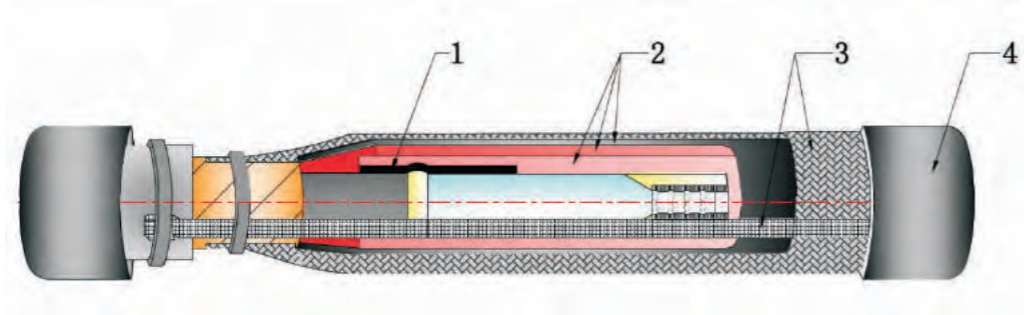


# RSJY

## Heat Shrink Joints For MV Cables Up To 42kV

### Design of Joint

The joints are designed for MV screened, 1–core polymeric insulated cables with or without armour. The same design principles are used for 3–core cables.



#### 1. Electrical stress control

Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable screen ends.

#### 2. Insulation and screen

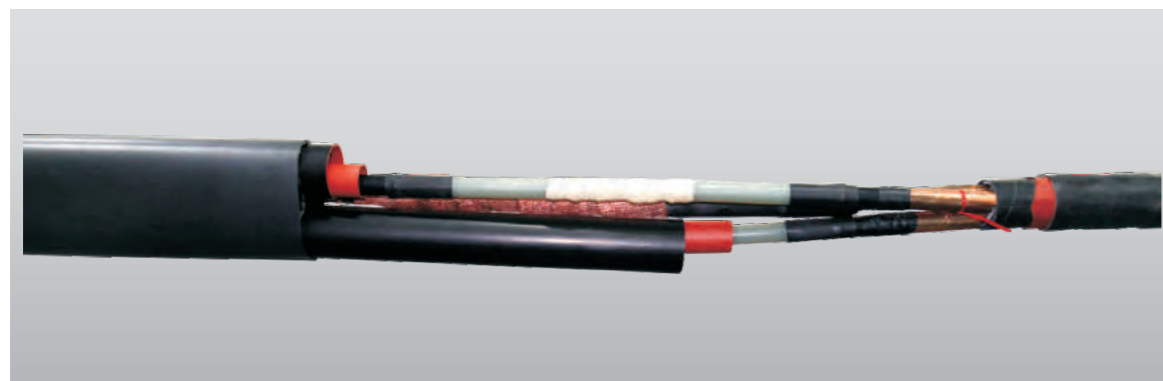
Heat shrink insulation tube delivers consistent insulation thickness to meet or exceed that of the cable. Heat shrink semi–conductive /insulation dual layer tube is also adopted to help ensure a void–free interface between the insulation and screen.

#### 3. Metallic shielding

Copper mesh wrapped around the joint area rebuilds the metallic screen. Either soldering or solderless earth connection is available to provide screen continuity across the joint.

#### 4. Outer sealing and protection

The outer sealing and protection is performed by an adhesive coated, heat shrink tube. It provides mechanical protection and chemical resistance as expected from cable oversheath.

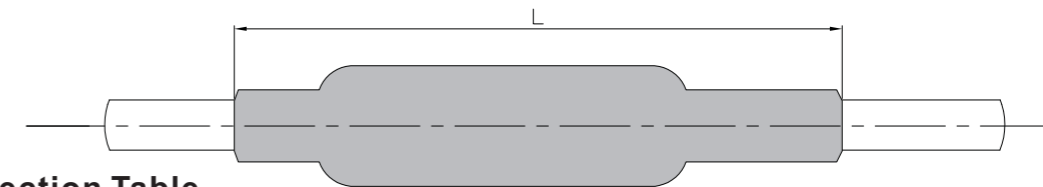


# RSJY-1

## Straight joint for screened, 1-core polymeric insulated cables 6kV, 10kV, 20kV, 30kV and 35kV

The joint is designed for screened single core polymeric insulated MV cables up to 35kV.

Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable screen ends. Heat shrink insulation tube delivers consistent insulation thickness over the core insulation. Heat shrink dual wall tube is adopted to help ensure a void–free interface between the insulation and screen. Copper mesh wrapped around the joint area rebuilds the metallic screen. Either soldering or solderless earth connection is available to provide screen continuity across the joint. The outer sealing and protection is performed by an adhesive coated heat shrink tube.



### Selection Table

Nominal voltage $U_0/U(U_m)$	Cross section (mm <sup>2</sup> )	Kit No.	L Dimensions(mm)
3.6 / 6(7.2)kV	25–50	6kVRSJY–1/1	820
	70–120	6kVRSJY–1/2	820
	150–240	6kVRSJY–1/3	820
	300–400	6kVRSJY–1/4	820
	500–630	6kVRSJY–1/5	820
	800–1000	6kVRSJY–1/6	820
	1200	6kVRSJY–1/7	820
6 / 10(12)kV 6.35 / 11(12)kV 8.7 / 15(17.5)kV	25–50	10kVRSJY–1/1	820
	70–120	10kVRSJY–1/2	820
	150–240	10kVRSJY–1/3	820
	300–400	10kVRSJY–1/4	820
	500–630	10kVRSJY–1/5	820
	800–1000	10kVRSJY–1/6	820
	1200	10kVRSJY–1/7	820
12 / 20(24)kV 12.7 / 22(24)kV	35–50	20kVRSJY–1/1	820
	70–120	20kVRSJY–1/2	820
	150–240	20kVRSJY–1/3	820
	300–400	20kVRSJY–1/4	1020
	500–630	20kVRSJY–1/5	1020
	800–1000	20kVRSJY–1/6	1020
	1200	20kVRSJY–1/7	1020
18 / 30(36)kV 19 / 33(36)kV	35–50	30kVRSJY–1/1	1100
	70–120	30kVRSJY–1/2	1100
	150–240	30kVRSJY–1/3	1100
	300–400	30kVRSJY–1/4	1100
	500–630	30kVRSJY–1/5	1100
	800–1000	30kVRSJY–1/6	1100
	1200	30kVRSJY–1/7	1100
20.8 / 36(42)kV 26 / 35(42)kV	50	35kVRSJY–1/1	1100
	70–120	35kVRSJY–1/2	1100
	150–240	35kVRSJY–1/3	1100
	300–400	35kVRSJY–1/4	1160
	500–630	35kVRSJY–1/5	1160
	800–1000	35kVRSJY–1/6	1160
	1200	35kVRSJY–1/7	1160

#### Note:

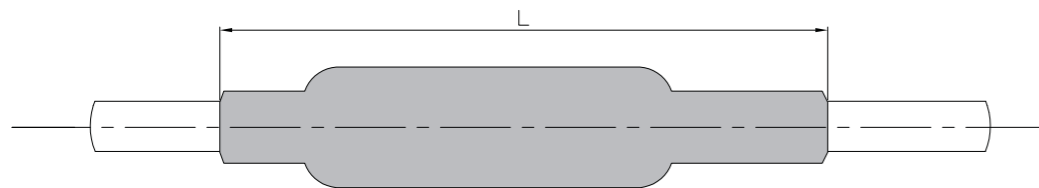
- Connectors need to be ordered separately.
- RSJY–1 is for cables with copper wire screen without armour.
- Solderless earth connection have to be ordered separately as follows:
  - For cables with copper wire screen and wire armour, add suffix –WA. For example, 6kVRSJY–1/1–WA.
  - For cables with copper tape screen without armourwire, add suffix –X. For example, 6kVRSJY–1/1–X.

## RSJY-3

### Straight joint for screened, 3-core polymeric insulated cables 6kV, 10kV, 20kV, 30kV and 35kV

The joint is designed for screened three core polymeric insulated MV cables up to 35kV.

Stress control tube, together with stress relief mastic, is used to smooth out the electrical field at the cable screen ends. Heat shrink insulation tube delivers consistent insulation thickness over the core insulation. Heat shrink dual wall tube is adopted to help ensure a void-free interface between the insulation and screen. Copper mesh wrapped around the joint area rebuilds the metallic screen. Either soldering or solderless earth connection is available to provide screen continuity across the joint. The outer sealing and protection is performed by an adhesive coated heat shrink tube.



Selection Table

Nominal voltage $U_0/U(U_m)$	Cross section (mm <sup>2</sup> )	Kit No.	L Dimensions(mm)
3.6 / 6(7.2)kV	25-50	6kVRSJY-3/1	1620
	70-120	6kVRSJY-3/2	1620
	150-240	6kVRSJY-3/3	1620
	300-400	6kVRSJY-3/4	1620
	500-630	6kVRSJY-3/5	1620
6 / 10(12)kV 6.35 / 11(12)kV 8.7 / 15(17.5)kV	25-50	10kVRSJY-3/1	1620
	70-120	10kVRSJY-3/2	1620
	150-240	10kVRSJY-3/3	1620
	300-400	10kVRSJY-3/4	1620
	500-630	10kVRSJY-3/5	1620
12 / 20(24)kV 12.7 / 22(24)kV	35-50	20kVRSJY-3/1	1620
	70-120	20kVRSJY-3/2	1620
	150-240	20kVRSJY-3/3	1620
	300-400	20kVRSJY-3/4	2320
	500-630	20kVRSJY-3/5	2320
18 / 30(36)kV 19 / 33(36)kV	35-50	30kVRSJY-3/1	2520
	70-120	30kVRSJY-3/2	2520
	150-240	30kVRSJY-3/3	2520
	300-400	30kVRSJY-3/4	2520
	500-630	30kVRSJY-3/5	2520
20.8 / 36(42)kV 26 / 35(42)kV	50	35kVRSJY-3/1	2520
	70-120	35kVRSJY-3/2	2520
	150-240	35kVRSJY-3/3	2520
	300-400	35kVRSJY-3/4	2620
	500-630	35kVRSJY-3/5	2620

**Note:**

- Connectors need to be ordered separately.
- RSJY-3 is for cables with copper wire screen without armour.
- Solderless earth connection have to be ordered separately as follows:
  - For cables with copper wire screen and wire armour, add suffix -WA. For example, 6kVRSJY-3/1-WA.
  - For cables with copper tape screen without armourwire, add suffix -X. For example, 6kVRSJY-3/1-X.

## WRSJG

### Heat Shrink Anti-tracking Insulation Tube



- Manufactured from cross linked polyolefin, inner coated with adhesive at one end
- Protecting against accidental flashover
- Used in medium voltage cable terminations up to 42 kV
- Shrink temperature: start at 90°C, and fully recovered at 130°C
- Color: red

Selection Table

Product No.	Inner Diameter		After Recovered Wall Thickness (±0.2mm)/mm	Standard Cut Length /mm	Standard Continuous Length (m/roll)
	As Supplied (Min) /mm	After Recovered (Max) /mm			
10kV WRSJG-30/12	30	12	2.2	600-1200	25
10kV WRSJG-35/14	35	14	2.3	600-1200	25
10kV WRSJG-38/17	38	17	2.3	600-1200	25
10kV WRSJG-50/22	50	22	2.4	600-1200	25
10kV WRSJG-55/24	55	24	3.2	600-1200	15
10kV WRSJG-70/29	70	29	3.2	600-1200	15
10kV WRSJG-80/35	80	35	3.2	600-1200	15
<b>20kV WRSJG Series</b>					
20kV WRSJG-35/14	35	14	3.0	600-1200	25
20kV WRSJG-38/15	38	15	3.0	600-1200	25
20kV WRSJG-50/19	50	19	3.0	600-1200	25
20kV WRSJG-55/24	55	24	3.2	600-1200	15
20kV WRSJG-60/26	60	26	3.2	600-1200	15
20kV WRSJG-70/29	70	29	3.2	600-1200	15
20kV WRSJG-80/35	80	35	3.2	600-1200	15
20kV WRSJG-89/41	89	41	3.5	600-1200	15

Product No.	Inner Diameter		After Recovered Wall Thickness (±0.2mm)/mm	Standard Cut Length /mm	Standard Continuous Length (m/roll)
	As Supplied (Min) /mm	After Recovered (Max) /mm			
<b>30kV WRSJG Series</b>					
30kV WRSJG-50/19	50	19	3.0	600-1200	25
30kV WRSJG-55/24	55	24	3.2	600-1200	15
30kV WRSJG-60/26	60	26	3.2	600-1200	15
30kV WRSJG-70/29	70	29	3.2	600-1200	15
30kV WRSJG-80/35	80	35	3.2	600-1200	15
30kV WRSJG-89/41	89	41	3.5	600-1200	15
30kV WRSJG-100/45	100	45	3.5	600-1200	15
<b>35kV WRSJG Series</b>					
35kV WRSJG-55/24	55	24	3.2	600-1200	15
35kV WRSJG-60/26	60	26	3.2	600-1200	15
35kV WRSJG-70/29	70	29	3.2	600-1200	15
35kV WRSJG-80/35	80	35	3.2	600-1200	15
35kV WRSJG-89/41	89	41	3.5	600-1200	15
35kV WRSJG-100/45	100	45	3.5	600-1200	15

**Technical Data**

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥10MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥8MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥230% (130°C, 168 hrs)
Dielectric Strength	IEC 60243	≥25kV/mm
Tracking Resistance	IEC 60587	1A 3.5
Volume Resistivity	IEC 60093	≥1 × 10 <sup>14</sup> Ω · cm
Dielectric Constant	IEC 60250	≤3.0
Water Absorption	ISO 62	≤0.5%
Copper Corrosion	ASTM-D-2671	No corrosion (130°C, 168 hrs)
Low Temperature Flexibility	ASTM-D-2671	No cracking (-40°C, 4 hrs)

**WDWT Heat Shrink Semi-conductive/Insulation Dual Layer Tube**



- The red inner layer is made of insulation material to provide good insulation
- The black outer layer is made of semi-conductive material to provide electrical shielding
- Suitable for applications in medium voltage cable joints up to 42 kV
- Shrink temperature: start at 90°C, and fully recovered at 130°C

**Selection Table**

Product No.	Inner Diameter		After Recovered Wall Thickness /mm			Standard Length /mm
	As Supplied (Min) /mm	After Recovered (Max) /mm	Total(±0.3)	Red layer (±0.2)	Black layer (±0.1)	
WDWT-30/12	30	12	5.8	5.0	0.8	300-1000
WDWT-35/13	35	13	5.8	5.0	0.8	300-1000
WDWT-45/16	45	16	5.8	5.0	0.8	300-1000
WDWT-50/16	50	16	5.8	5.0	0.8	300-1000
WDWT-55/20	55	20	5.8	5.0	0.8	300-1000
WDWT-60/20	60	20	5.8	5.0	0.8	300-1000
WDWT-65/26	65	26	5.8	5.0	0.8	300-1000
WDWT-85/29	85	29	7.3	6.5	0.8	300-1000
WDWT-90/29	90	29	7.3	6.5	0.8	300-1000
WDWT-100/37	100	37	7.3	6.5	0.8	300-1000
WDWT-120/45	120	45	7.3	6.5	0.8	300-1000

**Technical Data**

Property	Test Method	Standard Value
<b>Inner Insulation Layer (Red)</b>		
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥400%
Tensile Strength after Aging	ASTM-D-638	≥10MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥320% (130°C, 168hrs)
Volume Resistivity	IEC 60093	≥1 × 10 <sup>14</sup> Ω · cm
Dielectric Strength	IEC 60243	≥25kV/mm
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤30%
Water Absorption	ISO 62	≤0.5%
<b>Outer Semi-conductive Layer (Black)</b>		
Tensile Strength	ASTM-D-638	≥10MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥8MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥240% (130°C, 168hrs)
Volume Resistivity	IEC 60093	10 <sup>2</sup> -10 <sup>4</sup> Ω · cm
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤30%
Water Absorption	ISO 62	≤0.5%

## WRSHJG Heat Shrink Insulation Tube



- Manufactured from cross linked polyolefin
- Used in MV cable joints to provide electrical insulation up to 42 kV
- Shrink temperature: start at 90°C, and fully recovered at 130°C
- Color: red

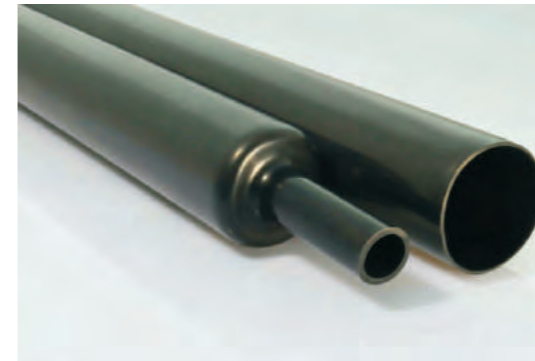
### Selection Table

Product No.	Inner Diameter		After Recovered Wall Thickness (±0.3)/mm	Standard Length /mm
	As Supplied (Min) /mm	After Recovered (Max) /mm		
WRSHJG-30/12	30	12	3.6	500-850
WRSHJG-35/14	35	14	3.8	500-850
WRSHJG-40/17	40	17	3.8	500-850
WRSHJG-45/17	45	17	3.8	500-850
WRSHJG-50/22	50	22	3.8	500-850
WRSHJG-55/25	55	25	3.8	500-850
WRSHJG-55/22	55	22	5.8	500-850
WRSHJG-60/25	60	25	5.8	500-850
WRSHJG-65/25	65	25	5.8	500-850
WRSHJG-70/29	70	29	5.8	500-850
WRSHJG-80/35	80	35	5.8	500-850
WRSHJG-85/38	85	38	5.8	500-850
WRSHJG-100/38	100	38	5.8	500-850
WRSHJG-120/41	120	41	5.8	500-850

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥400%
Tensile Strength after Aging	ASTM-D-638	≥10MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥250% (130°C, 168 hrs)
Dielectric Strength	IEC 60243	≥25kV/mm
Volume Resistivity	ASTM-D-2303	≥1 × 10 <sup>14</sup> Ω · cm
Dielectric Constant	ASTM-D-150	≤3.0
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤30%
Water Absorption	ISO 62	≤0.5%
Copper Corrosion	ASTM-D-2671	No corrosion (130°C, 168 hrs)
Low Temperature Flexibility	ASTM-D-2671	No cracking (-40°C, 4 hrs)

## WRSHG Heat Shrink Protective Tube



- Manufactured from cross linked polyolefin
- Providing outer sealing protection for power cable joints up to 42kV
- Used in 1kV cable joints and terminations to provide electrical insulation (Φ 50 and below)
- Outstanding abrasion and chemical resistance
- Inner coated with adhesive at both ends. Tubes inner coated with adhesive at full length are available upon customer request.
- Shrink temperature: start at 90°C, and fully recovered at 130°C
- Color: black, red, yellow, blue, green(Φ 50 and below); black only(above Φ 50). Other colors are available upon customer request.

### Selection Table

Product No.	Inner Diameter		After Recovered Wall Thickness (±0.2mm)/mm	Standard Cut Length /mm	Standard Continuous Length (m/roll)
	As Supplied (Min) /mm	After Recovered (Max) /mm			
WRSHG-10/5	10	5	1.3 ± 0.2	275-1000	25
WRSHG-15/6	15	6	1.2 ± 0.2	275-1000	25
WRSHG-20/8	20	8	1.7 ± 0.2	275-1000	25
WRSHG-30/11	30	11	1.8 ± 0.2	275-1000	25
WRSHG-35/13	35	13	2.0 ± 0.2	275-1000	25
WRSHG-40/17	40	17	2.2 ± 0.2	275-1000	25
WRSHG-45/17	45	17	2.2 ± 0.2	275-1000	25
WRSHG-50/22	50	22	2.6 ± 0.2	800-1200	25
WRSHG-60/22	60	22	2.6 ± 0.2	800-1200	25
WRSHG-80/29	80	29	2.9 ± 0.2	800-1200	25
WRSHG-85/29	85	29	2.9 ± 0.2	800-1200	25
WRSHG-100/38	100	38	3.1 ± 0.2	800-1200	15
WRSHG-120/45	120	45	3.1 ± 0.2	800-1200	15
WRSHG-140/49	140	49	3.6 ± 0.3	800-1200	15
WRSHG-160/56	160	56	3.6 ± 0.3	800-1200	15
WRSHG-180/61	180	61	3.9 ± 0.3	800-1200	15
WRSHG-200/70	200	70	4.4 ± 0.3	800-1200	15
WRSHG-225/70	225	70	4.4 ± 0.3	800-1200	15
WRSHG-240/89	240	89	4.4 ± 0.3	800-1200	15
WRSHG-290/100	290	100	4.4 ± 0.3	800-1200	15
WRSHG-350/152	350	152	3.0 ± 0.4	800-1200	15
WRSHG-400/171	400	171	3.0 ± 0.4	800-1200	15
WRSHG-450/210	450	210	3.2 ± 0.4	800-1200	15
WRSHG-500/210	500	210	3.2 ± 0.4	800-1200	15
WRSHG-600/210	600	210	3.9 ± 0.4	800-1200	15

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥10MPa (130°C,168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥230% (130°C,168hrs)
Volume Resistivity	IEC 60093	≥1 × 10 <sup>13</sup> Ω · cm
Dielectric Strength	IEC 60243	≥15kV/mm
Longitudinal Shrinkage	ASTM-D-2671	≤5%
Eccentricity	ASTM-D-2671	≤30% (Φ200 and below) ≤40% (Above Φ200)
Water Absorption	ISO 62	≤0.5%
Low Temperature Flexibility	ASTM-D-2671	No cracking (-40°C, 4 hrs)

## SBRSM Medium Wall Adhesive Lined Heat Shrinkable Tubing



Medium wall heat shrinkable tubing suitable for a variety of low voltage electrical and mechanical application, where lighter weight and greater flexibility are important.

- Flame retardant
- Seals and protects cable splices and terminations
- High resistance to impact and abrasion
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous Operating
- Temperature: -45°C to 125°C
- Shrink Temperature: 125°C

### Selection Table

Size mm	As Supplied Internal Diameter	After Recovery(mm)				Standard Length (m/pc)
		Internal Diameter	Out Layer Wall Thickness	Adhesive Layer Wall Thickness	Total Wall Thickness	
10.2/3.0	≥10.2	≤ 3.0	1.4±0.20	0.35±0.10	1.75±0.25	1.22
16.0/5.0	≥16.0	≤ 5.0	1.5±0.20	0.40±0.10	1.90±0.25	1.22
19.1/5.6	≥19.1	≤ 5.6	2.0±0.20	0.45±0.10	2.45±0.25	1.22
25.0/8.0	≥25.0	≤ 8.0	2.0±0.20	0.45±0.10	2.45±0.25	1.22
28.0/6.0	≥28.0	≤ 6.0	2.5±0.20	0.65±0.10	3.10±0.30	1.22
28.0/9.0	≥28.0	≤ 9.0	2.0±0.20	0.50±0.10	2.60±0.25	1.22
35.0/10.2	≥35.0	≤ 10.2	2.2±0.20	0.50±0.10	2.70±0.25	1.22
38.1/12.0	≥38.1	≤ 12.0	2.2±0.20	0.50±0.10	2.70±0.25	1.22
43.2/12.7	≥43.2	≤ 12.7	2.2±0.20	0.50±0.10	2.70±0.25	1.22
52.1/16.0	≥52.1	≤ 16.0	2.3±0.25	0.50±0.15	2.80±0.30	1.22
63.0/19.0	≥63.0	≤ 19.0	2.5±0.25	0.50±0.15	3.00±0.30	1.22
75.0/22	≥75.0	≤ 22.0	2.6±0.25	0.50±0.15	3.00±0.30	1.22
85.0/25.0	≥85.0	≤ 25.0	2.8±0.30	0.50±0.15	3.30±0.30	1.22
95.0/29.0	≥95.0	≤ 29.0	3.1±0.30	0.60±0.20	3.70±0.35	1.22
115.0/43.0	≥115.0	≤ 34.0	3.1±0.30	0.60±0.20	3.70±0.35	1.22
140.0/42.0	≥140.0	≤ 42.0	3.1±0.30	0.60±0.20	3.70±0.35	1.22

Note: Tubing without adhesive is available upon request

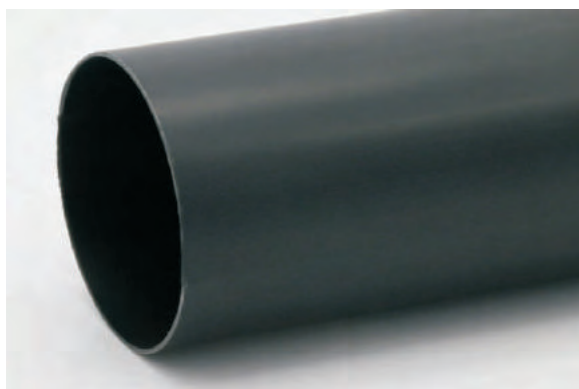
### Technical Data

Property	Test Method	Standard
Tensile Strength(Mpa)	ASTM D2671	≥10.4
Elongation(%)	ASTM D2671	≥300
Density(g/cm <sup>3</sup> )	ASTM D792	1.2
Longitudinal change(%)	UL 224	≤ ± 10
Elongation after aging(%)	UL224 158°CX168hrs	≥200
Heat shock	UL224 225°CX4hrs	No cracking
Dielectric strength(kv/mm)	IEC 243	≥20
Volume resistivity(Ω · cm)	IEC 93	≥10 <sup>14</sup>
Water absorption(%)	ASTM-D570	≤0.5

### Hot Melt Adhesive Property

Property	Test Method	Standard
Water Absorption	ASTM D570	≤0.2%
Sofening Point	ASTM E28	95°C
Peel Strength(PE)	ASTM D 1000	120N/25mm
Peel Strength(AL)	ASTM D 1000	80N/25mm

## SBRSW Heavy Wall Adhesive Lined Heat Shrinkable Tubing



Heavy wall heat shrinkable tubing provides maximum reliability for insulation and protecting cable joints and terminations

- Flame retardant
- Withstands severe mechanical requirements
- Rated for 600V,90°C ,continuous use
- Optional thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous Operation
- Temperature: -45°C to 125°C
- Shrink Temperature:125°C

### Selection Table

Size	As Supplied	After Recovery				Standard Length (m/pc)
		Internal Diameter	Internal Diameter	Out Layer Wall Thickness	Adhesive Layer Wall Thickness	
9.0/3.0	≥ 9.0	≤ 3.0	2.0±0.20	0.35±0.10	2.30 ± 0.25	1.22
13.0/4.0	≥ 13.0	≤ 4.0	2.4±0.20	0.35±0.10	2.75 ± 0.25	1.22
20.0/6.0	≥ 20.0	≤ 6.0	2.5±0.20	0.40±0.10	2.90 ± 0.25	1.22
28.0/9.0	≥ 28.0	≤ 9.0	2.5±0.20	0.40±0.10	2.90 ± 0.25	1.22
33.0/10.2	≥ 33.0	≤ 10.2	3.2±0.25	0.40±0.10	3.60 ± 0.25	1.22
38.1/12.0	≥ 38.1	≤ 12.0	3.4±0.20	0.60±0.15	4.00 ± 0.35	1.22
43.2/12.7	≥ 43.2	≤ 12.0	4.3±0.20	0.70±0.35	5.00 ± 0.35	1.22
51.0/16.0	≥ 51.0	≤ 16.0	4.3±0.20	0.70±0.35	5.00 ± 0.35	1.22
70.0/21.0	≥ 70.0	≤ 21.0	4.3±0.20	0.70±0.35	5.00 ± 0.35	1.22
85.0/25.0	≥ 85.0	≤ 25.0	4.3±0.20	0.70±0.35	5.00 ± 0.35	1.22
105.0/30.0	≥ 105.0	≤ 30.0	4.3±0.20	0.80±0.35	5.10 ± 0.35	1.22
120.0/39.0	≥ 120.0	≤ 39.0	4.3±0.20	0.50±0.35	5.10 ± 0.35	1.22
140.0/42.0	≥ 140.0	≤ 42.0	4.3±0.20	0.60±0.35	5.10 ± 0.35	1.22

Note: Tubing without adhesive is available upon request

### Technical Date

Property	Test Method	Standard
Tensile Strength(Mpa)	ASTM D2671	≥10.4
Elongation(%)	ASTM D2671	≥300
Density(g/cm <sup>3</sup> )	ASTM D792	1.2
Longitudinal change(%)	UL 224	≤ ± 10
Elongation after aging(%)	UL224 158°CX168hrs	≥200
Heat shock	UL224 225°CX4hrs	No cracking
Dielectric strength(kv/mm)	IEC 243	≥20
Volume resistivity(Ω · cm)	IEC 93	≥1 × 10 <sup>14</sup>
Water absorption(%)	ASTM-D570	≤0.5

### Hot Melt Adhesive Property

Property	Test Method	Standard
Water Absorption	ASTM D570	≤0.2%
Sofening Point	ASTM E28	95°C
Peel Strength(PE)	ASTM D 1000	120N/25mm
Peel Strength(AL)	ASTM D 1000	80N/25mm

## SBRSM-NF Medium Wall Adhesive Lined Heat Shrinkable Tubing



Adhesive-lined medium wall heat shrinkable tube is produced by high quality polyolefin and hot melt adhesive through double-layer co-extrusion process. The outer layer of this tube has high physical and chemical properties, and good contraction, and so on.

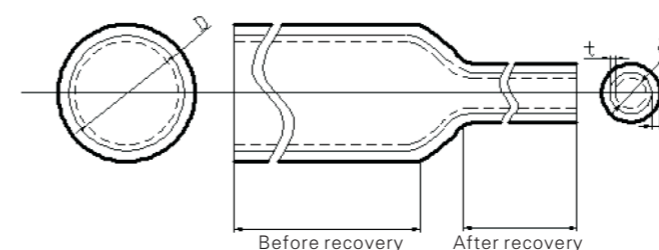
- Anti-UV light, excellent waterproof, moisture-proof, and sealing and insulating performance.
- Minimum shrink temperature: 70°C
- Minimum fully recovery temperature: 125°C
- Operating temperature: -45°C~110°C
- Shrink ratio: 3: 1
- Environmental standards: RoHS
- Color: Black

### Technical Date

Property	Test Method	Standard
Tensile Strength(MPa)	ASTM D2671	≥14
Elongation(%)	ASTM D2671	≥400
Tensile Strength After Aging(MPa)	UL224 158°CX168hrs	≥12
Elongation at Break After Aging(%)	UL224 158°CX168hrs	≤300
Longitudinal Shrink Ratio(%)	UL224	≤±10
Dielectric Strength(kv/mm)	IEC 243	≥20
Volume Resistivity(Ω .cm)	IEC 93	≥1 × 10 <sup>14</sup>
Water Absorption(%)	ASTM D570	< 0.5
Operation Temperature	-45°C~110°C	
Shrink Temperature	70°C~125°C	
Environmental Standard	ROHS Compliant	
Standard Color	Black(others colors are available upon request )	

### Adhesive Property

Property	Test Method	Standard
Water Absorption	ASTM D570	≤0.2%
Sofening Point	ASTM E28	95°C
Peel Strength(PE)	ASTM D 1000	120N/25mm
Peel Strength(AL)	ASTM D 1000	80N/25mm



**Selection Table**

Size (mm)	Diameter As Supplied(mm)	After Recovery(mm)				Standard Length (m/pc)
	Min ID D	Max ID d	Out Layer T	Adhesive Thickness t	Total W.T T+t	
8.0/2.0	≥8.0	≤2.0	1.80 ± 0.30	0.55 ± 0.20	2.35 ± 0.35	1.22
9.0/3.0	≥9.0	≤3.0	2.00 ± 0.30	0.55 ± 0.20	2.55 ± 0.40	1.22
13.0/4.0	≥13.0	≤4.0	2.30 ± 0.30	0.55 ± 0.20	2.85 ± 0.40	1.22
16.0/5.0	≥16.0	≤5.0	2.30 ± 0.30	0.60 ± 0.20	2.90 ± 0.50	1.22
22.0/6.0	≥22.0	≤6.0	2.50 ± 0.40	0.60 ± 0.20	3.10 ± 0.50	1.22
28.0/6.0	≥28.0	≤6.0	2.70 ± 0.40	0.70 ± 0.25	3.40 ± 0.50	1.22
33.0/8.0	≥33.0	≤8.0	2.80 ± 0.40	0.80 ± 0.25	3.60 ± 0.60	1.22
38.1/12.0	≥38.1	≤12.0	3.10 ± 0.50	0.80 ± 0.25	3.90 ± 0.60	1.22
43.2/12.7	≥43.2	≤12.0	3.50 ± 0.50	0.80 ± 0.25	4.30 ± 0.70	1.22
55.0/16.0	≥55.0	≤16.0	3.60 ± 0.50	0.80 ± 0.25	4.40 ± 0.70	1.22
65.0/19.1	≥63.0	≤19.0	3.60 ± 0.50	0.80 ± 0.25	4.40 ± 0.70	1.22
75.0/22.0	≥75.0	≤22.0	3.60 ± 0.50	0.80 ± 0.25	4.40 ± 0.70	1.22
85.0/25.0	≥85.0	≤25.0	3.60 ± 0.50	0.80 ± 0.25	4.40 ± 0.70	1.22
95.0/30.0	≥95.0	≤30.0	3.60 ± 0.50	0.80 ± 0.25	4.40 ± 0.70	1.22
105.0/30.0	≥105.0	≤30.0	3.80 ± 0.60	0.80 ± 0.25	4.60 ± 0.70	1.22
120/34.0	≥120.0	≤39.0	3.80 ± 0.60	0.80 ± 0.25	4.60 ± 0.70	1.22
130/36.0	≥130.0	≤40.0	3.80 ± 0.60	0.80 ± 0.25	4.60 ± 0.70	1.22
140/42.0	≥140.0	≤42.0	3.80 ± 0.60	0.80 ± 0.25	4.60 ± 0.70	1.22
160/50.0	≥160.0	≤50.0	3.80 ± 0.60	0.80 ± 0.25	4.60 ± 0.70	1.00
180/58.0	≥180.0	≤60.0	3.80 ± 0.60	0.80 ± 0.25	4.60 ± 0.70	1.00
200/69.0	≥200.0	≤69.0	3.80 ± 0.60	0.80 ± 0.25	4.60 ± 0.70	1.00
230/78.0	≥230.0	≤78.0	4.10 ± 0.60	0.80 ± 0.25	4.90 ± 0.70	1.00

**SBRSW-NF Heavy Wall Adhesive Lined Heat Shrinkable Tubing**



Adhesive-lined heavy wall heat shrinkable tube is produced by high quality polyolefin and hot melt adhesive through double-layer co-extrusion process. The outer layer of this tube has high physical and chemical properties, and good contraction, and so on.

- Anti-UV light, excellent waterproof, moisture-proof, and sealing and insulating performance.
- Minimum shrink temperature: 70°C
- Minimum fully recovery temperature: 125°C
- Operating temperature: -45°C~110°C
- Shrink ratio: 3: 1
- Environmental standards: RoHS
- Color: Black

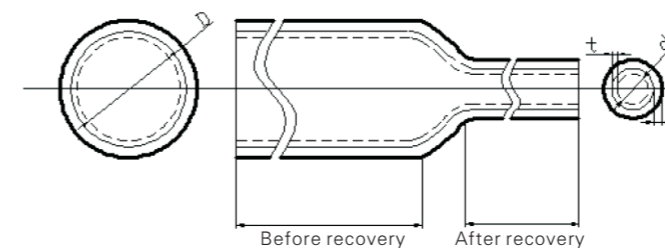
**Technical Date**

Property	Test Method	Standard
Tensile Strength(MPa)	ASTM D2671	≥14
Elongation(%)	ASTM D2671	≥400
Tensile Strength After Aging(MPa)	UL224 158°CX168hrs	≥12
Elongation at Break After Aging(%)	UL224 158°CX168hrs	≤300
Longitudinal Shrink Ratio(%)	UI224	≤±10
Dielectric strength(kV/mm)	IEC 243	≥20
Volume Resistivity(Ω.cm)	IEC 93	≥1 × 10 <sup>14</sup>
Water absorption(%)	ASTM D570	< 0.5
Operation Temperature	-45°C~110°C	
Shrink Temperature	70°C~125°C	
Environmental Standard	ROHS Compliant	
Standard Color	Black(other colors are available upon request )	

Material: (1)EVA; (2)hot-melt adhesive

**Adhesive Property**

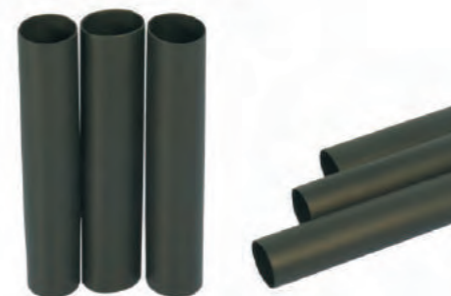
Property	Test Method	Standard
Water Absorption	ASTM D570	≤0.2%
Sofening Point	ASTM E28	95°C
Peel Strength(PE)	ASTM D 1000	120N/25mm
Peel Strength(AL)	ASTM D 1000	80N/25mm



**Selection Table**

Size (mm)	Diameter As Supplied(mm)	After Recovery(mm)				Standard Length (m/pc)
	Min ID D	Max ID d	Out Layer T	Adhesive Thickness t	Total W.T T+t	
8.0/2.0	≥8.0	≤2.0	1.40 ± 0.20	0.45 ± 0.10	1.85 ± 0.25	1.22
10.2/3.0	≥10.0	≤3.0	1.40 ± 0.20	0.50 ± 0.10	1.90 ± 0.25	1.22
12.0/3.0	≥12.0	≤3.0	1.40 ± 0.20	0.50 ± 0.10	1.90 ± 0.25	1.22
16.0/5.0	≥16.0	≤5.0	1.50 ± 0.20	0.55 ± 0.10	2.15 ± 0.25	1.22
19.1/5.6	≥19.1	≤5.6	1.80 ± 0.20	0.60 ± 0.15	2.40 ± 0.25	1.22
22.0/6.0	≥22.0	≤6.0	2.00 ± 0.20	0.60 ± 0.15	2.60 ± 0.25	1.22
25.4/8.0	≥25.4	≤8.0	2.40 ± 0.20	0.60 ± 0.15	2.60 ± 0.25	1.22
28.0/6.0	≥28.0	≤6.0	2.40 ± 0.30	0.95 ± 0.20	3.30 ± 0.35	1.22
33.0/8.0	≥33.0	≤8.0	2.50 ± 0.30	0.80 ± 0.15	3.30 ± 0.35	1.22
38.1/12.0	≥38.1	≤12.0	2.40 ± 0.30	0.80 ± 0.15	3.30 ± 0.35	1.22
43.2/12.7	≥43.2	≤12.7	2.40 ± 0.30	0.80 ± 0.15	3.30 ± 0.35	1.22
56.0/16.0	≥56.0	≤16.0	2.40 ± 0.30	0.80 ± 0.15	3.30 ± 0.35	1.22
65.0/19.0	≥65.0	≤19.0	2.50 ± 0.30	0.80 ± 0.15	3.30 ± 0.40	1.22
75.0/22.0	≥75.0	≤22.0	2.90 ± 0.30	0.80 ± 0.15	3.70 ± 0.40	1.22
85.0/25.0	≥85.0	≤25.0	2.90 ± 0.30	0.80 ± 0.15	3.70 ± 0.40	1.22
95.0/30.0	≥95.0	≤30.0	3.00 ± 0.30	0.80 ± 0.15	3.80 ± 0.40	1.22
115/34.0	≥115.0	≤34.0	3.00 ± 0.30	0.80 ± 0.15	3.80 ± 0.40	1.22
130/36.0	≥130.0	≤36.0	3.00 ± 0.30	0.80 ± 0.15	3.80 ± 0.40	1.22
140/42.0	≥140.0	≤42.0	3.00 ± 0.30	0.80 ± 0.15	3.80 ± 0.40	1.22
160/50.0	≥160.0	≤50.0	3.10 ± 0.30	0.80 ± 0.15	3.90 ± 0.40	1
180/58.0	≥180.0	≤58.0	3.10 ± 0.30	0.80 ± 0.15	3.90 ± 0.40	1

**WRSYL Heat Shrink Stress Control Tube**



- Manufactured from cross linked polyolefin
- Providing effective electrical stress control for MV cable terminations and joints up to 42 kV
- Continuous operation temperature: -40°C to 100°C
- Shrink temperature: start at 90°C, and fully recovered at 130°C
- Color: black

**Selection Table**

Product No.	Inner Diameter		After Recovered Wall Thickness (±0.2mm)/mm	Standard Cut Length /mm	Standard Continuous Length (m/roll)
	As Supplied (Min) /mm	After Recovered (Max) /mm			
10kV WRSYL-30/11	30	11	2.0	100-1200	25
10kV WRSYL-35/14	35	14	2.0	100-1200	25
10kV WRSYL-40/17	40	17	2.0	100-1200	25
10kV WRSYL-45/19	45	19	2.0	100-1200	25
10kV WRSYL-55/25	55	25	3.2	100-1200	15
10kV WRSYL-60/25	60	25	2.3	100-1200	15
10kV WRSYL-70/29	70	29	3.2	100-1200	15
<b>20kV WRSYL Series</b>					
20kV WRSYL-35/14	35	14	2.0	100-1200	25
20kV WRSYL-40/17	40	17	2.0	100-1200	25
20kV WRSYL-45/19	45	19	2.0	100-1200	25
20kV WRSYL-55/24	55	24	3.2	100-1200	15
20kV WRSYL-60/25	60	25	2.3	100-1200	15
20kV WRSYL-70/29	55	19	3.2	100-1200	15
<b>30kV WRSYL Series</b>					
30kV WRSYL-45/19	45	19	2.0	100-1200	15
30kV WRSYL-55/24	55	24	3.2	100-1200	15
30kV WRSYL-70/29	70	29	3.2	100-1200	15
30kV WRSYL-85/40	85	40	3.5	100-1200	15
30kV WRSYL-90/40	90	40	3.5	100-1200	15
<b>35kV WRSYL Series</b>					
35kV WRSYL-45/19	45	19	2.0	100-1200	15
35kV WRSYL-55/24	55	24	3.2	100-1200	15
35kV WRSYL-70/29	70	29	3.2	100-1200	15
35kV WRSYL-85/40	85	40	3.5	100-1200	15
35kV WRSYL-90/40	90	40	3.5	100-1200	15

**Technical Data**

Property	Test Method	Standard
Tensile Strength	ASTM-D-638	≥10MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥8MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥240% (130°C, 168 hrs)
Dielectric Constant	IEC 60250	15~25
Volume Resistivity	IEC 60093	≥1 × 10 <sup>10</sup> Ω · cm
Longitudinal Shrinkage	ASTM-D-2671	≤5%
Eccentricity	ASTM-D-2671	≤30%
Water Absorption	ISO 62	≤0.5%



## WRSBG Heat Shrink Semi-conductive Tube



- Manufactured from cross linked semi-conductive polyolefin
- Shrink temperature: start at 90°C, and fully recovered at 130°C
- Color: black

### Selection Table

Product No.	Inner Diameter		After Recovered Wall Thickness /mm (±0.2mm)	Standard Cut Length/mm	Standard Continuous Length (m/roll)
	As Supplied (Min) /mm	After Recovered (Max) /mm			
WRSBG-45/17	45	17	2.3	400-1200	25
WRSBG-50/17	50	17	2.3	400-1200	25
WRSBG-50/19	50	19	2.3	400-1200	25
WRSBG-55/19	55	19	2.3	400-1200	25
WRSBG-55/23	55	23	2.3	400-1200	25
WRSBG-60/23	60	23	2.3	400-1200	25
WRSBG-60/25	60	25	2.3	400-1200	25
WRSBG-65/25	65	25	2.3	400-1200	25
WRSBG-75/29	75	29	2.8	400-1200	25
WRSBG-80/29	80	29	2.8	400-1200	25
WRSBG-85/29	85	29	2.8	400-1200	15
WRSBG-100/29	100	29	2.8	400-1200	15
WRSBG-100/35	100	35	2.8	400-1200	15
WRSBG-120/35	120	35	2.8	400-1200	15

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥13MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥10.5MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥240% (130°C, 168 hrs)
Volume Resistivity	IEC 60093	≤1 × 10 <sup>3</sup> Ω · cm
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤30%
Water Absorption	ISO 62	≤0.5%

## SBRS-HRT High-Ratio, Thick-Wall Heat Shrink Tube



- High shrink ratio up to 5.5:1
- Designed to accommodate large size differences between cables and cable connectors and backshells, thus simplifying repair of damaged cable.
- Conforms well to highly variable substrate dimensions
- Inner coated with waterproofing sealant, providing environmental sealing protection.
- Provides excellent insulation and abrasion protection.
- Offers toughness and durability.
- RoHS compliant.
- Continuous operation temperature: -55°C to 105°C
- Shrink temperature: start at 90°C, and fully recovered at 130°C
- Standard color: Black.

### Selection Table

Product No.	As supplied/mm	After Recovered /mm		Standard Length /mm
	Inner Diameter Min.	Inner Diameter Max.	Wall Thickness Min.	
Φ15	15	4	2.0	300
Φ32	32	6	2.8	300
Φ44	44	8	3.0	300
Φ51	51	10	3.0	300
Φ64	64	13	4.0	300
Φ76	76	19	4.0	300
Φ102	102	23	4.0	300

Note: Other colors, sizes and lengths are available on request.

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥11.93MPa
Elongation at Break	ASTM-D-638	≥532%
Tensile Strength after Aging	ASTM-D-638	≥13.66MPa (150°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥453% (150°C, 168 hrs)
Volume Resistivity	IEC 60093	≥8.84 × 10 <sup>15</sup> Ω · cm
Dielectric Strength	IEC 60243	≥26 kV/mm
Longitudinal Shrinkage	UL 224	≤10%
Heat shock (225°C, 4hrs)	ASTM-D-2671	No cracks, flowing or dripping

## WRSGY Heat Shrink Oil-resistant Tube



- Manufactured from cross-linked polyolefin.
- Mainly used in PILC cable terminations and joints, offering oil resistance, insulation and sealing protection.

### Selection Table

Product No.	Inner Diameter		After Recovered Wall Thickness /mm (±0.2mm) Nom./mm	Standard Length /mm
	As Supplied (Min) /mm	After Recovered (Max) /mm		
WRSGY-30/11	30	11	1.8	300-1000
WRSGY-35/12	35	12	2.0	300-1000
WRSGY-40/17	40	17	2.2	300-1000
WRSGY-30/12	30	12	3.7	300-1000
WRSGY-40/14	40	14	3.7	300-1000
WRSGY-50/22	50	22	3.7	300-1000
WRSGY-85/29	85	29	2.8	300-1000
WRSGY-100/38	100	38	3.0	300-1000
WRSGY-120/45	120	45	3.0	300-1000

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥10MPa
Elongation at Break	ASTM-D-638	≥350%
Tensile Strength after Aging	ASTM-D-638	≥8MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥280% (130°C, 168 hrs)
Oil Resistance (Tensile Strength after Dipping)	ASTM-D-638	≥8MPa(70°C cable oil, 168hrs)
Oil Resistance (Elongation at Break after Dipping)	ASTM-D-638	≥280%(70°C cable oil, 168hrs)
Volume Resistivity	IEC 60093	≥1 × 10 <sup>13</sup> Ω · cm
Dielectric Strength	IEC 60243	≥20 kV/mm
Water Absorption	ISO 62	≤ 0.5%

## WMPG Heat Shrink Busbar Tube



- Manufactured from cross linked polyolefin
- Used to offer insulation protection for busbar in switchgear and substation
- Protects against short circuit and electrical leakage cause by small animals
- Reduces busbar clearance requirements
- RoHS compliant
- Shrink temperature: start at 70°C, and fully recovered at 125°C
- Color: yellow, red, green, blue, black

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	GB/T 1040	≥8MPa
Elongation at Break	GB/T 1040	≥300%
Tensile Strength after Aging	GB/T 1040, GB/T 7141	≥6.4MPa (130°C, 168 hrs)
Elongation at Break after Aging	GB/T 1040, GB/T 7141	≥100% (130°C, 168 hrs)
Hardness (Shore A)	ISO 868	≥90
Dielectric Strength	IEC 60243	≥25kV/mm
Volume Resistivity	IEC 60093	≥1 × 10 <sup>14</sup> Ω · cm
Dielectric Constant	IEC 60250	≤3.0
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤30%(10kV); ≤50%(35kV)
Water Absorption	ISO 62	≤0.5%
Flammability (Oxygen Index)	ISO 4589	≥28
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤30%(10kV); ≤50%(35kV)
Water Absorption	ISO 62	≤0.5%



### 1kV WMPG Series

Product No.	Busbar Width (square)/mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
1kV WMPG 30	30	31.5±1.0	0.50±0.15	≤15	0.95±0.15	50
1kV WMPG 35	35	36.5±1.5	0.50±0.15	≤16	1.00±0.15	50
1kV WMPG 40	40	41.5±1.5	0.55±0.15	≤20	1.00±0.15	25
1kV WMPG 45	45	41.5±1.5	0.55±0.15	≤23	1.00±0.15	25
1kV WMPG 50	50	51.0±2.0	0.55±0.15	≤25	1.00±0.15	25
1kV WMPG 60	60	60.0±3.0	0.60±0.20	≤30	1.30±0.20	25
1kV WMPG 65*	65	65.0±3.0	0.60±0.20	≤33	1.30±0.20	25
1kV WMPG 70	70	70.0±3.0	0.65±0.20	≤35	1.30±0.20	25
1kV WMPG 75*	75	75.0±3.0	0.65±0.20	≤38	1.30±0.20	25
1kV WMPG 80	80/100	80.0±3.0	0.65±0.20	≤40	1.46±0.20	25
1kV WMPG 85*	80/100	85.0±3.0	0.65±0.20	≤43	1.46±0.20	25
1kV WMPG 90	100	90.0±4.0	0.65±0.20	≤45	1.46±0.20	25
1kV WMPG 100	100/200	100.0±4.0	0.65±0.20	≤50	1.46±0.20	25
1kV WMPG 120	150	120.0±4.0	0.65±0.20	≤60	1.46±0.20	25
1kV WMPG 150	180	150.0±4.0	0.65±0.20	≤75	1.46±0.20	25
1kV WMPG 180	MAX	180.0±4.0	0.65±0.20	≤90	1.46±0.20	25
1kV WMPG 210*	MAX	210.0±4.0	0.65±0.20	≤105	1.46±0.20	25
1kV WMPG 230*	MAX	230.0±4.0	0.65±0.20	≤115	1.46±0.20	25
1kV WMPG 250*	MAX	250.0±5.0	0.65±0.20	≤125	1.46±0.20	25
1kV WMPG 300*	MAX	300.0±5.0	0.65±0.20	≤150	1.46±0.20	25

### 10kV WMPG Series

Product No.	Busbar Width (square/circular)/mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
10kV WMPG 15/8	15/12	15.0±0.8	1.20±0.30	≤8	2.10±0.30	25
10kV WMPG 20/10	20/15	20.0±0.8	1.20±0.30	≤10	2.10±0.30	25
10kV WMPG 25/12	25/18	25.0±0.8	1.20±0.30	≤12.5	2.10±0.30	25
10kV WMPG 30/15	32/20	30.0±0.8	1.20±0.30	≤15	2.10±0.30	25
10kV WMPG 40/20	40/30	40.0±1.0	1.20±0.30	≤20	2.30±0.30	25
10kV WMPG 50/25	50/35	50.0±3.0	1.20±0.30	≤25	2.30±0.30	25
10kV WMPG 60/30	60/45	60.0±3.0	1.20±0.30	≤30	2.30±0.30	25
10kV WMPG 65/33*	65/45	65.0±3.0	1.20±0.30	≤33	2.30±0.30	25
10kV WMPG 70/35	70/50	70.0±3.0	1.20±0.30	≤35	2.30±0.30	25
10kV WMPG 75/38*	75/50	75.0±3.0	1.20±0.30	≤38	2.30±0.30	25
10kV WMPG 80/40	80/55	80.0±3.0	1.20±0.30	≤40	2.30±0.30	25
10kV WMPG 85/43*	80/65	85.0±3.0	1.20±0.30	≤43	2.40±0.30	25
10kV WMPG 100/50	100/75	100.0±4.0	1.20±0.30	≤50	2.40±0.30	25
10kV WMPG 120/60	120/85	120.0±4.0	1.20±0.30	≤60	2.40±0.30	25
10kV WMPG 150/75	150/105	150.0±4.0	1.20±0.30	≤75	2.40±0.30	25
10kV WMPG 180/90	180/120	180.0±5.0	1.20±0.30	≤90	2.40±0.30	25
10kV WMPG 210/105*	210/140	210.0±5.0	1.20±0.40	≤105	2.40±0.30	20
10kV WMPG 230/115*	230/150	230.0±5.0	1.20±0.40	≤115	2.40±0.30	20
10kV WMPG 250/125*	250/180	250.0±5.0	1.20±0.40	≤125	2.40±0.30	20
10kV WMPG 300/150*	300/210	300.0±5.0	1.20±0.40	≤150	2.40±0.30	15

### 20kV WMPG Series

Product No.	Busbar Width (square/circular)/mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
20kV WMPG 15/8	15/12	15.0±0.8	1.30±0.30	≤8	2.50±0.20	25
20kV WMPG 20/10	20/15	20.0±0.8	1.30±0.30	≤10	2.50±0.20	25
20kV WMPG 25/13	25/18	25.0±0.8	1.30±0.30	≤13	2.50±0.20	25
20kV WMPG 30/15	32/20	30.0±0.8	1.30±0.30	≤15	2.50±0.20	25
20kV WMPG 40/20	40/30	40.0±1.0	1.40±0.40	≤20	2.80±0.30	25
20kV WMPG 50/25	50/35	50.0±2.0	1.40±0.40	≤25	2.80±0.30	25
20kV WMPG 60/30	60/45	60.0±3.0	1.40±0.40	≤30	2.80±0.30	25
20kV WMPG 65/33*	65/45	65.0±3.0	1.40±0.40	≤33	2.80±0.30	25
20kV WMPG 70/35	70/50	70.0±3.0	1.40±0.40	≤35	2.80±0.30	25
20kV WMPG 75/38	75/50	75.0±3.0	1.40±0.40	≤38	2.80±0.30	25
20kV WMPG 80/40	80/55	80.0±3.0	1.40±0.40	≤40	2.80±0.30	25
20kV WMPG 85/43*	80/65	85.0±3.0	1.40±0.40	≤43	2.80±0.30	25
20kV WMPG 100/50	100/75	100.0±4.0	1.40±0.40	≤50	2.80±0.30	25
20kV WMPG 120/60	120/85	120.0±4.0	1.40±0.40	≤60	2.80±0.30	25
20kV WMPG 150/75	150/105	150.0±4.0	1.40±0.40	≤75	2.80±0.30	25
20kV WMPG 180/90	180/120	180.0±5.0	1.40±0.40	≤90	2.80±0.30	25
20kV WMPG 210/105*	210/40	210.0±5.0	1.40±0.40	≤105	2.80±0.30	20
20kV WMPG 230/115*	230/150	230.0±5.0	1.40±0.40	≤115	2.80±0.30	20

### 35kV WMPG Series

Product No.	Busbar Width (square)/mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
35kV WMPG 30/15	30	30.0±1.0	1.90±0.50	≤15	4.00±0.30	15
35kV WMPG 35/18	30/40	35.0±1.0	1.90±0.50	≤18	4.00±0.30	15
35kV WMPG 40/20	40	40.0±1.0	1.90±0.50	≤20	4.00±0.30	15
35kV WMPG 50/25	50	50.0±2.0	1.90±0.50	≤25	4.00±0.30	15
35kV WMPG 60/30	60	60.0±3.0	1.90±0.50	≤30	4.00±0.30	15
35kV WMPG 65/32*	60/70	65.0±3.0	1.90±0.50	≤33	4.00±0.30	15
35kV WMPG 70/35	70	70.0±3.0	1.90±0.50	≤35	4.00±0.30	15
35kV WMPG 75/38*	70/80	75.0±3.0	1.90±0.50	≤38	4.00±0.30	15
35kV WMPG 80/40	80/100	80.0±4.0	1.90±0.50	≤40	4.00±0.30	15
35kV WMPG 100/50	100/120	100.0±4.0	1.90±0.50	≤50	4.00±0.30	15
35kV WMPG 120/60	150	120.0±4.0	1.90±0.50	≤60	4.00±0.30	15
35kV WMPG 150/75	180	150.0±4.0	1.90±0.50	≤75	4.00±0.30	15
35kV WMPG 180/90*	MAX.	180.0±5.0	1.90±0.50	≤90	4.00±0.30	15
35kV WMPG 210/105*	MAX.	210.0±5.0	1.90±0.50	≤105	4.00±0.30	15
35kV WMPG 230/115*	MAX.	230.0±5.0	1.90±0.50	≤115	4.00±0.30	15
35kV WMPG 250/125*	MAX.	250.0±5.0	1.90±0.50	≤125	4.00±0.30	15
35kV WMPG 300/150*	MAX.	300.0±5.0	1.90±0.50	≤150	4.00±0.30	15

Note: Size with \* are not standard stock items.

## RSFRNH-BTM Medium Voltage Cross-linked Polyolefin Bus Bar Tubing



- Flame Retarded
- Reduces bus bar clearance requirements
- Protect against accidental flashover
- Anti-track
- Halogen free
- Tested to IEC60684 standards for medium voltage switch-gear applications to above 20KV
- Continuous Operating Temperature: -40 °C to 10°C , can be used in 175°C
- Shrink Temperature: 120°C

RSFRNH-BTM is made from specially formulated radiation cross-linked halogen free compounds. It can provide high resistance to tracking and arcing, as well as to enhance the insulation properties of bus-bar in switchgear and substation. Suitable for application in insulating medium voltage bus bars, cable termination and joints from 1KV to 24KV.

### Selection Table

Normal size (mm)	As supplied (mm) Inside diameter (Min)	After recovered (mm)		Standard length m/Roll
		Inside diameter(Max)	Wall thickness (Min)	
Φ20/6	20	6	2.2±0.3	25
Φ28/9	28	9	2.6±0.3	25
Φ33/10	33	10	2.8±0.3	25
Φ40/12	40	12	2.8±0.3	25
Φ45/14	45	14	3.0±0.3	25
Φ55/16	55	16	3.0±0.3	25
Φ65/19	65	19	3.0±0.3	25
Φ75/22	75	22	3.0±0.3	25
Φ85/25	85	25	3.2±0.3	25
Φ95/30	95	30	3.2±0.3	25
Φ115/34	115	34	3.3±0.3	25
Φ130/36	130	36	3.3±0.3	25
Φ160/50	160	50	3.3±0.3	25
Φ180/56	180	56	3.3±0.3	25

### Technical Data

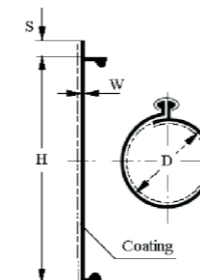
#### Physical

Property	Test Method	Standard Performance	Typical Performance
Tensile strength	IEC 60684	≥8Mpa	10.5 Mpa
Elongation	IEC 60684	≥400%	550%
Heat Aging tensile strength	150°C × 168h	≥5Mpa	9.5 Mpa
Heat Aging elongation	150°C × 168h	≥200%	450%
Heat shock	225°C × 4h	no cracking or flowing	no cracking or flowing
Flammability	IEC 60684	Passed	Passed
Low temperature Flexibility	-40°C × 4h	no cracking	no cracking

#### Electrical

Property	Test Method	Standard Performance	Typical Performance
Dielectric Strength	IEC 60684	≥20KV/mm	23kv/mm
Volume Resistivity	IEC 60684	≥1 × 10 <sup>13</sup> Ω·cm	2 × 10 <sup>14</sup> Ω·cm
Tracking(2.5kv,60min)	IEC 60684	no cracking	no cracking

## WRSXP Heat Shrink Repair Sleeve



- Manufactured from polyolefin, inner coated with hot-melt adhesive
- Providing fast and permanent repair and sealing protection for power cables
- High tensile strength, abrasion and corrosion resistance
- A corrosion proof metal channel is used to close the sleeve during installation
- Shrink temperature: start at 90°C, and fully recovered at 130°C

### Selection Table

Product No.	Inner Diameter		After Recovered Wall Thickness (±0.2mm) /mm	Standard Length /mm
	As Supplied (Min)/mm	After Recovered (Max) /mm		
WRSXP-30/12	30	12	3.8	450-1000
WRSXP-40/14	40	14	3.8	450-1000
WRSXP-50/17	50	17	3.8	450-1000
WRSXP-60/23	60	23	3.8	450-1000
WRSXP-65/23	65	23	3.8	450-1000
WRSXP-80/35	80	35	3.8	450-1000
WRSXP-85/35	85	35	3.8	450-1000
WRSXP-100/35	100	35	3.8	450-1000
WRSXP-120/40	120	40	3.8	450-1000
WRSXP-150/50	150	50	4.0	450-1000
WRSXP-160/50	160	50	4.0	450-1000
WRSXP-195/70	195	70	2.0	450-1000
WRSXP-240/90	240	90	2.0	400-600
WRSXP-290/115	290	115	2.0	400-600

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥10MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥230% (130°C, 168 hrs)
Dielectric Strength	IEC 60243	≥15 kV/mm
Volume Resistivity	IEC 60093	≥1 × 10 <sup>12</sup> Ω·cm
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Water Absorption	ISO 62	≤0.5%
Eccentricity	ASTM-D-2671	≤30%

# Heat Shrink Moulded Shapes



## WRSZT Heat Shrink Breakout



- Manufactured from cross-linked polyolefin
- Provide sealing protection and strain relief over multi-core cable crutch, including 2-, 3-, 4-, and 5-core breakout
- Coated with adhesive on the body and the fingers to form a watertight seal
- Flame-retardant breakouts are available upon customer request
- Meeting with varieties of configuration requirements
- Shrink temperature: start at 90°C, and fully recovered at 130°C

### Technical Data

Property	Test Method	Standard Value		
		Insulated Breakout	Oil Resistant Breakout	Semi-conductive Breakout
Tensile Strength	ASTM-D-638	≥12MPa	≥12MPa	≥12MPa
Elongation at Break (120°C, 168 hrs)	ASTM-D-638	≥300%	≥300%	≥300%
Tensile Strength after Aging (120°C, 168 hrs)	ASTM-D-638	≥10MPa	≥10MPa	≥10MPa
Elongation at Break after Aging	ASTM-D-638	≥230%	≥230%	≥230%
Tensile Strength after Dipping	ASTM-D-638	—	≥10MPa	—
Elongation at Break after Dipping	ASTM-D-638	—	≥230%	—
Dielectric Strength	IEC 60243	≥15kV/mm	≥15kV/mm	—
Water Absorption	ISO 62	≤0.5%	≤0.5%	≤0.5%
Volume Resistivity	IEC 60093	≥1 × 10 <sup>13</sup> Ω · cm	≥1 × 10 <sup>13</sup> Ω · cm	10 <sup>2</sup> ~ 10 <sup>4</sup> Ω · cm

**Selection Table**

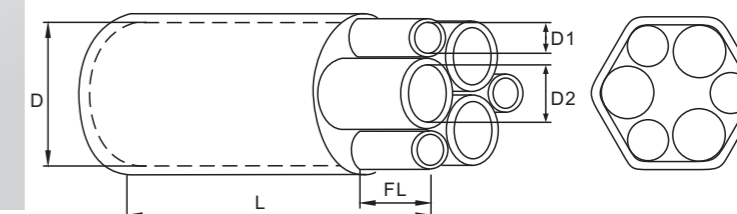
Product No.	Body Diameter		Finger Diameter		Full Length (±5mm)	Finger Length (±5mm)	
	As Supplied (Min) /mm	After Recovered (Max) /mm	As Supplied (Min) /mm	After Recovered (Max) /mm			
2 cores	WRSZT2-16/8.5 ( 00# )	16	8.5	8	3.5	54	22
	WRSZT2-24/13 ( 0# )	24	13	12	5	130	55
	WRSZT2-38/17 ( 1# )	38	17	20	7	145	65
	WRSZT2-48/22 ( 2# )	48	22	25	10	145	60
	WRSZT2-60/25 ( 3# )	60	25	35	11	135	55
	WRSZT2-72/25 ( 4# )	72	25	40	11	140	60
3 cores	WRSZT3-24/16 ( -2# )	24	16	11	5	140	50
	WRSZT3-48/22 ( -1# )	48	22	18	7	170	55
	WRSZT3-60/28 ( 0# )	60	28	25	8	175	55
	WRSZT3-70/36 ( 1# ) <sup>*</sup> ☆	70	36	30	13	210	70
	WRSZT3-87/46 ( 2# ) <sup>*</sup> ☆	87	46	39	16	225	75
	WRSZT3-110/54 ( 3# ) <sup>*</sup> ☆	110	54	42	19	250	85
	WRSZT3-125/64 ( 4# ) <sup>*</sup> ☆	125	64	58	25	245	95
WRSZT3-140/64 ( 5# )	140	64	65	25	245	90	
4 cores	WRSZT4-38/18 ( 0# )	38	18	10	5	125	45
	WRSZT4-50/25 ( 1# ) <sup>*</sup> ☆	50	25	16	7	135	45
	WRSZT4-70/32 ( 2# ) <sub>2</sub>	70	32	23	9	180	65
	WRSZT4-82/45 ( 3# ) <sub>2</sub>	82	45	30	13	210	75
	WRSZT4-90/45 ( 4# ) <sub>2</sub>	90	45	35	13	210	75
	WRSZT4-109/54 ( 5# )	109	54	42	18	235	65
5 cores	WRSZT5-42/20 ( 0# )	42	20	11	5	155	55
	WRSZT5-57/29 ( 1# )	57	29	15	7	170	60
	WRSZT5-70/38 ( 2# )	70	38	23	9	170	55
	WRSZT5-90/50 ( 3# )	90	50	30	13	180	60
	WRSZT5-120/48 ( 4# )	120	48	39	14	205	80

Remark: 1. \* means 3-core semi-conductive breakouts are available upon custom request.  
 2. ☆ means 3-core or 4-core oil resistant breakouts are available upon custom request.  
 3. The breakout coated with hot-melt adhesive comes in two forms: flat adhesive and spiral adhesive, which can meet different customer needs.

**WRSZT6  
Heat Shrink 6-Core Breakout**



- Made of cross linked polyolefin to provide mechanical protection and strain relief
- Inner coated with adhesive on the body and the fingers to form a durable watertight seal
- To provide sealing protection over 6-core cable crutch, such as trailing cable, variable frequency drive cable, telecommunication cables, control cable, etc.
- Shrink temperature: start at 90°C, and fully recovered at 130°C



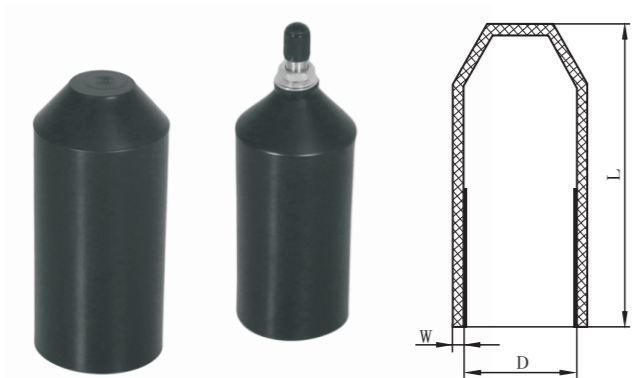
**Selection Table**

Product No.	ID as supplied/mm					ID after recovered/mm		
	Body diameter (D)	Finger diameter		Full length (L) (±5mm)	Finger length (FL) (±5mm)	Body diameter (D)	Finger diameter	
		Big finger(D2)	Small finger(D1)				Big finger(D2)	Small finger(D1)
WRSZT6-86/40(1#)	≥86	≥32	≥20	220	55	≤40	≤11	≤8
WRSZT6-133/53(2#)	≥133	≥55	≥31	220	55	≤53	≤16	≤11

**Technical Data**

Property	Test Method	Typical Value
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging (120°C, 168 hrs)	ASTM-D-638	≥10MPa
Elongation at Break after Aging (120°C, 168 hrs)	ASTM-D-638	≥230%
Dielectric Strength	IEC 60243	≥15 kV/mm
Water Absorption	ISO 62	≤0.5%
Volume Resistivity	IEC 60093	≥1 × 10 <sup>13</sup> Ω · cm

## WRSFM Heat Shrink Cable End Cap



- Manufactured from polyolefin, applied as insulation of power and telecommunication cable ends
- Used to seal cable ends during installation or storage, protecting cable ends against oxidation, ozone, UV, etc
- Coated with hot-melt adhesive to ensure reliable seal of cable ends
- Flame-retardant end caps are available upon customer request
- Available with valve if required
- Shrink temperature: start at 90°C, and fully recovered at 130°C

### Selection Table

Product No.	D/ mm		L/ mm(±5mm)	W/ mm After Recovered (±0.1mm)
	As Supplied (Min)	After Recovered (Max)		
WRSFM-12/5	12	5	45	2.5
WRSFM -16/8.5	16	8.5	70	2.5
WRSFM -20/8.5	20	8.5	72	2.5
WRSFM -25/11	25	11	84	2.5
WRSFM -30/16	30	16	94	3.0
WRSFM -35/17	35	17	94	2.6
WRSFM -40/15	40	15	94	2.6
WRSFM -55/26	55	26	125	2.5
WRSFM -74/31	74	31	145	3.2
WRSFM -97/40	97	40	140	5.0
WRSFM -120/57	120	57	150	4.4
WRSFM -140/63	140	63	184	4.0
WRSFM -200/95	200	95	280	4.0
WRSFM -245/95	245	95	280	4.0

Remark: The end cap coated with hot-melt adhesive comes in two forms: flat adhesive and spiral adhesive, which can meet different customer needs.

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥10MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥230% (130°C, 168 hrs)
Dielectric Strength	IEC 60243	≥15kV/mm
Stress Cracking Resistance	ASTM-D-1693	No cracking
Volume Resistivity	IEC 60093	≥1×10 <sup>13</sup> Ω · cm
Fungus and Decay Resistance	ISO 846	Pass
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤35%
Water Absorption	ISO 62	≤0.5%
Low Temperature Flexibility	ASTM-D-2671	No cracking (-40°C, 4 hrs)

## AC Heat Shrink Anode Cap



- Made of cross linked polyolefin, inner coated with adhesive
- Sealing and protecting the critical connection between lead wire and anode
- Ideal to avoid premature system failure due to loss of the wire to anode termination
- Continuous operation temperature: -45°C to 105°C

### Selection Table

Product No.	B.D/mm		C.D/mm		B.L (±3mm) /mm	C.L (±3mm) /mm	B.W (±0.2mm) /mm
	As Supplied (Min)	After Recovered (Max)	As Supplied (Min)	After Recovered (Max)			
AC-68/48	68	48	12	7	76	78	2.5
AC-87/62	87	63	12	7	102	78	2.7
AC-120/86	120	86	13	7	102	78	2.7
AC-114/86	114	86	12	7	102	78	2.7
AC-50/30	50	30	20	6.5	45	105	3.2
AC-86/42	86	42	16.8	6.5	152	80	3.2
AC-112/58	112	58	16.8	6.5	152	80	3.2

Remark: The anode cap coated with hot-melt adhesive comes in two forms: plane adhesive and spiral adhesive, which can meet different customer needs.

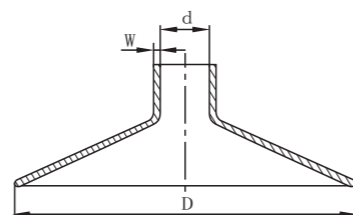
### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥10MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥240% (130°C, 168 hrs)
Dielectric Strength	IEC 60243	≥15 kV/mm
Volume Resistivity	IEC 60093	≥1 × 10 <sup>13</sup> Ω · cm
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Water Absorption	ISO 62	≤0.5%
Eccentricity	ASTM-D-2671	≤30%
Stress Cracking Resistance	ASTM-D-1693	No cracking
Fungus and Decay Resistance	ISO 846	Pass

## WRSSQ Heat Shrink Anti-tracking Rain Shed



- Manufactured from polyolefin, coated with anti-tracking adhesive
- High creep resistance and anti-tracking property
- Shaped components to meet a range of requirements



**Selection Table** (1-core Rain Shed)

Product No.	As Supplied d/mm (Min.) (±3mm)	After Recovered d/mm(max)	D/mm	W/mm (±0.2mm)
WRSSQ-35/17	35	17	105	2.8
WRSSQ-40/24	40	24	105	2.6
WRSSQ-50/24	50	24	105	2.6
WRSSQ-60/32	60	32	140	4.0
WRSSQ-70/32	70	32	140	4.0
WRSSQ-80/32	80	32	140	4.0

(3-core Rain Shed)

Product No.	As Supplied d/mm (Min.) (±3mm)	After Recovered d/mm(max)	W/mm (±0.2mm)
WRSSQ-35/15	35	16	2.8
WRSSQ-45/21	45	22	3.0
WRSSQ-50/21	50	22	3.0

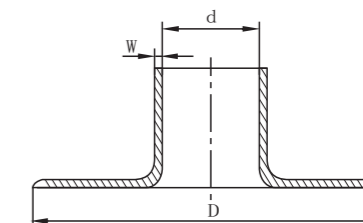
### Technical Data

Property	Test Method	Standard Value
Cold Bend	ASTM-D-2671	No cracking
Tensile Strength	ASTM-D-638	≥10.8MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥8MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥240% (130°C, 168 hrs)
Dielectric Strength	IEC 60243	≥20kV/mm
Tracking Resistance	IEC 60587	1A 3.5
Volume Resistivity	IEC 60093	≥1 × 10 <sup>14</sup> Ω · cm
Dielectric Constant	IEC 60250	≤5.0
Water Absorption	ISO 62	≤0.5%
Eccentricity	ASTM-D-2671	≤35%

## WRSRS Heat Shrink Anti-tracking Rain Shed



- Manufactured from polyolefin, coated with anti-tracking adhesive
- High creep resistance and anti-tracking property
- Shaped components to meet a range of requirements



**Selection Table**

Product No.	As Supplied d/mm (Min.) (±3mm)	After Recovered d/mm(max)	D/mm	W/mm (±0.2mm)
WRSRS-30/13	30	13	95	2.0
WRSRS-35/13	35	13	95	1.9
WRSRS-40/20	40	20	120	2.0
WRSRS-45/20	45	20	120	1.8
WRSRS-50/20	50	20	120	1.6

### Technical Data

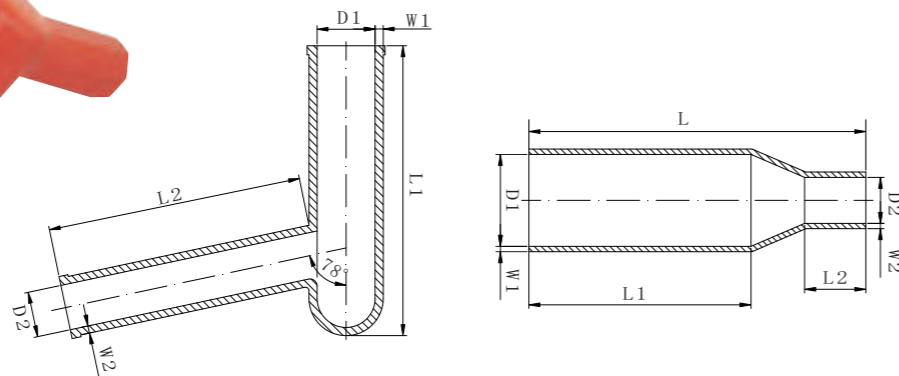
Property	Test Method	Standard Value
Cold Bend	ASTM-D-2671	No cracking
Tensile Strength	ASTM-D-638	≥11.8MPa
Elongation at Break	ASTM-D-638	≥400%
Tensile Strength after Aging	ASTM-D-638	≥6MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥350% (130°C, 168 hrs)
Dielectric Strength	IEC 60243	≥15kV/mm
Tracking Resistance	IEC 60587	1A 3.5
Volume Resistivity	IEC 60093	≥1 × 10 <sup>14</sup> Ω · cm
Dielectric Constant	IEC 60250	≤5.0
Water Absorption	ISO 62	≤0.5%
Eccentricity	ASTM-D-2671	≤35%



## WRSJX Heat Shrink Right Angle/In-line Bushing Boot



- Manufactured from polyolefin, inner coated with hot-melt adhesive at the ends
- Excellent insulation, flame retardant, thermal stability, etc
- Used to protect cable against flashover or surges induced in switchgear and transformer
- Shaped components to meet a range of requirements



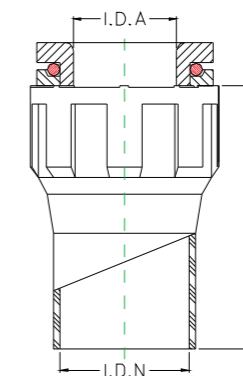
### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥10.8MPa
Elongation at Break	ASTM-D-638	≥300%
Tensile Strength after Aging	ASTM-D-638	≥8MPa(130°C,168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥240% (130°C,168 hrs)
Dielectric Strength	IEC 60243	≥25kV/mm
Tracking Resistance	IEC60587	1A 3.5
Volume Resistivity	IEC 60093	≥1 × 10 <sup>14</sup> Ω · cm
Dielectric Constant	ASTM-D-150	≤3.0
Longitudinal Shrinkage	ASTM-D-2671	≤10%
Eccentricity	ASTM-D-2671	≤30%
Water Absorption	ISO 62	≤0.5%
Flammability (Oxygen Index)	ISO 4589	≥25
Copper Corrosion	ASTM-D-2671	No corrosion (130°C,168 hrs)
Cold Bend	ASTM-D-2671	No cracking (-40°C,4 hrs)
Heat Shock	ASTM-D-2671	No cracking or flowing(160°C,4 hrs)

### Selection Table

Product No.	As Supplied/mm		After Recovered/mm						
	D1 (Min)	D2 (Min)	D1 (Max)	D2 (Max)	L1 (Nom.)	L2 (±10%)	L (±10%)	W1 (±10%)	W2 (±10%)
<b>Right Angle Boot</b>									
WRSJX-R1	80	35	36	18	170	125	--	4.2	3.8
WRSJX-R2	80	50	36	18	170	125	--	4.2	3.8
WRSJX-R3	80	50	36	27	160	140	--	4.2	3.8
WRSJX-R4	95	70	38	28	160	140	--	4.2	3.8
WRSJX-R5	145	68	72	34	215	140	--	4.2	4.2
<b>In-line Bushing Boot</b>									
WRSJX-S1	80	34	32	19	145	30	220	3.2	3.2
WRSJX-S2	80	58	32	19	145	30	220	3.2	3.2
WRSJX-S3	140	90	65	33	145	40	220	3.2	3.2

## WRSLT Heat Shrink Cable Entry Seal



- Made of flame-retardant polyolefin, inner coated with adhesive to provide sealing protection
- Provides a watertight and fume-tight seal where cables enter connection boxes, bulkheads, or other enclosures
- Consists of a three-part assembly- a rigid plastic nut, O-ring, and a heat shrink moulded body
- Continuous operation temperature: -55°C to 90°C

### Selection Table

Part Number	After Recovered Length (L)(mm)	As Supplied Nose I.D. ((I.D.N,Min)/mm)	After Recovered Nose I.D. (I.D.N,Max)/mm	Body I.D.(I.D.A,±5mm)	Drill Size (mm)
WRSLT-4	112 ± 5	45	19	41	51
WRSLT-5	175 ± 5	70	36	74	90

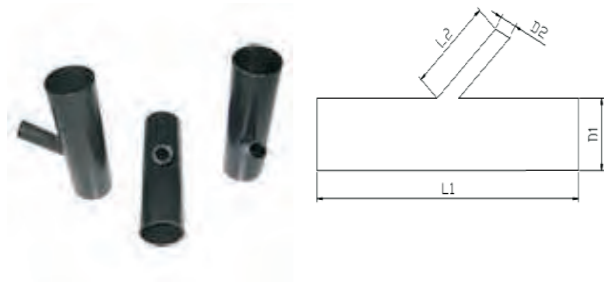
## WRSKT 2-core Clip-on Breakout



- Manufactured from polyolefin, with a stainless steel channel sliding over the rail
- Mostly used to provide sealing and protection for bifurcated cable, especially for the branch cable lapping on the main cable

Part Number	Body Diameter		Finger Diameter		As Supplied	
	As Supplied (Min)/mm	After Recovered (Max) /mm	As Supplied (Min)/mm	After Recovered (Max) /mm	Full Length (±5mm)	Finger Length (±5mm)
WRSKT-20/8(0#)	20	8	10	4	135	60
WRSKT-30/13(1#)	30	13	16	7	135	60
WRSKT-40/15(2#)	40	15	20	9	140	65
WRSKT-50/17(3#)	50	17	25	11	135	60
WRSKT-65/17(4#)	65	17	35	11	135	50

## WRSY Y-type Heat Shrink Tube



- Made of cross-linked polyolefin.
- Mostly used to provide sealing and protection for bifurcated cable, especially for the branch cable lapping on the main cable
- Shrink temperature: start at 90°C, and fully recovered at 130°C

### Selection Table

Product No.	L1/mm	L2/mm	D1/mm		D2/mm	
			As Supplied	After Recovered	As Supplied	After Recovered
WRSY-28/13	120 ± 2	38 ± 2	≥ 28	≤ 13	≥ 9	≤ 3.5

### Technical Data

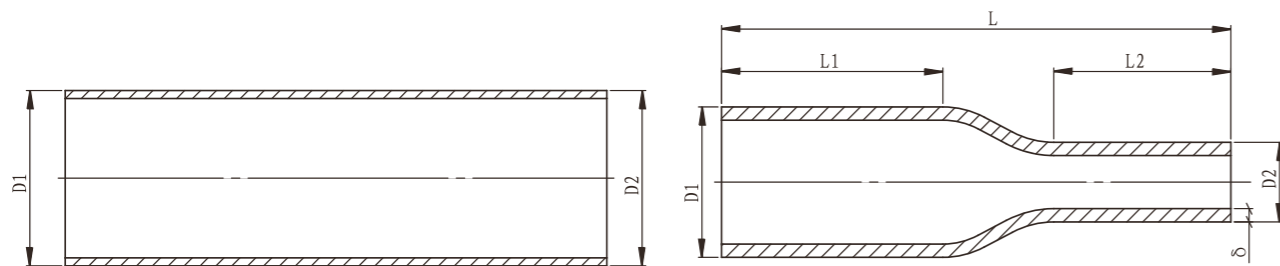
Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥ 10.8MPa
Elongation at Break	ASTM-D-638	≥ 300%
Dielectric Strength	IEC 60243	≥ 20kN/m
Volume Resistivity	IEC 60093	≥ 1 × 10 <sup>13</sup> Ω · cm



### Technical Data

Property		Test Method	Standard Value	
Physical properties	Tensile Strength	ASTM-D-2671	≥ 15MPa	
	Elongation at Break	ASTM-D-2671	≥ 500%	
	Tensile Strength after Aging	ISO 868	90 ± 2	
	Elongation at Break after Aging (130°C, 168h)	ASTM-D-2671	≥ 400%	
	Heat shock(200°C, 4h)	UL 224	No dripping, flowing or cracking	
	Low temperature flexibility	ISO 974	- 55°C	
Oxygen index		ISO 4589	≥ 28	
Dielectric strength		IEC 60243	≥ 20kV/mm	
Solvent resistance (23°C, 24h)	Gasoline	Tensile strength	ASTM-D-2671	≥ 11MPa
		Elongation at break	ASTM-D-2671	≥ 400%
	Diesel oil	Tensile strength	ASTM-D-2671	≥ 10MPa
		Elongation at break	ASTM-D-2671	≥ 350%
	Acid & alkali	Tensile strength	ASTM-D-2671	≥ 12MPa
		Elongation at break	ASTM-D-2671	≥ 400%

## Z11 Heat Shrink Cable Straight Boot



As supplied (a)

After unrestricted recovery (b)

### Features

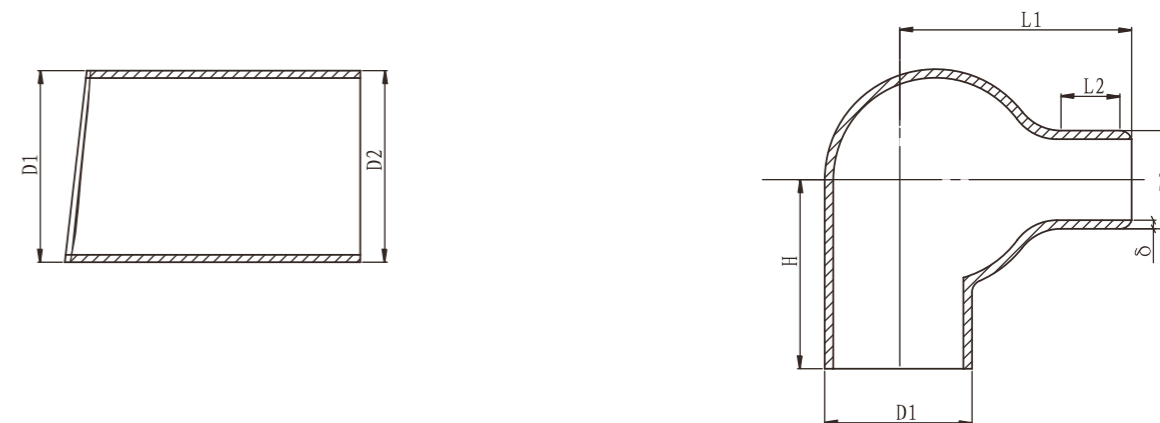
- Made of semi-rigid flame-retarded polyolefin.
- Used for strong mechanical protection, connector/cable strain relief, and complete environmental sealing.
- This family of boots has no lip.
- Provided with or without adhesive lining.
- Standard colour: Black.

### Selection Table

Product No.	Specification	D <sub>1</sub>			D <sub>2</sub>			L ±10%	L <sub>1</sub> ±10%	L <sub>2</sub> ±10%	δ ±20%
		As Supplied	After Recovered	Range Of Application	As Supplied	After Recovered	Range Of Application				
W1111	11/5-2	11	5.0	6.6-9.0	11	2.0	2.2-5.6	40	21	12	1.8
W1121	18/7-4	18	7.0	8.8-15.0	18	4.0	5.0-10.0	50	19	28	2.0
W1131	24/11-5.6	24	11.0	14.0-20.0	24	5.6	7.0-14.0	50	27	16	2.0
W1141	30/14.3-6.6	30	14.3	17.8-25.0	30	6.6	8.2-16.0	60	39	16	2.0
W1151	32/17.8-7.2	32	17.8	22.3-27.0	32	7.2	9.0-18.0	68	40	18	2.2
W1161	40/22.4-8.4	40	22.4	26-32.0	40	8.4	10.0-21.0	82	52	20	2.2
W1171	46/28-10	46	28.0	32-36.0	46	10.0	11.8-24.0	85	45	20	2.5

unit mm

## W11 Heat Shrink Right Angled Boot



As supplied (a)

After unrestricted recovery (b)

### Features

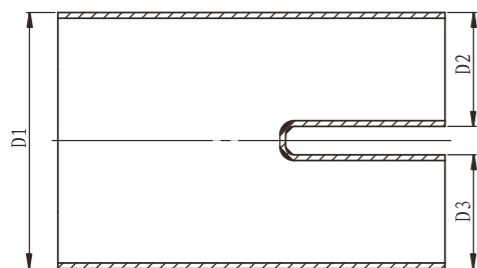
- Made of semi-rigid flame-retarded polyolefin.
- Provide strong mechanical protection, connector/cable strain relief, and complete environmental sealing.
- This family of boots has no lip.
- Provided with or without adhesive lining.
- Standard colour: Black.

### Selection Table

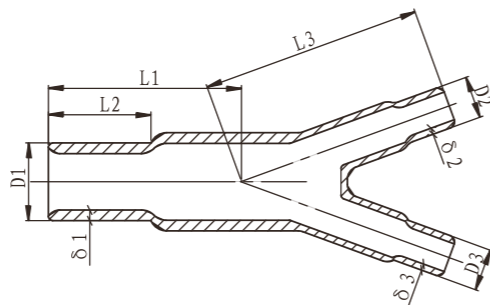
Product No.	Specification	D <sub>1</sub>			D <sub>2</sub>			H	L <sub>1</sub> ±10%	L <sub>2</sub> ±10%	δ ±20%
		As Supplied	After Recovered	Range Of Application	As Supplied	After Recovered	Range Of Application				
W1111	18/7-4	18	7	8.8-15.0	18	4.0	5.0-10.0	25	28	12	1.8
W1121	22/11-5	22	11	13.0-18.5	22	5.0	6.2-12.0	27	36	18	2.0
W1131	36/16/8	36	16	20.0-30.0	36	8.0	10.0-20.0	32	42	20	2.0
W1141	42/24-10	42	24	28.0-36.0	42	10.0	11.8-24.0	36	56	21	2.2
W1151	52/26-15	52	26	30.0-43.0	52	15.0	17.0-36.0	38	57	21	2.2
W1161	60/30-15	60	30	35.0-50.0	60	15.0	17.6-36.0	44	78	29	3.0
W1171	65/35-16	65	35	41.0-54.0	65	16.5	19.4-38.0	40	85	28	3.2
W1181	70/40-20	65	40	47.0-58.0	70	20.0	24.0-48.0	52	85	28	3.5

unit mm

## C21 Heat Shrink 2-Way outlet Shapes



As supplied (a)



After unrestricted recovery (b)

### Features

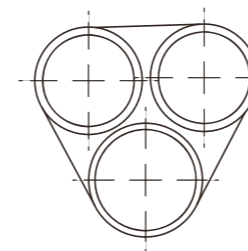
- Made of semi-rigid flame-retarded polyolefin.
- Provide strong mechanical protection, strain relief, and complete environmental sealing on cable harness assemblies.
- Provided with or without adhesive lining.
- Standard colour: Black.

### Selection Table

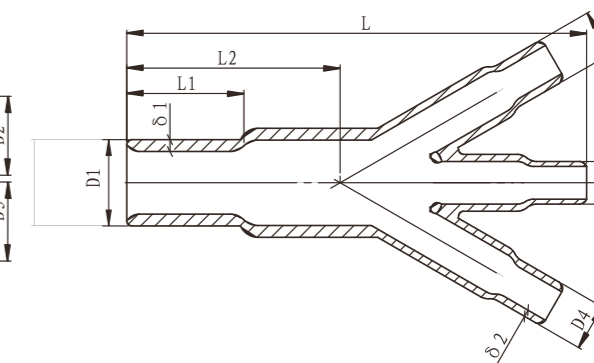
Product No.	D <sub>1</sub>		D <sub>2,3</sub>		L ±10%	L <sub>1</sub> ±10%	L <sub>2</sub> ±10%	δ <sub>1</sub> ±20%	δ <sub>2,3</sub> ±20%
	As Supplied	After Recovery	As Supplied	After Recovery					
C2111	13.5	6.0	6.6	3.3	24.0	15.5	25	2.0	1.5
C2121	27.0	12.4	13.2	6.1	53.3	33.0	55	2.5	2.0
C2131	39.0	18.0	27.0	12.4	79.0	56.0	80	3.0	2.5
C2141	56.0	26.0	27.0	12.7	112.0	71.0	114	3.6	2.5

unit mm

## C31 Heat Shrink 3-Way outlet Shapes



As supplied (a)



After unrestricted recovery (b)

### Features

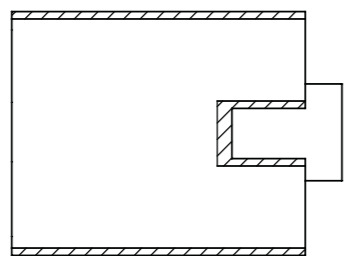
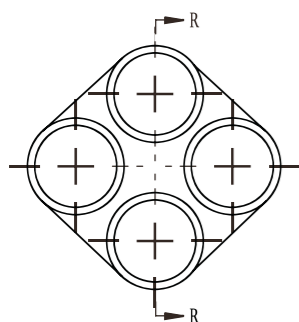
- Made of semi-rigid flame-retarded polyolefin.
- Provide strong mechanical protection, strain relief, and complete environmental sealing on cable harness assemblies.
- Provided with or without adhesive lining.
- Standard colour: Black.

### Selection Table

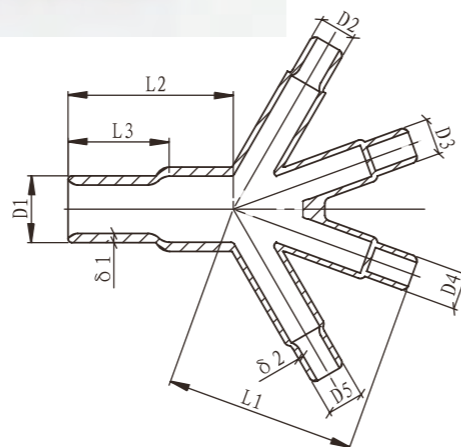
Product No.	D <sub>1</sub>		D <sub>2,3,4</sub>		L ±10%	L <sub>1</sub> ±10%	L <sub>2</sub> ±10%	δ <sub>1</sub> ±20%	δ <sub>2</sub> ±20%
	As Supplied	After Recovery	As Supplied	After Recovery					
C3111	14	6.6	6.6	3.6	46	31	15.7	2.0	1.5
C3121	27	13.2	13.2	6.9	94	57	33.0	2.5	2.0
C3131	39	18.8	19.3	9.7	135	89	46.0	3.0	2.5
C3141	56	25.4	27.0	12.4	192	122	71.0	4.0	3.0
C3151	92	54.0	46.0	27.0	390	254	127.0	6.0	3.0

unit mm

## C41 Heat Shrink 4-Way outlet Shapes



As supplied (a)



After unrestricted recovery (b)

### Features

- Made of semi-rigid flame-retarded polyolefin.
- Provide strong mechanical protection, strain relief, and complete environmental sealing on cable harness assemblies.
- Provided with or without adhesive lining.
- Standard colour: Black.

### Selection Table

Product No.	D <sub>1</sub>		D <sub>2,3,4,5</sub>		L ±10%	L <sub>1</sub> ±10%	L <sub>2</sub> ±10%	δ <sub>1</sub> ±20%	δ <sub>2</sub> ±20%
	As Supplied	After Recovery	As Supplied	After Recovery					
C4111	13.2	6.9	6.6	3.4	24.1	43.2	18.0	1.5	1.0
C4121	19.3	9.7	9.4	5.3	35.6	43.2	23.1	2.0	1.5
C4131	19.3	9.7	13.2	6.9	49.3	50.5	25.4	2.5	1.8
C4141	26.9	13.0	13.2	6.9	49.3	65.8	33.5	2.5	1.8
C4151	38.6	18.5	19.3	9.7	71.9	95.3	46.5	3.0	2.0
C4161	55.6	26.7	26.9	13.0	101.6	135.1	65.5	4.5	2.5

unit mm

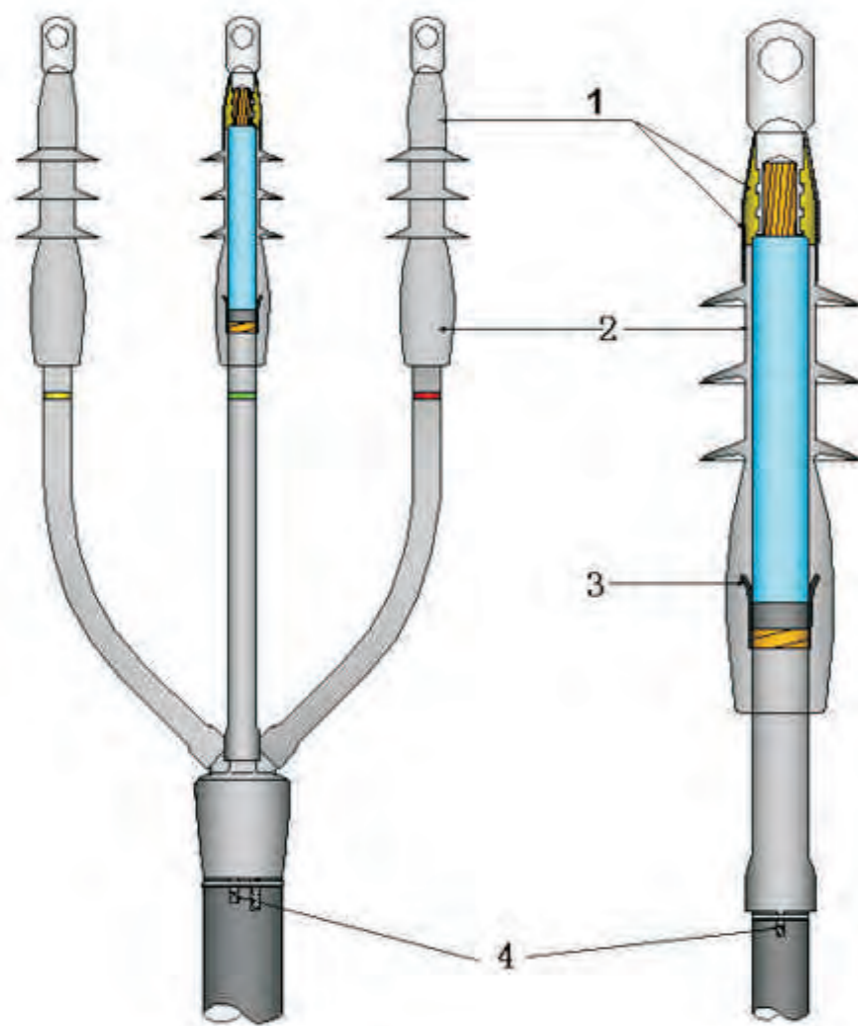
## Cold Shrink Cable Accessories



Cold shrink cable accessories are capable of shrinking without application of heat. They are manufactured in a pre-expanded condition and assembled onto a removable core. The core is removed after the tube is positioned over the cable for installation, allowing the tube to shrink and providing a moisture-tight seal.

Woer cold shrink cable accessories are characterized by simple solutions with safe connection. They are manufactured with liquid silicone rubber, which has high-quality electrical insulation, excellent tracking resistance as well as high elasticity.

## WLN, WLW Cold shrink termination up to 42 kV



### Features:

**1. Environmental top sealing treatment**

Three steps to provide a seal to against the entrance of the external environment.

**2. Excellent external housing**

Imported LSR offers excellent hydrophobicity and great anti-tracking property to ensure the power safety.

**3. Stress control**

Stress cone adopts well designed geography analysis to smooth out the high stress area.

**4. Earth connection**

Adopt Solderless earth connection to connect metal screen or armour to ground. For cables with wire screen, copper wires are imbedded in the sealing mastic to prevent any corrosion by moisture sealing.

### Note:

Terminations can be ordered as standard kits (without lugs or other accessories) or complete kits.

Terminations and components for other cable types are available on request.

### Selection Table

Voltage $U_0 / U (U_m)$	Cores	Cable Cross Section /mm <sup>2</sup>	Nominal insulation thickness /mm	Diameter over Insulation /mm	Kit No.
0.6/1(1.2)kV	1,3, 4,5 Indoor or Outdoor	25-50	—	—	1.2kVWLT-1(3,4,5)/1 1.2kVWLT-1(3,4,5)/2 1.2kVWLT-1(3,4,5)/3 1.2kVWLT-1(3,4,5)/4
		70-120 150-240 300-400			
6/10(12)kV 6.35/11(12)kV	1,3 Indoor	50-70	3.4	16-19.5	12kVWLN-1/1(3/1) 12kVWLN-1/2(3/2) 12kVWLN-1/3(3/3) 12kVWLN-1/4(3/4) 12kVWLN-1/5(3/5)
		95-150 185-300 400-500 630		19-24.5 23.5-30 30.5-35 37-42.3	
	1,3 Outdoor	50-70		16-19.5	12kVWLW-1/1(3/1) 12kVWLW-1/2(3/2) 12kVWLW-1/3(3/3) 12kVWLW-1/4(3/4) 12kVWLW-1/5(3/5)
		95-150 185-300 400-500 630		19-24.5 23.5-30 30.5-35 37-42.3	
8.7/15(17.5)kV	1,3 Indoor	25-50	4.5	16-19.5	17.5kVWLN-1/1(3/1) 17.5kVWLN-1/2(3/2) 17.5kVWLN-1/3(3/3) 17.5kVWLN-1/4(3/4) 17.5kVWLN-1/5(3/5)
		70-120 150-240 300-400 500-630		19-24.5 23.5-30 30.5-35 37-42.3	
	1,3 Outdoor	25-50		16-19.5	17.5kVWLW-1/1(3/1) 17.5kVWLW-1/2(3/2) 17.5kVWLW-1/3(3/3) 17.5kVWLW-1/4(3/4) 17.5kVWLW-1/5(3/5)
		70-120 150-240 300-400 500-630		19-24.5 23.5-30 30.5-35 37-42.3	
12/20(24)kV 12.7/22(24)kV	1,3 Indoor	25-50	5.5	18-21.5	24kVWLN-1/1(3/1) 24kVWLN-1/2(3/2) 24kVWLN-1/3(3/3) 24kVWLN-1/4(3/4) 24kVWLN-1/5(3/5)
		70-120 150-240 300-400 500-630		21-26.5 25.5-32 32.5-37 39-44.3	
	1,3 Outdoor	25-50		18-21.5	24kVWLW-1/1(3/1) 24kVWLW-1/2(3/2) 24kVWLW-1/3(3/3) 24kVWLW-1/4(3/4) 24kVWLW-1/5(3/5)
		70-120 150-240 300-400 500-630		21-26.5 25.5-32 32.5-37 39-44.3	
18/30(36)kV 19/33(36)kV	1,3 Indoor	35-50	8.0	22-27	36kVWLN-1/1(3/1) 36kVWLN-1/2(3/2) 36kVWLN-1/3(3/3) 36kVWLN-1/4(3/4)
		70-185 240-500 630		27.5-35 35.5-46 46.5-55	
	1,3 Outdoor	35-50		22-27	36kVWLW-1/1(3/1) 36kVWLW-1/2(3/2) 36kVWLW-1/3(3/3) 36kVWLW-1/4(3/4)
		70-185 240-500 630		27.5-35 35.5-46 46.5-55	
20.8/36(42)kV 26/35(42)kV	1,3 Indoor	50-95	9.3	28.5-35	42kVWLN-1/1(3/1) 42kVWLN-1/2(3/2) 42kVWLN-1/3(3/3) 42kVWLN-1/4(3/4)
		120-240 300-400 500-630		35.5-42 42.5-48 48.5-56	
	1,3 Outdoor	50-95		28.5-35	42kVWLW-1/1(3/1) 42kVWLW-1/2(3/2) 42kVWLW-1/3(3/3) 42kVWLW-1/4(3/4)
		120-240 300-400 500-630		35.5-42 42.5-48 48.5-56	
26/35(42)kV	1,3 Indoor	50-95	10.5	28.5-35	42kVWLN-1/1(3/1) 42kVWLN-1/2(3/2) 42kVWLN-1/3(3/3) 42kVWLN-1/4(3/4)
		120-240 300-400 500-630		35.5-42 42.5-48 48.5-56	
	1,3 Outdoor	50-95		28.5-35	42kVWLW-1/1(3/1) 42kVWLW-1/2(3/2) 42kVWLW-1/3(3/3) 42kVWLW-1/4(3/4)
		120-240 300-400 500-630		35.5-42 42.5-48 48.5-56	

## WCSIT/WCSOT PA Termination Series

### Highlights

#### One-piece Design, easiest installation

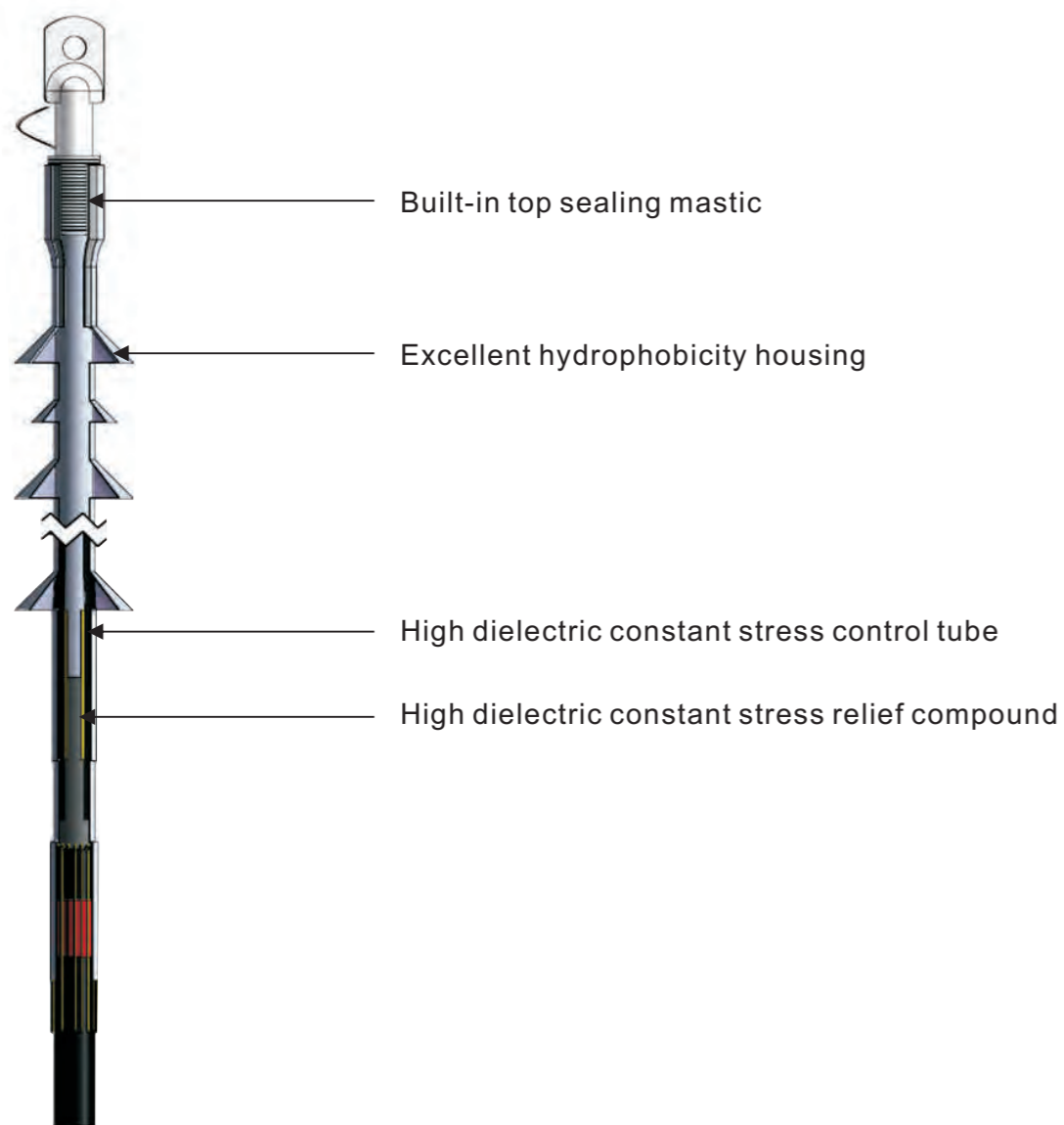
No extra stress relief compound and top sealing mastic needed. All you need to do is shrink it into place.

#### Excellent performed material, longer life time

Improved stress control tube, excellent hydrophobicity and great anti-tracking property to ensure the power safety.

#### Specification and standard

Meets the requirements of IEC60502.4



Note: The final determination factor is the cable insulation diameter.

## WCSIT Indoor Termination



Up to 42kV  
6/10(12)  
6.35/11(12)  
8.7/15(17.5)  
12/20(24)  
12.7/22(24)  
18/30(36)  
19/33(36)  
20.8/36(42)

Voltage Um (kV)	Kit No.	Nominal insulation thickness /mm	Conductor Cross Section /mm <sup>2</sup>		Diameter over Insulation /mm	
			min	max	min	max
12	12WCSIT01	3.4	50	70	16	20
	12WCSIT02	3.4	95	150	20.5	25
	12WCSIT03	3.4	185	300	25.5	30
	12WCSIT04	3.4	400	500	30.5	36
	12WCSIT05	3.4	630	/	36.5	43
17.5	17.5WCSIT01	4.5	25	50	16	20
	17.5WCSIT02	4.5	70	120	20.5	25
	17.5WCSIT03	4.5	150	240	25.5	30
	17.5WCSIT04	4.5	300	400	30.5	36
	17.5WCSIT05	4.5	500	630	36.5	43
24	24WCSIT01	5.5	25	50	16	20
	24WCSIT02	5.5	70	120	20.5	25
	24WCSIT03	5.5	150	240	25.5	30
	24WCSIT04	5.5	300	400	30.5	36
	24WCSIT05	5.5	500	630	36.5	43
36	36WCSIT43	8.0	35	70	25.5	30
	36WCSIT44	8.0	95	185	30.5	36
	36WCSIT45	8.0	240	400	36.5	43
	36WCSIT46	8.0	500	630	43.5	48
42	42WCSIT84	9.3	50	95	30.5	36
	42WCSIT85	9.3	120	240	36.5	43
	42WCSIT86	9.3	300	400	43.5	48
	42WCSIT87	9.3	500	630	48.5	55
42	42WCSIT84	10.5	50	95	30.5	36
	42WCSIT85	10.5	120	240	36.5	43
	42WCSIT86	10.5	300	400	43.5	48
	42WCSIT87	10.5	500	630	48.5	55

Note: The final determination factor is the cable insulation diameter.

## WCSOT Outdoor Termination

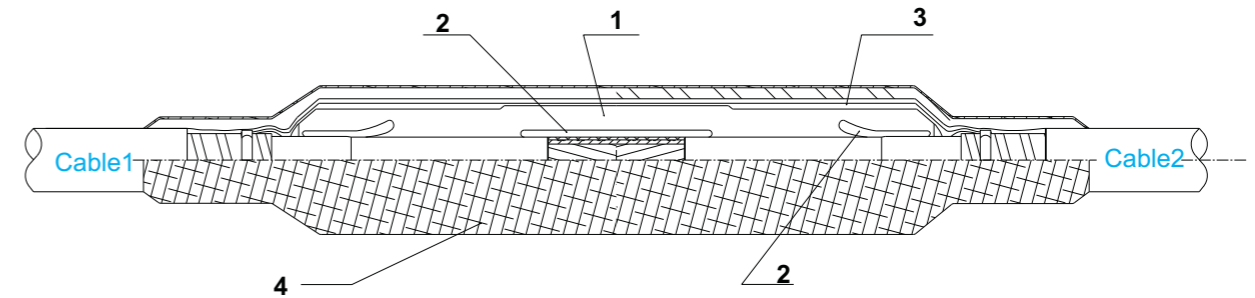


Up to 42kV  
6/10(12)  
6.35/11(12)  
8.7/15(17.5)  
12/20(24)  
12.7/22(24)  
18/30(36)  
19/33(36)  
20.8/36(42)

Voltage Um (kV)	Kit No.	Nominal insulation thickness /mm	Conductor Cross Section /mm <sup>2</sup>		Diameter over Insulation /mm	
			min	max	min	max
12	12WCSOT41	3.4	50	70	16	20
	12WCSOT42	3.4	95	150	20.5	25
	12WCSOT43	3.4	185	300	25.5	30
	12WCSOT44	3.4	400	500	30.5	36
	12WCSOT45	3.4	630	/	36.5	43
17.5	17.5WCSOT41	4.5	25	50	16	20
	17.5WCSOT42	4.5	70	120	20.5	25
	17.5WCSOT43	4.5	150	240	25.5	30
	17.5WCSOT44	4.5	300	400	30.5	36
	17.5WCSOT45	4.5	500	630	36.5	43
24	24WCSOT41	5.5	25	50	16	20
	24WCSOT42	5.5	70	120	20.5	25
	24WCSOT43	5.5	150	240	25.5	30
	24WCSOT44	5.5	300	400	30.5	36
	24WCSOT45	5.5	500	630	36.5	43
36	36WCSOT43	8.0	35	70	25.5	30
	36WCSOT44	8.0	95	185	30.5	36
	36WCSOT45	8.0	240	400	36.5	43
	36WCSOT46	8.0	500	630	43.5	48
42	42WCSOT84	9.3	50	95	30.5	36
	42WCSOT85	9.3	120	240	36.5	43
	42WCSOT86	9.3	300	400	43.5	48
	42WCSOT87	9.3	500	630	48.5	55
42	42WCSOT84	10.5	50	95	30.5	36
	42WCSOT85	10.5	120	240	36.5	43
	42WCSOT86	10.5	300	400	43.5	48
	42WCSOT87	10.5	500	630	48.5	55

Note: The final determination factor is the cable insulation diameter.

## WLJ Cold Shrink Joint up to 42 kV



### 1. Joint Body

One-piece design to provide the insulation and insulation screen to recover the cable structure.

### 2. Electrical stress control

Stress control tube, together with stress cone are used to smooth out the electrical field at the insulation screen cuts.

### 3. Metallic shielding

Copper mesh which has been secured with solderless earth connection is wrapped around the joint area to rebuild the metallic screen and provide screen continuity across the joint.

### 4. Outer sealing and protection

The outer sealing and protection is performed by both the waterproof tape and arour tape. So they provide mechanical protection and chemical resistance as expected from cable overshath.

### Note:

Joints can be ordered as standard kits (without connectors or other accessories) or complete kits.

Joints and components for other cable types are available on request.

Connectors need to be ordered separately.





**Selection Table**

Voltage $U_0/U (U_m)$	Cores	Cable Cross Section/mm <sup>2</sup>	Nominal insulation thickness /mm	Diameter over Insulation/mm	Kit No.
0.6/1(1.2)kV	1, 3, 4, 5	25-50 70-120 150-240 300-400	—	—	1.2kVWLJ-1(3,4,5)/1 1.2kVWLJ-1(3,4,5)/2 1.2kVWLJ-1(3,4,5)/3 1.2kVWLJ-1(3,4,5)/4
6/10(12)kV	1, 3	50-70 95-150 185-300 400-500 630	3.4	16-19.5 19-24.5 23.5-30 30.5-35 37-42.3	12kVWLJ-1/1(3/1) 12kVWLJ-1/2(3/2) 12kVWLJ-1/3(3/3) 12kVWLJ-1/4(3/4) 12kVWLJ-1/4(3/4)
8.7/15(17.5)kV	1, 3	25-50 70-120 150-240 300-400 500-630	4.5	16-19.5 19-24.5 23.5-30 30.5-35 37-42.3	17.5kVWLJ-1/1(3/1) 17.5kVWLJ-1/2(3/2) 17.5kVWLJ-1/3(3/3) 17.5kVWLJ-1/4(3/4) 17.5kVWLJ-1/5(3/5)
12/20(24)kV	1, 3	25-50 70-120 150-240 300-400 500-630	5.5	18-21.5 21-26.5 25.5-32 32.5-37 39-44.3	24kVWLJ-1/1(3/1) 24kVWLJ-1/2(3/2) 24kVWLJ-1/3(3/3) 24kVWLJ-1/4(3/4) 24kVWLJ-1/5(3/5)
18/30(36)kV	1, 3	35-50 70-120 150-240 300-400 500-630	8.0	22-28 26.5-33 31.5-39 35.5-43 40.5-49	36kVWLJ-1/1(3/1) 36kVWLJ-1/2(3/2) 36kVWLJ-1/3(3/3) 36kVWLJ-1/4(3/4) 36kVWLJ-1/5(3/5)
20.8/36(42)kV	1, 3	50-95 120-240 300-400 500-630	9.3	28.5-35 35.5-42 42.5-48 48.5-56	42kVWLJ-1/1(3/1) 42kVWLJ-1/2(3/2) 42kVWLJ-1/3(3/3) 42kVWLJ-1/4(3/4)
26/35(42)kV	1, 3	50-95 120-240 300-400 500-630	10.5	28.5-35 35.5-42 42.5-48 48.5-56	42kVWLJ-1/1(3/1) 42kVWLJ-1/2(3/2) 42kVWLJ-1/3(3/3) 42kVWLJ-1/4(3/4)

## WCST Cold Shrink Silicone Rubber Tube



- Manufactured from silicone rubber
- Offering good mechanical, insulation and sealing protection
- Accommodating a wide range of cable sizes
- For indoor or outdoor applications
- Simple and fast installation
- Color: grey, black

**Selection Table**

Product No.	ID* Expanded (Max) /mm	Required Length (After Relaxed)/mm	Thickness (After Relaxed)/mm	Application Range/mm
WCST20	20	80~450	2.0±0.2	Φ10~Φ14
WCST28	28	80~500	2.5±0.2	Φ12~Φ17
WCST32A	32	80~490	2.5±0.2	Φ13.2~Φ22.4
WCST32B	32	80~490	2.0±0.2	Φ17~Φ24
WCST35	35	80~450	2.0±0.2	Φ19~Φ28
WCST40	40	80~450	2.0±0.2	Φ21~Φ31
WCST47	47	80~470	2.0±0.2	Φ25~Φ37
WCST53	53	80~500	2.0±0.2	Φ31~Φ45
WCST65	65	80~500	3.0±0.2	Φ31~Φ45
WCST70	70	80~500	3.0±0.2	Φ37~Φ55
WCST80A	80	80~500	3.0±0.2	Φ37~Φ55
WCST80B	80	80~500	3.0±0.2	Φ44~Φ65
WCST88	88	80~500	3.0±0.2	Φ44~Φ65
WCST104	104	80~500	3.0±0.2	Φ51~Φ76
WCST110A	110	80~420	6.0±0.2	Φ45~Φ66
WCST110B	110	80~420	6.0±0.2	Φ72~Φ105
WCST150	150	80~480	3.0±0.2	Φ92~Φ135

Remark: ID\* means inner diameter.

## WEPDMC Cold Shrink EPDM Tube



- Manufactured from EPDM rubber
- Offering good mechanical, insulation and sealing protection
- Accommodating a wide range of cable sizes
- For indoor or outdoor applications
- Simple and fast installation

### Selection Table

Cold Shrink Tube of General EPDM					
Product No.	Size	Application Range (mm/inch)	Length after Relaxed(mm/inch)	Material	Color
8320-6	Φ20	8 ~ 15/0.30 ~ 0.59	152/6	EPDM Rubber	Black
8325-L	Φ25	10 ~ 20/0.39 ~ 0.79	203 ~ 280/8 ~ 11	EPDM Rubber	Black
8335-L	Φ35	14 ~ 30/0.55 ~ 1.18	229 ~ 280/9 ~ 11	EPDM Rubber	Black
8340-L	Φ40	17.5 ~ 33/0.69 ~ 1.30	152 ~ 457/6 ~ 18	EPDM Rubber	Black
8353-L	Φ53	25 ~ 46/0.98 ~ 1.81	152 ~ 457/6 ~ 18	EPDM Rubber	Black
8370-L	Φ70	32 ~ 63/1.26 ~ 2.48	152 ~ 457/6 ~ 18	EPDM Rubber	Black
8104-9	Φ104	43 ~ 94/1.69 ~ 3.70	229/9	EPDM Rubber	Black
8125-9	Φ125	46 ~ 114/1.81 ~ 4.49	229/9	EPDM Rubber	Black
8150-18	Φ150	55 ~ 135/2.17 ~ 5.31	457/18	EPDM Rubber	Black

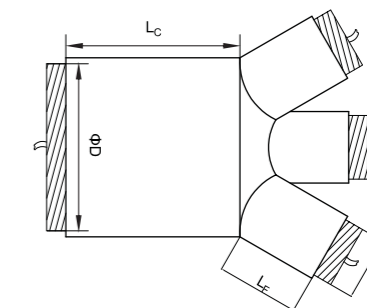
Cold Shrink Tube of High Shrinkage Ratio EPDM					
Product No.	Size	Application Range (mm/inch)	Length after Relaxed(mm/inch)	Material	Color
8435-L	Φ35	12.5 ~ 30/0.49 ~ 1.18	229 ~ 279/9 ~ 11	EPDM Rubber	Black
8440-L	Φ40	14 ~ 33/0.55 ~ 1.30	152 ~ 406/6 ~ 16	EPDM Rubber	Black
8453-L	Φ53	19 ~ 46/0.75 ~ 1.81	152 ~ 457/6 ~ 18	EPDM Rubber	Black
8460-10	Φ60	20.5 ~ 51/0.81 ~ 2.01	254/10	EPDM Rubber	Black
8470-L	Φ70	25 ~ 63/0.98 ~ 2.48	152 ~ 457/6 ~ 18	EPDM Rubber	Black
8480-13	Φ80	27.4 ~ 70/1.08 ~ 2.75	325/13	EPDM Rubber	Black

Remark: L indicates the required length after relaxed with the unit of mm or inch.

## WCSF Cold Shrink Silicone Rubber Breakout



- Manufactured from silicone rubber
- Simple and fast installation meeting a variety of configuration requirements
- Providing sealing protection over multi-core cable crutch, including 3-, 4-, 5-, 6-core breakouts



### Selection Table

Product No.	Cores	Ø C Expanded (max)/mm	Application Range / mm	ØF Expanded (max)/mm	Application Range/mm	L <sub>f</sub> /mm	L <sub>c</sub> /mm
WCSF 3-1(1#)	3	80	Ø48-Ø67	32	Ø19-Ø28	45	130
WCSF 3-2(2#)		88	Ø54-Ø78	35	Ø21-Ø31	45	135
WCSF 3-3(3#)		104	Ø62-Ø90	40	Ø25-Ø37	45	150
WCSF 3-4(4#)		120	Ø72-Ø105	47	Ø31-Ø45	45	165
WCSF 3-5(5#)		140	Ø88-Ø120	60	Ø36-Ø50	55	180
WCSF 3-5A1(6#)		150	Ø88-Ø128	65	Ø36-Ø52	55	180
WCSF 3-5A2(7#)		165	Ø88-Ø138	70	Ø36-Ø57	55	180
WCSF 4-1(1#)	4	65	Ø26-Ø45	20	Ø10-Ø14	35	126
WCSF 4-2(2#)		80	Ø36-Ø63	25	Ø12-Ø17	40	137
WCSF 4-3(3#)		88	Ø51-Ø75	32	Ø14-Ø21	40	145
WCSF 4-4(4#)		120	Ø56-Ø92	47	Ø19-Ø30	40	145
WCSF 5-1(1#)	5	80	Ø36-Ø62	20	Ø10-Ø14	40	123
WCSF 5-2(2#)		88	Ø46-Ø73	25	Ø12-Ø17	40	134
WCSF 5-3(3#)		110	Ø59-Ø95	35	Ø16-Ø22	45	138
WCSF 5-3A(4#)		120	Ø59-Ø110	40	Ø16-Ø25	45	138
WCSF 6-1(1#)	6	104	Ø44-Ø80	32	Ø14-Ø21	60	135
WCSF 6S-1(1#)		104	Ø44-Ø80	28 (3 small fingers)	Ø14-Ø21	60	135
				35 (3 big fingers)	Ø14-Ø24	60	135

Remark: 1. 6-Core breakouts (with 3 big fingers and 3 small fingers) are used on trailing cable, variable frequency cables, telecommunication cables, control cables, etc.  
2. Special specification is available per different requirements.

## WCSEB Cold Shrink EPDM Breakout

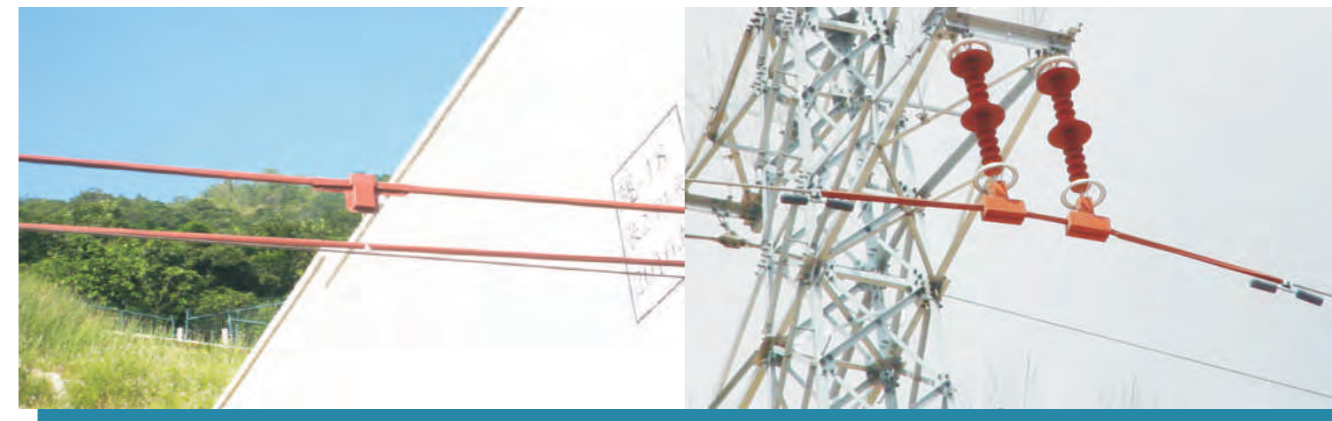


- Manufactured from EPDM rubber
- Simple and fast installation
- Meeting a variety of configuration requirements
- Providing sealing protection over multi-core cable crutch

### Selection Table

Product No.	Core	Base Diameter (Supplied)/mm	Application Range/mm	Finger Diameter (Suoplied)/mm	Application Range/mm	Base Length/mm	Finger length/mm
WCSEB 4-1(1#)	4	65	Ø26- Ø45	20	Ø10- Ø14	35	126
WCSEB 4-2(2#)		80	Ø36- Ø63	25	Ø12- Ø17	40	137
WCSEB 4-3(3#)		88	Ø51- Ø75	32	Ø14- Ø22	40	145
WCSEB 5-1(1#)	5	120	Ø70- Ø105	40	Ø21- Ø36	45	138

# COLD APPLIED CABLE ACCESSORIES



## WCSEC Cold Shrink End Cap



- Manufactured from EPDM rubber
- Meeting a variety of configuration requirements
- Providing sealing protection over multi-core cable ends
- Simple and fast installation, no tools required..
- Sealing tight, high rebound even after prolonged years of aging and exposure.
- No mastic or tape required.
- High resistance to fungus, acid, alkalis and ozone
- No training required for installation

### Selection Table

Product No.	ID as Supplied(Min) /mm	ID after Recovered (Max) /mm	Wall Thickness after Recovered/mm	Application Range/mm	Length/mm (±10%)
WCSEC-1	Ø20	Ø12	2.5	Ø13- Ø16	70
WCSEC-2	Ø28	Ø16	2.5	Ø18- Ø24	70
WCSEC-3	Ø47	Ø23	2.6	Ø25- Ø38	70
WCSEC-4	Ø80	Ø46	2.6	Ø48- Ø70	70

## WBH Silicone Rubber Protective Cover



- Manufactured from silicone rubber
- Used to provide environmental protection for various electrical connections
- Offering tailor-made solutions against specific requirements

### Selection Table

Part No.	Description	Color
WBH-BY1	Protective Covers for Inlets and Outlets	Red, Green, Yellow, Black
WBH-BY5	Protective Covers for Inlets and Outlets	Red, Green, Yellow, Black
WBH-BL2	Protective Covers for Inlets and Outlets	Red, Green, Yellow, Black
WBH-JL2	Protective Covers for Inlets and Outlets	Red, Green, Yellow, Black
WBH-DL2	Protective Covers for Outdoor Drop-off Fuser	Red, Green, Yellow, Black
WBH-DL5	Protective Covers for Outdoor Drop-off Fuser	Red, Green, Yellow, Black
WBH-DL7	Protective Covers for Outdoor Drop-off Fuser	Red, Green, Yellow, Black
WBH-DL9	Protective Covers for Outdoor Drop-off Fuser	Red, Green, Yellow, Black
WBH-XJ	Protective Covers for Overhead Wedge Clamp	Red, Green, Yellow, Black
WBH-NJ	Protective Cover for Tension Clamp	Red, Green, Yellow, Black
WBH-BG	Protective Cover for Parallel Groove Clamp	Red, Green, Yellow, Black
WBH-XJ2	Protective Cover for Suspension Clamp	Red, Green, Yellow, Gray

Feel free to contact us if you need more detailed information.

## WRSJB Busbar Cover



- Manufactured from cross linked polyolefin
- Widely used to protect complex busbar connections where tube products cannot be applied
- Offering tailor-made solutions against specific requirements
- Color: red, yellow, green, black

### Selection Table

No. (A×B)	I Type			T Type			L Type		
	L	W	H	L	W	H	L	W	H
30×8	95	35	50	105	35	60	70	35	60
40×8	125	45	50	140	45	60	75	45	55
50×8	135	55	55	155	55	65	90	55	65
60×8	165	65	75	165	65	75	100	65	75
80×10	185	85	75	195	85	75	130	85	75
100×10	220	105	75	215	105	75	140	105	75
120×10	235	125	75	245	125	75	165	125	75
150×10	260	155	75	285	155	75	195	155	75

### Remark:

L=length of cover; W=width of cover; H=height of cover

A=width of busbar; B=thickness of busbar

(All dimensions are in mm)

\*According to customer drawings the special products for a variety of inlet and outlet of transformers, fuses, switches, surge arresters and other protective cover are available.



## WSKG Silicone Rubber Overhead Line Cover



The silicone rubber overhead line cover is our patented product. It is made of silicone rubber which is highly resistant to aging, erosion and corona. It can provide protection against electrical outages caused by incidental contact from tree branches or wildlife.



- Made of silicone rubber
- High resistance to aging and erosion
- Providing insulation for catenaries, droppers and conductors against contact from trees or wildlife
- Simple and fast installation, widely used in emergency repairs or temporary insulation protection of equipment

### Selection Table

Product Size/mm	Φ12	Φ15.6	Φ17	Φ20	Φ24.2	Φ24.2	Φ32	Φ35	Φ39.8
Conductor Diameter/mm	7~10	10~13	13~15	15~18	18~23	23~28	28~30	30~33	33~37

Voltage	≤10kV	≤35kV	≤110kV	≤220kV
Thickness	2.3mm	2.3~3.0mm	4.0~6.0mm	6.0~8.0mm

## WRKG Overhead Line Cover



### Description

The overhead line cover is a cold-applied wraparound cover that provides insulation protection for overhead bare conductors and busbar. It can help prevent electrical outages caused by incidental contact from tree branches or wildlife.

### Feature

- Made of cross linked polyolefin
- Simple and fast wraparound installation
- Built-in creepage fitting with longer creepage distance and better performance
- High resistance to aging and erosion
- Superior UV and abrasion resistance
- New product sealed with adhesive is available for 25kV
- Voltage class: 15 kV, 25 kV

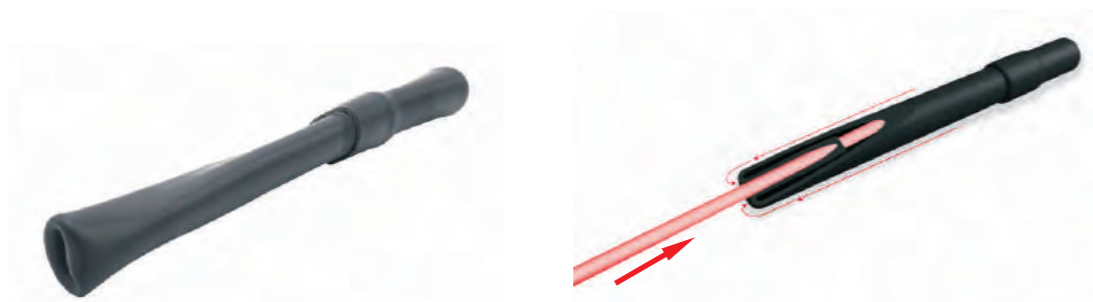
### Selection Table

Product No.	Conductor Diameter/mm	Conductor Cross Section/mm <sup>2</sup>	Roll of Length/m
Voltage class: 15kV			
WRKG-1	Φ14	up to 70	20
WRKG-2	Φ18	95	20
WRKG-3	Φ20	120~150	20
WRKG-4	Φ28	185~240	20
WRKG-5	Φ38	≥300	20
Voltage class: 25kV (Sealed with adhesive)			
WRKG-2*	Φ18	95	20
WRKG-3*	Φ20	120~150	20
WRKG-4*	Φ28	185~240	20
WRKG-5*	Φ38	≥300	20

### Technical Data

Property	Test Method	Standard Value
Operation Temperature	IEC 216	-45°C to 105°C
Tensile Strength	ASTM-D-638	≥12MPa
Elongation at Break	ASTM-D-638	≥400%
Tensile Strength after Aging	ASTM-D-638	≥10MPa (130°C, 168 hrs)
Elongation at Break after Aging	ASTM-D-638	≥320% (130°C, 168hrs)
Volume Resistivity	IEC 60093	≥1 × 10 <sup>13</sup> Ω · cm
Dielectric Strength	IEC 60243	≥20kV/mm(15kV series) ≥25kV/mm(35kV series)
Copper corrosion	ASTM-D-2671	No corrosion (120°C, 168 hrs)
Low temperature flexibility	ASTM-D-2671	No cracking (-40°C, 4hrs)

## WEYB Roll-on sealing tube



- Easy, “roll-on” way to insulate and seal cable connections up to 1kV
- Made of EPDM rubber, resisting damage from exposure to moisture, ozone, fungus and temperature extremes from -60°C to 150°C
- Dual-wall design with an entrapped lubricant, making installation fast and simple
- Rolls on the cable with minimal effort, even at temperature below -25°C
- Ideal for use where heating is not allowed
- Reusable

### Selection Table

Product No.	Tube length /mm	Application range		
		Cable size/mm <sup>2</sup>	Cable outer diameter /mm	Connection length /mm
WEYB-14	155 ± 5	95-185	12 ~ 20	≤100
WEYB-18	280 ± 5	240-400	18 ~ 28	≤200
WEYB-25	320 ± 5	500-800	26 ~ 38	≤230

### Technical Data

Property	Test Method	Standard Value
Tensile Strength	ISO 37	≥6.5MPa
Elongation at Break	ISO 34	≥500%
Water Absorption	ISO 62	≤0.5%
Flammability	GB/T 10707-2008	≤35mm/min
Dielectric Strength	IEC 60243	≥20kV/mm
Volume Resistivity	ASTM-D-2303	≥1 × 10 <sup>13</sup> Ω · cm

## WCAB Cold Applied Insulation Boot

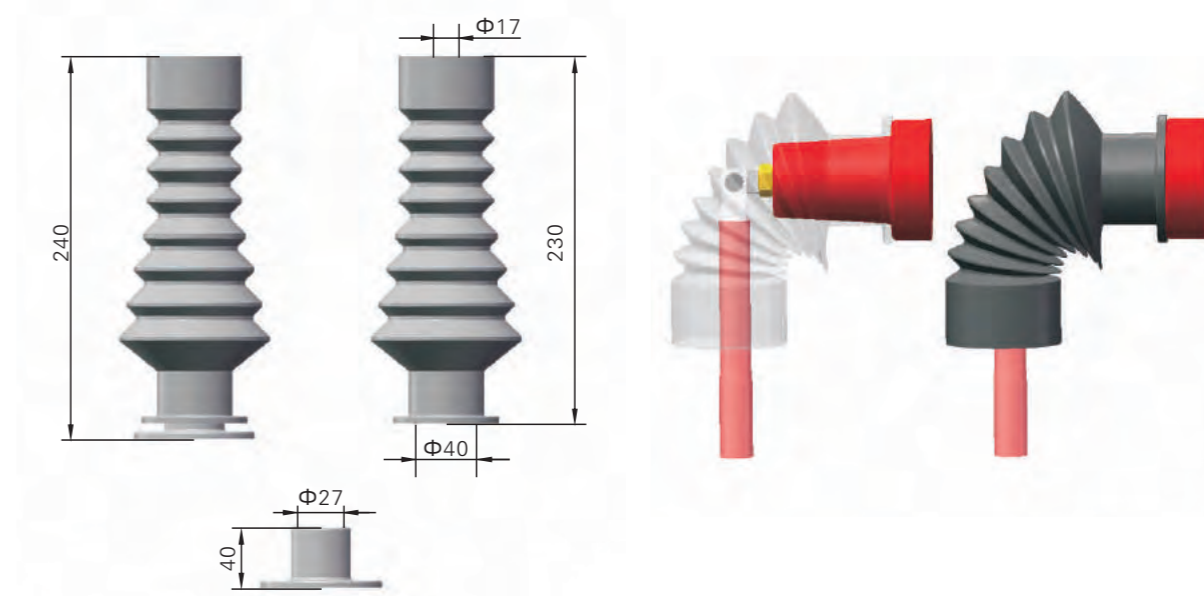


### Description

Woer elastomeric insulating boots are molded parts which fit over the connection between the cable lug and the inline or right-angled bushing to improve phase-to-phase and phase-to-ground insulation. They are used in switchgears and transformers where the clearances are insufficient for normal operation, or to protect against flashover rodents or high humidity.

### Features

- Made of silicone rubber
- Collar is optional for use where the bushing size is smaller
- Offering tailor-made solutions against specific requirements(size, color)
- Connection can be energized immediately after installation
- Excellent tracking and erosion resistance
- Removable and re-installable
- Fast and simple installation
- Unlimited shelf life



### Technical Data

Maximum System Voltage	17.5kV
Basic Impulse Level	95kV
Collar Size	27mm
Bushing Diameter	31-45mm
Bushing Types	250A/630A
Cable Cross Section	35-400mm <sup>2</sup>

# KEMA Certification

We have got KEMA report for these products as following:

- Type test certificate for 8.7/15kV cold shrink indoor termination
- Type test report for 8.7/15kV cold shrink joint
- Type test report for 19/33kV cold shrink indoor termination
- Type test report for 19/33kV cold shrink outdoor termination
- Type test report for 19/33kV cold shrink joint
- Type test report for 8.7/15kV heat shrink outdoor termination
- Type test report for 8.7/15kV heat shrink joint

