

## PCA TECHNOLOGIES

PLUG IN TO THE FUTURE



### **COMPANY PROFILE**



PCA Technologies manufacture and assemble products for cable accessories like Joints and Terminations and its associated components such as heatshrink tubing, earthing, glanding and so on; right from 1.1 kV to 36 kV.

We operate from our modern premises in India and operate an independently registered quality system too. Our extensive stockholding and kitting facility for cable type, size and voltage means we can offer complex and non-standard systems on an ex-stock basis.

#### **Quality and Service**

If you only want the lowest cost heatshrink kits, there are others who can help you. If however, you are looking for:

- reliable products that will last the life of the cable
- technical backup and service 24/7
- jointer training and fault analysis
- competitive prices and timely deliveries

Then you need to contact us and see why we are the partner of choice for many well known companies both here in the India and Overseas.

At PCA, quality is integral to what we offer.

#### **Export**

Our export market continues to increase, by closely working with appointed agents and electric utility companies.

We export to most parts of the world including Europe, The Middle / Far East and Africa.

We are always interested in working with experienced agents and are open to joint venture possibilities

## **INDEX**

Cable Jointing and Termination	Kits
T shaped Separable Connectors	1
T shaped Separable Coupling Connectors	3
Coupling Surge Arrester	5
Heat Shrink Cable Joints & Terminations - LV & MV	7

Heat Shrink Insulating Tubing	
Anti-Tracking Insulation tubing	15
High Insulation Tubing	17
High Insulation / Elastomeric Double Layer Tubing	19
Stress Control Tubing	21
Semi-Conductive / Insulation Double Layer Screened Insulating Composite Tubing	23
Semi-Conductive / Insulation / Elastomer Triple Layer Screened Insulating Composite Tubing	25
Medium Wall Insulation Tubing with / without Hot Melt Adhesive Coating	27
Medium Wall Insulation Tubing with Hot Melt Adhesive Lined	30
Heavy Wall Insulation Tubing with / without Hot Melt Adhesive Coating	31

Heat Shrink Moulded Components		
Heat Shrink Busbar Insulating Tube	34	
Heat Shrink Rain Sheds	36	
Heat Shrink Boots	37	
Heat Shrink Spreader Caps (Breakouts)	38	
Heat Shrink Cable End Caps	41	

Mechanical Connectors	
Mechanical connectors and mechanical Lugs	42
Branch Clamp / Ring Connectors	44
Aluminium ferrule	45
Aluminium lug	46

Earthing Components		
Tinned Copper Braids	47	
Insulated Copper Braids	48	
Copper Braid with Solder Blocks	49	
Jubilee Clips	50	
Support Rings	51	
Aluminium Back Up Rings	52	
Split Rings	53	
Tinned Copper Wire	54	
Constant Force Springs	55	
Glands	56	
Link Boxes with / without SVL	58	

Mastics, Sealants and Grease	
Yellow Stress Control / Void Filler Mastic	60
Red Anti-Tracking Mastic	61
Black Mastic	62
Silicone Grease	63

Mechanical Protection C	omponents
Venetian Blind Canister	64
GI Wire Mesh	67

Cable Screening Components	
Copper Braided Tube	69
Copper Wire Mesh	70

Tapes	
Self-Amalgamating EPR Insulating Tapes	71
Self-Amalgamating EPR Conducting Tapes	72
Silicone Self-Amalgamating Tapes	73

Other Accessories	
Al Oxide Cloth	74
Stainless Steel Cable Ties	75

#### T SHAPED SEPARABLE CONNECTORS

#### PTPSC 630A / PTPSC 1250A



PCA T Connectors are suitable for Transformer , Switchgear , HT Motors & other applications. The T Connectors are compatible with Type "C" Bushing (designed as per EN standard 50180 & 50181) & are used with solid dielectric cables (XLPE, EPR or PVC) up to 36kV.

#### **Features:**

- Capacitive Measuring point
- Pre-tested EPDM bodies
- Cable Sheath testing on live connectors
- Integrated Mechanical Connector
- o Unlimited Shelf Life

#### **Applications:**

- Copper or Aluminium Conductors
- Indoor or outdoor
- 6.6kV to 36kV single / 3 core polymeric cables
- CN / IS / IEC Standards

<u>Kit Contents</u> - Moulded EPDM bodies, Stress Control Elements, Earthing Kit, Connectors, Trifurcation Kit (for 3 core cables)

#### **PTPSC 630A**

		11 kV	22 kV	33 kV
Туре	Ø min* (mm)	No	minal Cross Sect (Sqmm)	tion
	Uo/U (Um) 6.6/11 (12) kV -	12.7/22 (24) kV		
PTPSC	14.7	50-95	25-70	
630A	22.0	150-240	95-240	
24 kV	23.7	240-400	240-400	
	Uo/U (Um) 12.7/22 (24) kV	- 19/33 (36) kV		<del>10.</del>
	22.0		95-95	35-95
PTPSC	22.0		95-240	95-150
630A 36 kV	30.8		240-240	150-240
	31.5		300-400	240-400

#### **PTPSC 1250A**

		11 kV	22 kV	33 kV
Туре	Ø min* (mm)	Nominal Cross Section (Sqmm)		
	Uo/U (Um) 6.6/11 (12) kV -	12.7/22 (24) kV		
PTPSC 1250A 24 kV	33.4	500-630	400-630	
	U <sub>o</sub> /U (U <sub>m</sub> ) 12.7/22 (24) kV - 19/33 (36) kV			
PTPSC 1250A 36 kV	39.1		630	400-630

<sup>\*</sup>min. ø over core insulation after removal of the outer conductive layer

#### T SHAPED SEPARABLE COUPLING CONNECTORS

#### PTPCC-630A



PCA T Connectors are suitable for Transformer, Switchgear, HT Motors & other applications. The T Connectors are compatible with Type "C" Bushing (designed as per EN standard 50180 & 50181) & are used with solid dielectric cables (XLPE, EPR or PVC) up to 36kV.

Touch Proof Coupling Connectors PTPCC are designed to connect back end of Touch Proof Separable Connectors PTPSC for parallel connections.

#### **Features:**

- Capacitive Measuring point
- Pre-tested EPDM bodies
- Cable Sheath testing on live connectors
- Integrated Mechanical Connector
- Unlimited Shelf Life

#### **Applications:**

- For Back to Back Connections
- Copper or Aluminium Conductors
- Indoor or outdoor
- 6.6kV to 36kV single / 3 core polymeric cables
- CN / IS / IEC Standards

<u>Kit Contents</u> - Moulded EPDM bodies, Stress Control Elements, Earthing Kit, Connectors, Trifurcation Kit (for 3 core cables)

#### **PTPCC 630A**

		11 kV	22 kV	33 kV
Туре	Ø min* (mm)	No	ominal Cross Secti (Sqmm)	ion
	Uo/U (Um) 6.6/11 (12) kV	- 12.7/22 (24) kV		711
PTPCC	14.7	50-95	25-70	
630A 24 kV	22.0	150-240	95-240	
	Uo/U (Um) 12.7/22 (24) kV	′ - 19/33 (36) kV		
PTPCC	22.0		95-95	35-95
630A	30.8		240-240	150-240
36 kV	31.5		300-400	240-400

\*min. ø over core insulation after removal of the outer conductive layer

#### **COUPLING SURGE ARRESTER**

## PTPCSA



The screened gapless surge arrester is a "T"-shaped product. It is designed for direct connection onto outer cone bushings in accordance to EN50180 & EN50181 with interface type "C" or for parallel connection mating to the rear entry of the base T Connectors designed for system voltage up to 36 kV.

#### **Features:**

- For protection of cable
- Capacitive Measuring point
- Unlimited Shelf Life

#### **Applications:**

Indoor

**<u>Kit Contents</u>** - Surge Arrester with Pre-Moulded body

Class 1 - for separable connector type PTPSC

Ту	pe	L (mm)	B (mm)	H (mm)
	12 kV	290	80	380
DTDCCA	17 kV	290	80	380
PTPCSA	19.5 kV	290	80	380
	24 kV	290	80	380

Class 2 - for separable connector type PTPSC

Ту	pe	L (mm)	B (mm)	H (mm)
PTPCSA	34 kV	290	80	380

## **HEAT SHRINK CABLE JOINTS & TERMINATIONS**

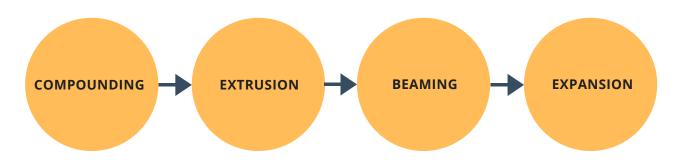


Worldwide, Heat Shrink technology is widely used to Joint and Terminate MV electric cables. The technology deploys Heat Shrink tubings and moulded shapes.

#### **Heat Shrink Tubings**

Heat Shrink Technology uses speciality polymers, extruded into tubings and moulded into various shapes for providing a range taking, long lasting, easy to install technique for Jointing and Terminating MV solid dielectric and paper insulated cables.

The formulation uses polyolefins mixed with various chemicals to make it suitable for use over cables. The following process is followed:



Process of Heat Shrink Tube manufacturing

#### **Moulded Shapes**

Generally, the moulded shapes are designed to insulate, provide environmental seals, anti-tracking surfaces and creepage extensions.

These are normally injection moulded and expanded using SPM's and special mandrels / fixtures.



Tin plated Al and Cu alloys

#### **Conductor Connection**

The conductors used for cables are generally aluminium or copper. For joining / terminating these conductors the following technologies are used for underground cables:

- Crimping
- Thermal Welding
- Mechanical Connectors
- Insulation Piercing Device (LV)

PCA Cable Joints are designed to accommodate crimp and mechanical connectors.

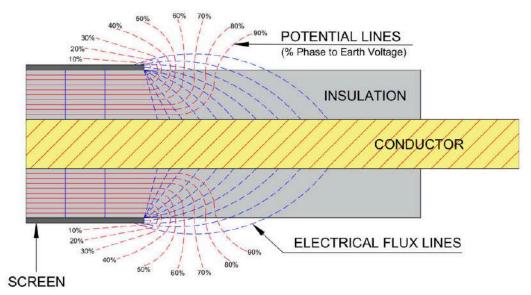
#### **Designs**

Standard kit designs are based on cables conforming to IEC / IS standards.

PCA excels in designs of customised cable accessories as per the application and need of its customers.

Key variables necessitating customisation:

- Cable dielectric
- Cable construction and dimensions
- Electric stress
- System fault levels
- Earthing parameters
- Application



Electric Stress in an XLPE Cable

<sup>\*</sup>Customised designs of H.S Joints and Termination are available on request

#### PCA 1.1kV - 1 Core XLPE/PVC Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
16	PIHX-00-1C-16	POHX-00-1C-16	PSHX-00-1C-16
25	PIHX-00-1C-25	POHX-00-1C-25	PSHX-00-1C-25
35	PIHX-00-1C-35	POHX-00-1C-35	PSHX-00-1C-35
50	PIHX-00-1C-50	POHX-00-1C-50	PSHX-00-1C-50
70	PIHX-00-1C-70	POHX-00-1C-70	PSHX-00-1C-70
95	PIHX-00-1C-95	POHX-00-1C-95	PSHX-00-1C-95
120	PIHX-00-1C-120	POHX-00-1C-120	PSHX-00-1C-120
150	PIHX-00-1C-150	POHX-00-1C-150	PSHX-00-1C-150
185	PIHX-00-1C-185	POHX-00-1C-185	PSHX-00-1C-185
240	PIHX-00-1C-240	POHX-00-1C-240	PSHX-00-1C-240
300	PIHX-00-1C-300	POHX-00-1C-300	PSHX-00-1C-300
500	PIHX-00-1C-500	POHX-00-1C-500	PSHX-00-1C-500
630	PIHX-00-1C-630	POHX-00-1C-630	PSHX-00-1C-630
800	PIHX-00-1C-800	POHX-00-1C-800	PSHX-00-1C-800
1000	PIHX-00-1C-1000	POHX-00-1C-1000	PSHX-00-1C-1000

#### PCA 1.1kV - 3/3.5/4 Core XLPE/PVC Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
4	PIHX-00-XC-4	POHX-00-XC-4	PSHX-00-XC-4
6	PIHX-00-XC-6	POHX-00-XC-6	PSHX-00-XC-6
10	PIHX-00-XC-10	POHX-00-XC-10	PSHX-00-XC-10
16	PIHX-00-XC-16	POHX-00-XC-16	PSHX-00-XC-16
25	PIHX-00-XC-25	POHX-00-XC-25	PSHX-00-XC-25
35	PIHX-00-XC-35	POHX-00-XC-35	PSHX-00-XC-35
50	PIHX-00-XC-50	POHX-00-XC-50	PSHX-00-XC-50
70	PIHX-00-XC-70	POHX-00-XC-70	PSHX-00-XC-70
95	PIHX-00-XC-95	POHX-00-XC-95	PSHX-00-XC-95
120	PIHX-00-XC-120	POHX-00-XC-120	PSHX-00-XC-120
150	PIHX-00-XC-150	POHX-00-XC-150	PSHX-00-XC-150
185	PIHX-00-XC-185	POHX-00-XC-185	PSHX-00-XC-185
240	PIHX-00-XC-240	POHX-00-XC-240	PSHX-00-XC-240
300	PIHX-00-XC-300	POHX-00-XC-300	PSHX-00-XC-300
500	PIHX-00-XC-500	POHX-00-XC-500	PSHX-00-XC-500
630	PIHX-00-XC-630	POHX-00-XC-630	PSHX-00-XC-630

<sup>\*</sup>Number of Cores to be specified by customer at the time of order

## PCA 3.3kV (E) - 1 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
16	PIHX-03-1C-16	POHX-03-1C-16	PSHX-03-1C-16
25	PIHX-03-1C-25	POHX-03-1C-25	PSHX-03-1C-25
35	PIHX-03-1C-35	POHX-03-1C-35	PSHX-03-1C-35
50	PIHX-03-1C-50	POHX-03-1C-50	PSHX-03-1C-50
70	PIHX-03-1C-70	POHX-03-1C-70	PSHX-03-1C-70
95	PIHX-03-1C-95	POHX-03-1C-95	PSHX-03-1C-95
120	PIHX-03-1C-120	POHX-03-1C-120	PSHX-03-1C-120
150	PIHX-03-1C-150	POHX-03-1C-150	PSHX-03-1C-150
185	PIHX-03-1C-185	POHX-03-1C-185	PSHX-03-1C-185
240	PIHX-03-1C-240	POHX-03-1C-240	PSHX-03-1C-240
300	PIHX-03-1C-300	POHX-03-1C-300	PSHX-03-1C-300
500	PIHX-03-1C-500	POHX-03-1C-500	PSHX-03-1C-500
630	PIHX-03-1C-630	POHX-03-1C-630	PSHX-03-1C-630
800	PIHX-03-1C-800	POHX-03-1C-800	PSHX-03-1C-800
1000	PIHX-03-1C-1000	POHX-03-1C-1000	PSHX-03-1C-1000

## PCA 3.3kV (E) - 3 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
16	PIHX-03-3C-16	POHX-03-3C-16	PSHX-03-3C-16
25	PIHX-03-3C-25	POHX-03-3C-25	PSHX-03-3C-25
35	PIHX-03-3C-35	POHX-03-3C-35	PSHX-03-3C-35
50	PIHX-03-3C-50	POHX-03-3C-50	PSHX-03-3C-50
70	PIHX-03-3C-70	POHX-03-3C-70	PSHX-03-3C-70
95	PIHX-03-3C-95	POHX-03-3C-95	PSHX-03-3C-95
120	PIHX-03-3C-120	POHX-03-3C-120	PSHX-03-3C-120
150	PIHX-03-3C-150	POHX-03-3C-150	PSHX-03-3C-150
185	PIHX-03-3C-185	POHX-03-3C-185	PSHX-03-3C-185
240	PIHX-03-3C-240	POHX-03-3C-240	PSHX-03-3C-240
300	PIHX-03-3C-300	POHX-03-3C-300	PSHX-03-3C-300
500	PIHX-03-3C-500	POHX-03-3C-500	PSHX-03-3C-500
630	PIHX-03-3C-630	POHX-03-3C-630	PSHX-03-3C-630

### PCA 3.3 kV (UE) - 6.6 kV (E) - 1 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
16	PIHX-06-1C-16	POHX-06-1C-16	PSHX-06-1C-16
25	PIHX-06-1C-25	POHX-06-1C-25	PSHX-06-1C-25
35	PIHX-06-1C-35	POHX-06-1C-35	PSHX-06-1C-35
50	PIHX-06-1C-50	POHX-06-1C-50	PSHX-06-1C-50
70	PIHX-06-1C-70	POHX-06-1C-70	PSHX-06-1C-70
95	PIHX-06-1C-95	POHX-06-1C-95	PSHX-06-1C-95
120	PIHX-06-1C-120	POHX-06-1C-120	PSHX-06-1C-120
150	PIHX-06-1C-150	POHX-06-1C-150	PSHX-06-1C-150
185	PIHX-06-1C-185	POHX-06-1C-185	PSHX-06-1C-185
240	PIHX-06-1C-240	POHX-06-1C-240	PSHX-06-1C-240
300	PIHX-06-1C-300	POHX-06-1C-300	PSHX-06-1C-300
500	PIHX-06-1C-500	POHX-06-1C-500	PSHX-06-1C-500
630	PIHX-06-1C-630	POHX-06-1C-630	PSHX-06-1C-630
800	PIHX-06-1C-800	POHX-06-1C-800	PSHX-06-1C-800
1000	PIHX-06-1C-1000	POHX-06-1C-1000	PSHX-06-1C-1000

### PCA 3.3 kV (E/UE) - 6.6 kV (E) - 3 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
16	PIHX-06-3C-16	POHX-06-3C-16	PSHX-06-3C-16
25	PIHX-06-3C-25	POHX-06-3C-25	PSHX-06-3C-25
35	PIHX-06-3C-35	POHX-06-3C-35	PSHX-06-3C-35
50	PIHX-06-3C-50	POHX-06-3C-50	PSHX-06-3C-50
70	PIHX-06-3C-70	POHX-06-3C-70	PSHX-06-3C-70
95	PIHX-06-3C-95	POHX-06-3C-95	PSHX-06-3C-95
120	PIHX-06-3C-120	POHX-06-3C-120	PSHX-06-3C-120
150	PIHX-06-3C-150	POHX-06-3C-150	PSHX-06-3C-150
185	PIHX-06-3C-185	POHX-06-3C-185	PSHX-06-3C-185
240	PIHX-06-3C-240	POHX-06-3C-240	PSHX-06-3C-240
300	PIHX-06-3C-300	POHX-06-3C-300	PSHX-06-3C-300
500	PIHX-06-3C-500	POHX-06-3C-500	PSHX-06-3C-500
630	PIHX-06-3C-630	POHX-06-3C-630	PSHX-06-3C-630

## PCA 6.6 kV (UE) - 11 kV (E) - 1 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
16	PIHX-11-1C-16	POHX-11-1C-16	PSHX-11-1C-16
25	PIHX-11-1C-25	POHX-11-1C-25	PSHX-11-1C-25
35	PIHX-11-1C-35	POHX-11-1C-35	PSHX-11-1C-35
50	PIHX-11-1C-50	POHX-11-1C-50	PSHX-11-1C-50
70	PIHX-11-1C-70	POHX-11-1C-70	PSHX-11-1C-70
95	PIHX-11-1C-95	POHX-11-1C-95	PSHX-11-1C-95
120	PIHX-11-1C-120	POHX-11-1C-120	PSHX-11-1C-120
150	PIHX-11-1C-150	POHX-11-1C-150	PSHX-11-1C-150
185	PIHX-11-1C-185	POHX-11-1C-185	PSHX-11-1C-185
240	PIHX-11-1C-240	POHX-11-1C-240	PSHX-11-1C-240
300	PIHX-11-1C-300	POHX-11-1C-300	PSHX-11-1C-300
500	PIHX-11-1C-500	POHX-11-1C-500	PSHX-11-1C-500
630	PIHX-11-1C-630	POHX-11-1C-630	PSHX-11-1C-630
800	PIHX-11-1C-800	POHX-11-1C-800	PSHX-11-1C-800
1000	PIHX-11-1C-1000	POHX-11-1C-1000	PSHX-11-1C-1000

## PCA 6.6 kV (UE) - 11 kV (E) - 3 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
16	PIHX-11-3C-16	POHX-11-3C-16	PSHX-11-3C-16
25	PIHX-11-3C-25	POHX-11-3C-25	PSHX-11-3C-25
35	PIHX-11-3C-35	POHX-11-3C-35	PSHX-11-3C-35
50	PIHX-11-3C-50	POHX-11-3C-50	PSHX-11-3C-50
70	PIHX-11-3C-70	POHX-11-3C-70	PSHX-11-3C-70
95	PIHX-11-3C-95	POHX-11-3C-95	PSHX-11-3C-95
120	PIHX-11-3C-120	POHX-11-3C-120	PSHX-11-3C-120
150	PIHX-11-3C-150	POHX-11-3C-150	PSHX-11-3C-150
185	PIHX-11-3C-185	POHX-11-3C-185	PSHX-11-3C-185
240	PIHX-11-3C-240	POHX-11-3C-240	PSHX-11-3C-240
300	PIHX-11-3C-300	POHX-11-3C-300	PSHX-11-3C-300
500	PIHX-11-3C-500	POHX-11-3C-500	PSHX-11-3C-500
630	PIHX-11-3C-630	POHX-11-3C-630	PSHX-11-3C-630

## PCA 11 kV (UE) - 22 kV (E) - 1 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation
35	PIHX-22-1C-35	POHX-22-1C-35	PSHX-22-1C-35
50	PIHX-22-1C-50	POHX-22-1C-50	PSHX-22-1C-50
70	PIHX-22-1C-70	POHX-22-1C-70	PSHX-22-1C-70
95	PIHX-22-1C-95	POHX-22-1C-95	PSHX-22-1C-95
120	PIHX-22-1C-120	POHX-22-1C-120	PSHX-22-1C-120
150	PIHX-22-1C-150	POHX-22-1C-150	PSHX-22-1C-150
185	PIHX-22-1C-185	POHX-22-1C-185	PSHX-22-1C-185
240	PIHX-22-1C-240	POHX-22-1C-240	PSHX-22-1C-240
300	PIHX-22-1C-300	POHX-22-1C-300	PSHX-22-1C-300
500	PIHX-22-1C-500	POHX-22-1C-500	PSHX-22-1C-500
630	PIHX-22-1C-630	POHX-22-1C-630	PSHX-22-1C-630
800	PIHX-22-1C-800	POHX-22-1C-800	PSHX-22-1C-800
1000	PIHX-22-1C-1000	POHX-22-1C-1000	PSHX-22-1C-1000

## PCA 11 kV (UE) - 22 kV (E) - 3 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation	
35	PIHX-22-3C-35	POHX-22-3C-35	PSHX-22-3C-35	
50	PIHX-22-3C-50	POHX-22-3C-50	PSHX-22-3C-50	
70	PIHX-22-3C-70	POHX-22-3C-70	PSHX-22-3C-70	
95	PIHX-22-3C-95	POHX-22-3C-95	PSHX-22-3C-95	
120	PIHX-22-3C-120	POHX-22-3C-120	PSHX-22-3C-120	
150	PIHX-22-3C-150	POHX-22-3C-150	PSHX-22-3C-150	
185	PIHX-22-3C-185	POHX-22-3C-185	PSHX-22-3C-185	
240	PIHX-22-3C-240	POHX-22-3C-240	PSHX-22-3C-240	
300	PIHX-22-3C-300	POHX-22-3C-300	PSHX-22-3C-300	
500	PIHX-22-3C-500	POHX-22-3C-500	PSHX-22-3C-500	
630	PIHX-22-3C-630	POHX-22-3C-630	PSHX-22-3C-630	

## PCA 33 kV (E) - 1 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation	
35	PIHX-33-1C-35	POHX-33-1C-35	PSHX-33-1C-35	
50	PIHX-33-1C-50	POHX-33-1C-50	PSHX-33-1C-50	
70	PIHX-33-1C-70	POHX-33-1C-70	PSHX-33-1C-70	
95	PIHX-33-1C-95	POHX-33-1C-95	PSHX-33-1C-95	
120	PIHX-33-1C-120	POHX-33-1C-120	PSHX-33-1C-120	
150	PIHX-33-1C-150	POHX-33-1C-150	PSHX-33-1C-150	
185	PIHX-33-1C-185	POHX-33-1C-185	PSHX-33-1C-185	
240	PIHX-33-1C-240	POHX-33-1C-240	PSHX-33-1C-240	
300	PIHX-33-1C-300	POHX-33-1C-300	PSHX-33-1C-300	
500	PIHX-33-1C-500	POHX-33-1C-500	PSHX-33-1C-500	
630	PIHX-33-1C-630	POHX-33-1C-630	PSHX-33-1C-630	
800	PIHX-33-1C-800	POHX-33-1C-800	PSHX-33-1C-800	
1000	PIHX-33-1C-1000	POHX-33-1C-1000	PSHX-33-1C-1000	

## PCA 33 kV (E) - 3 Core XLPE Cable Kits

Cable Size (Sqmm)	Indoor Termination Product Designation	Outdoor Termination Product Designation	Straight Through Joints Product Designation	
35	PIHX-33-3C-35	POHX-33-3C-35	PSHX-33-3C-35	
50	PIHX-33-3C-50	POHX-33-3C-50	PSHX-33-3C-50	
70	PIHX-33-3C-70	POHX-33-3C-70	PSHX-33-3C-70	
95	PIHX-33-3C-95	POHX-33-3C-95	PSHX-33-3C-95	
120	PIHX-33-3C-120	POHX-33-3C-120	PSHX-33-3C-120	
150	PIHX-33-3C-150	POHX-33-3C-150	PSHX-33-3C-150	
185	PIHX-33-3C-185	POHX-33-3C-185	PSHX-33-3C-185	
240	PIHX-33-3C-240	POHX-33-3C-240	PSHX-33-3C-240	
300	PIHX-33-3C-300	POHX-33-3C-300	PSHX-33-3C-300	
500	PIHX-33-3C-500	POHX-33-3C-500	PSHX-33-3C-500	

#### ANTI-TRACKING INSULATION TUBING

#### PAT



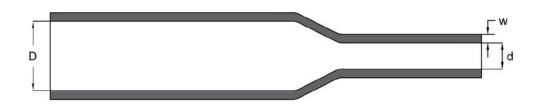
#### **Typical Application:**

MV Cable terminations

In areas of extreme environmental conditions and high electrical stress, the tubing protects Cable insulation & or substrates from erosion caused by leakage current. The antitracking sealant provides a moisture proof environmental seal to the substrate.

The tubing is normally used in Cable Terminations for voltages > 1 kV.

It is available in various sizes, generally expanded in the ratio 3:1 to make it range taking.



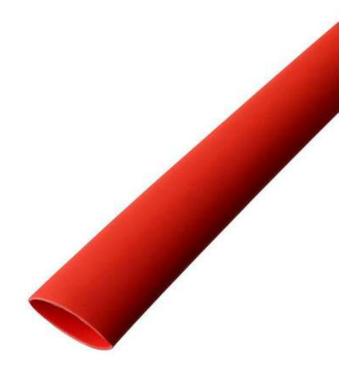
Product	Size	As Supplied (mm)	After Recovered (mm)		Standard Length
Designation		D*(Min.)	d*(Max.)	w(Min.)	
PAT-1	19/6	19	6	2.5	30m/spool or 0.5-1.5m
PAT-2	30/10	30	10	2.9	30m/spool or 0.5-1.5m
PAT-3	38/12	38	12	2.9	30m/spool or 0.5-1.5m
PAT-4	40/16	40	16	2.9	30m/spool or 0.5-1.5m
PAT-5	49/16	49	16	2.9	30m/spool or 0.5-1.5m
PAT-6	55/18	55	18	2.9	30m/spool or 0.5-1.5m
PAT-7	65/21	65	21	3.3	30m/spool or 0.5-1.5m
PAT-8	75/25	75	25	3.5	30m/spool or 0.5-1.5m
PAT-9	85/29	85	29	3.5	30m/spool or 0.5-1.5m
PAT-10	100/40	100	40	4.0	0.5-1.5m
PAT-11	130/50	130	50	4.0	0.5-1.5m

D\* = Inner diameter as supplied

d\* = Inner diameter after fully recovered

#### HIGH INSULATION TUBING

## PGT



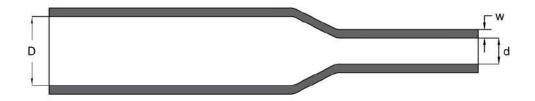
#### **Typical Application:**

MV Cable Joints

The tubing provides an excellent insulating cover over the connection of jointed single and multicore cables. Tubing is used in joints for cables with solid dielectric XLPE, rubber, PVC or PILC (MI/MIND) insulation.

The tubing is normally used in Cable Joints for voltages > 1 kV.

It is available in various sizes, generally expanded in the ratio 2.5+:1 to make it range taking.



Product Designation	Size	As Supplied After Recovered (mm)		Standard Length	
	(mm)	D*(Min.)	d*(Max.)	w(Min.)	(m)
PGT-1	35/12	35	12	3.2	1.0-1.5m
PGT-2	45/14	45	14	3.5	1.0-1.5m
PGT-3	52/15	52	15	3.9	1.0-1.5m
PGT-4	55/18	55	18	3.9	1.0-1.5m
PGT-5	66/20	66	20	4.4	1.0-1.5m
PGT-6	75/25	75	25	4.7	1.0-1.5m
PGT-7	95/30	95	30	4.7	1.0-1.5m

D\* = Inner diameter as supplied d\* = Inner diameter after fully recovered

# HIGH INSULATION / ELASTOMERIC DOUBLE LAYER TUBING

PEGT



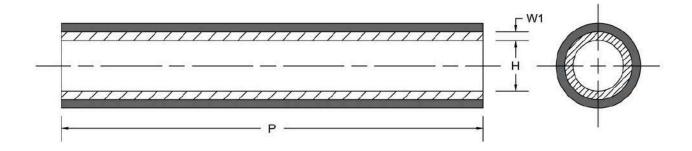
#### **Typical Application:**

MV Cable Joints

The tubing provides an excellent insulating cover over the connection of jointed single and multicore cables. Tubing is used in joints for cables with solid dielectric XLPE, rubber, PVC or PILC (MI/MIND) insulation. The tubing is a dual wall tubing with an inner Elastomeric Layer and a heat shrink outer layer.

The tubing is normally used in Cable Joints for voltages > 1 kV.

It is available in various sizes, generally expanded in the ratio 2.4+:1 to make it range taking.



Product Designation	H a (mm) Min.	H b (mm) Max.	W1 b (mm) nom.	W2 b (mm) Min.	W1+W2 b (mm) Min.	P Standard Length (m)
PEGT-1	42	16	1.9	2.0	3.9	0.38-1.5
PEGT-2	54	21	1.9	2.0	3.9	0.38-1.5
PEGT-3	62	26	1.9	2.0	3.9	0.38-1.5
PEGT-4	55	20	2.9	3.0	5.9	0.38-1.22
PEGT-5	62	25	2.9	3.0	5.9	0.38-1.22
PEGT-6	70	30	2.9	3.0	5.9	0.38-1.22
PEGT-7	80	34	2.9	3.0	5.9	0.38-1.22
PEGT-8	95	40	2.9	3.0	5.9	0.38-1.22

a = As supplied

b = After free recovery

#### STRESS CONTROL TUBING

## PSCT



#### **Typical Application:**

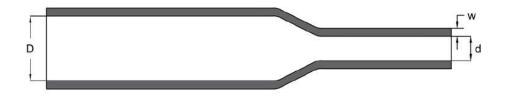
■ MV Cable Terminations & Joints

The Stress control tubing provides the stress control function for cable terminations & joints of solid dielectric XLPE, rubber, PVC or PILC (MI/MIND) insulated screened cables.

The tubing is normally used in MV Cable Joints & terminations > 3.3 kV.

It is available in various sizes, generally expanded in the ratio 2+:1 to make it range taking.

Design software for customised applications / selection available.



## **Stress Control Tubing for upto 24kv**

Product	Size	As Supplied After Recovered (mm) (mm)		Standard Length	
Designation	(mm)	D*(Min.)	d*(Max.)	w(Min.)	(m)
PSCT-21	26/10	26	10	2.1	15m/spool or 1.0-1.5m
PSCT-22	30/12	30	12	2.2	15m/spool or 1.0-1.5m
PSCT-23	35/15	35	15	2.3	15m/spool or 1.0-1.5m
PSCT-24	40/16	40	16	2.4	15m/spool or 1.0-1.5m
PSCT-25	47/18	47	18	2.4	15m/spool or 1.0-1.5m
PSCT-26	55/21	55	21	2.4	15m/spool or 1.0-1.5m
PSCT-27	65/25	65	25	2.4	15m/spool or 1.0-1.5m
PSCT-28	75/30	75	30	2.4	15m/spool or 1.0-1.5m

### **Stress Control Tubing for upto 36kv**

Product Designation	Size	As Supplied (mm)			Standard Length
	(mm)	D*(Min.)	d*(Max.)	w(Min.)	(m)
PSCT-31	35/15	35	15	2.3	15m/spool or 1.0-1.5m
PSCT-32	47/18	47	18	2.4	15m/spool or 1.0-1.5m
PSCT-33	55/21	55	21	2.4	15m/spool or 1.0-1.5m
PSCT-34	65/25	65	25	2.4	15m/spool or 1.0-1.5m
PSCT-35	75/30	75	30	2.4	15m/spool or 1.0-1.5m

D\* = Inner diameter as supplied

d\* = Inner diameter after fully recovered

# SEMI-CONDUCTIVE / INSULATION DOUBLE LAYER SCREENED INSULATING COMPOSITE TUBING

**PDWT** 



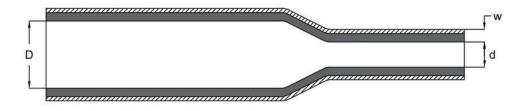
#### **Typical Application:**

MV Cable joints

It is a screened insulating, composite tubing. The inner layer provides an excellent insulating layer over the connection of jointed single and multicore cables. The outer layer provides a conductive layer (screen function) for joints used on cables with XLPE or rubber or PVC insulation and on paper insulated cables.

The tubing is normally used in MV Cable Joints > 1kV.

It is available in various sizes, generally expanded in the ratio 2.5+:1 to make it range taking.



Product	Size	As Supplied After Recovered (mm) (mm)		Standard Length	
Designation	(mm)	D*(Min.)	d*(Max.)	w(Min.)	(m)
PDWT-1	36/12	36	12	5.4	1.0-1.2
PDWT-2	45/15	45	15	5.4	1.0-1.2
PDWT-3	55/18	55	18	5.4	1.0-1.2
PDWT-4	65/22	65	22	6.0	1.0-1.2
PDWT-5	73/26	73	26	6.0	1.0-1.2
PDWT-6	85/30	85	30	6.0	1.0-1.2
PDWT-7	95/34	95	34	6.0	1.0-1.2
PDWT-8	100/38	100	38	6.0	1.0-1.2
PDWT-9	115/34	115	34	6.0	1.0-1.2
PDWT-10	120/45	120	45	6.1	1.0-1.2

D\* = Inner diameter as supplied

d\* = Inner diameter after fully recovered

# SEMI-CONDUCTIVE / INSULATION / ELASTOMER TRIPLE LAYER SCREENED INSULATING COMPOSITE TUBING

PTRT



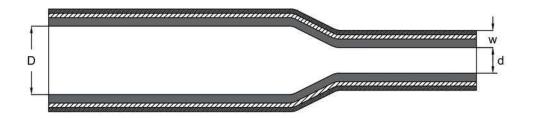
#### **Typical Application:**

MV & HV Cable Joints

It is a triple extruded composite joint sleeve. The combination of the inner elastomeric layer and the heat-shrink middle layer provides a reliable insulation replacement over the connection of jointed cables. The black outer layer is conductive and provides the screening function.

The tubing is normally used in MV & HV (72kV) Cable Joints > 1kV.

It is available in various sizes, generally expanded in the ratio 2.5+:1 to make it range taking.



Product	Size	As Supplied After Recovered (mm) (mm)		Standard Length	
Designation	(mm)	D*(Min.)	d*(Max.)	w(Min.)	(m)
PTRT-1	36/12	36	12	7.3	1.0-1.22
PTRT-2	46/15	46	15	7.3	1.0-1.22
PTRT-3	50/18	50	18	7.3	1.0-1.22
PTRT-4	56/21	56	21	7.3	1.0-1.22
PTRT-5	62/25	62	25	7.3	1.0-1.22
PTRT-6	70/30	70	30	7.3	1.0-1.22
PTRT-7	80/36	80	36	7.3	1.0-1.22
PTRT-8	95/40	95	40	7.3	1.0-1.22
PTRT-9	120/50	120	50	7.3	1.0-1.22

D\* = Inner diameter as supplied d\* = Inner diameter after fully recovered

## MEDIUM WALL INSULATION TUBING WITH / WITHOUT HOT MELT ADHESIVE COATING

PRA2 / PR2



#### **Typical Application:**

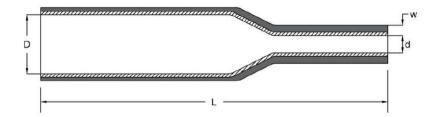
■ LV & MV Cable Joints & Terminations

It is a general-purpose medium wall tubing supplied with (co-extruded) or without adhesive coating. It is used for cable outer sheath replacement, sealing and corrosion protection or uncoated as an insulating material or protective cover for LV & MV Cables.

The tubing is normally used in LV & MV Cable Joints & terminations from 1kV onwards.

It is available in various sizes, generally expanded in the ratio 3+:1 to make it range taking.

## **Insulation Tubing with Hot Melt Adhesive Coating - PRA2**

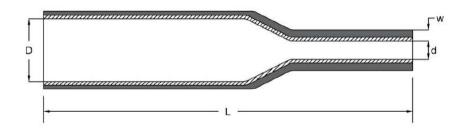


Product	Size	As Supplied (mm)			Standard Length
Designation	(mm)	D*(Min.)	d*(Max.)	w(Min.)	(m)
PRA2-1	8/2	8	2	1.8	1.0-1.5
PRA2-2	12/3	12	3	1.8	1.0-1.5
PRA2-3	16/5	16	5	2.1	1.0-1.5
PRA2-4	22/6	22	6	2.4	1.0-1.5
PRA2-5	28/6	28	6	2.7	1.0-1.5
PRA2-6	33/8	33	7	2.6	1.0-1.5
PRA2-7	40/12	40	12	2.6	1.0-1.5
PRA2-8	55/16	55	16	2.7	1.0-1.5
PRA2-9	65/19	65	19	2.9	1.0-1.5
PRA2-10	75/22	75	22	3.0	1.0-1.5
PRA2-11	95/25	95	25	3.6	1.0-1.5
PRA2-12	115/34	115	34	3.5	1.0-1.5
PRA2-13	140/42	140	42	3.3	1.0-1.5
PRA2-14	160/50	160	50	3.3	1.0-1.5
PRA2-15	180/58	180	58	3.3	1.0-1.5
PRA2-16	235/65	235	65	3.7	1.0-1.5
PRA2-17	300/75	300	75	3.8	1.0-1.5
PRA2-18	350/100	350	100	4.3	1.0-1.5
PRA2-19	410/150	410	150	4.3	1.0-1.5

D\* = Inner diameter as supplied

d\* = Inner diameter after fully recovered

## **Insulation Tubing without Hot Melt Adhesive Coating - PR2**



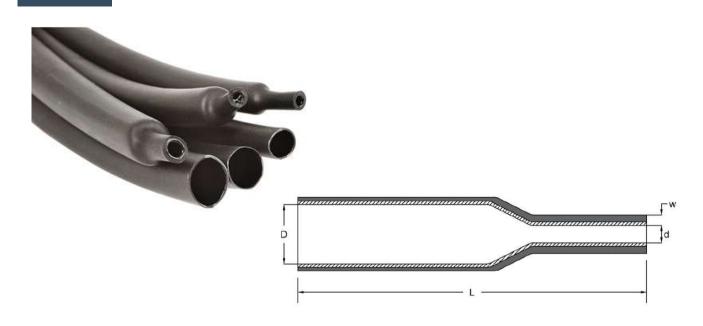
Product	Size	As Supplied (mm)			Standard Length
Designation	(mm)	D*(Min.)	d*(Max.)	w(Min.)	(m)
PR2-1	12/3	12	3	1.8	30m/spool or 1.0-1.5m
PR2-2	16/5	16	5	2.1	30m/spool or 1.0-1.5m
PR2-3	22/6	22	6	2.4	30m/spool or 1.0-1.5m
PR2-4	28/6	28	6	2.7	30m/spool or 1.0-1.5m
PR2-5	33/8	33	8	2.6	30m/spool or 1.0-1.5m
PR2-6	40/12	40	12	2.6	30m/spool or 1.0-1.5m
PR2-7	55/16	55	16	2.7	30m/spool or 1.0-1.5m
PR2-8	65/19	65	19	2.9	30m/spool or 1.0-1.5m
PR2-9	75/22	75	22	3.0	30m/spool or 1.0-1.5m
PR2-10	95/25	95	25	3.6	15m/spool or 1.0-1.5m
PR2-11	115/34	115	34	3.5	15m/spool or 1.0-1.5m
PR2-12	140/42	140	42	3.3	1.0-1.5m
PR2-13	160/50	160	50	3.3	1.0-1.5m
PR2-14	180/58	180	58	3.3	1.0-1.5m
PR2-15	235/65	235	65	3.7	1.0-1.5m
PR2-16	300/75	300	75	3.8	1.0-1.2m
PR2-17	350/100	350	100	4.3	1.0-1.2m
PR2-18	450/150	450	150	4.3	1.0-1.2m

D\* = Inner diameter as supplied

d\* = Inner diameter after fully recovered

# MEDIUM WALL INSULATION TUBING WITH HOT MELT ADHESIVE LINED

PRTM

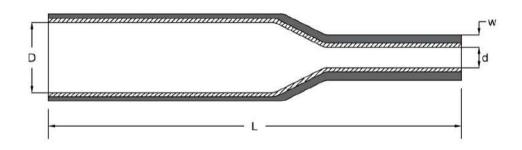


Product Designation	Size (mm)	As Supplied After Recovered (mm) (mm)		Standard Length	
		D*(Min.)	d*(Max.)	w(Min.)	(m)
PRTM-1	8/2	8	2	1.8	1.0-1.5
PRTM-2	12/3	12	3	1.9	1.0-1.5
PRTM-3	16/5	16	5	1.9	1.0-1.5
PRTM-4	19/5	19	5	1.9	1.0-1.5
PRTM-5	22/6	22	6	2.1	1.0-1.5
PRTM-6	28/6	28	6	2.6	1.0-1.5
PRTM-7	33/8	33	8	2.4	1.0-1.5
PRTM-8	40/12	40	12	2.4	1.0-1.5
PRTM-9	45/12	45	12	2.4	1.0-1.5
PRTM-10	55/16	55	16	2.4	1.0-1.5
PRTM-11	65/19	65	19	2.6	1.0-1.5
PRTM-12	75/22	75	22	2.8	1.0-1.5
PRTM-13	95/25	95	25	3.1	1.0-1.5
PRTM-14	115/34	115	34	3.5	1.0-1.5
PRTM-15	140/42	140	42	3.4	1.0-1.5
PRTM-16	160/50	160	50	3.4	1.0-1.5

# HEAVY WALL INSULATION TUBING WITH / WITHOUT HOT MELT ADHESIVE COATING

PRA3 / PR3





## **Insulation Tubing with Hot Melt Adhesive Coating - PRA3**

Product Designation	Size (mm)	As Supplied (mm)	After Recovered (mm)		Standard Length
		D*(Min.)	d*(Max.)	w(Min.)	(m)
PRA3-1	9/3	9	3	2.0	1.0-1.5
PRA3-2	15/4	15	4	2.4	1.0-1.5
PRA3-3	22/6	22	6	2.7	1.0-1.5
PRA3-4	33/8	33	8	3.2	1.0-1.5
PRA3-5	45/12	45	12	4.0	1.0-1.5
PRA3-6	55/16	55	16	4.0	1.0-1.5
PRA3-7	65/19	65	19	4.0	1.0-1.5
PRA3-8	75/22	75	22	4.0	1.0-1.5
PRA3-9	85/25	85	25	4.2	1.0-1.5
PRA3-10	95/29	95	29	4.2	1.0-1.5
PRA3-11	105/25	105	25	4.5	1.0-1.5
PRA3-12	115/34	115	34	4.2	1.0-1.5
PRA3-13	130/36	130	36	4.2	1.0-1.5
PRA3-14	180/50	180	50	4.2	1.0-1.5
PRA3-15	200/60	200	60	4.2	1.0-1.5
PRA3-16	235/65	235	65	4.4	1.0-1.5
PRA3-17	265/75	265	75	4.8	1.0-1.5
PRA3-18	300/85	300	85	4.8	1.0-1.2
PRA3-19	350/100	350	100	4.8	1.0-1.2
PRA3-20	385/110	385	110	4.8	1.0-1.2

## **Insulation Tubing without Hot Melt Adhesive Coating - PR3**

Product Designation	Size (mm)	As Supplied (mm)	After Recovered (mm)		Standard Length
		D*(Min.)	d*(Max.)	w(Min.)	(m)
PRA3-1	9/3	9	3	2.0	1.0-1.5
PRA3-2	15/4	15	4	2.4	1.0-1.5
PRA3-3	22/6	22	6	2.7	1.0-1.5
PRA3-4	33/8	33	8	3.2	1.0-1.5
PRA3-5	45/12	45	12	4.0	1.0-1.5
PRA3-6	55/16	55	16	4.0	1.0-1.5
PRA3-7	65/19	65	19	4.0	1.0-1.5
PRA3-8	75/22	75	22	4.0	1.0-1.5
PRA3-9	85/25	85	25	4.2	1.0-1.5
PRA3-10	95/29	95	29	4.2	1.0-1.5
PRA3-11	105/25	105	25	4.5	1.0-1.5
PRA3-12	115/34	115	34	4.2	1.0-1.5
PRA3-13	130/36	130	36	4.2	1.0-1.5
PRA3-14	180/50	180	50	4.2	1.0-1.5
PRA3-15	200/60	200	60	4.2	1.0-1.5
PRA3-16	235/65	235	65	4.4	1.0-1.5

#### **HEAT SHRINK BUSBAR INSULATING TUBES**

## PBTM / PBTH



#### **Typical Application:**

■ Insulation of Rectangular/round Busbar & or Live conductors

This tubing provides an excellent insulating layer and flashover protection over copper or aluminium busbars. The use of the tubing provides equipment designers an ability to reduce the air spacing between busbars by providing insulation enhancement. Its built-in flexibility can be used on irregular shapes without creasing of the tubing occurring. It has excellent resistance to tracking and weathering. Can be used indoors or outdoors.

It's a Non-Halogen tubing.

The tubing is normally used in MV applications > 3.3kV

It is available in various sizes, generally expanded in the ratio 2 to 2.5+:1 to make it range taking.

## **Medium Wall Tubing - PBTM**

Product Size Designation (mm)		As Supplied (mm)	And the Landson of Paris	covered m)	Standard Length (m)
		D*(Min.)	d*(Max.)	w(Min.)	
PBTM-1	15/6	15	6	2	30m/spool
PBTM-2	30/12	30	12	2.3	30m/spool
РВТМ-3	40/16	40	16	2.5	30m/spool
PBTM-4	50/20	50	20	2.5	15m/spool
PBTM-5	75/30	75	30	2.6	15m/spool
РВТМ-6	100/40	100	40	2.8	15m/spool
РВТМ-7	120/50	120	50	2.8	15m/spool
PBTM-8	150/60	150	60	3.3	1.0-1.5m
PBTM-9	205/75	205	75	3.8	1.0-1.2m
PBTM-10	235/75	235	75	3.8	1.0-1.2m

## **Heavy Wall Tubing - PBTH**

Product Designation	Size (mm)	As Supplied (mm)	After Re	and the same of th	Standard Length (m)
		D*(Min.)	d*(Max.)	w(Min.)	
PBTH-1	25/10	25	10	4	1.0-1.5m
PBTH-2	40/16	40	16	4	1.0-1.5m
РВТН-3	75/25	75	25	4	1.0-1.5m
PBTH-4	120/40	120	40	4.1	1.0-1.5m
PBTH-5	150/60	150	60	3.9	1.0-1.5m
РВТН-6	180/75	180	75	4.1	1.0-1.2m

D\* = Inner diameter as supplied

d\* = Inner diameter after fully recovered

#### **HEAT SHRINK RAIN SHEDS**

## **PHSRS**



#### **Typical Application:**

■ MV & HV Cable terminations

In areas of extreme environmental conditions and high electrical stress, the antitracking skirts provide Extra creepage over the Antitracking tubing. The antitracking sealant provides a moisture proof environmental seal to the substrate.

The shed is normally used in Cable Terminations for voltages > 1 kV.

It is available in various sizes, generally expanded in the ratio 2.5:1 to make it range taking.

Material: Thermoplastic co-polymer material, electrically insulating, non-tracking, erosion and UV-resistant.

Product Designation	Size	Diameter of Rainshed (mm)	Height of Rainshed (mm)	Thickness of Rainshed (mm)	Area of Rainshed (mm)
PHSRS-1	25/8	30	32	1.0	70
PHSRS-2	30/13	40	37	1.5	87
PHSRS-3	45/21	55	37	1.5	118
PHSRS-4	55/27	80	43	2.0	140
PHSRS-5	120/35	80	60	2.5	230

## **HEAT SHRINK BOOTS**

PHSRAB / PHSSB

#### **HEAT SHRINK RIGHT ANGLE BOOTS**



**Product Designation - PHSRAB** 

## **HEAT SHRINK STRAIGHT BOOTS**



**Product Designation - PHSSB** 

## **HEAT SHRINK SPREADER CAPS (BREAKOUTS)**

## PHSSC-2 / PHSSC-3 / PHSSC-4



#### <u>Heat Shrink Spreader Caps/ Breakouts (Red)</u>

#### **Typical Application:**

MV & HV Cable terminations

In areas of extreme environmental conditions and high electrical stress, the antitracking Breakouts are used to seal the crotch portion of the cable and protecting the cable from erosion by flow of leakage currents. The antitracking sealant provides a moisture proof environmental seal to the substrate.

The Breakout is normally used in Multicore Cable Terminations for voltages > 1 kV.

It is available in various sizes, generally expanded in the ratio 2.5:1 to make it range taking.

Material: Thermoplastic co-polymer material, electrically insulating, non-tracking, erosion, UV & impact resistant.

#### Heat Shrink Spreader Caps/ Breakouts (Black)

#### **Typical Application:**

LV & MV Multicore Cable terminations & Joints

In areas of extreme environmental conditions, the insulating & weatherproof breakouts are used to seal the crotch portion of the cable and providing a smooth transition to the cores. In both applications for terminations and Joints, the breakout protects the cable from any moisture entry.

Hot Melt adhesive provides watertight and environmental seal.

The Breakout is normally used in Multicore Cable Terminations for voltages from 1 kV & above.

It is available in various sizes, suitable for 2, 3, 4 & beyond, generally expanded in the ratio 2.5:1 to make it range taking.

Material: Semi-rigid thermoplastic material, electrically insulating, weather, corrosion and impact resistant.

### 2 way Breakouts - PHSSC-2

Product Designation				Diameter of Finger (mm)		Total Length of Breakout (mm)	
	Ε	R	E	R	E	R	E
PHSSC-2-1	30	10	12	4	65	87	15
PHSSC-2-2	50	24	21	7	85	118	25

E = Expanded R = Recovered

| PCA TECHNOLOGIES PAGE | 40

## 3 way Breakouts - PHSSC-3

Product Designation	Breakout (mm)			of Finger nm)		ength of ut (mm)		of Finger im)
	E	R	E	R	E	R	E	R
PHSSC-3-1	65	23	27	9	175	185	50	55
PHSSC-3-2	105	32	45	12	195	205	60	63
PHSSC-3-3	112	43	55	19	215	220	65	65
PHSSC-3-4	130	53	63	23	235	240	78	83

E = Expanded R = Recovered

## 4 way Breakouts - PHSSC-4

Product Designation	Diameter of Breakout (mm)			r of Finger nm)		ength of ut (mm)	Length of Finger (mm)
	E	R	Ε	R	E	R	(3
PHSSC-4-1	28	9	8	2	55	77	15
PHSSC-4-2	35	15	13	4	80	102	20
PHSSC-4-3	47	23	20	8	130	167	35
PHSSC-4-4	60	25	25	8	150	186	32
PHSSC-4-5	78	36	30	12	170	218	42
PHSSC-4-6	95	36	35	14	170	220	49

E = Expanded R = Recovered

#### **HEAT SHRINK CABLE END CAPS**

## PHSCEC



#### **Typical Application:**

■ LV, MV & HV Cable end seals

Heat Shrink, insulating and impact resistant cable end caps are used to seal the cables of various sizes against ingress of moisture.

Hot Melt adhesive provides watertight and environmental seal.

Materials: Semi-rigid thermoplastic material, electrically insulating, weather, corrosion and impact resistant.

Product Designation	Size		neter of Endcap Total Length of (mm) Endcap (mm)					
		Е	R	Е	R	Е	R	
PHSCEC-1	160/60	160	60	148	158	1.0	5.5	
PHSCEC-2	118/45	118	45	140	150	1.5	5.5	
PHSCEC-3	110/45	110	45	140	150	1.5	5.5	
PHSCEC-4	75/35	75	35	113	125	1.5	5.0	

E = Expanded

R = Recovered

# MECHANICAL CONNECTORS AND MECHANICAL LUGS

PMC / PML





Mechanical Connector

Mechanical Lug

#### **Typical Application:**

■ LV & MV conductor connections for Cable terminations & Joints

Mechanical connectors are designed for use in LV and MV applications.

The Connectors consist of a tin-plated body, shear-head bolts and inserts for small conductor sizes. Made of special aluminium alloy, these contact bolts are shear-head bolts with hexagon heads.

The bolts are treated with a lubricating wax. Both versions of contact bolts removable/irremovable are available.

The body is made of a high-tensile, tin-plated aluminium alloy. The internal surface of the conductor holes is grooved. Lugs are suitable for outdoor and indoor applications and are available with different palm hole sizes.

Mechanical connectors for Straight & transition Joints are available as unblocked & blocked type. Connectors are chamfered at the edges.

## **Mechanical Connector**

Product Designation	Cable Range (Sqmm)
PMC-1	16-70
PMC-2	95-150
PMC-3	185-300
PMC-4	400-630
PMC-5	1000

# **Mechanical Lug**

Product Designation	Cable Range (Sqmm)
PML-1	16-70
PML-2	95-150
PML-3	185-300
PML-4	400-630
PML-5	1000

## **BRANCH CLAMP / RING CONNECTORS**

PBC-B



#### **Typical Application:**

LV Cable Branch Joints

**4-core ring connectors:** for solid and stranded Cu and Al conductors.

**Material:** high-strength Al alloy (Al Mg Si), corrosion-resistant

Contacts: brass (Cu Zn), electro-tinned

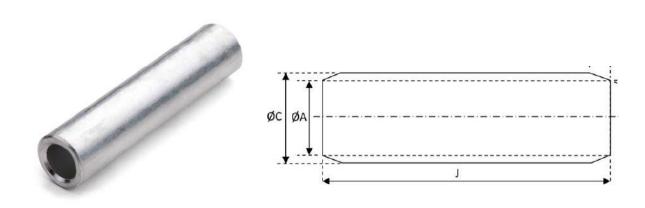
**Insulating parts:** Glass fibre reinforced PA

**Screws:** steel

Product Designation	No. Of	Cross Section (Sqmm)					
	Conductors	Cu/RM	AI/SE	Branch Cable			
PBC-B-1	4	16-16		6-50			
PBC-B-2	4	25-25	35	6-50			
PBC-B-3	4	35-35	50	6-50			
PBC-B-4	4	50-50	70	6-50			
PBC-B-5	4	70-70	95	6-50			
PBC-B-6	4	95-120	150	6-50			
PBC-B-7	4		150	50-150			
PBC-B-8	4		240	6-70			

# **ALUMINIUM FERRULE**

# PFALX

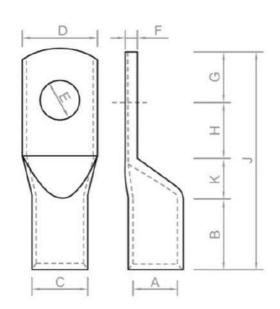


Product Designation	Size (mm)	ØA (mm)	ØC (mm)	J (mm)
PFALX-1	16	5.0	8.3	60
PFALX-2	25	7.2	9.6	82
PFALX-3	35	8.3	11.1	90
PFALX-4	50	10.1	13.5	100
PFALX-5	70	10.2	14.5	104
PFALX-6	95	12.0	16.9	108
PFALX-7	120	13.7	19.0	112
PFALX-8	150	15.1	21.1	116
PFALX-9	185	16.6	23.9	128
PFALX-10	225	18.6	26.1	136
PFALX-11	240	19.3	27.2	140
PFALX-12	300	21.8	30.2	150
PFALX-13	400	25.0	34.8	150
PFALX-14	500	28.2	39.1	175
PFALX-15	630	31.7	44.4	200
PFALX-16	800	35.7	49.5	225
PFALX-17	1000	41.0	56.0	250

# **ALUMINIUM LUG**

# PLALX





Product Designation	Size (mm)	E (mm)	A (mm)	C (mm)	D (mm)	F (mm)	B (mm)	K (mm)
PLALX-1	16	6.2	5.0	8.3	12	1.8	41	7
PLALX-2	25	8.2	7.2	9.6	14	2.4	41	7
PLALX-3	35	8.2	8.3	11.1	16.0	2.8	50	7
PLALX-4	50	10.2	10.1	13.5	19.5	3.4	49	8
PLALX-5	70	10.2	10.2	14.5	20.5	4.3	61	8
PLALX-6	95	12.7	12.0	16.9	23.5	4.9	73	8
PLALX-7	120	12.7	13.7	19.0	26.5	5.3	73	11
PLALX-8	150	12.7	15.1	21.1	29.5	6.8	83	11
PLALX-9	185	12.7	16.6	23.9	33.0	7.3	83	12
PLALX-10	225	12.7	18.6	26.1	36.0	7.5	86	14
PLALX-11	240	17.0	19.3	27.2	37.5	7.9	86	14
PLALX-12	300	20.3	21.8	30.2	42.0	8.4	89	14
PLALX-13	400	20.3	25.0	34.8	48.0	9.8	113	13
PLALX-14	500	20.3	28.2	39.1	54.0	10.9	125	15
PLALX-15	630		31.7	44.4	61.0	12.7	140	16
PLALX-16	800	+	35.7	49.5	68.0	13.8	147	25
PLALX-17	1000	127	41.0	56.0	77.5	15.0	160	30

## **TINNED COPPER BRAIDS**

# PTCB



#### **Typical Application:**

■ LV & MV Cable Joints & Terminations

The copper braid is used as an earth lead for joints and terminations.

Material: Tinned Copper Wires

Product Designation	Cross Section Area (Sqmm)
PTCB-1	7.0
PTCB-2	12.5
PTCB-3	16.0
PTCB-4	25.0
PTCB-5	35.0
PTCB-6	48.0
PTCB-7	50.0
PTCB-8	70.0
PTCB-9	108.6

<sup>\*</sup>Length as per customer's request

## **INSULATED COPPER BRAID**

## PICB



#### **Typical Application:**

■ LV & MV Cable Joints & Terminations

The copper braid is used as an earth lead for joints and terminations.

This Copper braid is insulated with a Heat Shrinkable Tube.

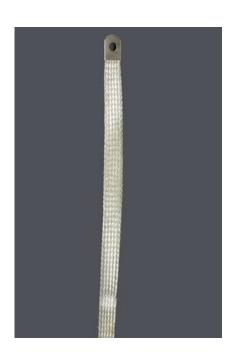
Material: Tinned Copper Wires, Heat Shrink Tube

Product Designation	Cross Section Area (Sqmm)	
PICB-1	7.0	
PICB-2	12.5	
PICB-3	16.0	
PICB-4	25.0	
PICB-5	35.0	
PICB-6	48.0	
PICB-7	50.0	
PICB-8	70.0	
PICB-9	108.6	

<sup>\*</sup>Length as per customer's request

## **COPPER BRAID WITH SOLDER BLOCKS**

## **PCBSB**



#### **Typical Application:**

■ LV & MV Cable Joints & Terminations

The copper braid is used as an earth lead for joints and terminations.

This Copper braid has solder block to stop moisture ingress.

Material: Tinned Copper Wires

Product Designation	Cross Section Area (Sqmm)
PCBSB-1	10
PCBSB-2	16
PCBSB-3	25
PCBSB-4	35
PCBSB-5	50
PCBSB-6	70
PCBSB-7	120

<sup>\*</sup>Length as per customer's request

## **JUBILEE CLIPS**

# PJCSS



#### **Typical Application:**

■ LV, MV & HV Cables

The clamp has a band that is continuously threaded enabling extra flexibility when adjusting the clip to the correct size. The smooth inside profile of the band and rolled edges give protection for all types of Cable Armour / Earthing connections. Their corrosion resistance enables their use in applications where higher corrosion resistance is required.

Material: 304 Stainless steel

Product Designation	Width (mm)	Diameter min. (mm)	Diameter max. (mm)
PJCSS-1	12.5	13	32
PJCSS-2	12.5	25	50
PJCSS-3	12.5	25	65
PJCSS-4	12.5	50	90
PJCSS-5	12.5	80	120
PJCSS-6	12.5	90	150
PJCSS-7	12.5	100	170

## **SUPPORT RINGS**

# PSRGI



#### **Typical Application:**

LV & MV Cable Joints

The support ring is used to protect the insulation core by clamping the cable wire armour to the steel case.

Product Designation	Diameter (mm)	Length (mm)
PSRGI-1	49	60
PSRGI-2	54	60
PSRGI-3	57	60
PSRGI-4	62	60
PSRGI-5	67	70
PSRGI-6	73	70
PSRGI-7	77	70
PSRGI-8	86	70
PSRGI-9	97	80
PSRGI-10	105	80
PSRGI-11	110	80

## **ALUMINIUM BACK UP RINGS**

## PABUR



#### **Typical Application:**

■ LV, MV Cables

These Aluminium Backup Rings are used to hold to cable armour in conjunction with the worm drive clamp in the both straight through joints and cable terminations.

Material: Aluminium

Product Designation	Diameter (mm)	Length (mm)
PABUR-1	15	24
PABUR-2	65	50
PABUR-3	45	40

## **SPLIT RINGS**

# PSSR



#### **Typical Application:**

■ LV, MV Cables

These Aluminium Backup Split Rings are used to hold to cable armour in conjunction with the worm drive clamp in the both straight through joints and cable terminations. A split ring with weak back provides flexibility and makes it range taking.

Material: Aluminium

Product Designation	Diameter (mm)	Length (mm)
PSSR-1	22	60
PSSR-2	32	60
PSSR-3	42	60
PSSR-4	54	60
PSSR-5	66	60
PSSR-6	72	60

# **TINNED COPPER WIRE**

# PTCW



Product Designation	Diameter (mm)	Length (mm)
PTCW-1	0.914	1000
PTCW-2	0.914	2000
PTCW-3	0.914	3000
PTCW-4	0.914	5000
PTCW-5	1.220	1000
PTCW-6	1.220	2000
PTCW-7	1.220	3000
PTCW-8	1.220	5000
PTCW-9	1.630	2000
PTCW-10	1.630	3000
PTCW-11	1.650	6000

### **CONSTANT FORCE SPRINGS**

## **PCFS**



#### **Typical Application:**

■ LV, MV & HV Cables

Constant Force Springs are a range of solderless connections for use on lead or aluminium sheaths and copper screened cables.

These springs are easily applied by rolling onto the sheath connections, whereupon it continues to exert a constant pressure. The spring helps in improving connections with the earthing or grounding on Lead and Aluminium cable sheaths, cable screening tapes or wires and steel or aluminium armour wired cables.

Material: SS/High carbon steel

Product Designation	Width (mm)	Diameter (mm)	Length (mm)
PCFS-1	13	10	280
PCFS-2	13	14	400
PCFS-3	13	20	570
PCFS-4	13	40	850
PCFS-5	25	14	570
PCFS-6	25	22	700
PCFS-7	25	30	950
PCFS-8	30	38	1100
PCFS-9	30	38	1350
PCFS-10	13	10	400
PCFS-11	30	45	1350
PCFS-12	25	25	850
PCFS-13	25	19	650
PCFS-14	30	70	1500

### **GLANDS**

# PCG

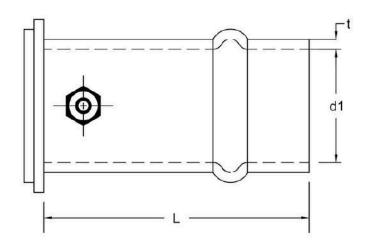


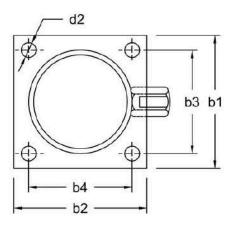
#### **Typical Application:**

■ LV, MV Cables

These tubular PCA glands provide an effective moisture seal around the cable sheath and earth the cable armour wires. The gland fixings are made to match the stud spacings. Suitable for three-core (3core) SWA cables up to 36kV. Supplied with integral earthing facility, heat shrink tube and worm drive clips, Nuts & Bolts.

Material: Galvanised MS





Product Designation	B1 (mm)	B2 (mm)	B3 (mm)	B4 (mm)	D1 (mm)	D2 (mm)	L (mm)
PCG-1	90	90	67	67	66	11	140
PCG-2	115	25	50	95	97	15	150

### LINK BOXES WITH / WITHOUT SVL

## PLB-X SERIES



#### **Typical Application:**

■ MV & HV Cable Sheath Bonding

It is a Link Box, used for cross bonding and sectionalisation for medium & high-voltage single core cable systems. The link box can be used as grounding box or as link box, equipped with shield voltage limiters.

Material: Link Box – Stainless Steel, Sheath Voltage Limiter- Zinc Oxide discs.

# Stainless Steel Link Box with Sheath Voltage Limiters of appropriate rating

Product Designation	
PLB-1-SVL	1 Phase Link Box with SVL
PLB-1	1 Phase Link Box without SVL
PLB-3-SVL	3 Phase Link Box with SVL
PLB-3	3 Phase link Box without SVL

# YELLOW STRESS CONTROL / VOID FILLER MASTIC

PYMT



#### **Typical Application:**

■ MV Cable Terminations & Joints

It is an oil resistant and stress relief mastic strip with good flow properties. It is used when an adhesive seal and a void filling or stress relief function is required between heat shrinkable components and cable substrates.

Product Designation	Width (mm)	Length (mm)
PYMT-1	35	100
PYMT-2	35	150
PYMT-3	35	200
PYMT-4	35	300
PYMT-5	35	400
PYMT-6	35	600

## **RED ANTI-TRACKING MASTIC**

## PRMT



#### **Typical Application:**

■ MV Cable Terminations & Joints

It is a low temperature track resistant sealant, electrically insulating and flexible at low temperatures.

It is used when a seal is required between heatshrinkable components and cable substrates.

Product Designation	Width (mm)	Length (mm)
PRMT-1	35	100
PRMT-2	35	150
PRMT-3	35	200
PRMT-4	35	300
PRMT-5	35	400
PRMT-6	35	600

### **BLACK MASTIC**

## **PBMT**



#### **Typical Application:**

LV & MV Cables

Black insulating mastic is used in LV and MV terminations and joints to protect the heat shrink material by covering the sharp edges of metallic parts. It is also used for filling voids and irregular shapes and acts as an environmental seal to protect ingress of water and other environmental contaminants. It has excellent adhesion with metals, rubber, Plastics etc.

Material: Butyl based

Product Designation	Width (mm)	Length (mm)
РВМТ-1	35	100
PBMT-2	35	150
РВМТ-3	35	200
РВМТ-4	35	300
РВМТ-5	35	400
РВМТ-6	35	600

### **SILICONE GREASE**

# PSG-1

#### **Typical Application:**

MV & HV Cables

It is a silicon grease. It is used to smoothen out any uneven insulation surfaces on screened plastic and rubber insulated cables. It is also used to lubricate and mount moulded devices on the solid dielectric cables.

Product Designation	Grams	
PSG-1	5	

#### V.B CANISTER / METAL CANISTER

## PVBCS / PVBCR



#### **Typical Application:**

LV & MV Cables

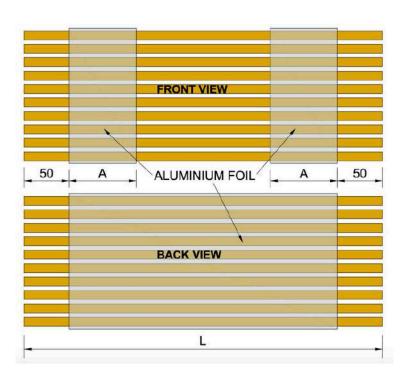
Metal canisters are used to provide mechanical protection on the jointing systems. Different types of Metal Canisters designs are available e.g.

- G.I. Wire type
- G.I. Strip type, etc. in various sizes with Aluminium foil
- Punched Metal sheets without any Aluminium Foil Backup

\*Aluminium Canister also available for Telecommunication applications.

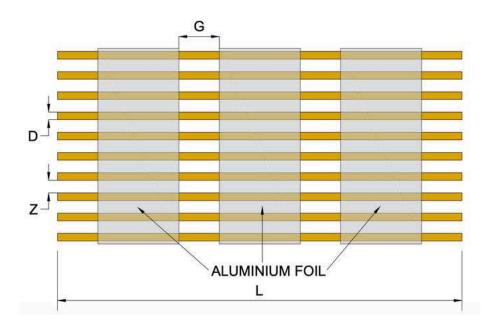
Material: GI / Aluminium

### **VENETIAN BLIND CANISTER STRIPS - PVBCS**



Product Designation	No. of Strips A (mm)		Length (mm)	
PVBCS-1	30	100	1160	
PVBCS-2	31	100	1160	
PVBCS-3	34	100	1260	
PVBCS-4	36	100	1360	
PVBCS-5	40	100	1450	
PVBCS-6	39	100	1260	
PVBCS-7	39	100	1360	
PVBCS-8	44	100	1550	
PVBCS-9	46	100	1450	
PVBCS-10	46	100	1550	
PVBCS-11	46	100	1700	
PVBCS-12	50	100	1700	
PVBCS-13	46	100	1760	
PVBCS-14	50	100	1850	
PVBCS-15	50	100	1950	
PVBCS-16	55	100	1950	

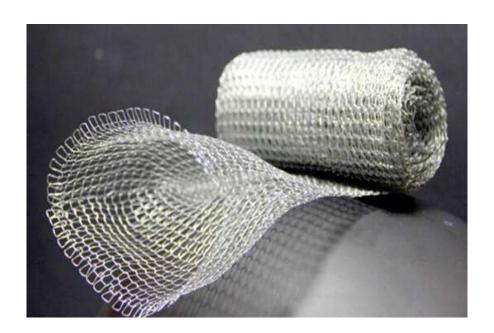
#### **VENETIAN BLIND CANISTER WIRE - PVBCR**



Product Designation	Length (mm)	Width (mm)	No. Of Wires	G (mm)	D (mm)	Z (mm)	No. Of Al Foils
PVBCR-1	250	90	11	100	2.0	7.0	2
PVBCR-2	300	100	12	100	2.0	7.0	2
PVBCR-3	400	150	17	63	2.0	7.0	3
PVBCR-4	400	160	20	63	2.0	6.5	3
PVBCR-5	480	170	21	63	2.0	6.5	3
PVBCR-6	700	250	30	150	2.5	6.0	3
PVBCR-7	750	250	28	150	2.0	7.0	3
PVBCR-8	750	250	30	150	2.5	6.0	3
PVBCR-9	750	30	33	150	2.5	7.0	3
PVBCR-10	750	350	38	150	2.0	7.0	3
PVBCR-11	900	370	40	150	2.5	7.0	3

### **GI WIRE MESH**

## **PGIWM**



#### **Typical Application:**

LV & MV Cables

GI wire mesh is a knitting of a fine wire into a double thickness flat stocking. The tape is highly flexible, light, corrosion and high temperature resistant, resistant to abrasion and physical damage. Mesh tapes are primarily used in cable joints for the purpose of mechanical protection.

Material: GI

Product Designation	Width (mm)	Length (mm)
PGIWM-1	55	1000
PGIWM-2	55	2000
PGIWM-3	55	3000
PGIWM-4	55	4000
PGIWM-5	55	5000
PGIWM-6	55	6000
PGIWM-7	55	8000
PGIWM-8	55	10000
PGIWM-9	55	12000
PGIWM-10	55	16000
PGIWM-11	55	18000

### **COPPER BRAIDED TUBE**

## **PCBT**



#### **Typical Application:**

MV Cables

Copper Braided sleeves/ tubes are made of tinned copper wire carriers and are used for screening the MV cable Joints. Some designs deploy copper wire mesh which is to be applied half overlapped whereas the Copper braided tubes are simply mounted over cores before joining of conductor & thereafter used for screening the insulated cores in conjunction with constant force springs.

Material: Tinned copper wires.

Product Designation	Cross Section Area (Sqmm)	No. Of Carriers
PCBT-1	7	24
PCBT-2	12.5	24
PCBT-3	16	24
PCBT-4	25	48
PCBT-5	35	48
PCBT-6	48	48
PCBT-7	50	48
PCBT-8	70	48
PCBT-9	108.6	48

<sup>\*</sup>Length as per customer's request

## **COPPER WIRE MESH**

# PCWM



#### **Typical Application:**

MV Cable Joints & End seals

It is a woven flexible copper mesh. The copper mesh is used to shield cable joints and end seals.

Material: Tinned copper wires.

Product Designation	Width (mm)	
PCWM	55	

<sup>\*</sup>Length as per customer's request

# SELF-AMALGAMATING EPR INSULATING TAPES

**PSAIT** 



#### **Typical Application:**

MV & HV Cable Joints & Terminations and Sealing Applications

It is an insulating tape (self-bonding). This tape is used in joints and terminations for insulation and sealing applications up to 66kV. this tape when stretched and applied over its own layers, it amalgamates. It applies a positive pressure over the substrata.

Material: EPR

Lengths Available: 3m, 5m, 9.1m, 10m

Widths Available: 19mm, 25mm, 38mm, 50mm

# SELF-AMALGAMATING EPR CONDUCTING TAPES

**PSACT** 



#### **Typical Application:**

MV Cable Joints & Terminations

It is a semi-conductive tape (self-bonding). Semi-conductive tape is used for stress relief on joints and terminations and on shield restoration applications.

Material: EPR

Lengths Available: 5m Widths Available: 19mm

## SILICONE SELF AMALGAMATING TAPES

## **PSSAT**



#### **Typical Application:**

MV Cable Terminations & Bare Conductors

It is an insulating tape (self-bonding). This tape is used in MV cable terminations for providing an insulating, anti-tracking and UV resistant surface over the cable insulation as well as sealing against moisture ingress. This tape when stretched and applied over its own layers, it amalgamates. It applies a positive pressure over the substrata.

Material: Silicone

Lengths Available: 10m Widths Available: 25mm

## AL OXIDE CLOTH

# PAOC



#### **Typical Application:**

■ LV, MV & HV Cable Preparation

It is an abrasive paper. It is used to prepare cables for terminating and jointing.

Material: Abrasive material on textile backing.

Product Designation	Width (mm)	Mesh
PAOC-1	25	80
PAOC-2	25	150
PAOC-3	25	220
PAOC-4	25	400

### STAINLESS STEEL CABLE TIES

PSS316-X SERIES / PSS304-X SERIES



#### **Typical Application:**

Cables & Bundling Applications

SS ties are a great universal zip tie - they offer unparalleled strength, are metal detectable, and are well-suited to work in a variety of environments. They are ideal for bundling and securing a wide assortment of cable, wires, and assemblies even in the most extreme temperatures and severe environmental conditions. SS ties have high tensile strength.

Material: Stainless Steel

#### **REGULAR PSS-316** Width - 4.6 mm Metal Thickness - 0.25 mm LENGTH (mm) SERIES PSS316-R-1 100 PSS316-R-2 150 PSS316-R-3 200 PSS316-R-4 360 PSS316-R-5 520 PSS316-R-6 680 PSS316-R-7 840 PSS316-R-8 1000

<b>HEAVY DUTY PSS-316</b>				
Width - 7.9	Width - 7.9 mm			
Metal Thickness	s - 0.25 mm			
SERIES	LENGTH (mm)			
PSS316-H-1	100			
PSS316-H-2	150			
PSS316-H-3 200				
PSS316-H-4	360			
PSS316-H-5	520			
PSS316-H-6	680			
PSS316-H-7	840			
PSS316-H-8	1000			

REGULAR PSS-304  Width - 4.6 mm  Metal Thickness - 0.25 mm			
SERIES LENGTH (mm)			
PSS304-R-1	100		
PSS304-R-2	150		
PSS304-R-3	200		
PSS304-R-4	360		
PSS304-R-5	520		
PSS304-R-6	680		
PSS304-R-7	840		
PSS304-R-8	1000		

<b>HEAVY DUTY PSS-304</b>		
Width - 7.9 mm		
Metal Thickness	s - 0.25 mm	
SERIES	LENGTH (mm)	
PSS304-H-1	100	
PSS304-H-2	150	
PSS304-H-3	200	
PSS304-H-4	360	
PSS304-H-5	520	
PSS304-H-6 680		
PSS304-H-7 840		
PSS304-H-8 1000		



# **PCA TECHNOLOGIES**

Address: 25, Shah Industrial Estate,

Kotambi, Waghodia, Vadodara,

Gujarat, 391510

Email: info@thepcatech.com

For further information on our products and services, visit us at: www.thepcatech.com