

MEDIUM VOLTAGE TUBING



ABBM
ABBH/ABBH-2
ASCT
ADWST
ASCON
AATT
ABBT

*See also in SPECIALITY PRODUCTS:
ARSM, ASCM, ABFM mastic tapes.

MEDIUM VOLTAGE TUBING SELECTION GUIDE

Part number	Description	Ratio	Temperature	Zero Halogen	RoHS	UL VW1	Flame retardant	Waterproof	Page
ABBM	Bus Bar tubing, medium wall	3:1	105°C	Yes	Yes	No	No	No	59
ABBH/ ABBH-2	Bus Bar tubing, heavy wall	3:1	105°C	Yes	Yes	No	No	No	60
ASCT	Stress control tubing for Medium voltage applications	3:1	100°C	No	Yes	No	No	No	61
ADWST	Dual wall tubing, isolation and semi conductive	3:1	100°C	No	Yes	No	No	No	62
ASCON	Semi conductive tubing for Medium voltage applications	3:1	105°C	No	Yes	No	No	No	63
AATT	High performance anti track tubing for MV applications	3:1	105°C	Yes	Yes	No	No	No	64
ABBT	Bus Bar tape	min. 30%	105°C	No	Yes	No	No	Yes	65

*See also in SPECIALITY PRODUCTS: ARSM, ASCM, ABFM mastic tapes.



Applications

Used to enhance the insulation properties of bus bar in switchgear and substation. Provides high resistance to tracking and arcing.

Features

The continuous length of supplied products make it more convenient and economical. Material: made from specially formulated radiation cross-linked halogen free compounds.

Various

Minimum shrink temperature: 110°C
Standard color: Orange.
Packaging: Spools or sticks as standards.
Specials: Printing, special sizes and other special features available on request.



Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥ 11.8 Mpa
Tensile strength after aging	ASTM D 2671/120°, 168 hrs.	≥ 10 Mpa
Longitudinal shrinkage	ASTM D 2671	0 to -10%
Elongation at break	ASTM D 2671	≥ 700%
Elongation at break after aging	ASTM D 2671 (120°/168 hrs.)	≥ 500%
Dielectric strength	IEC 243	≥ 20KV/mm
Volume resistance	IEC 93	≥ 10 ¹³ Ω cm
Flammability (oxygen index)	IEC 2863	≥ 25
Water absorption	ISO 62 (23°/14days)	<0.5%

Dimensions

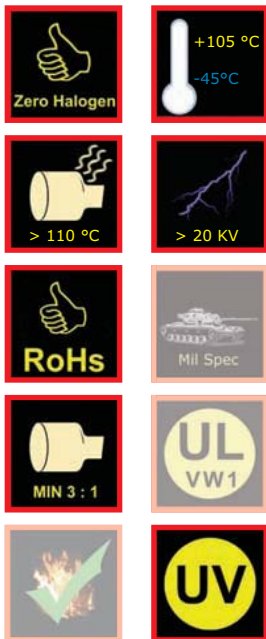
Normal size (mm)	As Supplied (mm)		After Recovered (mm)		* Tube shape	Standard Length
	Min. Inside diameter	Max. Inside Diameter	Wall thickness (min.)			
Continuous length tubing						
25/10	25	10	2.0	-	15 M/Spool	
30/12	30	12	2.0	-	15 M/Spool	
35/14	35	14	2.0	-	15 M/Spool	
40/16	40	16	2.0	-	15 M/Spool	
50/20	50	20	2.0	-	15 M/Spool	
65/25	65	25	2.0	-	15 M/Spool	
75/30	75	30	2.0	-	15 M/Spool	
100/40	100	40	2.0	-	15 M/Spool	
Cut length tubing						
150/60	150	60	3.0	-	1000mm	
180/70	180	70	3.0	-	1000mm	
205/75	205	75	3.3	-	1000mm	
235/75	235	75	3.3	-	1000mm	

* Tube shape "-": Flat shape

MEDIUM VOLTAGE TUBING

ABBH / ABBH-2

Bus bar tubing medium voltage



Applications

ABBH / ABBH-2 is medium and heavy wall heat shrinkable tubing. Made from specially formulated radiation cross-linked halogen free compounds. It can provide high resistance to tracking and arcing. Used to enhance the insulation properties of bus-bar in switch and substation to adapt to application in insulating medium voltage bus bars up to 11kV, 24kV, 36kV

Features

The continuous length of supplied products make it more convenient and economical. Material: made from specially formulated radiation cross-linked halogen free compounds.

Various

Minimum shrink temperature: 110 °C

Standard color: Orange.

Packaging: Spools or sticks as standards.

Specials: Printing, special sizes and other special features available on request.



Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥ 11.8 Mpa
Tensile strength after aging	ASTM D 2671 (120°, 168 hrs.)	≥ 10 Mpa
Longitudinal shrinkage	ASTM D 2671	0 to -10%
Elongation at break	ASTM D 2671	≥ 700%
Elongation at break after aging	ASTM D 2671 (120°/168 hrs.)	≥ 500%
Dielectric strength	IEC 243	≥ 20KV/mm
Dielectric constant	IEC 250	3.0 (max.)
Volume resistance	IEC 93	≥ 10 ¹³ Ω cm
Flammability (oxygen index)	IEC 4589	≥ 25
Copper corrosion	ASTM D 2671 (120°/168hrs)	No corrosion
Cold bend	ASTM D 2671 (40°C/4hrs)	No cracking
Water absorption	ISO 62 (23°/14days)	<0.5%

Dimensions

Normal size (mm)	As Supplied (mm)		After Recovered (mm)		Rectangular Bus Bars (mm)	Round Bus Bars (mm)	Standard Length
	Min. Inside diameter	Max. Inside Diameter	Wall thickness (min.)				
ABBH Medium Wall Busbar Insulation Tubing, for service to 24KV on unbolted busbar							
18/6	18	6	2.0	6.4	19.0	6.8	15 M/Spool
30/12	30	12	2.3	15.0	30.0	12.7	15 M/Spool
35/14	40	16	2.5	27.0	45.0	17.0	15 M/Spool
40/16	50	20	2.5	32.0	51.0	21.0	15 M/Spool
50/20	65	25	2.5	45.0	75.0	26.0	15 M/Spool
65/25	75	30	2.6	48.0	85.0	31.0	15 M/Spool
100/40	100	40	2.6	73.0	120.0	45.0	15 M/Spool
120/50	120	50	3.0	69.8	111.0	50.0	15 M/Spool
ABBH -2 Heavy Wall Busbar Insulation Tubing, for services to 36KV on unbolted busbar							
25/10	25	10	4.0	9.5	12.7	10.6	15m/spool
40/16	40	16	4.0	16.0	25.4	16.0	15m/spool
65/25	65	25	4.0	25.4	34.9	19.3	1000mm
75/22	75	25	4.0	34.9	50.8	26.1	1000mm
95/30	95	30	4.0	50.8	76.2	35.8	1000mm
120/40	120	40	4.2	69.8	111.0	47.7	1000mm
180/58	180	58	4.2	107.9	177.0	69.5	124.0

*Note: Rectangular busbars have thickness range from 6 mm to 16 mm.



Applications

Ideal to be used in high voltage systems. Control the high electrical stress present at insulation screen termination and joint of power cables.

Features

Minimum shrink temperature: 100 °C
Minimum full recovery temperature: 130 °C

Various

Standard color: Black.

Packaging: Spools and sticks as standards.

Specials: Special sizes, other special features available on request.



Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 638	≥10 MPa
Elongation at break	ASTM D 638	≥300%
Heat Shock (200°/30mins)	ESI09-13	No splitting, cracking dropping or flowing
Dielectric constant	IEC 250	≥15
Volume resistance	IEC 93	≥10 ¹¹ Ω.cm
Low temp. Flexibility		No cracking after 4 hrs at -20° (max)
Water absorption	ISO 62	<0.1%
Longitudinal shrinkage	-	±5%
Eccentricity	ASTM D 2671	<35%

Dimensions

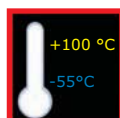
ASCT	As supplied Min. Inside Diameter(mm)	After Recovery Max. Inside Diameter(mm)	After Recovery Min. Wall Thickness (mm)	*Tube Shape	Standard Spool Length (m/spool)
Continues Length tubing					
16/8	16	8	1.4	-	15 M/Spool
20/10	20	10	1.5	-	15 M/Spool
30/12	30	12	2.0	-	15 M/Spool
35/15	35	15	2.4	-	15 M/Spool
47/18	47	18	2.5	-	15 M/Spool
50/20	50	20	2.5	-	15 M/Spool
54/24	54	24	2.5	-	15 M/Spool
65/30	65	30	2.5	-	15 M/Spool
Cut Length tubing					
47/18	47	18	2.5	o	1000mm
55/21	55	21	2.5	o	1000mm
65/25	65	25	2.5	o	1000mm
75/30	75	30	2.5	o	1000mm

* Tube Shape: "-" flattening tubing; "o" round or oval shape

MEDIUM VOLTAGE TUBING

ADWST

Dual wall co-extruded insulation tubing



Applications

The internal layer provides high insulation whereas the external layer provides electrical shielding.

Very suitable for applications in power cable joints up to 36 kV.

Features

Very good insulator and excellent semi-conducting product.

Various

Minimum shrink temperature: 100 °C

Minimum full recovery temperature: 130 °C

Standard color: Black outside, red inside.

Packaging: 1 m & 1,22 m.



Technical data

internal layer

Property	Method of test	Typical Data
Tensile strength	ASTM D 2671	12 MPa (min)
Elongation at break	ASTM D 2671	300% (min)
Water absorption	ISO 62	<0.5% max.
Volume resistance	IEC 93	>10 ¹⁵ Ω.cm (min)
Dielectric strength	IEC 243	20 Kv/mm (min)
Density	ASTM D 257-98	1.1 g/cm ³

external layer

Tensile strength	ASTM D 638	14 MPa (min)
Elongation at break	ASTM D 638	300% (min)
Water absorption	ISO 62	0.5% max.
Volume resistance	IEC 93	<10 ⁴ Ω.cm
Density	ASTM D 257-98	1.2 g/cm ³

Dimensions

Size	As Supplied (mm)	After Recovery (mm)		Inner insulation layer wall thickness (mm)	Standard Length (mm)
		Inside diameter (min.)	Inside diameter (max.)		
ADWST 36/12	36	12	6.0	5.0	1000-1220
45/15	45	15	6.0	5.0	1000-1220
55/18	55	18	6.0	5.0	1000-1220
62/18	62	18	6.5	5.5	1000-1220
65/22	65	22	6.6	5.6	1000-1220
73/26	73	26	6.6	5.6	1000-1220
85/30	85	30	6.5	5.6	1000-1220
100/38	100	38	6.6	5.6	1000-1220
120/45	120	45	7.0	5.7	1000-1220
140/50	140	50	7.0	5.7	1000-1220



Applications

Suitable for application in power cable accessory.

Features

Chemical formula especially developed makes the tubing provides effective insulation screen on the high voltage cable connectors terminations.

Various

Operating temperature: -45°C to +105°C
Minimum shrink temperature: 100 °C
Minimum full recovery temperature: 120 °C

Standard color: black.
Packaging: 1,20 m. sticks, special lengths available on request.
Specials: special sizes available on request.



Technical data

Property	Test Method	Typical Data
Operating temperature	IEC 216	-45°C to +105°C
Tensile strength	ASTM D 638	≥14 MPa min.
Elongation at break	ASTM D 638	≥300%
Water absorption	ISO 62	<0.15%
Elongation at break after aging	150°C/168 hrs.	≥200%
Volume resistance	IEC 93	<10 ⁴ Ω cm min.
Longitudinal shrinkage	-	±5%
Eccentricity	ASTM D 2671	<30%

Dimensions

ASCON	As Supplied Min. Wall Thickness (mm)	After Recovery Max. Wall Thickness (mm)	After Recovery Min. Wall Thickness (mm)	*Tube Shape	Standard Spool Length (mm)
33/8	33	8	2.5	o	1000-1500
40/12	40	12	2.5	o	1000-1500
55/16	55	16	2.5	o	1000-1500
75/22	75	22	2.5	o	1000-1500
95/25	95	25	2.7	o	1000-1500
120/34	120	34	3.0	o	1000-1500
140/42	140	42	3.0	o	1000-1500
180/58	180	58	3.0	o	1000-1500

*Tube Shape "o": Round shape or Oval.

MEDIUM VOLTAGE TUBING

AATT Anti tracking tube



Applications

Used to provide insulation protection for cable termination, load-break switches power circuit breakers, etc.

Features

Very high creep resistance and anti-tracking properties of this product provide maximum operational reliability. Specially formulated radiation crosslinked polyolefin tubing.

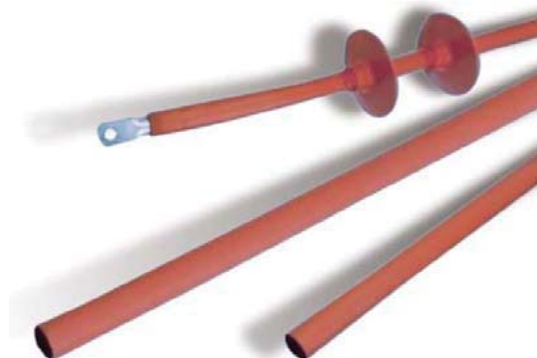
Various

Minimum shrink temperature 110 °C

Standard color: Red

Packaging: Spools and sticks as standards.

Specials: Special lengths and sizes are available on request.



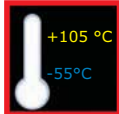
Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥ 11 MPa
Elongation at break	ASTM D 2671	≥ 400%
Longitudinal shrinkage	ASTM D 2671	0 to -10%
Tensile strength after aging	ASTM D 2671 (120°C/168 hrs.)	>10 MPa (min.)
Elongation at break after aging	ASTM D 2671 (120°C/168 hrs.)	>350% (min.)
Dielectric strength	IEC 243	>15KV/mm
Tracking resistance	ASTM D 2303	3.75 KV, 1 hr, Pass
Dielectric constant	IEC 250	3.0 (max.)
Volume resistance	ASTM D 2303	>10 ¹³ Ω cm
Flammability (oxygen index)	IEC 93	>25
Copper corrosion	ASTM D 2671 (120°C/168 hrs.)	No corrosion
Cold bend	ASTM D 2671 (-40°C, 4hrs)	No cracking

Dimensions

AATT	As Supplied Min. Inside Diameter(mm)	After Recovered Max. Inside Diameter (mm)	After Recovered Min. Wall Thickness (mm)	*Tube Shape	Standard Length
Continuous Length tubing					
19/6	19	6	2.5	-	15 M/Spool
30/10	30	10	2.8	-	15 M/Spool
35/12	35	12	2.8	-	15 M/Spool
40/16	40	16	2.9	-	15 M/Spool
45/18	45	18	3.0	-	15 M/Spool
54/24	54	24	3.0	-	15 M/Spool
60/29	60	29	3.0	-	15 M/Spool
76/38	76	38	3.0	-	15 M/Spool
100/49	100	49	3.0	-	15 M/Spool
Cut Length round shape tubing					
35/10	35	10	3.0	o	1000-1500mm
40/12	40	12	3.0	o	1000-1500mm
49/16	49	16	3.0	o	1000-1500mm
55/18	55	18	3.0	o	1000-1500mm
65/21	65	21	3.3	o	1000-1500mm
75/25	75	25	3.5	o	1000-1500mm
85/29	85	29	3.5	o	1000-1500mm
100/38	100	38	4.0	o	1000-1500mm
130/50	130	50	4.0	o	1000-1500mm

* Tube Shape : "-" flattening tubing; "o" round or oval shape



Applications:

This heat shrinkable medium voltage adhesive coated insulating tape is ideal for insulating rectangular or round bus bars bolted, elbow or tee connections up to 24kV.

When shrunk, the hot melt adhesive provides complete environmental and electrical insulation.



Various:

Operating temperature: -55 to + 105°C
Minimum full recovery temperature: 100°C

Shrink ratio: 30%

Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 638	≥ 11.8 Mpa
Elongation	ASTM D 638	≥ 550%
Elongation after aging	ASTM D 2671 (120°, 168 hrs.)	≥ 450%
Dielectric strength	IEC 243	≥ 20KV/mm
Dielectric constant	IEC 250	3.5 (max.)
Volume resistance	IEC 93	≥ 10 ¹³ Ω.cm
Copper corrosion	ASTM D 2671 /120°, 168 hrs.	No corrosion
Flammability	ASTM D 2671	Self extinguish in 60sec.
Water absorption	ISO 62 (23°C/14days)	<0.5%

Dimensions

Size	Width (mm)	Wall Thickness After recovery (mm)	Length per Roll
ABBT-1	25	1.0±0.1	10m, 30m
ABBT-2	50	1.0±0.1	10m, 30m
ABBT-3	100	1.0±0.1	10m, 30m