



PERFECT MAKES **BOXCO!**

HEAT SHRINKABLE PRODUCTS



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"Leading expert in heat shrinkable products"

BOXCO are specialized in heat shrinkable tubing and other products "around" the cable. BOXCO's tubing is available in a variety of material types designed to operate at a range of temperatures from -65°C to +260°C and comes in dimensions from 0,5 mm to 1500 mm. We have our own cutting and marking facility and is therefore able to provide customers with unique customized solutions as cut sleeves and/or printed sleeves.

Our office is based in Stockholm, Sweden and our partners are from all over the world.

HEAT SHRINK TUBING - The product range varies from economical commercial sleeving to high technology options.

RANGE

- Thin wall tubing
- Dual wall tubing (adhesive lined)
- Medium wall tubing
- Thick wall tubing
- Flame-retardant tubing
- Halogen free tubing
- Diesel resistance tubing
- Bus-bar tubing
- Wraparound repair sleeve
- High Temperature tubing
- High shrink ratio tubing (2:1 to 6:1)
- Moulded parts
- End caps
- Breakout multi-fingers
- Solder sleeve connectors
- Crimp seal connectors
- Mini boxes
- Printable tubing

MATERIALS

- Polyolefin
- PVC
- Elastomer
- Teflon ®
- Kynar ®
- Viton ®
- Halogen free
- Cadmium free



THIN WALL TUBING / ACS-55

Flexible general purpose flame retardant



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Applications

Perfect for numerous electronic, automotive and consumer goods. Suitable for electrical insulation, protection of components, strain relief, cable bundling, identification.

Features

Flexible and flame-retardant. Free from toxic heavy metal and harmful substances such as PBB's, PBBO's, PBBE's. Offering low shrinking temperature.

Various

Operating temperature : -55°C to +125°C
Minimum shrink temperature: 70°C
Minimum fully recovery temperature: 100°C

Approvals: UL 224 125°C VW-1 600 V (E204071)

Material: No PBB's, PBBO's, or PBBE's.
RoHS compliant.

Standard colors: Black, red, blue, yellow, green, white. Other colors available on request.



Technical data

Property	Test Method	Typical Data
Operating temperature	UL 224	-55°C to +125°C
Tensile strength	ASTM D 2671	> 14 MPa
Ultimate elongation	ASTM D 2671	400%
Longitudinal shrinkage	UL 224	0 ± 5%
Eccentricity	ASTM D 2671	< 30%
Heat aging		
Tensile strength	158°C/168 hrs.	> 12 MPa
Ultimate elongation		> 350%
Flammability	VW-1	Pass
Dielectric strength	IEC 243	> 20 KV/mm
Volume resistance	IEC 93	> 10 ¹⁴ Ω.cm
Copper stability	UL 224	Pass

Dimensions

Size	As Supplied (mm)		After Recovery (mm)		Standard Spool Length (m/spool)
ACS-55	Inside Diameter (min)	Wall Thickness (min)	Inside Diameter (max)	Wall Thickness (min)	
3/64	1.2	0.18	0.60	0.33	150
1/16	1.6	0.18	0.80	0.36	150
3/32	2.4	0.25	1.20	0.44	150
1/8	3.2	0.25	1.60	0.44	150
3/16	4.8	0.25	2.40	0.56	75
1/4	6.4	0.25	3.20	0.56	75
3/8	9.5	0.30	4.80	0.56	75
1/2	12.7	0.35	6.40	0.65	50
5/8	15.9	0.35	8.00	0.69	50
3/4	19.1	0.40	9.50	0.80	30
1	25.4	0.45	12.70	0.90	30
1 1/4	31.8	0.45	15.90	0.90	30
1 1/2	38.1	0.50	19.10	1.02	30
2	50.8	0.50	25.40	1.02	30
3	76.2	0.55	38.10	1.20	15
4	101.6	0.55	50.80	1.30	15
5	126.0	0.55	63.50	1.30	15
6	150.0	0.55	76.00	1.30	15

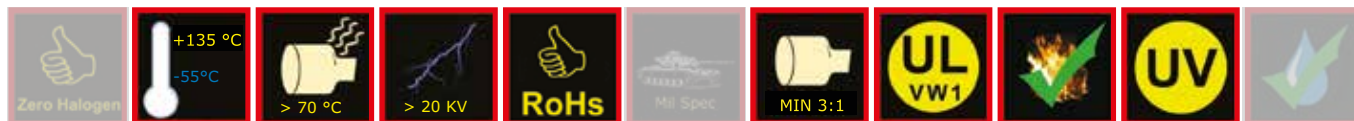
Spools as standards. 1 m. or 1,20 m. sticks, special spool lengths or cutted pieces available on request.
Special sizes (up to 6 inches) and other special features available on request.



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THIN WALL TUBING / ACS-300

Flexible, flame retardant, high shrink ratio



Applications

Perfect for electrical insulation in light duty wire harnesses which are highly flexible. Ideal for wiring protections and identification of wires, cables and electrical components, and covering irregular shapes.

Features

Specially designed formulation to meet the standards of UL224. Free from harmful substances as PBB's, PBBO's, PBBE's and toxic heavy metals. Low shrinking temperature. Very flexible, and RoHS compliant. Shrink ratio 3:1.

Various

Operating temperature: -55°C to +135°C
Minimum shrink temperature: 70°C
Minimum fully recovery temperature: 100°C

Approvals: UL 224,
125°C VW-1 600V.

Standard color: Black, red, blue, yellow, green, white. Others available on request.

Technical data

Property	Test Method	Typical Data
Operating temperature	UL 224	-55°C to + 135°C
Tensile strength	ASTM D 2671	>14 Mpa
Elongation at break	ASTM D 2671	>400%
Elongation at break after aging	158°C/168 hrs.	>300%
Longitudinal shrinkage	UL 224	0 to -10%
Dielectric strength	IEC 243	>20 kV/mm
Volume resistance	IEC 93	>10 ¹⁴ Ω.cm
Flammability	VW-1	Pass
Copper stability	ASTM D 2671	Pass
Eccentricity	ASTM D 2671	<30%

Dimensions

Size		As Supplied (mm)		After Recovery (mm)		Standard Spool Length (m/spool)
ACS-300		Inside Diameter (min)	Wall Thickness (min)	Inside Diameter (max)	Wall Thickness (min)	
1/16	1.5/0.5	1.6	0.15	0.5	0.45	150
1/8	3/1	3.2	0.18	1.0	0.55	150
3/16	4.5/1.5	4.8	0.20	1.5	0.60	75
1/4	6/2	6.4	0.22	2.0	0.65	75
3/8	9/3	9.5	0.25	3.0	0.75	75
1/2	12/4	12.7	0.25	4.0	0.80	50
3/4	18/6	19.1	0.35	6.0	0.90	30
1	24/8	25.4	0.45	8.0	1.00	30
1 1/2	40/13	40.0	0.50	13.0	1.25	30

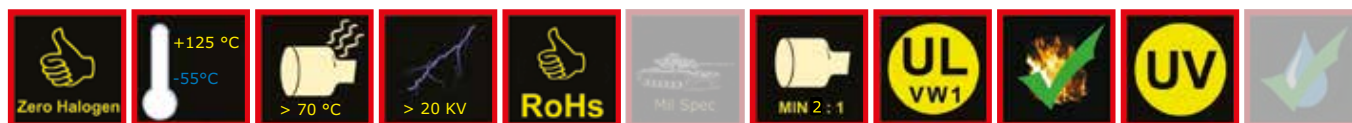
Spools as standards. 1 m. or 1,20 m. sticks, special spool lengths or cutted pieces available on request.
Special sizes (up to 6 inches) and other special features available on request.

THIN WALL TUBING / AZH-100

Halogen free tubing, flame retardant



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Applications

This environmental friendly heat shrinkable tube is made with specially designed halogen free polyolefin.

It produces neither toxic smoke nor harmful substances, ideal for underground applications where zero halogen cables & accessories are in demand.

shrinking and flexible properties. RoHS compliant.

Various

Operating temperature: -55°C to +125°C

Minimum shrink temperature: 70°C

Minimum fully recovery temperature: 100°C

Standard color:

Black, white. Other colors on request.

Features

The tube also shows excellent flame retardant, insulation, low temperature



Technical data

Property	Test Method	Typical Data
Operating temperature	IEC 216	-55°C to +125°C
Tensile strength	ASTM D 2671	>10.4 MPa
Elongation at break	ASTM D 2671	>200%
Longitudinal shrinkage	UL 224	±5%
Eccentricity	ADTM D 2761	<30%
Heat shock	250°C/4 hrs.	No cracking
Heat aging		
Tensile strength	136°C, 168 hrs.	9.0MPa
Ultimate elongation		>150%
Flammability	SAE-AMS-DTL-23053/5	Pass

Dimensions

Size	As Supplied (mm)		After Recovery (mm)		Standard Spool Length (m/spool)
AZH-100	Inside Diameter (min)	Wall Thickness (min)	Inside Diameter (max)	Wall Thickness (min)	
1/8	3.2	0.25	1.60	0.44	150
3/16	4.8	0.25	2.40	0.56	75
1/4	6.4	0.25	3.20	0.56	75
3/8	9.5	0.30	4.80	0.56	75
1/2	12.7	0.35	6.40	0.65	50
3/4	19.1	0.40	9.50	0.80	30
1	25.4	0.45	12.70	0.90	30
1 1/2	38.1	0.50	19.10	1.02	30
2	50.8	0.50	25.40	1.02	30

Spools as standards. 1 m. or 1,20 m. sticks, special spool lengths or cutted pieces available on request.

Special sizes and other special features available on request.



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DUAL WALL TUBING

ADW-300 / 400

Low shrink temperature, flame retardant



Applications

Manufactured by co-extrusion of polyolefin and hot-melt adhesive. Designed to provide both insulation and sealing for protected articles. Used to protect auto wires, shipping cable, bundle wires

Features

Good electrical insulation and waterproof connection.

Various

Operating temperature: - 55°C to +125°C
Minimum shrink temperature: 80°C

Approvals: UL 224 125°C VW-1 600V File No.E204071 (except clear)
Meet: SAE-AMS-DTL-23053/4

Standard color: Black

Special colors: Red, blue, white, yellow, clear

Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	>10.4 MPa
Tensile strength after aging (158°C/168 hrs.)	ASTM D 2671	Remains 70%
Elongation at break	ASTM D 2671	>300% (min)
Elongation at break after aging (158°C/168 hrs.)	ASTM D 2671	100% (min)
Longitudinal shrinkage	UL 224	0 to -10%
Heat shock	250°C/4 hrs	No cracking, no dropping
Cold bend (-30°C/1 hr.)	ASTM D 2671	No cracking
Voltage withstand (AC 2500V/60 seconds)	ASTM D 2671	No breakdown
Volume resistance	ASTM D 876	>10 ¹⁴ Ω.cm
Flammability	SAE-AMS-DTL-23053/4	Self-extinguish in 30 sec
Copper corrosion (158°C/168 hrs.)	UL 224	Pass
Water absorption	ASTM D 570	<0,5%

Dimensions

Normal Size (mm)	As Supplied (mm)	After Recovery (mm)			Standard Length	
	Inside Diameter (min)	Inside Diameter (max)	Total Wall Thickness (Min.)	Adhesive Thickness	m/piece	m/spool
ADW-300 Shrink Ratio 3:1 Adhesive-lined tubing						
3/1	3.0	1.0	1.0	0.5	1.22	150
4.8/1.5	4.8	1.5	1.0	0.5	1.22	75
6/2	6.0	2.0	1.0	0.5	1.22	75
9/3	9.0	3.0	1.40	0.6	1.22	75
12/4	12.0	4.0	1.60	0.7	1.22	30
19/6	19.0	6.0	2.15	0.8	1.22	30
24/8	24.0	8.0	2.40	1.0	1.22	30
30/10	30.0	10.0	2.40	1.0	1.22	30
40/13	40.0	13.0	2.40	1.0	1.22	30
50/19	50.0	19.0	2.40	1.0	1.22	30
ADW-400 Shrink Ratio 4:1 Adhesive-lined tubing						
4/1	4.0	1.0	1.00	0.5	1.22	150
6/1.5	6.0	1.5	1.00	0.5	1.22	75
8/2	8.0	2.0	1.00	0.5	1.22	75
12/3	12.0	3.0	1.40	0.6	1.22	50
16/4	16.0	4.0	1.60	0.8	1.22	30
24/6	24.0	6.0	2.15	0.8	1.22	30
32/8	32.0	8.0	2.40	1.0	1.22	30
52/13	52.0	13.0	2.40	1.0	1.22	30

Special spool lengths or cutted pieces available on request.

Special sizes and other special features available on request.

MEDIUM WALL TUBING

AMW / AMWA

Medium wall tubing (AMW), adhesive lined (AMWA)



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Applications

Suitable for a variety of low voltage electrical and mechanical applications. Recommended to applications for light cable and wire harnesses that require waterproofing, protection, and sealing of connectors components within the tubing.

Features

High electrical insulation. High resistance to impact, abrasion and UV. Provides excellent mechanical protection to cable joints and

terminations. 3:1 shrink ratio allows it to fit over irregular shape and large connectors. Halogen and Cadmium free.

Various

Operating temperature : -55°C to +125°C
Shrink temperature: minimum full temperature 120°C.
Resistant to UV-radiation.

Standard colors: Black. Special color: Red.
Packaging: Spools or length as standards according to product sizes.



Technical data

Property	Test Method	Typical Data
Operating temperature	IEC 216	-55°C to +125°C
Tensile strength	ASTM D 2671	≥ 14 MPa
Tensile strength after aging	ASTM D 2671 (150°C/168 hrs.)	≥ 12 MPa
Elongation at break	ASTM D 2671	≥ 400%
Elongation at break after aging	ASTM D 2671 (150°C/168 hrs.)	≥ 300%
Density	ASTM D 792	1.05g/cm ³
Longitudinal shrinkage	UL 224	0 to - 10%
Dielectric strength	IEC 243	≥ 20 kV/mm
Volume resistance	IEC 93	≥ 10 ¹⁴ Ω.cm
Eccentricity	ASTM D 2671	< 30%
Copper stability	ASTM D 2671	Pass
Resistance to stress cracking	ASTM D 1693 (50°C)	No Cracking
Water absorption	ISO 62 (23°C/14 days)	< 0.15%

Thermoplastic adhesive for AMWA		
Water absorption	ISO 62	< 0.2%
Softening point	ASTM D	85°C
Peel strength (PE)	DIN 30672	4N/cm
Copper stability	ASTM D 2671	Non-corrosive
Resistance to fungus and decay	ISO 846	Pass

Dimensions

AMW/ AMWA	As Supplied (mm)	After Recovery (mm)		Tube shape* AMW / AMWA		Standard length AMW / AMWA (m)
	Inside Diameter (min)	Inside Diameter (max)	Wall Thickness (min)			
8/2	8	2	1.7	-	O	1.22
12/3	12	3	2.0	-	O	1.22
16/5	16	5	2.2	-	O	1.22
22/6	22	6	2.2	O	O	1.22
28/6	28	6	2.5	O	O	1.22
33/8	33	8	2.5	O	O	1.22
40/12	40	12	2.5	O	O	1.22
55/16	55	16	2.7	O	O	1.22
65/19	65	19	2.8	O	O	1.22
75/22	75	22	3.0	O	O	1.22
85/25	85	25	3.0	O	O	1.22
95/25	95	25	3.0	O	O	1.22
115/34	115	34	3.0	O	O	1.22
140/42	140	42	3.0	-	O	1.22
160/50	160	50	3.0	-	O	1.22
180/58	180	58	3.0	-	O	1.22
205/65	205	65	3.0	-	O	1.22
235/65	235	65	3.0	-	O	1.22
265/75	265	75	3.0	-	O	1.22
300/85	300	85	3.0	-	O	1.22
350/100	350	100	3.0	-	O	1.22

1 m. 1.2 m. 1.5m. sticks as standard, special lengths, sizes, printing and other special features available on request.

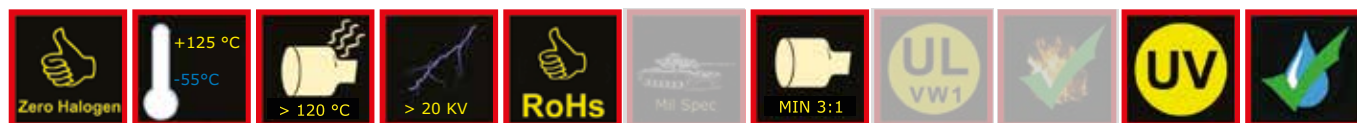
* Tube shape "o": Round shape or Oval
"-": Flat shape



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HEAVY WALL TUBING AHW / AHWA

Heavy wall tubing (AHW), adhesive lined (AHWA)



Applications

Designed for applications to seal and protect electrical and communication connections. Provides excellent mechanical protection to cable joints and terminations, flexible gas pipes, etc...

Features

High resistance to impact, abrasion, corrosion, UV and chemical. Rated for 1 kV, 90 °C continuous use. AHWA is recommended for applications on light cables and

wire harnesses which require waterproofing, protection of connector components. Halogen and Cadmium free.

Various

Operating temperature : -55°C to + 125°C
Shrink temperature: minimum recovery 120°C.
Standard colors: black (special color: red).
Packaging: 1 m. or 1.2 m. sticks, special lengths, special printing on request. Specials: special sizes. Other special features available on request.

Technical data

Property	Test Method	Typical Data
Operating temperature	IEC 216	-55 to +125°C
Tensile strength	ASTM D 2671	≥14 MPa
Tensile strength after aging	ASTM D 2671/150°C, 168 hrs.	≥12 MPa
Elongation at break	ASTM D 2671	≥400%
Elongation at break after aging	150°C, 168 hrs.	≥300%
Density ASTM	D 792	1.05g/cm ³
Longitudinal shrinkage	UL 224	0 to - 10%
Dielectric strength	IEC 243	≥20 kV/mm
Volume resistance	IEC93	10 ¹⁴ Ω cm
Eccentricity	ASTM D 2671	<30%
Copper stability	ASTM D 2671	Pass
Resistance to stress cracking	ASTM D 1693	No Cracking
Water absorption	ISO 62/23, 14 days	<0.15%

Thermoplastic adhesive for AHWA

Water absorption	ISO 62	<0.2%
Softening point	ASTM D E8	85°C
Peel strength (PE)	DIN 30672	4 N/cm
Copper stability	ASTM D 2671	Non corrosive
Resistance to fungus and decay	ISO 846	Pass

Dimensions

AHW/AHWA	As Supplied Min. Inside Diameter (mm)	After Recovered Max. Inside Diameter (mm)	After Recovered Min. Wall Thickness (mm)	*Style	Standard Length (m)
9/3	9	3	1.8	0	1.22
13/4	13	4	2.4	0	1.22
22/6	22	6	2.7	0	1.22
33/8	33	8	3.2	0	1.22
40/12	40	12	4.1	0	1.22
45/12	45	12	4.1	0	1.22
55/16	55	16	4.1	0	1.22
75/22	75	22	4.1	0	1.22
85/25	85	25	4.3	0	1.22
95/30	95	30	4.3	0	1.22
105/30	105	30	4.3	0	1.22
130/36	130	36	4.3	0	1.22
160/50	160	50	4.3	0	1.22
180/50	180	50	4.3	0	1.22
200/60	200	60	4.3	0	1.22

* Style "0": Round shape or Oval

MEDIUM VOLTAGE TUBING / ABBM

Bus bar tubing medium voltage



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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 Recoverd (mm)		*Tube shape	Standard Length
	Inside Diameter (min)	Inside Diameter (max)	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	-	1.0 m
180/70	180	70	3.0	-	1.0 m
205/75	205	85	3.3	-	1.0 m
235/75	235	75	3.3	-	1.0 m

* Standard lengths and spools can vary

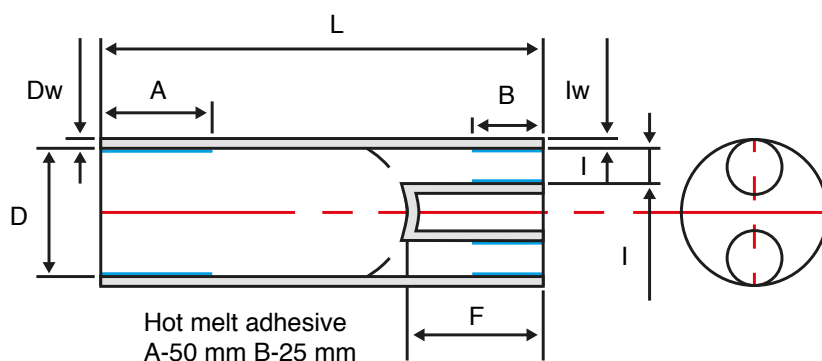
*Tube shape "-": Flat shape



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MOULDED PARTS / ABOS

LV breakouts 1-5 fingers



ABOS	D (mm)		I (mm)		Recovered length		Recovered wall thickness (Dw, Iw)	
2 cores breakout	a (min.)	b (max.)	a (min.)	b (max.)	L (mm)	F (mm)	Dw (mm)	Iw (mm)
ABOS-LV 2 22/8	22	8	9	3.5	55	18	2.2	1.8
ABOS-LV 2 30/12	30	12	14	4.5	93	23	2.6	2.2
ABOS-LV 2 40/16	40	16	15	5	125	35	2.1	2.1
ABOS-LV 2 60/23	60	23	25	7.5	118	29	2.6	2.6
ABOS-LV 2 60/23-L	60	23	25	7.5	155	45	2.6	2.6
ABOS-LV 2 90-60	90	60	30	8.5	190	50	3.0	3.0
ABOS-LV 2 150/90	150	90	20	6.5	150	70	3.0	3.0
3 cores breakout	a (min.)	b (max.)	a (min.)	b (max.)	L (mm)	F (mm)	Dw (mm)	Iw (mm)
ABOS LV3 38/16	38	16	15	4.5	110	35	2.1	2.1
ABOS-LV3 40/16-L	40	16	15	4.5	125	35	2.1	2.1
ABOS-LV3 60/25	60	25	25	8	165	50	3	2.5
ABOS-LV3 60/24-L	60	24	25	8	180	45	3.2	2.8
ABOS-LV3 80/38	80	38	35	11	185	55	3.5	3.5
ABOS-LV3 80/38-L	80	38	35	11	215	57	4	4
ABOS-LV3 110/50	110	50	46	17.5	250	65	4	4
ABOS-LV3 125/57	125	57	55	20	260	75	4	4
ABOS-LV3 140/70	140	70	62	26	280	75	4	4
ABOS-LV3 170/77	170	77	75	28	280	80	4	4
4 cores breakout	a (min.)	b (max.)	a (min.)	b (max.)	L (mm)	F (mm)	Dw (mm)	Iw (mm)
ABOS LV4 40/15	40	15	14	3.5	105	26	2.2	2
ABOS LV4 55/21	55	21	20	5	150	40	3.1	2.6
ABOS LV4 65/26	65	26	26	7	175	45	3.3	2.9
ABOS LV4 75/26	75	26	28	7	175	45	3.3	2.9
ABOS LV4 82/37	82	37	30	9	190	60	4	3
ABOS LV4 90/37	90	37	32	9	190	60	4	3
ABOS LV4 100/47	100	47	38	12	198	58	4	3
ABOS LV4 125/52	125	52	52	15	240	75	4	4
ABOS LV4 160/70	160	70	64	19	260	75	4	4
5 cores breakout	a (min.)	b (max.)	a (min.)	b (max.)	L (mm)	F (mm)	Dw (mm)	Iw (mm)
ABOS LV5 40/19	40	19	19	4	98	25	2.5	2
ABOS LV5 55/24	55	24	24	5	155	40	3.2	2.6
ABOS LV5 80/33	80	33	33	8	175	53	3	2.8
ABOS LV5 100/42	100	42	42	10	190	60	3	3

MOULDED PARTS / AEC / AEC-L

Cable end caps



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Applications

Recommended for use both in open air and on underground power distribution cables with PVC, lead or XLPE sheets. Definitive recovery with the layer of spiral coated hot-melt adhesive.

Features

Resistant to oxydation, ozone, UV radiation. Protects power cables up to 1000 V and telecommunication cables. Very easy to fit over cable end. Environment definitive watertight seal.

Material: thermally stabilized crosslinked polyolefin, coated with specially hot melt adhesive.

Various

Shrink temperature
Minimum full recovery temperature 120 °C.
Standard color: black.
Packaging: per unit.
Special size or length on request.



Technical data

Property	Test Method	Typical Data
Operating temperature	IEC 216	-55°C to +110°C
Tensile strength	ASTM D 638	>14 MPa min.
Elongation at break	ASTM D 638	250% min.
Elongation at break after aging	150°C, 168 hrs.	>300% min.
Density	ASTM D 792	1.05
Flammability	/	Flammable
Dielectric resistance	IEC 243	15 kV/mm min.
Volume resistance	IEC 93	10 ¹⁴ Ω cm min.

Dimensions

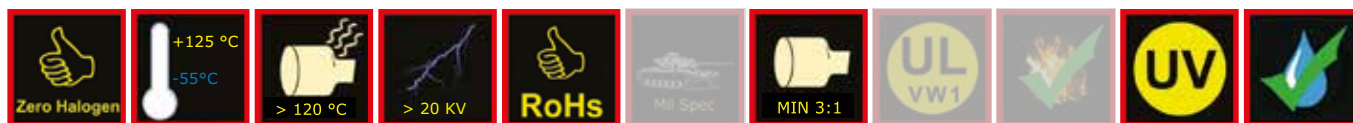
AEC	As Supplied (mm)	After recovered (mm)				Cable Diameter (mm)
	D (min)	D (max)	A (±10%)	L (±10%)	Dw (±5%)	
Standard length end caps						
12/4	12	4.0	15	40	2.6	4-10
14/4	14	4.0	18	45	2.2	5-12
20/6	20	6.0	25	55	2.8	6-16
25/8.5	25	8.5	30	68	2.8	10-20
35/16	35	16.0	35	83	3.3	17-30
40/15	40	15.0	40	83	3.3	18-32
55/26	55	26.0	50	103	3.5	28-48
75/36	75	36.0	55	120	4.0	45-68
100/52	100	52.0	70	140	4.0	55-90
120/60	120	60.0	70	150	4.0	65-110
145/60	145	60.0	70	150	4.0	70-130
160/82	160	82.0	70	150	4.0	90-150
200/90	200	90.0	70	160	4.2	100-180
Extended lenght end cap						
14/4	14	4.0	30	58	2.2	5-12
42/15	42	15.0	40	110	3.3	18-34
55/23	55	23.0	70	140	3.8	25-48
62/23	62	23.0	70	140	3.8	25-55
75/32	75	32.0	70	150	4.0	40-68
75/36	75	36.0	70	170	4.2	45-68
105/45	105	45.0	65	150	4.0	50-90



PERFECT MAKES **BOXCO!**

HEAVY WALL TUBING / AWAS

Wraparound repair sleeves



Applications

AWAS cross linked polyethylene wraparound sleeves are suitable to restore XLPE and paper insulated cable's outer jackets quickly and securely. They give excellent electrical, environmental and mechanical protection in LV joints. The sleeves are lined with hot-melt adhesive to ensure protection against moisture or water penetration.

Features

The wraparound sleeves are made from thermally stabilized cross linked weather resistant polymeric material. When heating, the sleeve shrinks and the adhesive melts create a watertight bond between the sleeve and the cable. Sleeve materials equals to the material properties of the original cable jacket, it closes easily with a flexible stainless steel channel. For insulation on low voltage cable up to 1000V.

Technical data

Item	Test Condition and method	Requirement
Bursting Strength	Test temp: 23±5°C	Min 15 MPa
Thermal Agering	168 Hrs at 150±2°C	Min 13.7MPa
Bursting Strength	(After free shrinkage)	
Dielectric strength	Electrode Surface Dia: 6 mm Wight: 50±2 gms Voltage steps: 2 KV/20 sec.	Min 12 KV/mm
Split Resistance	Temp: 200±2°C Test time: 23±3°C	No split Propagation
Carbot Content	Heating rate: 20°C/min	Min 2.6±0.25%
UV Res of Out/layer	Gas flow rate: 300cc/min	
Cold Crack resistance	Test temp≤-40°C	No cracking
Resistance to aggressive media	Test media: Fuel oil, petroleum jelly	Min 13.7MPa
Bursting Strength	Test temp: 70±2°C	
Environmental	10% Igepal Co 630	No cracking
Stress cracking	solution immersion Time 30 days Test temp: 50±3°C	
Temp. indicating paint conversion	Completely conversion	Completely conversion
Hot melt adhesive		
Peel Strength	-PE at 23±2°C -PE at 23±2°C -Pb at 23±2°C	Min 100N/25mm
Shear Strength	At 23±2°C	Min 200N
Corrosive Effect	Copper Mirror test Test time:16hrs Test temp:60±2°C	No effect

Dimensions

AWAS	Max Cable Diam. (mm)	Min Cable Diam. (mm)	Lengths Supplied
42/15	42	15	1.0 m
50/15	50	15	1.0 m
75/22	75	22	1.0 m
93/36	93	36	1.0 m
130/38	130	38	1.0 m
198/55	198	55	1.0 m
210/65	210	65	1.0 m

Other wrap around sleeves are also available on special request

- AWAS-R: fiber glass reinforcing layer

Using the same compound as AWAS (hot melt adhesive), but with a special fiber glass reinforcing layer.

- AWAS-S: fiber glass reinforcing layer with aluminum moisture vapour barrier layer

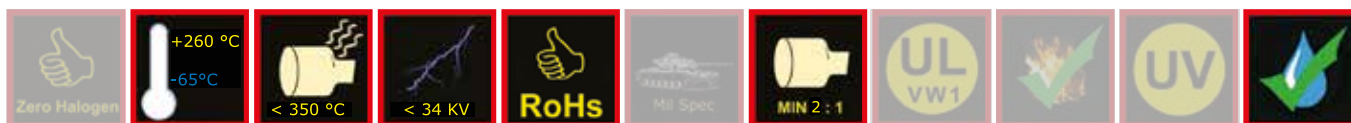
Using the same compound as AWAS (hot melt adhesive), but with fiber glass reinforcing with aluminum moisture vapour barrier layers.

SPECIALITY PRODUCT / ATFE

High temperature Teflon® tubing



PERFECT MAKES **Boxco!**



Applications

This Teflon® based tubing is designed for protecting applications in extreme electrical, or mechanical environments. Thanks to its compound it has exceptional friction resistance and withstands even aggressive chemical solvents.

Features

Minimum shrink temp.: 350°C
Operating temp: -65°C to +260°C



Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	17 MPa
Elongation at break	ASTM D 2671	200%
Specific gravity	ASTM D 792	2.30
Heat Shock (400°/4hrs)	ASTM D 2671	No cracking or drip
Cold bend test (-65 /4hrs)	ASTM D 2671	No cracking
Volume resistance	ASTM D 2671	<10 ¹⁸ Ω cm
Dielectric strength	ASTM D 2671	34kV/mm
Copper Corrosion	UL 224	Pass
Flammability	ASTM D 2671	Self-extinguish
Fluid resistance	SAE-AMS-DTL-23053/12	Excellent
Water absorption	ASTM D 570	0.1 max

Dimensions

ATFE	As Supplied (mm)	After Recovery (mm)		Standard Length
	Inside Diameter (nom)	Inside Diameter (nom)	Wall Thickness (nom)	
20	1.52	0.97	0.30	1.22 m
18	1.93	1.17	0.30	1.22 m
16	2.36	1.45	0.30	1.22 m
14	3.05	1.82	0.30	1.22 m
12	3.81	2.26	0.30	1.22 m
10	4.85	2.80	0.30	1.22 m
8	6.10	3.55	0.38	1.22 m
6	7.67	4.40	0.38	1.22 m
4	9.40	5.45	0.38	1.22 m
2	10.92	6.90	0.38	1.22 m
0	11.94	8.56	0.38	1.22 m

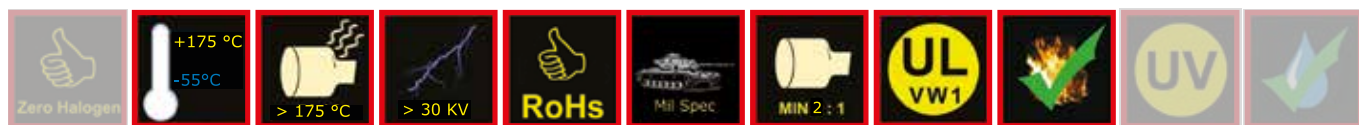
*Teflon® is a registered trademark of Du Pont de Nemours and Co. Inc.



PERFECT MAKES **BOXCO!**

SPECIALITY PRODUCTS / AKY-175

High performance PVDF tubing (Kynar®)



Applications

Excellent to insulate from high temperatures. It reliably protects wires, solder joints, terminals, connections, and components from most industrial fuels, solvents and chemicals.

Features

Semi-rigid tubing, ideal for applications that require high temperature performance, outstanding abrasion and cut-through resistance or superior chemical and solvent resistance properties.

Various

Operating temperature: -55°C to +175°C
Minimum full recovery temperature: +175°C

Approvals: UL, VW-1, File No E249362.
Meet: SAE-AMS-DTL-23053/ 18. RoHS.

Standard color: Clear, other colors on request.

Packaging: spools as standards, special spool lengths, cutted pieces are available on request.

Technical data

Property	Test Method	Typical Data
Operating temperature	IEC 216	-55°C to +175°C
Tensile strength	ASTM D 2671	≥34,5 MPa
Elongation at break	ASTM D 2671	≥150%
Elongation at break after aging	250°C/168hrs.	≥100%
Heat shock	300°C/1hrs.	No cracking
Cold bend -	55°C/1hrs.	No cracking
Flammability	VW-1	Pass
Volume resistance	IEC 93	≥1013Ω.cm
Dielectric strength	ASTM D 2671	≥ 30kV/mm

Dimensions

Size	As Supplied (mm)	After Recovery (mm)		Standard Spool Length (m/spool)
AKY-175	Inside Diameter (min)	Inside Diameter (max)	Wall Thickness (min)	
3/64	1.2	0.6	0.20	150m/spool
1/16	1.6	0.8	0.20	150m/spool
3/32	2.4	1.2	0.23	150m/spool
1/8	3.2	1.6	0.23	150m/spool
3/16	4.8	2.4	0.23	75m/spool
1/4	6.4	3.2	0.28	75m/spool
3/8	9.5	4.8	0.28	75m/spool
1/2	12.7	6.4	0.32	1,22m
3/4	19.1	9.5	0.36	1,22m
1	25.4	12.7	0.41	1,22m

SPECIALITY PRODUCT / DR-25

Diesel resistant tubing



PERFECT MAKES **Boxco!**



Applications

This flexible elastomer tube provides protection for wire harnesses placed in harsh environments. Its superior diesel, lubricating and hydraulic oil resistance combined with flexibility and abrasion resistance makes this product ideal for military, aerospace and automotive applications.

Features

Minimum shrink temp.: 175°C
Operating temp: -75°C to + 150°C



Technical data

Property		Test Method	Value
Unaged	Tensile strength	ASTM D 638	Min. 13 Mpa
	Elongation	ASTM D 638	Min. 500%
After aging 160°C/168 hrs.	Tensile strengths	ASTM D 638	Min. 8 MPa
	Elongation	ASTM D 638	Min. 200%
Flexibility (2% secant)		ASTM D 882	Max. 50 MPa
Volume resistance		ASTM D 876	Min. 1010Ω cm
Flammability		ASTM D 2671	Self-extinguishing within 15 seconds
Fluid resistance	Tensile strength	Diesel at 70°C	Min. 10MPa
	Tensile strength	ISO 37 Hydraulic at 70°C	Min. 10MPa
	Elongation	24 hrs at Lubricant at 100°C	Min. 300%

Dimensions DR-25

Size		Inside Diameter		Wall Thickness After Recoverd (mm)	Standard packing (m/spool)
DR-25	mm	As Supplied (mm)	After Recoverd (mm)		
1/8"	3.2	3.2	1.6	0.76	50
3/16"	4.8	4.8	2.4	0.85	50
1/4"	6.4	6.4	3.2	0.90	50
3/8"	9.5	9.5	4.8	1.02	50
1/2"	12.7	12.7	6.4	1.22	30
3/4"	19.1	19.1	9.5	1.45	30
1"	25.4	25.4	12.7	1.80	30
1 1/2"	38.1	38.1	19.1	2.40	15
2"	50.8	50.8	25.4	2.80	15
3"	76.5	76.5	38.1	3.2	15



PERFECT MAKES **BOXCO!**

SPECIALITY PRODUCT / ASSC

Solder Sleeves Connectors



Applications

Heat shrinkable solder sleeves with the thin ring and PE outer layer provide a permanent encapsulation, insulation and strain relief on motor tabs, connectors pins and switch terminal.

Features

Thermoplastic inner insert at each end of the terminator, sealing against water and moisture. Refluxed solder ring, offers controlled soldering process.

Various

Operating temperature: -55°C to + 125°C
 RoHS compliant
 REACH compliant
 Fully contraction temperature: 130°C
 Solder began to melt temperature: 125°C
 Solder completely melt temperature: 150°C

Standard colors:

Transparent outer layer
 Inner thermoplastic insert White, Red, Blue, Yellow

Technical data

Property	Test Method	Typical Data
Dielectric voltage withstand	RT-1404	2.0kV
Voltage rating	RT-1404	500% (min)
Voltage dropping	RT-1404	Less than 2.0mV
Copper corrosion UL	224/ASTM D2671	Non-corrosive

Dimensions

ASSC	Color	Wire range	Inside Diameter Before Recovery	Cut length
ASSC-1	White	0.2 to 0.8 mm ²	1.7 mm	25 mm
ASSC-2	Red	0.8 to 2.0 mm ²	2.7 mm	40 mm
ASSC-3	Blue	2.0 to 4.0 mm ²	4.5 mm	40 mm
ASSC-4	Yellow	4.0 to 6.0 mm ²	6 mm	40 mm

SPECIALITY PRODUCT / ACSC

Crimp Sealed Connector



PERFECT MAKES **Boxco!**



Applications

Heat Shrinkable splices provide a permanent environmental seal. The polymer used in the production of the heat shrink tube is specially adapted to be crimped. Ideal for electrical equipment repairs, maintenance and outdoor electrical cabling

Features

RoHS compliant. Excellent fluid resistance (100% waterproof).
Very high abrasion resistance.
Shrink ratio: 3:1

Various

Minimum shrink temperature: 110°C
Operating temperature: -55°C to +125°C



Technical data

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	27 Mpa
Elongation	ASTM D 2671	10% max.
Longitudal change	ASTM D 2671	10% max.
Heat shock	ASTM D 2671	No cracking
Heat resistance	168 hrs at 165°C	No cracking
Dielectric strength	ASTM D 2671	30 kV/mm
Fluid resistance	ASTM D 2671	excellent
Water absorption	ASTM D 2671	1% max.

Dimensions

ACSC	As Supplied (mm)	After Recovery (mm)	
	Inside Diameter	Inside Diameter	Cut length
RED 0,5 - 1,5 MM	4.3	1.4	38
BLUE 1,5 - 2,5 MM	5.0	1.8	38
YELLOW 4 - 6 MM	6.5	2.2	41



PERFECT MAKES **BOXCO!**

MINI-BOXES

AMB-55 / AMB-YG / AMB-DW



Applications

AMB Series are Mini-Boxes tubing dispensers ideal for wholesalers, small shops, automotive repair shops or any electrical work shops.

AMB-55: 2:1 ratio, 125°C, ULVW1, high quality, environment friendly tubing (refer to ACS-55 data sheet for details).

AMB-DW: provides 3:1 ratio, adhesive lined tubing (refer to ADW-300 datasheet for details)

AMB-YG: provides 2:1 ratio, 125°C, Yellow/Green tubing ideal for grounding.

Features

Sizes available: from 1,6mm up to 25,4 mm

AMB-55: Black, Clear, Red, Blue, Yellow, Green, White, (others on request)

AMB-YG: Yellow/Green

AMB-DW: Black

AMB-55

P/N for Mini-boxes	Size	Expanded Diameter (mm)	Recovered Diameter (mm)	Length per Mini-box	Tubing
AMB-55	1/16"	1.6	0.8	15 MTRS	ACS-55
AMB-55	3/32"	2.4	1.2	15 MTRS	ACS-55
AMB-55	1/8"	3.2	1.6	15 MTRS	ACS-55
AMB-55	3/16"	4.8	2.4	10 MTRS	ACS-55
AMB-55	1/4"	6.4	3.2	10 MTRS	ACS-55
AMB-55	3/8"	9.5	4.75	10 MTRS	ACS-55
AMB-55	1/2"	12.7	6.35	5 MTRS	ACS-55
AMB-55	3/4"	19.1	9.5	5 MTRS	ACS-55
AMB-55	1	25.4	12.7	5 MTRS	ACS-55

AMB-YG

P/N for Mini-boxes	Size	Expanded Diameter (mm)	Recovered Diameter (mm)	Length per Mini-box	Tubing
AMB-YG	1/16"	1.6	0.8	15 MTRS	AYG-55
AMB-YG	3/32"	2.4	1.2	15 MTRS	AYG-55
AMB-YG	1/8"	3.2	1.6	15 MTRS	AYG-55
AMB-YG	3/16"	4.8	2.4	10 MTRS	AYG-55
AMB-YG	1/4"	6.4	3.2	10 MTRS	AYG-55
AMB-YG	3/8"	9.5	4.75	10 MTRS	AYG-55
AMB-YG	1/2"	12.7	6.35	5 MTRS	AYG-55
AMB-YG	3/4"	19.1	9.5	5 MTRS	AYG-55
AMB-YG	1	25.4	12.7	5 MTRS	AYG-55

AMB-DW

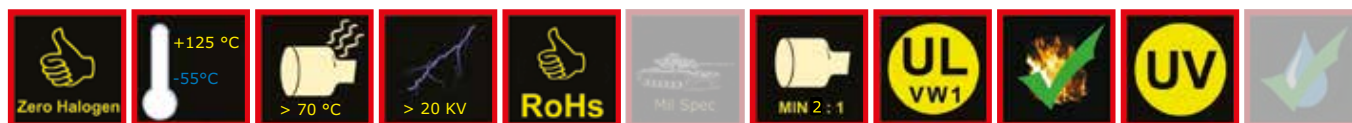
P/N for Mini-boxes	Size	Expanded Diameter (mm)	Recovered Diameter (mm)	Length per Mini-box	Tubing
AMB-DW	6/2	6	2	4 MTRS	ADW-300
AMB-DW	9/3	9	3	3 MTRS	ADW-300
AMB-DW	12/4	12	4	3 MTRS	ADW-300
AMB-DW	18/6	18	6	2 MTRS	ADW-300
AMB-DW	24/8	24	8	2 MTRS	ADW-300

FLAT PRINTABLE TUBING / AIMS-300

Flat, Zero Halogen, Flame Retarded



PERFECT MAKES **Boxco!**



Applications

This flat tubing is an environmental friendly heat shrinkable tube made with specially designed halogen free polyolefin ideal for underground applications where zero halogen cables & accessories are in demand.

Various

Operating temperature: -55°C to +135°C
Minimum shrink temperature: 100°C
Standard color:
Yellow, white. Other colors on request.



Features

Shrink ratio 3:1
Supplied flat, ideal for use in printers
The tube shows excellent flame retardant, insulation and flexible properties.

Technical data

Property	Test Method	Typical Data
Operating temperature		-55°C to +135°C
Tensile strength	ASTM D 2671	>10 MPa
Elongation at break	ASTM D 2671	>250%
Longitudinal shrinkage	UL 224	≤5%
Dielectric strength	IEC 243	22Kv/mm
Eccentricity	ASTM D 2761	<30%
Heat shock	250°C/4 hrs	No cracking
Heat aging		
Tensile strength	175°C, 168hrs	9.0MPa
Ultimate elongation		>150%
Flammability	ASTM D8763	pass

Dimensions

Min expanded size	Max recovered size	Nominal recovered wall	Std reel
2.4	0.8	0.57	30M
3.2	1.0	0.57	30M
4.8	1.6	0.57	30M
6.4	2.1	0.58	30M
9.5	3.2	0.60	30M
12.7	4.2	0.60	30M
19.1	6.4	0.60	30M
25.4	8.5	0.65	30M



PERFECT MAKES **BOXCO!**

"Leading expert in heat shrinkable products"