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Heat Shrink

BlackShrink

A MEMBER OF
KingGo

BS-01, Medium Wall Tubings



BS-01A

Medium wall tubing adhesive lined

BS-01B

Medium wall tubing without adhesive

Features and Applications:

- Medium wall tubing with adhesive
- Good environmental protection
- Good electrical & mechanical performance
- Ideal for LV applications
- UV resistant
- Operating temp.: -55°C to +110°C
- Min. full recovery temp.: 120°C

Part No.		Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
BS-01A	BS-01B		D(Min.)	d(Max.)	w(Min.)		
D010101	D010201	BS01-8/2	8	2	1.7	1000-1500	
D010102	D010202	BS01-12/3	12	3	1.8	1000-1500	
D010103	D010203	BS01-16/5	16	5	2.2	1000-1500	
D010104	D010204	BS01-22/6	22	6	2.5	1000-1500	
D010105	D010205	BS01-28/6	28	6	2.5	1000-1500	
D010106	D010206	BS01-33/8	33	8	2.5	1000-1500	
D010107	D010207	BS01-40/12	40	12	2.5	1000-1500	
D010108	D010208	BS01-55/16	55	16	2.7	1000-1500	
D010109	D010209	BS01-65/19	65	19	2.8	1000-1500	
D010110	D010210	BS01-75/22	75	22	3.0	1000-1500	
D010111	D010211	BS01-85/25	85	25	3.0	1000-1500	
D010112	D010212	BS01-95/25	95	25	3.0	1000-1500	
D010113	D010213	BS01-115/34	115	34	3.3	1000-1500	
D010114	D010214	BS01-140/42	140	42	3.5	1000-1500	
D010115	D010215	BS01-160/50	160	50	3.5	1000-1500	
D010116	D010216	BS01-180/58	180	58	3.5	1000-1500	
D010117	D010217	BS01-205/65	205	65	4.0	1000-1500	
D010118	D010218	BS01-235/65	235	65	4.0	1000-1500	
D010119	D010219	BS01-265/75	265	75	4.0	1000-1500	
D010120	D010220	BS01-300/75	300	75	4.0	1000-1500	
D010121	D010221	BS01-350/100	350	100	4.3	1000-1500	
D010122	D010222	BS01-380/150	380	150	4.3	1000-1220	
D010123	D010223	BS01-410/150	410	150	4.3	1000-1220	

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

BS-01, Medium Wall Tubings

Technical properties:

	Test Method	Typical Data
Property of jacket		
Tensile strength	ASTM D 2671	≥14 MPa
Ultimate elongation	ASTM D 2671	≥400%
Heat aging tensile strength	ASTM D 2671	>12MPa
Ultimate elongation	150°C, 168hr.	>300%
Density	ASTM D 792	1.05g/cm ³
Longitudinal shrinkage	UL 224	0 to -10%
Dielectric strength	IEC 243	≥18kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Eccentricity	ASTM D 2671	<40%
Copper stability	ASTM D 2671	Pass
Water absorption	ISO 62/23°C, 14days	<0.15%
Property of adhesive		
Water absorption	ISO 62	<0.2%
Softening point	ASTM E28	85±5°C
Peel strength (PE)	DIN 30672	4 N/cm
Resistance to fungus and decay	ISO 846	Pass

Standard Colors:

Black

Ordering Information:

Dimensions of adhesive lined and non adhesive lined tubings are same.
BS-01A is with adhesive and BS-01B is without adhesive.

Packaging:

Standard packaging 1.0m, 1.22m, 1.50m pieces are available on request.
BS-01B is available in 30meters/spool up to size 75/22.
Other cut lengths are available, please contact us.

BS-02, Heavy Wall Tubings



BS-02A

Heavy wall tubings adhesive lined

BS-02B

Heavy wall tubings without adhesive

Features and Applications:

- Heavy wall tubing with adhesive
- Superior electrical & environmental insulation
- Excellent abrasion and impact resistance
- UV resistant
- Superior sealing property
- Operating temp.: -55°C to +110°C
- Min. full recovery temp.: 120°C

Part No.		Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
BS-02A	BS-02B		D(Min.)	d(Max.)	w(Min.)		
D010301	D010401	BS02-9/3	9	3	1.8	1000-1500	
D010302	D010402	BS02-15/4	15	4	2.4	1000-1500	
D010303	D010403	BS02-22/6	22	6	2.7	1000-1500	
D010304	D010404	BS02-33/8	33	8	3.2	1000-1500	
D010305	D010405	BS02-40/12	40	12	4.1	1000-1500	
D010306	D010406	BS02-45/12	45	12	4.1	1000-1500	
D010307	D010407	BS02-55/16	55	16	4.1	1000-1500	
D010308	D010408	BS02-75/22	75	22	4.1	1000-1500	
D010309	D010409	BS02-85/25	85	25	4.3	1000-1500	
D010310	D010410	BS02-95/30	95	30	4.3	1000-1500	
D010311	D010411	BS02-105/30	105	30	4.3	1000-1500	
D010312	D010412	BS02-115/34	115	34	4.3	1000-1500	
D010313	D010413	BS02-130/36	130	36	4.3	1000-1500	
D010314	D010414	BS02-160/50	160	50	4.3	1000-1500	
D010315	D010415	BS02-180/50	180	50	4.3	1000-1500	
D010316	D010416	BS02-200/60	200	60	4.3	1000-1500	
D010317	D010417	BS02-235/65	235	65	4.5	1000-1500	
D010318	D010418	BS02-265/75	265	75	4.5	1000-1500	
D010319	D010419	BS02-300/85	300	85	4.5	1000-1500	
D010320	D010420	BS02-350/100	350	100	4.5	1000-1500	

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

BS-02, Heavy Wall Tubings

Technical properties:

	Test Method	Typical Data
Property of jacket		
Tensile strength	ASTM D 2671	≥14 MPa
Ultimate elongation	ASTM D 2671	≥400%
Heat aging tensile strength Ultimate elongation	ASTM D 2671 150°C, 168hr .	>12MPa >300%
Density	ASTM D 792	1.05g/cm ³
Longitudinal shrinkage	UL 224	0 to -10%
Dielectric strength	IEC 243	≥18kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Eccentricity	ASTM D 2671	<40%
Copper stability	ASTM D 2671	Pass
Water absorption	ISO 62/23°C, 14days	<0.15%
Property of adhesive		
Water absorption	ISO 62	<0.2%
Softening point	ASTM E28	85±5°C
Peel strength (PE)	DIN 30672	4 N/cm
Resistance to fungus and decay	ISO 846	Pass

Standard Colors:

Black

Ordering Information:

Dimensions of adhesive lined and non adhesive lined tubings are same.
BS-02A is with adhesive and BS-02B is without adhesive.

Packaging:

Standard packaging 1.0m, 1.22m; 1.50m pieces are available on request
BS-02B is available in 30meters/spool up to size 55/16.
Other cut lengths are available, please contact us.

BS-03, 6:1 Shrink Ratio Heavy Wall Adhesive Lined Tubings



Features and Applications:

- Extra high shrink ratio cross-linked polyolefin
- Adhesive lined
- Perfect sealing property
- Superior abrasion and impact resistance
- Extra thick wall
- UV and weather resistance
- Operating temp.: -55°C to +110°C
- Min. full recovery temp.: 120°C
- Shrink ratio: 6:1

Part No.	Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
		D(Min.)	d(Max.)	w(Min.)	w(Max.)	
D010501	BS03-19/3.2	19.0	3.2	3.2	3.2	1000-1220
D010502	BS03-33/5.5	33.0	5.5	3.4	3.4	1000-1220
D010503	BS03-44.4/7.4	44.4	7.4	3.6	3.6	1000-1220
D010504	BS03-50.8/8.3	50.8	8.3	4.3	4.3	1000-1220
D010505	BS03-69.8/11.7	69.8	11.7	4.8	4.8	1000-1220
D010506	BS03-88.9/17.1	88.9	17.1	4.8	4.8	1000-1220
D010507	BS03-119.4/22.9	119.4	22.9	4.8	4.8	1000-1220
D010508	BS03-235/40	235.0	40.0	4.8	4.8	1000-1220

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

	Test Method	Typical Data
Property of jacket		
Tensile strength	ASTM D 2671	≥14 MPa
Ultimate elongation	ASTM D 2671	≥400%
Heat aging tensile strength	ASTM D 2671	>12MPa
Ultimate elongation	150°C, 168hr .	>300%
Density	ASTM D 792	1.05g/cm ³
Longitudinal shrinkage	UL 224	0 to -10%
Dielectric strength	IEC 243	≥18kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Eccentricity	ASTM D 2671	<40%
Copper stability	ASTM D 2671	Pass
Water absorption	ISO 62/23°C, 14days	<0.15%
Property of adhesive		
Water absorption	ISO 62	<0.2%
Softening point	ASTM E28	85±5°C
Peel strength (PE)	DIN 30672	4 N/cm
Resistance to fungus and decay	ISO 846	Pass

Standard Colors:

Black

Packaging:

Standard packaging 1.0m, 1.22m pieces are available on request
Other cut lengths are available, please contact us.

BS-04, Flame Retardant Medium Wall Adhesive Lined Tubings



Features and Applications:

- Medium wall adhesive lined
- Cross-linked polyolefin
- Good sealing & electrical properties
- Excellent mechanical performance
- Flame retardant
- UV and weather resistance
- Operating temp.: -55°C to +110°C
- Min. full recovery temp.: 120°C

Part No.	Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
		D(Min.)	d(Max.)	w(Min.)	w(Max.)	
D010601	BS04-22/6	22	6	2.5	2.5	1000-1500
D010602	BS04-33/8	33	8	2.5	2.5	1000-1500
D010603	BS04-40/12	40	12	2.5	2.5	1000-1500
D010604	BS04-55/16	55	16	2.7	2.7	1000-1500
D010605	BS04-65/19	65	19	2.8	2.8	1000-1500
D010606	BS04-75/22	75	22	3.0	3.0	1000-1500
D010607	BS04-95/25	95	25	3.0	3.0	1000-1500
D010608	BS04-115/34	115	34	3.0	3.0	1000-1500
D010609	BS04-140/42	140	42	3.0	3.0	1000-1500
D010610	BS04-160/50	160	50	3.0	3.0	1000-1500
D010611	BS04-180/58	180	58	3.0	3.0	1000-1500
D010612	BS04-200/65	200	65	3.0	3.0	1000-1500
D010613	BS04-235/65	235	65	3.0	3.0	1000-1500
D010614	BS04-265/75	265	75	3.0	3.0	1000-1500
D010615	BS04-300/85	300	85	3.0	3.0	1000-1500

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

	Test Method	Typical Data
Property of jacket		
Tensile strength	ASTM D 2671	≥14 MPa
Ultimate elongation	ASTM D 2671	≥400%
Heat aging tensile strength	ASTM D 2671 150°C, 168hr .	>12MPa
Ultimate elongation		>300%
Density	ASTM D 792	1.25g/cm ³
Longitudinal shrinkage	UL 224	0 to -10%
Dielectric strength	IEC 243	≥18kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Eccentricity	ASTM D 2671	<40%
Flammability	-	Self extinguish in 60 sec.
Property of adhesive		
Water absorption	ISO 62	<0.2%
Softening point	ASTM E28	85±5°C
Peel strength (PE)	DIN 30672	4 N/cm
Resistance to fungus and decay	ISO 846	Pass

Standard Colors:

Black

Packaging:

Standard packaging 1.0m; 1.22m; 1.5m pieces are available on request
Other cut lengths are available, please contact us.

BS-05, Flame Retardant Heavy Wall Adhesive Lined Tubings



Features and Applications:

- Heavy wall tubing cross-linked polyolefin
- Good electrical & sealing property
- Excellent mechanical performance
- Flame retardant
- UV and weather resistance
- Operating temp.: -55°C to +110°C
- Min. full recovery temp.: 120°C

Part No.	Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
		D(Min.)	d(Max.)	w(Min.)	w(Max.)	
D010701	BS05-9/3	9	3	2.0		1000-1500
D010702	BS05-13/4	13	4	2.5		1000-1500
D010703	BS05-22/6	22	6	2.7		1000-1500
D010704	BS05-33/8	33	8	3.2		1000-1500
D010705	BS05-40/12	40	12	4.1		1000-1500
D010706	BS05-55/16	55	16	4.1		1000-1500
D010707	BS05-75/22	75	22	4.1		1000-1500
D010708	BS05-95/29	95	29	4.1		1000-1500
D010709	BS05-115/34	115	34	4.3		1000-1500
D010710	BS05-130/36	130	36	4.3		1000-1500

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

Property of jacket	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥14 MPa
Ultimate elongation	ASTM D 2671	≥400%
Heat aging tensile strength	ASTM D 2671 150°C, 168hr .	>12MPa
Ultimate elongation		>300%
Density	ASTM D 792	1.25g/cm ³
Longitudinal shrinkage	UL 224	0 to -10%
Dielectric strength	IEC 243	≥18kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Eccentricity	ASTM D 2671	<40%
Flammability	-	Self extinguish in 60 sec.
Property of adhesive		
Water absorption	ISO 62	<0.2%
Softening point	ASTM E28	85±5°C
Peel strength (PE)	DIN 30672	4 N/cm
Resistance to fungus and decay	ISO 846	Pass

Standard Colors:

Black

Packaging:

Standard packaging 1.0m ; 1.22m; 1.5m pieces are available on request
Other cut lengths are available, please contact us.

BS-06, Stress Control Tubings for Cable Joints and Terminations



Features and Applications:

- Stress control tubing
- Modified polyolefin
- Up to 36kV
- Flexible, excellent shrinking properties
- Min. shrink temp.: 100°C
- Min. full recovery temp.: 130°C

Part No.	Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
		D(Min.)	d(Max.)	w(Min.)		
Continuous length tubing						
D010801	BS06-26/10	26	10	2.2		30m/spool
D010802	BS06-30/12	30	12	2.3		30m/spool
D010803	BS06-35/14	35	14	2.4		30m/spool
D010804	BS06-47/17	47	17	2.5		30m/spool
D010805	BS06-55/21	55	21	2.5		30m/spool
Cut length tubing						
D010806	BS06-38/14	38	14	3.0		1000-1500mm
D010807	BS06-47/18	47	18	3.0		1000-1500mm
D010808	BS06-55/21	55	21	3.0		1000-1500mm
D010809	BS06-65/24	65	24	3.0		1000-1500mm
D010810	BS06-85/30	85	30	3.0		1000-1500mm

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 638	≥10 MPa
Ultimate elongation	ASTM D 638	≥300%
Longitudinal shrinkage	--	0 to -10%
Eccentricity	ASTM D 2671	<35%
Heat shock	ASTM D 2671 / 200°C/30mins.	No splitting, cracking, dropping, flowing
Dielectric constant	IEC 250	15-30
Loss Factor (50Hz)	IEC 250	≤1.0 (1000V)
Volume Resistance	IEC 93	≥10 ¹¹ Ω *cm
Water absorption	ISO 62	<1.0%

Standard Colors:

Black

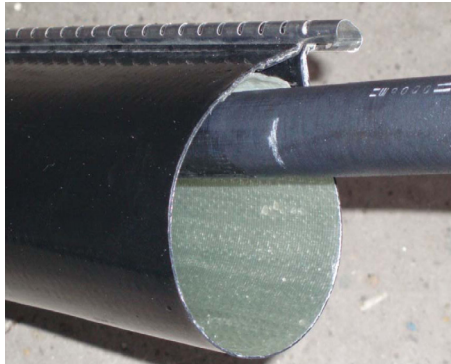
Packaging:

Standard packaging on spools.

Special: 1.0m, 1.22m pieces are available on request.

Other cut lengths are available, please contact us.

BS-07, Heat Shrinkable Warp Around Sleeve for Cable Repair



Features and Applications:

- Heat shrinkable wrap around sleeve
- Widely used in damaged cable repair
- Anti-corrosion, abrasion and U.V resistant
- Thermo chromatic paint (optional)
- Operating temp : -40°C to +65°C
- Min. full recovery temp.: 100°C

Part No.	Size (mm)	Application Range (cable dia./mm)	As Supplied(mm)		After Recovered (mm)		Standard Length L (mm)
			D (mm)	W Min.(Nom)	d (Max.)	w* (Min.)	
D010901	BS07-36/10	11-22	38	1.5	9	2.4	1000
D010902	BS07-55/13	17-33	57	1.5	13	2.5	1000
D010903	BS07-85/20	24-50	85	1.5	20	3.0	250,500, 750, 1000
D010904	BS07-108/27	30-65	110	1.5	27	3.0	250,500, 750, 1000, 1500
D010905	BS07-136/30	32-83	138	1.5	30	3.2	250,500, 750, 1000, 1500
D010906	BS07-180/50	52-108	183	1.5	50	3.2	250,500, 750, 1000, 1500

w* (dimensions full free recovery)

Technical Properties:

Properties	Test Method		Typical Data
Tensile Strength		ISO 37	17 MPa min.
Ultimate Elongation		ISO 37	350% min.
Density		ISO 1183 Method A	1.0 – 1.2 g/cm3
Hardness		ISO 868	50 – 70 D
Accelerated Ageing	7 days at 150°C±2°C	ISO 188	
	Tensile Strength	ISO 37	14 MPa min.
	Ultimate Elongation	ISO 37	300% min.
Thermal Endurance		IEC 60216	120°C
Low Temperature Flexibility	4 hours at -40°C±3°C	ASTM D2671 Procedure C	No cracking
Dielectric Strength		IEC 60243	1 mm 180kV/cm min.
			3.5 mm 120kV/cm min.
Volume Resistivity		IEC 60093	1 x 10 ¹² Ω *cm min.
Dielectric Constant		IEC 60250	5 max.
Water Absorption	14 days at 23°C±2°C	ISO 62 Method	0.5% max.
Resistance to Liquids	7 days in transformer oil at 23°C±2°C(VDE 0370)	ISO 1817	
		Tensile Strength	ISO 37
	Ultimate Elongation	ISO 37	300% min.
Resistance to Fungi		ASTM G21	Pass Rating 1

Standard Colors:

Black

Thermo chromatic indicative paint applied if requested

Packaging:

Standard packaging: 1.0m, 1.22m, 1.5m pieces

Special: 250mm, 500mm, 750mm are available on request

Other cut lengths are available, please contact us.

BS-08, Semi-Conductive/Insulation Dual Wall Heat Shrinkable Tubings



Features and Applications:

- Dual wall conducting/insulating
- Cross-linked polyolefin
- Co-extrusion technology
- Excellent electrical properties
- Extra heavy wall of insulation
- Up to 15kV
- Min. shrink temp.: 110°C
- Min. full recovery temp.: 130°C

Part No.	Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
		D(Min.)	d(Max.)	w(Min.)		
D011001	BS08-36/12	36	12	5.0	1000-1220	
D011002	BS08-45/14	46	14	5.0	1000-1220	
D011003	BS08-55/18	55	16	5.5	1000-1220	
D011004	BS08-62/18	62	18	5.5	1000-1220	
D011005	BS08-66/20	66	20	5.5	1000-1220	
D011006	BS08-73/23	73	23	5.5	1000-1220	
D011007	BS08-85/26	86	26	5.5	1000-1220	
D011008	BS08-95/30	95	30	5.5	1000-1220	
D011009	BS08-115/34	115	34	5.5	1000-1220	

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

Property	Test Method	Typical Data
Inner layer		
Tensile strength	ASTM D 2671	≥12MPa
Ultimate elongation	ASTM D 2671	≥300%
Water absorption	ISO 62	<0.5%
Volume resistance	IEC 93	≥1014Ω*cm
Dielectric strength	IEC 243	≥20 kV/mm
Density	ASTM D 257-98	1.15g/cm3
External layer		
Tensile strength	ASTM D 638	≥14 MPa
Ultimate elongation	ASTM D 638	≥300%
Water absorption	ISO 62	<0.5%
Volume resistance	IEC 93	<104Ω*cm
Density	ASTM D 257-98	1.15g/cm3

Standard Colors:

Black and Red

Packaging:

Standard packaging 1.0m, 1.22m pieces are available on request
Other cut lengths are available, please contact us.

BS-09, Anti-Corrosion Heat Shrinkable Medium Wall Tubings with Black Sealing Mastic



Features and Applications:

- Medium wall cross-linked polyolefin
- Mastic coating
- Excellent corrosion protection properties
- Excellent bonding to both metal and wood
- UV resistant
- Operating temp.: -35°C to +110°C
- Min. full recovery temp.: 120°C

Part No.	Size (mm)	As Supplied(mm)		After Recovered (mm)		Standard Length(mm)
		D(Min.)		d(Max.)	w(Min.)	
D011101	BS09-30/6	30		6	2.5	1000-1500
D011102	BS09-33/8	33		8	2.5	1000-1500
D011103	BS09-40/12	40		12	2.5	1000-1500
D011104	BS09-55/20	55		20	2.0	1000-1500
D011105	BS09-75/25	75		25	2.0	1000-1500
D011106	BS09-95/30	95		30	2.0	1000-1500
D011107	BS09-120/40	120		40	2.0	1000-1500
D011108	BS09-140/50	140		50	2.3	1000-1500
D011109	BS09-160/50	160		50	2.3	1000-1500
D011110	BS09-180/66	180		66	2.5	1000-1500
D011111	BS09-205/66	205		66	2.5	1000-1500
D011112	BS09-235/70	235		70	2.5	1000-1500
D011113	BS09-265/75	265		75	3.0	1000-1500
D011114	BS09-300/85	300		85	3.0	1000-1500

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

	Test Method	Typical Data
Property of jacket		
Tensile strength	ASTM D 2671	≥14 MPa
Ultimate elongation	ASTM D 2671	≥400%
Heat aging tensile strength Ultimate elongation	ASTM D 2671 150° C, 168hr.	>12MPa >300%
Density	ASTM D 792	1.05g/cm ³
Longitudinal shrinkage	UL 224	0 to -10%
Dielectric strength	IEC 243	≥18kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Eccentricity	ASTM D 2671	<40%
Copper stability	ASTM D 2671	Pass
Water absorption	ISO 62/23° C, 14days	<0.15%
Property of adhesive		
Water absorption	ISO 62	<0.2%
Softening point	ASTM E28	85±5° C
Resistance to fungus and decay	ISO 846	Pass

Standard Colors:

Black

Packaging:

Special: 1.0m, 1.22m, 1.5m pieces are available on request.
Other cut lengths are available, please contact us.

BS-10, Anti-tracking Insulation Tubings for Cable Terminations



Features and Applications:

- Anti electrical tracking
- Heavy wall
- Semi flexible
- Excellent electrical properties
- UV and weather resistance
- Excellent creeping resistance
- Min. full recovery temp.: 110°C

Part No.	Size (mm)	As Supplied(mm) D(Min.)	After Recovered (mm) d(Max.)	w(Min.)	Standard Length(mm)		
Continuous length tubing							
D011201	BS10-30/10	30	10	2.8	15m/spool	30m/spool	1.0-1.5m
D011202	BS10-38/12	38	12	2.8	15m/spool	30m/spool	1.0-1.5m
D011203	BS10-43/14	43	14	2.9	15m/spool	30m/spool	1.0-1.5m
D011204	BS10-49/16	49	16	2.9	15m/spool	30m/spool	1.0-1.5m
D011205	BS10-55/18	55	18	3.0	15m/spool	30m/spool	1.0-1.5m
D011206	BS10-60/21	60	21	3.0	15m/spool	30m/spool	1.0-1.5m
D011207	BS10-70/26	70	26	3.1	15m/spool	30m/spool	1.0-1.5m
Cut length tubing							
D011208	BS10-75/25	75	25	4.0	1000-1500mm		
D011209	BS10-85/30	85	30	4.0	1000-1500mm		
D011210	BS10-100/40	100	40	4.5	1000-1500mm		

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥11 MPa
Ultimate elongation	ASTM D 2671	≥400%
Longitudinal shrinkage	ASTM D 2671	0 to -10%
Heat aging tensile strength Ultimate elongation	120° C, 168 hr.	>10MPa >250%
Dielectric strength	IEC 250	≥15 kV/mm
Tracking resistance	ASTM D 2303 /3.75 kV ,1 hr.	Pass
Dielectric constant	IEC 250	≤3.0
Volume resistance	ASTM D 2671	≥10 ¹³ Ω*cm
Flammability (Oxygen Index)	IEC 4589	≥25
Copper corrosion	ASTM D 2671	No corrosion
Cold bend	ASTM D 2671/-40° C,4 hr .	No cracking
Water absorption	ISO 62/23° C,14days	<0.15%

Standard Colors:

Red

Packaging:

Standard packaging on spools.

Special:1.0m, 1.22m, 1.50m pieces are available on request

Other cut lengths are available, please contact us.

BS-11, Anti-tracking Rain Sheds for Cable Terminations



Features and Applications:

- Cross-linked polyolefin
- Non-tracking
- Red mastic applied to collars
- UV and weather resistance
- Min. full recovery temp.:110°C

Part No.	Size(mm)	As Supplied (mm)		After Recovered(mm)		D1 (Nom.)	H (Min.)	W (±10%)
		D2(Min.)	D2(Max.)	D2(Max.)	D2(Max.)			
D011301	BS11-35/12	35	12	95	18	3		
D011302	BS11-48/20	48	20	120	21	3		
D011303	BS11-60/20	60	20	120	21	3		
D011304	BS11-60/30	60	30	140	25	3		
D011305	BS11-75/30	75	30	140	25	3		
D011306	BS11-100/35	100	35	140	35	3		
D011307	BS11-120/45	120	45	200	35	3		

Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥ 13 MPa
Ultimate elongation	ASTM D 2671	≥ 400%
Tensile strength after aging	ASTM D 2671(120° C, 168 hr .)	≥ 10.4 MPa
Ultimate elongation after aging	ASTM D 2671(120° C, 168 hr .)	≥ 350%
Dielectric strength	ASTM D 2671 (3.75kV, 1hr.)	≥ 15 kV/mm
Tracking resistance	ASTM D 2303	Pass
Electric constant	IEC 250	≥ 3.0
Volume resistance	ASTM D 2303	≥ 1014 Ω*cm
Flammability (Oxygen Index)	IEC 93	≥ 25
Copper corrosion	ASTM D 2671 (120° C, 168 .)	No corrosion
Cold bend	ASTM D 2671 (-40° C, 4 hr .)	No cracking

Standard Colors:

Red

Packaging:

Standard packaging on pieces are available on request

BS-12, Low Voltage Cable Breakouts 2 to 5 Cores



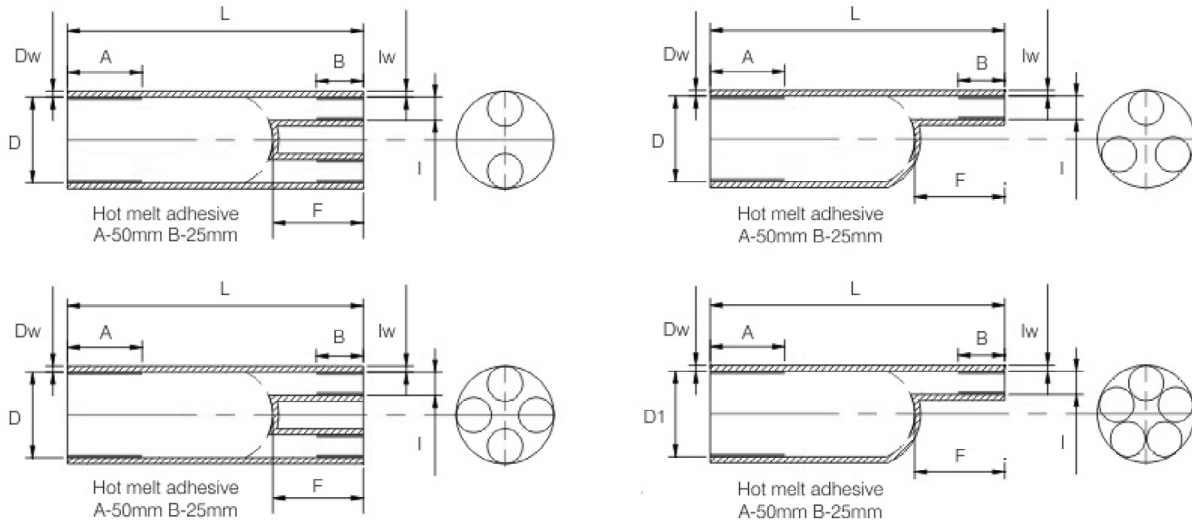
Features and Applications:

- Cross-linked polyolefin
- UV and weather resistant
- Available for 2 to 5 cores cables
- Excellent sealing properties
- Adhesive lined
- Operating temp.: -55°C to +105°C
- Min. shrink temp.: 110°C
- Min. full recovery temp.: 120°C

Part No.	Size (mm)	D		I		Recovered Length ±10%		Recovered Wall ±20%	
		a*(Min.)	b*(Max.)	a*(Min.)	b*(Max.)	L	F	Dw	Iw
2 cores cable breakout									
D011401	BS12-205-22/8	22	8	9	35.0	55	18	2.2	1.8
D011402	BS12-210-30/12	30	12	14	4.5	93	23	2.6	22.0
D011403	BS12-215-40/16	40	16	15	5.0	125	35	2.1	2.1
D011404	BS12-220-60/23	60	23	25	7.5	118	29	2.6	2.6
D011405	BS12-220L-60/23	60	23	25	7.5	155	45	2.6	2.6
D011406	BS12-230-100/42	100	42	30	9.0	155	55	3.1	3.1
D011407	BS12-240-150/75	150	75	20	6.0	170	64	3.8	3.8
3 cores cable breakout									
D011408	BS12-310-38/16	38	17	14	4.5	98	23	27.0	21.0
D011409	BS12-320-60/24	60	25	25	8.0	165	50	3.0	25.0
D011410	BS12-330-80/36	80	38	35	11.0	185	55	3.5	35.0
D011411	BS12-340-110/48	110	50	46	17.5	250	65	4.0	4.0
D011412	BS12-350-125/57	125	57	55	20.0	260	75	4.0	4.0
D011413	BS12-360-140/70	140	70	62	26.0	280	75	4.0	4.0
D011414	BS12-370-170/77	170	77	75	28.0	280	80	4.0	4.0
D011415	BS12-310L-40/16	40	16	15	4.5	125	35	2.1	2.1
D011416	BS12-320L-60/24	60	24	25	8.0	180	45	32.0	2.8
D011417	BS12-330L-S0/36	80	38	35	11.0	215	57	4.0	4.0
4 cores cable breakout									
D011418	BS12-410-40/15	42	15	14	3.5	105	26	2.2	2.0
D011419	BS12-420-55/21	55	21	20	5.0	150	40	3.1	2.6
D011420	BS12-425-65/26	65	26	26	7.0	175	45	3.3	29.0
D011421	BS12-430-75/26	75	26	28	7.0	175	45	3.3	29.0
D011422	BS12-440-82/37	82	37	30	9.0	190	60	4.0	3.0
D011423	BS12-445-90/37	90	37	32	9.0	190	60	4.0	3.0
D011424	BS12-450-100/47	102	47	38	12.0	198	58	4.0	3.0
D011425	BS12-460-125/52	130	52	52	15.0	240	75	4.0	4.0
D011426	BS12-470-160/70	160	70	64	19.0	260	75	4.0	4.0
5 cores cable breakout									
D011427	BS12-510-40/19	40	19	13	4	98	25	2.5	2.0
D011428	BS12-520-55/24	55	24	18	5	155	40	3.2	2.6
D011429	BS12-530-80/33	80	33	26	8	175	53	3.0	2.8
D011430	BS12-540-100/42	100	42	34	10	190	60	3.0	3.0

a* = as supplied b*= after recovery

BS-12, Low Voltage Cable Breakouts 2 to 5 Cores



Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥13 MPa
Tensile strength after thermal aging	ASTM D 2671 120° C, 168hr .	≥10 MPa
Ultimate elongation	ASTM D 2671	≥300%
Ultimate elongation after thermal aging	ASTM D 2671 120° C, 168hr .	≥250%
Dielectric strength	IEC 243	≥15 kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Water absorption	ISO 62	≤1%

Standard Colors:

Black

Packaging:

Standard packaging on pieces.

BS-13, Anti-tracking Breakouts for Cable Terminations up to 24kV



Features and Applications:

- Cross-linked polyolefin
- UV and weather resistant
- Non-tracking
- Red non-tracking mastic applied
- Excellent sealing properties
- Operating temp.: -55°C to +105°C
- Min. shrink temp.: 110°C
- Min. full recovery temp.: 120°C

Part No.	Size	D		I		O	Recovered length ±10%		Recovered wall ±10%	
		a	b	a	b	b	L	F	Dw	Iw
		Min	Max	Min	Max	Nom				
D011431	BS13-60/24	60	24	25	8	29	180	45	3.0	2.5
D011432	BS13-80/36	80	38	35	11	44	210	57	4.0	4.0
D011433	BS13-110/48	110	50	46	17.5	56	250	65	4.0	4.0
D011434	BS13-125/55	125	57	55	20	63	260	57	4.0	4.0
D011435	BS13-140/68	140	70	62	26	76	280	70	4.0	4.0

Technical properties:

	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥8 MPa
Tensile strength after heat aging	ASTM D 2671 120° C, 168hr .	≥7 MPa
Ultimate elongation	ASTM D 2671	≥300%
Ultimate elongation after heat aging	ASTM D 2671 120° C, 168hr .	≥200%
Dielectric strength	IEC 243	≥20 kV/mm
Volume resistance	IEC 93	≥10 ¹³ Ω*cm
Water absorption	ISO 62	≤1%
Resistance to tracking	ASTM D 2303	No tracking

Standard Colors:

Red

Packaging:

Standard packaging on pieces.

BS-14, Heat Shrinkable Busbar Insulation Tubings up to 36kV



Features and Applications:

- Medium wall flexible bus bar tubing
- Modified polyolefin
- Tracking resistance
- Excellent electrical properties
- Good shrinking performance
- Halogen free
- UV and weather resistance
- Min. full recovery temp.: 120°C

Part No.	Size	As Supplied	After Recovered		Rectangular Busbar		Round Busbar		Standard length 15m/spool
		(mm) D (min.)	(mm) d(Max.)	(mm) w (Min.)	(mm) Min.	(mm) Max.	(mm) Min.	(mm) Max.	
D011501	BS14-15/6	15	6	2.0	12.0	18.0	6.5	12.0	
D011502	BS14-30/12	30	12	2.3	22.0	38.0	13.5	25.0	15m/spool
D011503	BS14-40/16	40	16	2.5	28.0	45.0	18.0	32.0	15m/spool
D011504	BS14-50/20	50	20	2.5	36.0	65.0	22.0	43.0	15m/spool
D011505	BS14-65/25	65	25	2.5	44.0	69.0	28.0	47.0	15m/spool
D011506	BS14-75/30	75	30	2.6	55.0	95.0	33.0	63.0	15m/spool
D011507	BS14-100/40	100	40	2.8	70.0	130.0	44.0	86.0	15m/spool
D011508	BS14-120/50	120	50	2.8	90.0	165.0	55.0	105.0	15m/spool

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered

Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥14 MPa
Longitudinal shrinkage	ASTM D 2671	0 to -10%
Ultimate elongation	ASTM D 2671	≥800%
Heat aging tensile strength Ultimate elongation	120° C, 168 hr.	>10MPa >200%
Dielectric strength	IEC 250	≥19 kV/mm
Dielectric constant	IEC 250	≤3.5
Volume resistance	IEC 93	≥10 ¹⁴ Ω*cm
Flammability(Oxygen Index)	IEC 4589	≥25
Copper corrosion	UL 224	No corrosion
Cold bend	ASTM D 2671, -55° C,4 hr .	No cracking
Water absorption	ISO 62/23° C,14 days	<0.5%

Standard Colors:

Red

Packaging:

Standard packaging on spools.

Special:1m pieces are available on request.

Other cut lengths are available, please contact us.

BS-15, Heat Shrinkable Busbar Insulation Tapes



Features and Applications:

- Bus bar insulating tape
- Cross-linked polyolefin
- Good tracking resistance
- Excellent electrical insulation
- UV and weather resistance
- Operating temp.: -55°C to +105°C
- Min. full recovery temp.: 100°C

Part No.	Size	As Supplied(mm) Width of tape(Nom.)	After Recovered(mm) Wall Thickness(Min.)	Standard Length (m)
D011601	BS15-A	25	1.0±0.1	5 or 10
D011602	BS15-B	50	1.0±0.1	5 or 10
D011603	BS15-C	100	1.0±0.1	5 or 10

Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥11.8 MPa
Ultimate elongation	ASTM D 2671	≥550%
Heat aging Tensile strength	120° C, 168hr .	>10MPa
Ultimate elongation		>450%
Dielectric strength	IEC 243	≥20 kV/mm
Volume resistance	IEC 93	≥1013 Ω*cm
Dielectric constant	IEC250	≤3.5
Copper corrosion	ASTM D 2671/120° C,168hr .	No corrosion
Water absorption	ISO 62/23° C,14days	<0.5%
Flammability	ASTM D 2671	Self extinguish in 60 sec.

Standard Colors:

Red

Packaging:

Standard packaging on spools.

BS-16, Heat Shrinkable Cable End Caps



Features and Applications:

- Cross-linked polyolefin
- Excellent sealing properties
- UV and weather resistance
- Operating temperature: -55°C to +110°C
- Min. full recovery temp.: 120°C
- Available with or without adhesive

Part No.	Size(mm)	As Supplied (mm)		After Recovered (mm)		
		D(Min)	A(±10%)	d(Max.)	L(±10%)	w(±10%)
Cable End Caps, Standard Length						
D011701	BS16-105 12/4	12	15	4	40	2.6
D011702	BS16-110 14/5	14	18	5	45	2.2
D011703	BS16-115 20/6	20	25	6	55	2.8
D011704	BS16-120 25/8.5	25	30	8.5	68	2.8
D011705	BS16-130 35/16	35	35	16	83	3.3
D011706	BS16-135 40/16	40	35	16	90	3.3
D011707	BS16-140 55/26	55	50	26	103	3.5
D011708	BS16-150 75/36	75	55	36	120	4.0
D011709	BS16-160 100/52	100	70	52	140	4.0
D011710	BS16-170 120/60	120	70	60	150	4.0
D011711	BS16-180 145/60	145	70	60	150	4.0
D011712	BS16-190 160/82	160	70	80	150	4.0
D011713	BS16-200 200/90	200	70	90	160	4.2
Cable End Caps, Extended Length						
D011714	BS16-110L 14/5	14	30	5	55	2.2
D011715	BS16-130 L 40/15	40	40	15	90	3.3
D011716	BS16-135L 42/15	42	40	15	110	3.3
D011717	BS16-140 L 55/23	55	70	23	140	3.8
D011718	BS16-145L 62/23	62	70	23	140	3.8
D011719	BS16-150L 75/36	75	70	36	150	4.0
D011720	BS16-150XL 75/36	75	70	36	170	4.2
D011721	BS16-160L 100/47	100	65	47	155	4.0
Conductive Cable End Caps, Standard Length						
D011722	BS16-120 25/8.5	25	30	8.5	68	2.8
D011723	BS16-130 42/15	42	40	15	110	3.3
D011724	BS16-140 55/23	55	70	23	140	3.8
D011725	BS16-145 62/23	62	70	23	140	3.8
D011726	BS16-150 75/32	75	65	32	150	4.0
D011727	BS16-150L 75/36	75	70	36	170	4.2
D011728	BS16-160 105/45	105	65	45	150	4.0

*D = Inner Diameter as supplied d = Inner Diameter after recovered

w = Wall Thickness after fully recovered A = Length of adhesive L = Length of end cap

Technical properties:

	Test Method	Typical Data
Tensile strength	ASTM D 638	>11MPa
Ultimate elongation	ASTM D 638	>400%
Density	ASTM D 792	1.05g/cm ³
Ultimate elongation after aging	150° C/168 hr.	>300%
Dielectric strength	IEC 243	>15 kV/mm
Volume resistance	IEC 93	>10 ¹⁴ Ω*cm

Standard Colors:

Black

Packaging:

Standard packaging on pieces.

BS-17, EPDM Cold Shrink Medium Wall Tubings



Features and Applications:

- Simple installation, requires only hands
- Accommodates a wide range of cable sizes
- No torches or heat required
- Good thermal stability
- Excellent wet electrical properties
- Resists fungus
- Resists acids and alkalis
- Resists ozone and ultraviolet light

Part No.	Size (mm)	ID As Supplied (ID of brace strip)	Wall Thickness Before expansion	Standard Length (mm)
D011801	BS17-13/4.5	13	2.0	200-500
D011802	BS17-17/6.0	17	2.0	200-500
D011803	BS17-23/8.5	23	2.0	200-500
D011804	BS17-31/11	31	2.0	200-500
D011805	BS17-42/16	42	2.0	200-500
D011806	BS17-33/14	33	2.0	200-500
D011807	BS17-40/17	40	2.0	200-500
D011808	BS17-50/22	50	2.0	200-500
D011809	BS17-55/26	55	3.5	200-500
D011810	BS17-60/30	60	3.5	200-500
D011811	BS17-68/34	68	3.5	200-500
D011812	BS17-80/32	80	3.5	200-500
D011813	BS17-100/38	100	3.5	200-500
D011814	BS17-124/47	124	4.0	200-500
D011815	BS17-153/60	153	5.0	200-500

Technical properties:

Property	Test Method	Typical Data
100% Modulus	ASTM D 412	1.17MPa
300% Modulus	ASTM D 412-75	4.7MPa
Ultimate Tensile Strength	ASTM D 412-75	11.6MPa
Ultimate elongation	ASTM D 412-75	≥500%
Fungus Resistance	ASTM G-21 28days exposure	No growth
Shore A hardness	ASTM D 2240-75	48
Dielectric strength	ASTM D 149-75	19.1MV/m

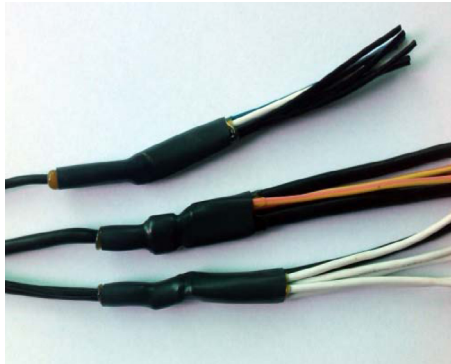
Standard Colors:

Black

Packaging:

Standard packaging: 200mm, 500mm

Other cut lengths are available, please contact us.



**BS-18, 3:1,4:1 Shrink Ratio
Dual Wall, Adhesive Lined Flexible
Polyolefin Tubings**

BS-18A, Shrink Ratio 3:1

BS-18B, Shrink Ratio 4:1

Features and Applications:

- Manufactured by co-extrusion of polyolefin and hot melt adhesive, it provides excellent property of both insulation and sealing widely used to protect auto wires ,shipping cable, bundle wires and metal tubings against water and moisture.
- Operating temperature: -45°C~+125°C
- Meet: SAE-AMS-DTL-23053/4
- Minimum shrink temperature: 80°C
- Minimum fully recovery temperature: 120°C
- Standard color: Black
- Special color: Red, Blue , White, Yellow, Clear(non-flame retardant)

Part No.	size		As Supplied (mm)		After Recovered (mm)		Standard length (m)	Spool length (m)
	(mm)	(inch)	Inside diameter (min.)	Inside diameter (Max.)	Wall thickness (Nom.)	Adhesive Thickness (Nom.)		
BS-018A 3:1 Adhesive-lined tubing								
D011901	3/1	1/8	3.0	1.0	1.00±0.10	0.5	1.22	200
D011902	4.8/1.5	3/16	4.8	1.5	1.10±0.10	0.5	1.22	100
D011903	6/2	1/4	6.0	2.0	1.20±0.10	0.5	1.22	100
D011904	9/3	3/8	9.0	3.0	1.30±0.10	0.6	1.22	50
D011905	12/4	1/2	12.0	4.0	1.70±0.15	0.8	1.22	25
D011906	19/6	3/4	19.0	6.0	2.00±0.20	0.8	1.22	25
D011907	24/8	1	24.0	8.0	2.20±0.20	1.0	1.22	25
D011908	30/10	1 1/4	30.0	10.0	2.40±0.20	1.0	1.22	25
D011909	40/13	1 1/2	40.0	13.0	2.50±0.20	1.0	1.22	25
D011910	50/19	2	50.0	19.0	2.50±0.20	1.0	1.22	25
BS-018B 4:1 Adhesive-lined tubing								
D012001	4/1	3/16	4.0	1.0	1.00±0.10	0.5	1.22	100
D012002	6/1.5	1/4	6.0	1.5	1.20±0.10	0.5	1.22	100
D012003	8/2	5/16	8.0	2.0	1.55±0.10	0.5	1.22	50
D012004	12/3	1/2	12.0	3.0	1.95±0.15	0.6	1.22	25
D012005	16/4	5/8	16.0	4.0	2.10±0.15	0.8	1.22	25
D012006	24/6	1	24.0	6.0	2.50±0.20	0.8	1.22	25
D012007	32/8	1 1/4	32.0	8.0	2.50±0.20	1.0	1.22	25

*D = Inner Diameter as supplied d = Inner Diameter after recovered
w = Wall Thickness after fully recovered T = Adhesive Thickness after fully recovered

*Special sizes, cut pieces are available upon request.

BS-18, 3:1,4:1 Shrink Ratio
Dual Wall, Adhesive Lined Flexible Polyolefin Tubings

Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	10.4MPa (min.)
Tensile strength after aging(168hrs)	ASTM D 2671	Remains 70%
Elongation at break	ASTM D 2671	300% (min.)
Elongation at break after aging(168hrs)	ASTM D 2671	100% (min.)
Longitudinal shrinkage	UL 224	0 to -10%
Heat shock	4hrs.	No cracking, no dropping
Cold bend, 1hr.	ASTM D 2671	No cracking
Voltage withstand AC 2500V, 60seconds	ASTM D 2671	No breakdown
Volume resistance	ASTM D 876	10 ¹⁴ Ω*cm(min.)
Flammability	SAE-AMS-DTL-23053/4	Self-extinguish in 30 sec.
Copper corrosion, 168hrs.	UL 224	Pass
Water absorption	ASTM D 570	<0.5%

BS-19 Shrink ratio 2:1 Flame Retardant Polyolefin Thin Wall Tubings



Features and Applications:

- BS-19 heat shrinking tubing for general applications where flame-retardant properties are required and electrical insulation and mechanical performance is important.
- BS-05 conforms to substrates more uniformly and with less longitudinal changes than most of PVC tubing.
- Clear version offers exceptional clarity.
- Minimum shrink temperature: 80°C
- Minimum fully recovery temperature: 100°C
- Standard color: Black, Transparent, Yellow, Red, Blue, White

Part No.	Normal Size	As Supplied	After Recovered (mm)		Spool Length (m/spool)
	inch	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)	
D012101	3/64	1.2	0.6	0.33	200
D012102	1/16	1.6	0.8	0.36	200
D012103	3/32	2.4	1.2	0.44	200
D012104	1/8	3.2	1.6	0.44	200
D012105	3/16	4.8	2.4	0.56	100
D012106	1/4	6.4	3.2	0.56	100
D012107	5/16	8.0	4.0	0.56	100
D012108	3/8	9.5	4.8	0.56	100
D012109	1/2	12.7	6.4	0.65	50
D012110	5/8	16.0	8.0	0.69	50
D012111	3/4	19.1	9.5	0.80	50
D012112	1	25.4	12.7	0.90	50
D012113	1 1/4	31.8	15.9	0.90	50
D012114	1 1/2	38.1	19.1	1.02	50
D012115	2	50.8	25.4	1.02	50
D012116	3	76.2	38.1	1.02	30

BS-19

Shrink ratio 2:1 Flame Retardant Polyolefin Thin Wall Tubings

Part No.	Normal Size	As Supplied	After Recovered (mm)		Spool Length (m/spool)
	(mm)	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)	
D012201	1.0	1.0	0.5	0.33	200
D012202	1.5	1.5	0.75	0.36	200
D012203	2.0	2.0	1.0	0.44	200
D012204	2.5	2.5	1.25	0.44	200
D012205	3.0	3.0	1.5	0.44	200
D012206	3.5	3.5	1.75	0.44	200
D012207	4.0	4.0	2.0	0.44	200
D012208	5.0	5.0	2.5	0.56	100
D012209	6.0	6.0	3.0	0.56	100
D012210	7.0	7.0	3.5	0.56	100
D012211	8.0	8.0	4.0	0.56	100
D012212	9.0	9.0	4.5	0.56	100
D012213	10.0	10.0	5.0	0.56	100
D012214	11.0	11.0	5.5	0.56	100
D012215	12.0	12.0	6.0	0.56	50
D012216	13.0	13.0	6.5	0.65	50
D012217	14.0	14.0	7.0	0.69	50
D012218	15.0	15.0	7.5	0.69	50
D012219	16.0	16.0	8.0	0.69	50
D012220	18.0	18.0	9.0	0.80	50
D012221	20.0	20.0	10.0	0.80	50
D012222	22.0	22.0	11.0	0.80	50
D012223	25.0	25.0	12.5	0.9	50
D012224	28.0	28.0	14.0	0.9	50
D012225	30.0	30.0	15.0	0.9	50
D012226	35.0	35.0	17.5	0.9	50
D012227	40.0	40.0	20.0	1.0	50
D012228	50.0	50.0	25.0	1.0	50
D012229	60.0	60.0	30.0	1.0	50

*Special sizes, cut pieces are available upon request.

Technical properties:

Property	Test Method	Typical Data
Operating temperature	UL 224	-55 to ++105°C
Tensile strength	ASTM D 2671	>10.4MPa
Elongation at break	ASTM D 2671	>500%
Longitudinal shrinkage	UL 224	+/- 5%
Eccentricity	ASTM D 2671	<30%
Flammability	VW-1	Pass
Dielectric strength	IEC243	>20kV/mm
Volume resistance	IEC 93	>10 ¹⁴ Ω.cm
Copper stability	UL224	Pass

BS-20 Shrink Ratio 2:1 Non Flame Retardant Polyolefin Thin Wall Tubings



Features and Applications:

- BS-20 is commercial grade heat shrinking tubing for general applications where flame-retardant properties are not needed, but electrical insulation and mechanical performance is important.
- BS-06 conforms to substrates more uniformly and with less longitudinal changes than most of PVC tubing.
- Clear version offers exceptional clarity.
- Minimum shrink temperature: 80°C
- Minimum fully recovery temperature: 100°C
- Standard color: Black, Transparent, Yellow, Red, Blue, White, Other colors available on request

Part No.	Normal Size	As Supplied	After Recovered (mm)		Spool Length (m/spool)
	(mm)	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)	
D012301	3/64	1.2	0.6	0.33	200
D012302	1/16	1.6	0.8	0.36	200
D012303	3/32	2.4	1.2	0.44	200
D012304	1/8	3.2	1.6	0.44	200
D012305	3/16	4.8	2.4	0.56	100
D012306	1/4	6.4	3.2	0.56	100
D012307	5/16	8.0	4.0	0.56	100
D012308	3/8	9.5	4.8	0.56	100
D012309	1/2	12.7	6.4	0.65	50
D012310	5/8	16.0	8.0	0.69	50
D012311	3/4	19.1	9.5	0.80	50
D012312	1	25.4	12.7	0.90	50
D012313	1 1/4	31.8	15.9	0.90	50
D012314	1 1/2	38.1	19.1	1.02	50
D012315	2	50.8	25.4	1.02	50
D012316	3	76.2	38.1	1.02	30

BS-20

Shrink Ratio 2:1 Non Flame Retardant Polyolefin Thin Wall Tubings

Part No.	Normal Size	As Supplied	After Recovered (mm)		Spool Length (m/spool)
	(mm)	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)	
D012401	1.0	1.0	0.5	0.33	200
D012402	1.5	1.5	0.75	0.36	200
D012403	2.0	2.0	1.0	0.44	200
D012404	2.5	2.5	1.25	0.44	200
D012405	3.0	3.0	1.5	0.44	200
D012406	3.5	3.5	1.75	0.44	200
D012407	4.0	4.0	2.0	0.44	200
D012408	5.0	5.0	2.5	0.56	100
D012409	6.0	6.0	3.0	0.56	100
D012410	7.0	7.0	3.5	0.56	100
D012411	8.0	8.0	4.0	0.56	100
D012412	9.0	9.0	4.5	0.56	100
D012413	10.0	10.0	5.0	0.56	100
D012414	11.0	11.0	5.5	0.56	100
D012415	12.0	12.0	6.0	0.56	50
D012416	13.0	13.0	6.5	0.65	50
D012417	14.0	14.0	7.0	0.69	50
D012418	15.0	15.0	7.5	0.69	50
D012419	16.0	16.0	8.0	0.69	50
D012420	18.0	18.0	9.0	0.80	50
D012421	20.0	20.0	10.0	0.80	50
D012422	22.0	22.0	11.0	0.80	50
D012423	25.0	25.0	12.5	0.9	50
D012424	28.0	28.0	14.0	0.9	50
D012425	30.0	30.0	15.0	0.9	50
D012426	35.0	35.0	17.5	0.9	50
D012427	40.0	40.0	20.0	1.0	50
D012428	50.0	50.0	25.0	1.0	50
D012429	60.0	60.0	30.0	1.0	50

*Special sizes, cut pieces are available upon request.

Technical properties:

Property	Test Method	Typical Data
Operating temperature	UL 224	-55 to ++105°C
Tensile strength	ASTM D 2671	>10.4MPa
Elongation at break	ASTM D 2671	>500%
Longitudinal shrinkage	UL 224	+/- 5%
Eccentricity	ASTM D 2671	<30%
Flammability	VW-1	Pass
Dielectric strength	IEC243	>20kV/mm
Volume resistance	IEC 93	>10 ¹⁴ Ω.cm
Copper stability	UL224	Pass

BS-21 150°C Flexible Thin Wall PVDF Tubings



Features and Applications:

- BS-21 is excellent flame retardant heat-shrinkable Polyvinylidene fluoride tubing for applications requiring high temperature resistance, outstanding abrasion and cut through resistance or superior chemical and solvent resistant properties. It reliably protects solder joints, terminals and connections against most industrial fuels, solvents and chemicals. The glass like appearance makes it also be used as mark tubing.
- Minimum fully recovery temperature: 150°C
- Meet: SAE-AMS-DTL-23053/18
- Standard color: Clear, Black

Part No.	Normal size		As Supplied (mm)		After Recovered (mm)		*Style (Round or Flat)	Standard length (m/spool)
	mm	Inch	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)			
D012501	1.2	3/64	1.2	0.60	0.25±0.05	O		
D012502	1.6	1/16	1.6	0.80	0.25±0.05	O	200	
D012503	2.4	3/32	2.4	1.20	0.25±0.04	O	200	
D012504	3.2	1/8	3.2	1.60	0.25±0.04	O	100	
D012505	4.8	3/16	4.8	2.40	0.25±0.04	O	100	
D012506	6.4	1/4	6.4	3.20	0.30±0.05	O	100	
D012507	9.5	3/8	9.5	4.80	0.30±0.05	-	50	
D012508	12.7	1/2	12.7	6.40	0.30±0.05	-	50	
D012509	19.1	3/4	19.1	9.50	0.43±0.07	-	50	
D012510	25.4	1	25.4	12.70	0.48±0.07	-	50	
D012511	38.1	1 1/2	38.1	19.0	0.51±0.07	-	30	

*Special cut pieces are available upon request.

Technical properties:

Property	Test Method	Typical Data
Operating temperature	IEC 216	-55 to +150°C
Tensile strength	ASTM D 2671	≥30MPa
Elongation at break	ASTM D 2671	≥150%
Elongation at break after aging	180°C , 168 hrs.	≥100%
Heat shock	250°C , 4 hrs.	No cracking
Cold bend	-55°C , 4 hrs.	No cracking
Flammability	VW-1	Pass
Volume resistance	IEC93	≥1013Ω .cm
Copper corrosion	180°C , 168 hrs.	No corrosion
Copper stability	180°C , 168 hrs.	No sign of degradation

BS-22

175°C, Clear, Semi-rigid High Temperature
Chemical Resistant
PVDF Tubings



Features and Applications:

- BS-22 is semi-rigid, excellent flame retardant heat-shrinkable Polyvinylidene fluoride(PVDF) tubing for applications requiring high temperature performance, outstanding abrasion and cut through resistance or superior chemical and solvent resistant properties. It reliably protects wires, solder joints, terminals and connections and components from most industrial fuels, solvents and chemicals.
- Operating temperature: -55°C to +175°C
- Minimum shrink temperature: 175°C
- Meet: SAE-AMS-DTL-23053/18
- Standard color: Clear

Part No.	Normal size		As Supplied (mm)		After Recovered (mm)		Standard Length (m/spool)
	mm	Inch	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)		
D012601	1.2	3/64	1.2	0.60	0.20	200	
D012602	1.6	1/16	1.6	0.80	0.20	200	
D012603	2.4	3/32	2.4	1.20	0.23	200	
D012604	3.2	1/8	3.2	1.60	0.23	100	
D012605	4.8	3/16	4.8	2.40	0.23	100	
D012606	6.4	1/4	6.4	3.20	0.28	1.22	
D012607	9.5	3/8	9.5	4.80	0.28	1.22	
D012608	12.7	1/2	12.7	6.40	0.28	1.22	
D012609	19.1	3/4	19.1	9.50	0.36	1.22	
D012610	25.4	1	25.4	12.70	0.41	1.22	

*Special cut pieces are available upon request.

Technical properties:

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 , 168 hrs.	≥100%
Heat shock	300°C , 1 hr	No cracking
Cold bend	-55°C , 1 hr.	No cracking
Flammability	VW-1	Pass
Volume resistance	IEC93	≥10 ¹³ Ω *cm
Dielectric strength	ASTM D 2671	≥30KV/mm

BS-23

Fluoroelastomeric Heat Shrinkable Tubings



Features and Applications:

- BS-23 is made from modified fluoroelastomer(Viton), with superior impact, abrasion and cut through resistant, applications requiring high resistance to corrosive fluids, fuels, lubricants, acids and solvents at elevated temperature.
- Meet: SAE-AMS-DTL-23053/13
- Excellent resistance of chemicals
- Operating temperature: -55°C to +200°C
- Minimum fully recovery temperature: 175°C
- Standard color: Black

Part No.	Normal size		As Supplied (mm)		After Recovered (mm)		*Style (Round or Flat)	Standard Length (m/spool)
	mm	Inch	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)			
D012701	3.2	1/8	3.2	1.6	0.76	O	50	
D012702	4.8	3/16	4.8	2.4	0.90	O	50	
D012703	6.4	1/4	6.4	3.2	0.90	O	50	
D012704	9.5	3/8	9.5	4.8	0.90	O	50	
D012705	12.7	1/2	12.7	6.4	1.10	O	30	
D012706	19.1	3/4	19.1	9.5	1.30	-	30	
D012707	25.4	1	25.4	12.7	1.65	-	30	
D012708	38.1	1 1/2	38.1	19.1	1.90	-	15	
D012709	50.8	2	50.8	25.4	2.80	-	15	

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Special cut pieces are available upon request.

Technical properties:

Property	Test Method	Typical Data
Operating temperature	IEC 216	-55 to +200°C
Tensile strength	ASTM D 2671	≥8.5 MPa
Elongation at break	ASTM D 2671	≥250%
Elongation at break after aging	250°C , 168 hrs.	≥200%
Heat shock	300°C , 4 hrs.	No cracking or dropping
Flexibility	ASTM D 412	≤13.8 MPa
Flammability	ASTM D 2671	Self-extinguish in 15sec
Volume resistance	ASTM D 876	≥1014Ω *cm
Dielectric strength	ASTM D 2671	≥7.9KV/mm
Copper corrosion	UL 224	No corrosion

BS-24

Heat Shrinkable Insulation Butt Splice



Features and Applications:

- BS-24 heat-shrinkable butt splice is manufactured by co-extrusion of super high strength polymeric materials and hot-melt adhesive. Designed to provide both insulation and sealing for wire connector. The Butt Splice is resistant to water, spray, oil, saltwater and most hazardous chemicals.
- Shrink ratio: 3:1
- Operating temperature: -55°C~125°C
- Minimum shrink temperature: 110°C
- Standard color: Red, Yellow, Blue

Part No.	Size (mm)	Supplied ID (mm)	Color	Wire Range (mm ²)	Voltage	Packing (pcs/bag)
D012801	BS24-R1	4.2	Red	1.30	600V	1000
D012802	BS24-B2	4.9	Blue	1.52	600V	1000
D012803	BS24-Y3	6.4	Yellow	1.91	600V	1000

Technical properties:

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥26MPa(min)
Longitudinal shrinkage	UL224	0 to -10%
Volume resistance	ASTM D 876	≥10 ¹⁴ Ω.cm(min.)
Water absorption	ASTM D 570	<0.5%
Fluid resistance(23 °C / 24 hrs)	ASTM D 2671	Good to excellent
Dielectric strength	ASTM D 2671	15kV/mm

BS-25 Heat Shrinkable Diesel-resistant Elastomeric Tubings



Features and Applications:

- BS-025 is made from modified radiation cross-linked elastomers, has superior diesel ,chemical and abrasion resistance. The specially designed formulation make the tubing high temperature fluid resistant and long term heating resistant. It can provide effective protection to cable termination, splices and joint used in military vehicles.
- Meet: SAE-AMS-DTL-23053/16
- Minimum fully recovery temperature: 175°C
- Standard color: Black

Part No.	Normal size		As Supplied (mm)		After Recovered (mm)		*Style (Round or Flat)	Standard Length (m/spool)
	mm	Inch	Inside Diameter (Min.)	Inside Diameter (Max.)	Wall Thickness (Nom.)			
D012901	3.2	1/8	3.2	1.6	0.76	O	50	
D012902	4.8	3/16	4.8	2.4	0.85	O	50	
D012903	6.4	1/4	6.4	3.2	0.90	O	50	
D012904	9.5	3/8	9.5	4.8	1.02	O	50	
D012905	12.7	1/2	12.7	6.4	1.22	O	30	
D012906	19.1	3/4	19.1	9.5	1.45	—	30	
D012907	25.4	1	25.4	12.7	1.80	—	30	
D012908	38.1	1 1/2	38.1	19.1	2.40	—	15	
D012909	50.8	2	50.8	25.4	2.80	—	15	
D012910	76.2	3	76.2	38.1	3.20	—	15	

Technical properties:

Property	Test Method	Typical Data
Operating temperature	IEC 216	-75 to +150oc
Tensile strength	ASTM D 2671	≥13 MPa
Elongation at break	ASTM D 2671	≥500%
Elongation at break after aging	160oc, 168 hrs.	≥220%
Heat shock	215oc, 4 hrs.	No cracking
Flexibility(2% secant)	ASTM D 882	≤50 MPa
Flammability	ASTM D 2671	Self-extinguish in 15sec
Volume resistance	ASTM D 876	≥109Ω .cm
Fluid resistance tensile strength	ISO37 24hrs (diesel , hydraulic	≥10 MPa
Fluid resistance elongation	,lubricant)	≥300%

BS-28 Mastics



Features and Applications:

- 28Y: Yellow color stress relief, void filling mastic. Used at the connectors and screen cut on MV cables when installing joints or terminations. Oil resistant, also suitable for paper insulated cables.
- 28R Red color anti-tracking mastic. Used to seal and insulate lugs in MV terminations, as well as other metal parts in joints, and terminations. Ensures a watertight seal.
- 28B. Black butyl rubber self amalgamating sealing mastic. Used in LV power cables as well other low voltage applications, like telecom products. UV resistant, excellent electrical properties. Creates a perfectly watertight seal.

Part No.	Item	Thickness (mm)	Width (mm)	Length (m)
D013001	BS-28Y	1.6	25	0.5, 1.5, 30
D013002	BS-28R	0.8	25	1.550
D013003	BS-28B	3.0	38	1.520

Technical properties:

	Test Method	Typical Data
28Y stress relief mastic		
Density	ASTM D792	1.3 g/m ³
Tensile strength	ASTM D 638	0.1 MPa
Ultimate elongation	ASTM D 638	>1000%
Dielectric strength	IEC 250	≥15 kV/mm
Dielectric constant	IEC 250	10-15
Volume resistance	ASTM D 527	10 ⁹ —10 ¹² Ω.cm
50Hz Loss factor(tgδ)		0.035
Service temperature (max)		-20 to +90°C
Adhesive and self-amalgamation		Good
28R anti-tracking mastic		
Density	ASTM D792	1.2 g/m ³
Tensile strength	ASTM D 638	0.1 MPa
Ultimate elongation	ASTM D 638	>1000%
Dielectric strength	IEC 250	≥10 kV/mm
Dielectric constant	IEC 250	3
Volume resistance	ASTM D 527	10 ¹³ Ω.cm
50Hz Loss factor(tgδ)		0.035
Service temperature (max)		-20 to +90°C
Adhesive and self-amalgamation		Good
28B black sealing mastic		
Density	ASTM D792	1.2 g/m ³
Tensile strength	ASTM D 638	0.1 MPa
Ultimate elongation	ASTM D 638	>1000%
Dielectric strength	IEC 250	≥15 kV/mm
Dielectric constant	IEC 250	2-3
Volume resistance	ASTM D 527	10 ¹³ Ω.cm
50Hz Loss factor(tgδ)		0.035
Service temperature (max)		-20 to +90°C
Adhesive and self-amalgamation		Good

Heat Shrinkable Fiber Optic Splice Protector



Features and Applications:

- Made up by cross-linked polyolefin, hot fusion tubing stainless reinforcing steel rod.
- Keep optic transmission properties of optical fiber
- Provide strong protection to avoid any damages to the optical fiber during installation
- Operating Temperature: -45°C to 100 °C
- Shrinking temperature: 90°C to 110°C
- Packing Standard : 100 pcs / bag, we can also pack according to your request

Part No.	Item	Fusion tubing (mm)		Splice Protector (mm)		Stainless Steel Rod (mm)	
		Inside Diameter	Length	O.D	Length	O.D	Length
D013101	BS-61T	1.40	61	2.5±0.1	61	1.0	57
D013102	BS-40T	1.40	40	2.5±0.1	40	1.0	36
D013103	BS-45T	1.40	45	2.5±0.1	45	1.0	41
D013104	BS-25T	1.40	25	2.5±0.1	21	1.0	21
D013105	BS-61	1.40	61	3.0±0.1	61	1.5	57
D013106	BS-45	1.40	45	3.0±0.1	45	1.5	40
D013107	BS-23	1.40	23	3.0±0.1	23	1.5	18

Technical properties:

Properties	Test Method	Typical Data
Tensile Strength (M Pa)	ASTM D 2671	≥18Pa
Ultimate Elongation (%)	ASTM D 2671	700%
Density (g/cm ²)	ISO R1183D	0.94g/cm ³
Dielectric Strength (KV/mm)	IEC 243	20kV/mm
Dielectric Constant	IEC 243	2.5max.
Longitudinal Change (%)	ASTM D 2671	0±5%

Cross References

<i>BlackShrink</i>	Raychem	Sumitomo	DSG-Canusa
BS-019	VERSAFIT V2	F2(Z)	DERAY-H
BS-020	CGPE-105	C	DERAY HB
BS-018	DWP-125		
BS-001	MWTM		CFM
BS-002	WCSM/XCSM		CFW
BS-004	BSTSFR/SSTFR		FCFW
BS-003			CFHR
BS-009			PLA
BS-010	HVTM		DATS/CNIT
BS-014	BBIT/BPTM		CBTM/CBTH
BS-006		SCR-100	CSCR
BS-008			
BS-016	SSC/ESC		CEC
BS-021	RT375/RNF-150		
BS-022	KYNAR,RW-175		CKN-175/DERAY KY175
BS-025	DR-25		DERAY V25
BS-023	VITON	FE3	DERAY VT220
BS-XX	SMOUV	FSP-1	CFSP