

Thin wall ratio 2:1 PF2-135

PF2-135 is a high quality cross-linked polyolefin heat shrink tubing, it is soft and flexible, possessing excellent dielectric, chemical and physical qualities. This resistant selfextinguishing sheath makes it possible to cover elements of similar diameters. It is suitable for areas such as electrical insulation, electronics, equipment, marking and identification.



- Flexible
- Operating temperature – 55 to 135°C
- Shrinking temperature: > 90°C
- Dielectric strength 20 KV/mm
- RoHs and REACH compliant
- Flame retardant and self extinguishing (except transparent)
- UL 224 125°C (except clear)
- Available in 1.22m bar and spool

Ratio 2:1 Cut	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage(mm)	Long coll M	Bar (M)
1,2/0,6	1,2	0,6	0.41	150	1.22
1.6/0.8	1.6	0.8	0.43	150	1.22
2.4/1.2	2.4	1.2	0.51	150	1.22
3.2/1.6	3.2	1.6	0.51	150	1.22
4.8/2.4	4.8	2.4	0.51	75	1.22
6.4/3.2	6.4	3.2	0.64	75	1.22
9.5/4.8	9.5	4.8	0.64	75	1.22
12.7/6.4	12.7	6.4	0.64	50	1.22
19.1/9.5	19.1	9.5	0.77	30	1.22
25.4/12.7	25.4	12.7	0.89	30	1.22
38.1/19.1	38.1	19.1	1.02	30	1.22
50.8/25.4	50.8	25.4	1.14	30	1.22
76.2/38.1	76.2	38.1	1.27	15	1.22
101.6/50.8	101.6	50.8	1.30	15	1.22
126.2/63.5	126.2	63.5	1.30	15	1.22
150.0/76.0	150.0	76.0	1.30	15	1.22



Certifications:

- SAE-AMS-DTL-23053/5 Class 1 (colors)*
- SAE-AMS-DTL-23053/5 Class 2 (clear)*
- UL 224, 125° C - UL cert. E204071*
- CSA C 22.22 No. 198.1-98, OFT1*(except *size3", 4"t clear)
- ROHS : EC guidelines: 2002/95/EG, 2002/96/EG, 2003/11/E

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	13 N/mm²	Thermal shock 4 hours at 250°C		
Elongation at break	ASTM D 638	350 %	Low temperature hose at - 40°C	ASTM D 2671	No drips No tears not
Longitudinal shrinkage	ASTM D 2671	+/- 5% max	Elongation after aging	ASTM D 2671C	Does not tear
Moisture regain	ASTM D 570	0,20% max	Thermal (168 hours at 175°C)	ASTM D 638	Elongation 250%
Specific gravity	ASTM 972	1,47 gr/cm3	Flame resistance	UL 224	Except transparent
Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	20 kV/mm	Mold resistance	AMS-DTL-7444	Inert
Specific volume	ASTM D 257	1014 ohm cm	Fluid resistance	AMS-DTL-23053/5	Good
resistance			Copper corrosion	ASTM D 2671B	Good
			Resistant to diesel and gasoline		Down



The assortment boxes are ideal for occasional needs, the workshop, for troubleshooting or maintenance, use on site. The sheath is cut in different lengths and available in several sizes and colors

2:1 shrink thin wall tubing



- Thin-walled tubing shrunk 2:1
- Black
- Diameter from 0.6 to 9.5 mm
- Quantity: 170 pieces
- Total length 17 m



- Thin-walled sleeving 2:1
- Black and colors
- Diameter from 0.6 to 9.5 mm
- Quantity 170 pieces
- Total length 17 m



- Thin wall tubing 2:1 shrinkage
- Black and colors
- Diameter from 0.6 to 25.4 mm
- Quantity 406 pieces
- Total length 51.50 m

Thin-walled tubing shrunk with adhesive 3:1



- Thin wall tubing with adhesive ratio 3:1
- Black
- Diameter from 1 to 12 mm
- Quantity 85 pieces
- Total length 8.5m



Thin wall ratio 2:1 PF2-105

PF2-105 is economical heat shrink tubing, it is very soft and flexible, black is glossy.



- Thin wall sheath, 2:1 shrink
- Flexible
- Operating temperature – 30 to 105°C
- Dielectric strength 20 KV/mm
- Halogen free
- Shrinking temperature: > 90°C

Ratio 2:1 Cut	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)	Long M coil
1,2/0,6	1,2	0,6	0,41	150
1,6/0,8	1,6	0,8	0,43	150
2,4/1,2	2,4	1,2	0,51	150
3,2/1,6	3,2	1,6	0,51	150
4,8/2,4	4,8	2,4	0,51	75
6,4/3,2	6,4	3,2	0,65	75
9,5/4,8	9,5	4,8	0,65	75
12,7/6,4	12,7	6,4	0,65	50
19,1/9,5	19,1	9,5	0,77	30
25,4/12,7	25,4	12,7	0,89	30
38,1/19,1	38,1	19,1	1,02	30
50,4/25,4	50,4	25,4	1,14	30



Available colors: black, clear

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	10 N/mm ²	Thermal shock 4 hours at 250°C		
Elongation at break	ASTM D 638	200 %	Low temperature hose at - 40°C	ASTM D 2671	No drips No tears
Longitudinal shrinkage	ASTM D 2671	+/- 10 %	Elongation after aging	ASTM D 2671C	Does not tear
Moisture regain	ASTM D 570	< 0,50 %	Thermal(168 hours at 175°C)	ASTM D 638	Elongation 100 %
Specific gravity	ASTM 972	1,20 gr/cm ³			

Electrical properties	Test method	Results
Dielectric strength	ASTM D 2671	20 kV/mm
Specific Volume Resistance	ASTM D 257	1014 ohm cm

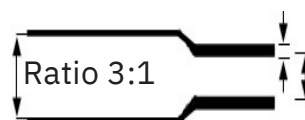
Chemical properties	Test method	Résultats
Mold Resistance	AMS-DTL-7444	Inert
Copper corrosion	ASTM D 2671B	Good





Thin wall ratio 3:1 PF3-135

PF3-135 is a high quality thin-wall cross-linked polyolefin heat shrink tubing, it is soft and very flexible, possessing excellent dielectric, chemical and physical qualities. This resistant self-extinguishing sheath makes it possible to cover elements of similar diameters. It is suitable for areas such as electrical insulation, equipment, marking and identification.



- Flexible
- Operating temperature – 55 to 135°C
- Shrinking temperature : > 90°C
- Dielectric strength 20 KV/mm
- RoHs and REACH compliant
- Flame retardant and self extinguishing (except transparent)
- UL 224 125°C (except clear)
- Available in 1.22m bar and spool

3:1 shrink size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)	long spool in M
1,5/0,5	1,5	0,5	0,45	150
3/1	3	1	0,55	150
4,8/1,5	4,8	1,5	0,60	75
6/2	6	2	0,70	75
9/3	9	3	0,70	75
12/4	12	4	0,70	50
18/6	18	6	0,80	30
24/8	24	8	1,00	30
39/13	39	13	1,15	30



Available colors: black, transparent, white, blue, red, yellow, green, brown, gray, green/yellow

Certificates :

SAE-AMS-DTL-23053/5 Class 1 (colors)*
SAE-AMS-DTL-23053/5, Class 2 (transp)*

UL 224, 125° C - UL cert. E2281171*
CSA C 22.22 No. 198.1-98, OFT1*(except *size 3", 4"t transp)
ROHS : EC guidelines: 2002/95/EG, 2002/96/EG, 2003/11/E

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	13 N/mm ²	Thermal shock 4 hours at 250 °C		
Elongation at break	ASTM D 638	350 %	Low temperature hose at - 40°C	ASTM D 2671	No drips No tears not
Longitudinal shrinkage	ASTM D 2671	+/- 5% max	Elongation after aging	ASTM D 2671C	Does not tear
Moisture regain	ASTM D 570	0,20% max	Thermal (168 hours at 175°C)	ASTM D 638	Elongation 250 %
Specific gravity	ASTM 972	1,47 gr/cm3	Flame resistance	UL 224	Except transparent

Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 20 kV/mm	Mold resistance	AMS-DTL-7444	Inert
Specific volume resistance	ASTM D 257	1014 ohm cm	Fluid resistance	AMS-DTL-23053/5	Good
			Copper corrosion	ASTM D 2671B	Good
			Resistant to diesel and gasoline		Down



Thin wall ratio 4:1 PF4-135

PF4-135 is a high quality heat shrink tubing made of thin wall flexible cross-linked polyolefin, with high shrinkage, it is soft and flexible, possessing excellent dielectric, chemical and physical qualities.



- Flexible
- Operating temperature – 55 to 135°C
- Shrinking temperature: > 90°C
- RoHS
- Self-extinguishing according to UL 224
- Available in 1.22 m bar

Ratio 4:1 Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
19.1/4.6	19.1	4.6	1.7
25.4/7.0	25.4	7.0	1.7
38.1/9.5	38.1	9,5	1.7
50.8/14	50.8	14,0	1,7



Certificates :

SAE-AMS-DTL-23053/5 Class 1 (colors)*
SAE-AMS-DTL-23053/5, Class 2 (clear)*

UL 224, 135° C - UL cert. E2281171*
CSA C 22.22 No. 198.1-98, OFT1*
(except *size 3", 4" & 1*transparent)

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 2671	14 N/mm ²	Thermal shock 4 hours at 250°C		
Elongation at break	ASTM D 2671	800 %	Low temperature hose at - 40°C	ASTM D 2671	No drips No tears
Longitudinal shrinkage	UL 224	+/- 5% max	Elongation after aging	ASTM D 2671C	Does not tear
Moisture regain	ASTM D 570	0,15% max	Thermal (168 hours at 175°C)	ASTM D 638	Elongation 350 %
Specific gravity	ASTM 972	1,47 gr/cm3	Flame resistance	UL 224 VW1	Except transparent

Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 20 kV/mm	Mold resistance	AMS-DTL-7444	Inert
Specific volume resistance	ASTM D 257	1014 ohm cm	Fluid resistance	AMS-DTL-23053/5	Good
			Copper corrosion	ASTM D 2671B	Good
			Resistant to diesel and gasoline		Down



Thin wall Halogen-free 2:1 PF2-135-HF

PF2-135-HF is a high quality halogen-free heat shrink tubing made of cross-linked polyolefin, it is soft and flexible, having excellent dielectric, chemical and physical qualities. It is suitable for the industrial sectors of railways, aeronautics and construction. This resistant flame retardant sheath allows you to cover elements of similar diameters. It is suitable for areas such as electrical insulation, electronics, equipment, marking and identification. In the event of a fire, this sheath emits little smoke and toxic gases, which makes it usable in confined environments.



- Flexible quick removal
- Operating temperature – 55 à 125°C
- Minimum shrinkage temperature : > 70°C
- Dielectric strength 20 KV/mm
- RoHs and REACH compliant
- Retarded by flame
- UL 224 125°C
- Available on reel

Ratio 2:1 Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinking (mm)	Long M coil
1,2/0,6	1,2	0,6	0,33	300
1,6/0,8	1,6	0,8	0,36	300
2,4/1,2	2,4	1,2	0,44	300
3,2/1,6	3,2	1,6	0,44	300
4,8/2,4	4,8	2,4	0,51	150
6,4/3,2	6,4	3,2	0,56	150
9,5/4,8	9,5	4,8	0,56	75
12,7/6,4	12,7	6,4	0,65	75
19,1/9,5	19,1	9,5	0,80	50
25,4/12,7	25,4	12,7	0,90	50
38,1/19,1	38,1	19,1	1,02	30
50,8/25,4	50,8	25,4	1,14	30
76,2/38,1	76,2	38,1	1,27	30



Colors available: black, white, blue, red, yellow, green, brown, gray, green/yellow

Certifications :

UL 224, 125° C - UL cert. E2281171*

ROHS : EC guidelines: 2002/95/EG, 2002/96/EG, 2003/11/E

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	10 N/mm ²	Thermal shock 4 hours at 175°C	ASTM D 2671	No drips, cracks or run off
Elongation at break	ASTM D 638	200 %	Elongation after aging	ASTM D 2671C	Does not tear
Longitudinal shrinkage	ASTM D 2671	-10% à +5%	Elongation after aging	ASTM D 638	Elongation 100%
Moisture recovery	ASTM D 570	0,5% max	Thermal(168 hours at 175°C)		
specific entity	ASTM 972	1,2 gr/cm ³	Flame resistance	UL 224	successful

Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	20 kV/mm	Chemical resistance	AMS-DTL-23053/5	Good
Specific volume resistance	ASTM D 257	1014 ohm cm	Copper corrosion	ASTM D 2671B	No corrosion



Thin wall 3:1 with adhesive PF3-A

PF3-A is a high quality heat shrink tubing made of flexible cross-linked polyolefin with double wall and moisture protection. This flexible sheath with an adhesive internal wall which melts when heated, makes it possible to cover elements of similar or very different diameters and of irregular contours. After shrinking and during cooling, this sheath produces a waterproof protection on the covered product. It is particularly suitable for a wide variety of applications such as the encapsulation of cables, wires, cable terminations and components.



- Flexible
- Operating temperature – 55 to 110°C
- Shrinking temperature: > 110°C
- Dielectric strength 15 KV/mm
- RoHS and REACH compliant
- Self-extinguishing (outer sheath) except transparent
- Available in 1.22m bar, spool
- UV resistance (except black and transparent)

Ratio 3:1 Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)	long spool in M
3/1	3	1	1,00	150
4,8/1,6	4,8	1,6	1,00	75
6/2	6	2	1,10	75
9/3	9	3	1,30	50
12/4	12	4	1,70	50
18/6	18	6	2,00	50
24/8	24	8	2,50	30
39/13	39	13	2,50	30



Available colors : noir, transparent.

Colors available on request : blue, brown, yellow, gray, green, white, red

Certificates :

SAE-AMS-DTL-23053/4 Class 3 (colors)

ROHS : EC directives: 2002/95/EC

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	11 N/mm ²	Thermal shock 4 hours at 250°C		
Elongation at break	ASTM D 638	300 %	Low temperature hose to - 40°C	ASTM D 2671	No Drip No Tear
Longitudinal shrinkage	ASTM D 2671	< 15%	Elongation after aging	ASTM D 2671C	Does not tear
Moisture regain	ASTM D 570	< 0,5	Thermal (168 hours at 175°C)	ASTM D 638	Elongation 250%
Specific gravity	ASTM 972	1,45 gr/cm3			

Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	15kV/mm	Mold Resistance	AMS-DTL-7444	Inert
Specific volume resistance	ASTM D 257	10 ohm cm	Fluid resistance	AMS-DTL-23053/5	Good
			Copper corrosion	ASTM D 2671B	Good
			Resistant to diesel and gasoline		Down



Thin wall 4:1 with adhesive PF4-A

PF4-A is a high quality heat shrink tubing made of flexible cross-linked polyolefin with double wall and moisture protection. This flexible sheath with an adhesive internal wall which melts when heated, makes it possible to cover elements of similar or very different diameters and of irregular contours. After shrinking and during cooling, this sheath produces a waterproof protection on the covered product. It is particularly suitable for a wide variety of applications such as the encapsulation of cables, wires, cable terminations and components, which require a high shrinkage.

- Flexible
- Operating temperature – 55 to 110°C
- Shrinking temperature: > 110°C
- Dielectric strength 15 KV/mm
- RoHS and REACH compliant
- Self-extinguishing (outer sheath) except transparent
- Available in 1.22m bar, spool



Ratio 4:1 Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)	Long spool in M
4/1	4	1	1,02	200
8/2	8	2	1,02	100
12/3	12	3	1,3	50
16/4	16	4	1,78	50
24/6	24	6	2,1	50
32/8	32	8	2,5	25
52/13	52	13	2,5	25



Available colors: black, transparent.

Certificates :

SAE-AMS-DTL-23053/4 Class 3 (colors)

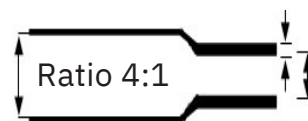
ROHS : EC directives: 2002/95/EC

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	11 N/mm ²	Thermal shock 4 hours at 250°C		
Elongation at break	ASTM D 638	300 %	Low temperature hose at - 40°C	ASTM D 2671	No drips No tears
Longitudinal shrinkage	ASTM D 2671	> 15%	Elongation after aging	ASTM D 2671C	Does not tear
Moisture regain	ASTM D 570	0,5 %	Thermal (168 hours at 175°C)	ASTM D 638	Elongation 250 %
Specific gravity	ASTM 972	1,45 gr/cm ³			

Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	15 kV/mm	Mold Resistance	AMS-DTL-7444	Inert
Specific volume resistance	ASTM D 257	1014 ohm cm	Fluid resistance	AMS-DTL-23053/5	Good
			Copper corrosion	ASTM D 2671B	Good
			Resistant to diesel and gasoline		Down



PM4 is a high quality, medium wall cross-linked polyolefin heat shrink tubing for protection of LV cable joints and terminations and telecommunications applications. The range of sizes available for this sheath is wide, and thanks to a high shrinkage coefficient, adapts to most configurations, providing resistant and flexible protection. Excellent resistance to atmospheric agents, abrasion, corrosion and chemicals. It is particularly suitable for sealing and insulating cable thicknesses, connections, terminations and sheath repairs.



- Operating temperature – 40 to 120°C
- Shrinking temperature: > 110°C
- Dielectric strength 17 KV/mm
- UV resistant
- Halogen free
- Rohs and REACH compliant
- Available in 1m bar

Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
12/3	12	3	1,90
22/6	22	6	2,20
34/7	33	7	2,50
40/12	40	12	2,50
56/17	56	17	2,70
72/22	72	22	3,00
92/35	92	35	3,00
120/35	115	35	3,10
140/45	140	45	3,15
160/55	160	55	3,15
175/58	175	58	3,25
200/65	200	65	3,25
235/65	235	65	3,25
275/125	275	125	2,80
350/125	350	125	3,00



Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	14 N/mm ²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears not pas
Elongation at break	ASTM D 638	400 %	Low temperature flexibility to -40°C	ASTM D 2671 c	Does not tear
Longitudinal shrinkage	ASTM D 2671	- 10% max	Elongation after aging Thermal (168 hours at 155°C)	ASTM D 638	300%
Moisture regain	ASTM D 570	0,12% max			
Specific gravity	ASTM 972	1,08 gr/cm ³			

Electrical properties	Test Method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 17 kV/mm	Fluid resistance		Good
Specific volume resistance	ASTM D 257	10 ohm cm	Copper corrosion	ASTM D 2671 B	



Medium wall 4:1 with adhesive PM4-A

PM4-A is a high quality, medium wall, cross-linked polyolefin heat-shrink tubing with adhesive (waterproof) for the protection of LV and telecommunications cable joints and terminations. The range of dimensions available for this sheath is wide, and thanks to a high shrinkage coefficient, it adapts to most configurations providing resistant and flexible protection. Excellent resistance to atmospheric agents, abrasion, corrosion and chemicals. It is particularly suitable for sealing and insulating cables, connections, terminations and repairs to sheaths, mechanical protections.



- Adhesive coated inner wall
- Operating temperature – 40 to 120°C
- Shrinking temperature: > 110°C
- Dielectric strength 17 KV/mm
- UV resistant
- Halogen free
- Rohs and REACH compliant
- Available in 1m bar

Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
12/3	12	3	2,00
22/6	22	6	2,20
34/7	34	7	2,50
40/12	40	12	2,50
56/17	56	17	2,70
65/19	65	19	2,80
72/22	72	22	3,00
92/35	92	35	3,00
120/35	120	35	3,30
140/45	140	45	3,40
160/55	160	55	3,40
175/58	175	58	3,40
200/65	200	65	3,50
235/65	235	65	3,50
275/125	275	125	2,80
350/125	350	125	3,00



Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	14 N/mm ²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears not
Elongation at break	ASTM D 638	400 %	Low temperature flexibility to -40°C	ASTM D 2671 c	Does not tear
Longitudinal shrinkage	ASTM D 2671	- 10% max	Elongation after aging Thermal (168 hours at 155°C)	ASTM D 638	300%
Moisture regain	ASTM D 570	0,12% max			
Specific gravity	ASTM 972	1,08 gr/cm ³			
Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 17 kV/mm	Fluid resistance		Good
Specific volume resistance	ASTM D 257	10 ohm cm	Copper corrosion	ASTM D 2671 B	
Adhesive	Test method	Results			
Softening point	ASTM E 28	90°C			



Thick wall 4:1 PE4

PE4 is a thick-walled cross-linked polyolefin heat-shrink tubing for the protection of cable joints and terminations. The range of dimensions available for this sheath is wide, and thanks to a high shrinkage coefficient, it adapts to most configurations providing resistant and flexible protection. Excellent resistance to atmospheric agents, abrasion, corrosion and chemicals.



It is also particularly suitable for repairing ducts.

- Operating temperature – 40 to 120°C
- Shrinking temperature: > 110°C
- Dielectric strength 17 kV/mm
- UV resistant
- Halogen free
- Rohs and REACH compliant
- Available in 1m bar

Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
12/3	12	3	2,20
19/6	19	6	2,40
30/8	30	8	3,00
45/13	45	13	3,00
52/15	52	16	3,60
72/20	72	22	3,80
92/26	92	29	3,80
120/35	120	35	4,00
130/45	130	45	4,00
160/55	160	55	4,00
180/55	180	55	4,00
200/60	200	60	4,00



Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	14 N/mm²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears
Elongation at break	ASTM D 638	400 %	Low temperature flexibility to -40°C	ASTM D 2671 c	not Does not tear
Longitudinal shrinkage	ASTM D 2671	- 10% max	Elongation after aging Thermal (168 hours at 155°C)	ASTM D 638	300%
Moisture regain	ASTM D 570	0,12% max			
Specific gravity	ASTM 972	1,08 gr/cm3			
Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 17 kV/mm	Fluid resistance		Good
Specific volume resistance	ASTM D 257	10 ohm cm	Copper corrosion	ASTM D 2671 B	



Thick wall 4:1 with adhesive PE4-A

PE4-A is a thick-walled cross-linked polyolefin heat-shrink tubing with adhesive, for the protection of cable joints and terminations. The range of dimensions available for this sheath is wide, and thanks to a high shrinkage coefficient, it adapts to most configurations providing great resistant protection. Excellent resistance to atmospheric agents, abrasion, corrosion and chemicals.



It is also particularly suitable for repairing ducts.

- Adhesive coated inner wall
- Operating temperature – 40 to 120°C
- Shrinking temperature: > 110°C
- Dielectric strength 17 KV/mm
- UV resistant
- Halogen free
- Rohs and REACH compliant
- Available in 1m bar

Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
12/3	12	3	2,65
19/6	19	6	2,65
30/8	30	8	3,30
45/13	45	13	3,70
52/15	52	16	4,10
72/20	72	22	4,10
92/26	92	29	4,10
120/35	120	35	4,20
130/45	130	45	4,20
160/55	160	55	4,20
180/55	180	55	4,20
200/60	200	60	4,20



Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	14 N/mm ²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears not
Elongation at break	ASTM D 638	400 %	Low temperature flexibility to - 40°C	ASTM D 2671 c	Does not tear
Longitudinal shrinkage	ASTM D 2671	- 10% max	Elongation after aging thermal (168 hours at 150°C)	ASTM D 638	300%
Moisture regain	ASTM D 570	0,12% max			
Specific gravity	ASTM 972	1,08 gr/cm ³			
Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 17 kV/mm	Fluid resistance		Good
Specific volume resistance	ASTM D 257	1014 ohm cm	Copper corrosion	ASTM D 2671 B	
Adhesive	Test Method	Results			
Softening point	ASTM E 28	90°C			



Thick wall 6:1 with adhesive PE6-A

PE6-A is a thick-walled cross-linked polyolefin heat-shrink tubing with high shrinkage and adhesive, for the protection of cable joints and terminations. The range of dimensions available for this sheath is wide, and thanks to a very high shrinkage coefficient, it adapts to most configurations providing great resistant protection. Excellent resistance to atmospheric agents, abrasion, corrosion and chemicals.



- Adhesive coated inner wall
- Operating temperature – 55 to 110°C
- Dielectric strength 20 KV/mm
- Shrinking temperature: > 110°C
- UV resistant
- Cadmium free, halogen free
- Rohs Compliant
- Available in 1m bar

Taille	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
19/3.2	19	3.2	3.2
33.5/6.5	33.5	6.5	3.4
44.4/7.4	44.4	7.4	3,6
50,8/8.3	50	8.3	4.8
88.9/17.	88.9	17.1	4,8
1 119/23	119	23	4,8



Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D2671	14 N/mm²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears
Elongation at break	ASTM D2671	> 400 %	Low temperature flexibility to - 40°C	ASTM D 2671 c	not Does not tear
Longitudinal shrinkage	ASTM UL224	- 10% max	Elongation after aging Thermal (168 hours at 150°C)	ASTM D2671>	300%
Moisture regain	ISO62	< 0,15 %			
Specific gravity	ASTM D972	1,05 gr/cm3			

Electrical properties	Test method	Results	Chemical properties	test method	Results
Dielectric strength	IEC2431	> 20 kV/mm	Fluid resistance		Good
Specific volume resistance	IEC93	10 ohm cm	Copper corrosion	ASTM D2671	Non corrosive

Adhesive	Test method	Results
Softening point	ASTM E28	85°C



Heat Shrink Tape RT ou RT-A

If you can't use a medium wall, waterproof medium wall with resin, or a thick wall, thick wall with adhesive, or split and openable heat shrink tubing with adhesive, then heat shrink tape may be the solution. In fact, you can apply it on an elbow, and there is no ratio constraint. They are mainly used for cable bundling, repair and insulation of damaged cables and wires and for protection of cables against mechanical defects and corrosion. Recommended for the application of all construction joints as a waterproof and durable protection. Good adhesion of the adhesive layer applied to metals, wood, ceramics and plastics guarantees good insulation of ventilation ducts, ducts, wires, electrical and telecommunications cables. Connections with RT-A tape are not subject to abrasion and corrosion.

- Operating temperature – 40 to 90°C
- Shrinking temperature: 100°C
- Dielectric strength: 12 KV/mm
- Type: RT or RT-A
- UV resistant
- Rohs and REACH compliant
- Available in 15m roll



tape type	Length (m)	Width (mm)	thickness (mm)	With or without adhesive
RT-25 (15m)	15	25	0.9	No
RT-25 (15m)	15	50	0.9	No
RT-25 (15m)	15	100	0.9	No
RT-A 25 (15m)	15	25	1.0	Yes
RT-A 25 (15m)	15	50	1.0	Yes
RT-A 25 (15m)	15	75	1.0	Yes
RT-A 25 (15m)	15	100	1.0	Yes
RT-A 25 (15m)	15	150	1.0	Yes

Physical properties		Test method	Results	Thermal properties		Test method	Results
Tensile strength		ASTM D 638	12 N/mm ²	Elongation after aging Thermal (168 hours at 120°C)		ASTM D-2671	320%
Elongation at break		ASTM D 638	400 %	Tensile strength after Thermal aging (168hours at 120°C)		ASTM D-2671	10 N/mm ²
Specific density		ASTM 972	1,08 gr/cm ³				

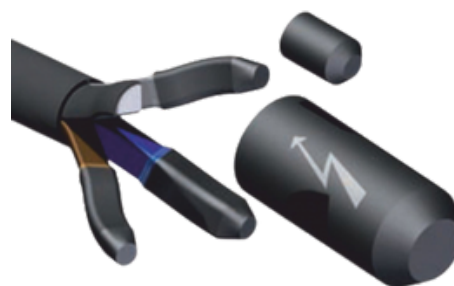
Electrical properties	Test method	Results
Dielectric strength	ASTM D 2671	>12 kV/mm
Specific volume resistance	IEC 93	1 * 10



EDC is a closed heat-shrink tip, cap coated with glue to ensure a perfect seal and mechanical hold.

- Waterproof
- Coated with hot melt adhesive
- Operating temperature – 55 to 105°C
- Shrinking temperature 120 to 200°C
- Dielectric strength 16 kv/mm

Size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)	Long (mm)
14/4	14	4	2,4	48.5
23/8	23	8	2.9	85
33/15	33	15	3.5	106
40/15	40	15	3.3	106
52/25	52	25	3.5	160
70/25	70	25	3.5	115
90/45	90	45	4.7	160
120/45	120	45	4.7	160



Physical properties			Thermal properties		
Test method	Results		Test method	Results	
Tensile strength	ASTM D 638	14 N/mm ²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears not
Elongation at break	ASTM D 638	400 %	Low temperature flexicurity at -40°C	ASTM D 2671 c	Does not tear
Longitudinal shrinkage	ASTM D 2671	- 10% max	Elongation after aging thermal (168 hours at 150°C)	ASTM D 638	300%
Moisture regain	ASTM D 570	0,12% max			
Specific gravity	ASTM 972	1,08 gr/cm3			
Electrical properties			Chemical properties		
Test method	Results		Test method	Results	
Dielectric strength	ASTM D 2671	> 16 kV/mm	Fluid resistance		Good
Specific volume resistance	ASTM D 257	1014 ohm cm	Copper corrosion	ASTM D 2671 B	
Adhesive					
Test method	Results				
softening point	ASTM E 28	90°C			



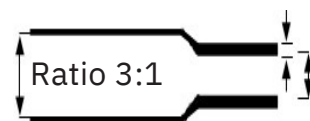
Openable sleeve with adhesive MOR-A

MOR-A is an openable sleeve made of cross-linked polyolefin, reinforced with fiberglass are coated with a hot melt adhesive ensuring an excellent seal and protection against humidity.

The uses of the repair sleeves are numerous: low voltage bypass, repair, fast and reliable restoration of the outer casing of XLPE, PVC cables, mechanical protection, waterproof plumbing repair fitting, lead copper pvc cement pipe fitting, buried tube repair .

- Medium wall liner, 3:1 taper
- Operating temperature – 40 to 110°C
- Dielectric strength 17 KV/mm
- Shrinking temperature: > 110°C
- Available in 1m bar

Taille	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
32/10	32	10	2,2
42/15	42	15	3
50/18	50	18	3,1
75/25	75	25	3,2
92/30	92	30	3,3
122/38	122	38	3,4
160/55	160	55	3,6



Physical properties	Test method	Results
Tensile strength	ASTM D 638	14 N/mm²
Elongation at break	ASTM D 638	400 %
Longitudinal shrinkage	ASTM D 2671	- 10% max
Moisture regain	ASTM D 570	0,12% max
Specific gravity	ASTM 972	1,08 gr/cm3

Thermal properties	Test method	Results
Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears
Low temperature flexibility to - 40°C	ASTM D 2671 c	Does not tear
Elongation after aging Thermal (168 hours at 150°C)	ASTM D 638	300%

Electrical properties	test method	Results
Dielectric strength	ASTM D 2671	> 17 kV/mm
Specific volume resistance	ASTM D 257	1014 ohm cm

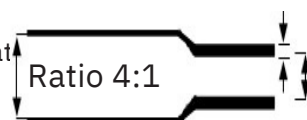
Chemical properties	Test method	Results
Fluid resistance		Good
Copper corrosion	ASTM D 2671 B	

Adhesive	Test method	Results
Softening point	ASTM E 28	90°C



Sealed crimp sleeve MAS

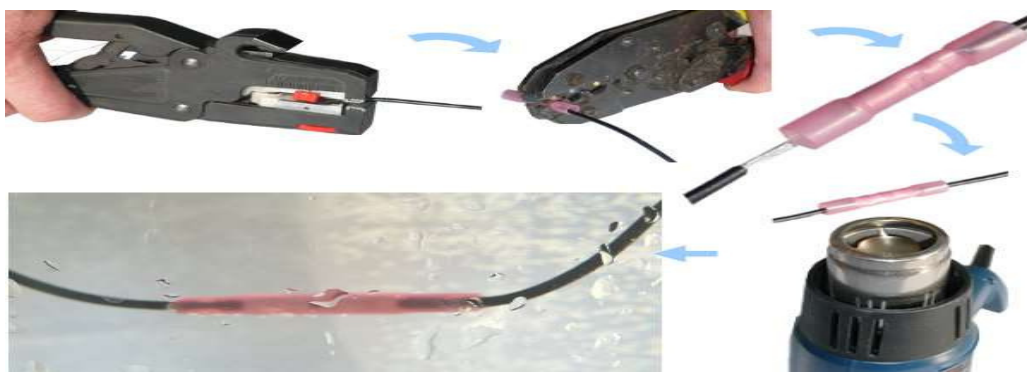
MAS: waterproof pre-insulated crimp sleeve, electrical connection solution consisting of a heat internally with adhesive attached to a tin-plated copper sleeve.



Solution for a fast, reliable and watertight connection.

- 4:1 tapered sheath
- Operating temperature – 55 to 125°C
- Dielectric strength 17 KV/mm
- Waterproof
- Shrinking temperature: > 110°C
- Available in packaging of 25 and 100 pieces

Conductor section	Length (mm)
0,5 à 1 mm² red	32
1,5 2,5 mm² blue	32
4 à 6 mm² yellow	38



Stripping Crimping Heating It's CONNECTED and WATERPROOF

Physical properties	Results
Tensile strength	
Red	11,3 Kg
Blue	22,7 Kg
Yellow	27,2 Kg

Electrical Properties	Results
Dielectric strength	2500 V (AC)
Resistance	1000 megohms

Propriétés thermiques	Results
Thermal shock 4 hours at 200°C	Don't drip don't tear
Low temperature flexibility to -40°C	Does not tear

Chemical properties	Results
Fluid resistance	Good



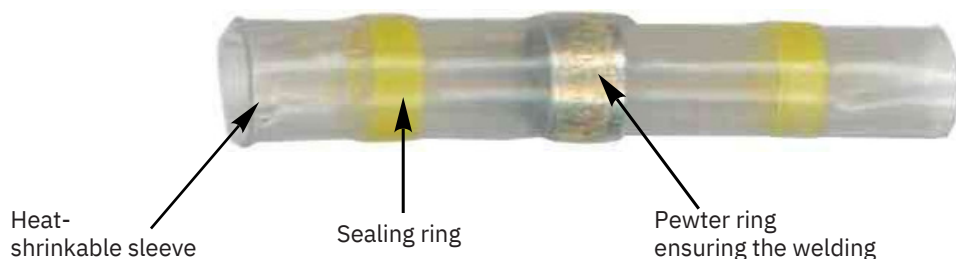
Self-welding connector CAS

CAS is an electrical connector consisting of a tin ring in a heat shrink tubing with 2 rings of adhesive. This series connection makes it very easy to make a sealed connection between 2 conductors. It can also be used as an extension. The implementation of these sleeves is simple and ensures a tightness of your electrical connections.

- 4:1 tapered sheath
- Operating temperature – 55 to 125°C
- Dielectric strength 17 KV/mm
- Waterproof
- Shrinking temperature: > 110°C.
- Available in packaging of 25 and 100 pieces



Conductor section	Length (mm)
0.3 - 0.8 mm ² White	25
0.8 - 2 mm ² Red	40
2 - 4 mm ² Blue	40
4 - 6 mm ² Yellow	40



Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	14 N/mm ²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tears not
Elongation at break	ASTM D 638	400 %	Low temperature flexibility to - 40°C	ASTM D 2671 c	Does not tea
Longitudinal shrinkage	ASTM D 2671	- 10% max	Elongation after aging Thermal(168 hours at 150°C)	ASTM D 638	300%
Moisture regain	ASTM D 570	0,12% max			
Specific gravity	ASTM 972	1,08 gr/cm ³			

Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 17 kV/mm	Fluid resistance		Good
Specific volume resistance	ASTM D 257	1014 ohm cm	Copper corrosio	ASTM D 2671 B	

Implementation

- Choose the Ø of the sleeve suitable for the conductors to be connected.
- Strip the wires about 5-6 mm.
- Insert the 2 wires (only one per side) in the sleeve, overlapping the stripped parts.
- Arrange the sleeve so that the central pewter ring is in the middle of the connection.
- First heat the sleeve in the center at the level of the tin until it melts.
- Leave to cool slowly.



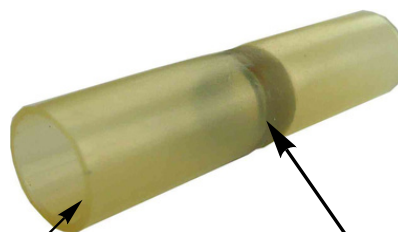
Waterproof self-welding connector CAS-A

CAS-A is an electrical connector consisting of a tin ring in a tube of heat-shrink tubing fully coated with adhesive. This series connection makes it very easy to make a sealed connection between 2 conductors. It can also be used as an extension. The implementation of these sleeves is simple and ensures perfect connection and sealing



- 4:1 tapered sheath
- Operating temperature: 55 to 125°C
- Dielectric strength: 2.5 KV
- Waterproof
- Shrinking temperature: 150 to 200°C.
- Available in packaging of 20 and 100 pieces

Conductor section	Color	Length (mm)
0.3 - 0.8 mm ²	White	25
0.8 - 2 mm ²	red	37
2 - 4 mm ²	blue	37
4 - 6 mm ²	yellow	40



Heat-shrinkable sleeve,
with full-surface adhesive

Pewter ring
ensuring the welding

Physical properties	Test method	Results	Thermal properties	Test method	Results
Tensile strength	ASTM D 638	14 N/mm ²	Thermal shock 4 hours at 200°C	ASTM D 2671	No drips No tearing
Elongation at break	ASTM D 638	400 %	Low temperature flexibility to - 40°C	ASTM D 2671 c	Does not tear
Longitudinal shrinkage	ASTM D 2671	- 10% max	Elongation after aging Thermal (168 hours at 150°C)	ASTM D 638	300%
Moisture regain	ASTM D 570	0,12% max			
Specific gravity	ASTM 972	1,08 gr/cm ³			

Electrical properties	Test method	Results	Chemical properties	Test method	Results
Dielectric strength	ASTM D 2671	> 17 kV/mm	Fluid resistance		Good
Specific volume resistance	ASTM D 257	1014 ohm cm	Copper corrosion	ASTM D 2671 B	

Implementation :

- Choose the Ø of the sleeve suitable for the conductors to be connected.
- Strip the wires about 5-6 mm.
- Insert the 2 wires (only one per side) in the sleeve, overlapping the stripped parts.
- Arrange the sleeve so that the central pewter ring is in the middle of the connection.
- First heat the sleeve in the center at the level of the tin until it melts.
- Leave to cool slowly.



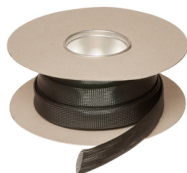
expandable braided sheath EPWG

GTEP is an expandable braided sleeving in polyester, the braiding allows it to expand in diameter when compressed in length, and conversely, to tighten when pulled. It allows the derivation of cables in several places, by widening the meshes.

Depending on the diameter of the cable the length of the sheath can be reduced by up to 20%

- Polyester braided sleeve
- Diameter of the strands 0.22 mm
- Color available black
- Operating temperature -40 to +150°C
- Great resistance to chemicals
- UV resistant
- Rohs and REACH compliant
- Halogen free
- Ideally suited for industrial applications
- The sheath can be hot cut

Size	Ø mini (mm)	Ø max (mm)	Reel length in M	Dispenser box length in M
3/6	3	6	100	100
5/10	5	10	100	100
8/15	8	15	100	50
12/22	12	22	50	50
18/28	18	28	50	50
30/49	30	49	50	-
50/72	50	72	50	-



Certificates :

S4, FMVSS 302, UL96

Physical Properties	Results
Strand diamete	0,12% max
Specific gravity	1,08
	gr/cm3

Thermal properties	Results
Fusion point	255°C
Maximum peak temperature	160°C
Flammability DIN 5510	S4, FMVSS 302, UL 94

Mechanical properties	RResults
Maximum elongation	20 %
Elongation at break	41 %

Chemical properties	Results
Chemical resistance	Good
Resistance	Good



High temperature self-vulcanizing tape RAVX

This revolutionary self-fusing silicone tape is highly versatile and adhesive free.

- Continuous use temperature -45° to 200°C
- Max intermittent temperature -65° to 260°C
- Staggering pressure resistance of 700 PSI (48 Bar; 4.8 MPa)
- 8000 Volt insulation per layer (>15000 volt/mm)

- Elasticity 300%, No adhesive agents
- Certification ISO 9001:2008, RoHS, REACH
- Resists acids, fuels, oils, solvents, salt water, UV rays
- Very long shelf life



width (mm)	Length (M)	Colors	Thickness (mm)
25,4	3	Black, red, blue, clear, yellow, green	0,5
38,1	11	Black, red, blue, clear	0,5
50,8	11	Black, red, blue, clear	0,8

Electricity : Electrical insulation, boat connection terminals, bundle of wires, electrical cables, sealing of electrical connections, air vents, corrosion protection, satellite connection protection.

Automotive : radiator hoses, air hoses, air conditioning lines, exhaust system, wire protection, cable.

Plumbing : pvc siphons, drainage, garden hoses, corrosion protection, flexible waste pipes

Marine : water pipes, exhaust systems, rigging, wiring, fishing equipment, diving equipment.

All emergency repairs : Sleeves of sports equipment, tools and grips, fixing/maintaining of glued parts, emergency repair of a hose, seals.

Physical properties	Test method	Results	Electrical properties	Test method	Results
Tensile Strength	ASTM D412	4,83 N/mm ²	Dielectric strength	ASTM D149	> 15 kV/mm
Tear Strength	ASTM D624, Die B	105 N/mm	Dielectric constant 1kHz	ASTM D150	2,95
Moisture regain	Fed. Std. 601, Meth. 6251	5% max	Dissipation factor, 1kHz	ASTM D150	< 0.0004
Specific gravity	ASTM 972	1,47 gr/cm ³	Volume resistance	ASTM D257	1x10 ¹³ OHMS/cm

General properties	Results	General properties	Results
Mildew Resistance	Excellent	UV and Ozone resistance	Excellent
Flame resistance	Well	Solvent resistance	Well
Abrasion resistance	Well	Resistance to acids, oils and hydrocarbons	moderately good

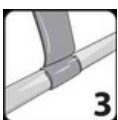
Mise en œuvre



1 Clean the surface to be protected and cut a piece of tape



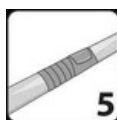
2 Remove and discard the transparent protective plastic film. Both sides of the tape work.



3 Hold the tape in position and wrap it around the room until the tape doubles back on itself. This initial wrapping, tape on tape, will secure future layers.



4 Make sure to maintain a constant stretch throughout the manipulation. Also ensure that each new layer of tape partially covers the bare part and partially covers the tape itself. These overlaps will allow the tape to self-merge.



5 The last layer of tape should be build on the previous layers. A maximum stretch is not necessary on the last wrap.



Plastic clamp

Applications

Fixing the cables in:

- Electrical installation
- Industrial wiring
- Electrical cabinets
- Wiring automotive and naval sector
- Special applications

Advantages

- Speed of installation
- Inclined end to facilitate the introduction of collars into the head
- Rounded corners that guarantee more safety
- Ease of sliding

Features

- Self-extinguishing according to UL 94-V2 standard.
- Black cable ties are filled with black carbon, so they are UV resistant as tested by QUV-B ISO 4892



- Polyamide 6.6 cable tie
- self-extinguishing according to UL 94-V2
- UV resistant (only black)
- Colors: black and natural

- Operating temperature from - 40°C to + 85°C
- Maximum admissible temperature: + 110°C peak
- Melting temperature: +256°C
- Halogen free

Size	Width mm	Length mm	Ø max of tightening mm	Résistance Kg	natural	black
2,5 x 100	2,5	100	24	11	Yes	Yes
3,5 x 140	3,5	140	36	20	Yes	Yes
3,5 x 200	3,5	200	55	20	Yes	Yes
3,5 x 280	3,5	280	80	20	Yes	Yes
4,5 x 200	4,5	200	51	28	Yes	Yes
4,5 x 280	4,5	280	76	28	Yes	Yes
4,5 x 360	4,5	360	101	28	Yes	Yes
4,5 x 430	4,5	430	123	28	No	Yes
7,5 x 360	7,5	360	101	65	No	Yes
7,5 x 540	7,5	540	160	65	No	Yes

Resistance to external agents:

- Excellent resistance to aromatic solvents, bases, oils, greases, petroleum products
- Limited resistance to acids
- Not resistant to phenol and chlorinated solvents
- Resistance to UV rays (black color)



EC Directives :

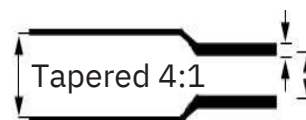
The material used to produce our collars complies with the directives following :

- 2000/53/EC (ELV)
- 2002/95/EC (RoHS)
- 2002/96/EC (WEEE)
- 2003/ 11/ EC



High temperature thin wall PTFE4

PTFE4 is a polytetrafluoroethylene sheath, resistant to very high temperatures, it is intended for applications requiring high resistance to chemical products.



- Flexible
- Transparent (milky)
- Operating temperature : – 200 à 260°C
- Shrinking temperature : > 350°C
- RoHS, REACH
- Self-extinguishing according to UL 224
- Available in 1.22 m bar

Tapered 4:1 size	Ø max (mm)	Ø mini (mm)	Wall thickness after shrinkage (mm)
1,98/0,64	1,98	0,64	0.18
3.18/0.94	3.18	0.94	0.20
4,75/1,27	4,75	1.27	0.26
6.35/1.6	6.35	1.6	0.11
9.52/2.44	9.52	2.44	0.22
12.7/3.66	12.7	3.66	0.22
25.4/7.06	25.4	7.06	0.28
38,1/10,16	38,1	10,16	0.28



Certificates :
UL94-V0
MIL-I-23053/12 Class5

Physical properties		Test method	Results	Thermal properties		Test method	Results
Tensile	strenth	ASTM D 683	>20 Mpa	Flame resistance		UL 94 V0	ok
Elongation at break		ASTM D 683	> 200 %				

Electrical properties		Test method	Results	Chemical properties		Test method	Results
Dielectric strength		ASTM D 149	> 7,4 kV/mm	Mold resistance		-	Inert
Specific volume resistance		ASTM D 257	1014 ohm cm	Fluid resistance		-	Inert
				Copper corrosion		-	Inert

