



CABLE PROTECTION

► Heat shrinkable tubing

Thin wall without adhesive

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HOW TO CHOOSE THE RIGHT HEAT-SHRINKABLE TUBING

TECHNICAL CHARACTERISTICS

	PRODUCT	SHRINKING RATIO	OPERATING TEMPERATURE (C°)	SHRINKING TEMPERATURE (C°)	FLAME RATING (C°)	Ø AVAILABLE (mm)	CHARACTERISTICS	COLOURS	PACKAGING	PAGE
THIN WALL	EV 100	2:1	-30°C÷105°C	>90°C	-	1,6÷50,8	General purpose economic	Black	Reel Box 1 mtr length	58
	ET 100	2:1	-55°C÷135°C	>90°C	UL 224	1,2÷101,6	General purpose	Black colours	Reel Box 1 mtr length	60
	EL 100	2:1	-55°C÷135°C	>90°C	UL 224 VW1	1,6÷101,6	Professional purpose	Black	Reel Box	62
	ET 301	3:1	-55°C÷135°C	>100°C	UL 224	1,5÷39	General purpose high shrinking ratio	Black	Reel Box 1 mtr length	64
	EL 301A	3:1	-55°C÷110°C	>100°C	UL 224 (external wall)	3÷24	Professional purpose adhesive-lined	Black	Box 1 mtr length	68
DUAL WALL THIN ADHESIVE-LINED	EL 401A	4:1	-55°C÷110°C	>100°C	UL 224 (external wall)	4÷52	Professional purpose adhesive-lined high shrinking ratio	Black	1 mtr length	69
	EM 100A	3:1	-40°C÷120°C	>110°C	-	12÷180	Heavy applications adhesive-lined	Black	1 mtr bag	70

CABLE PROTECTION

In order to choose the right heat shrinkable tubing size, it is necessary that the diameter of the shrunk tubing allows the perfect adhesion between the tubing and the cable diameter that has to be covered. This result is achieved when the tubing shrinks between 20% and 80% of its complete shrinkage capacity.

Herewith some examples:

EXAMPLE 1

Image to have a **10 mm** diameter cable to be wrapped with a heat shrinkable tubing with a shrinking ratio of **3:1**; in theory both sizes 12/4 and 24/8 would be suitable, since the required diameter of 10 mm lies within the shrinking range of both tubing sizes.

Type	Ø Nominal (mm)		Shrinkage capacity (mm)	Shrinking	
	max expanded	min recovered		min (20%)	max (80%)
12/4	12	4	8	10,4	5,6
24/8	24	8	16	20,8	11,2

the right heat shrinkable tubing is 12/4.

EXAMPLE 2

Image to have a **5 mm** diameter cable to be wrapped with a heat shrinkable tubing with a shrinking ratio of **2:1**; in theory both sizes 6,4/3,2 and 9,5/4,7 would be suitable, since the required diameter of 5 mm lies within the shrinking range of both tubing sizes.

Type	Ø Nominal (mm)		Shrinkage capacity (mm)	Shrinking	
	max expanded	min recovered		min (20%)	max (80%)
6,4/3,2	6,4	3,2	3,2	5,76	3,84
9,5/4,7	9,5	4,7	4,7	8,56	5,74

the right heat shrinkable tubing is 6,4/3,2.

COMPLETE EXAMPLE - THIN AND DUAL WALL TUBING

Type	Shrinking ratio	Ø Nominal (mm)		Shrinkage capacity (mm)	Shrinking	
		max expanded	min recovered		max (80%)	min (20%)
1,2/0,6	2:1	1,2	0,6	0,6	1,08	0,72
1,6/0,8		1,6	0,8	0,8	1,44	0,96
2,4/1,2		2,4	1,2	1,2	2,16	1,44
3,2/1,6		3,2	1,6	1,6	2,88	1,92
4,8/2,4		4,8	2,4	2,4	4,32	2,88
6,4/3,2		6,4	3,2	3,2	5,76	3,84
9,5/4,7		9,5	4,7	4,8	8,54	5,66
12,7/6,4		12,7	6,4	6,3	11,44	7,66
19,1/9,5		19,1	9,5	9,6	17,18	11,42
25,4/12,7		25,4	12,7	12,7	22,86	15,24
38,1/19,1	38,1	19,1	19,0	34,30	22,90	
50,8/25,4	50,8	25,4	25,4	45,72	30,48	
76,2/38,1	76,2	38,1	38,1	68,58	45,72	
101,6/50,8	101,6	50,7	50,8	91,44	60,96	
1,5/0,5	3:1	1,5	0,5	1	1,30	0,70
3/1		3,0	1,0	2	2,60	1,40
4,8/1,6		4,8	1,6	3,2	4,16	2,24
6/2		6,0	2,0	4	5,20	2,80
9/3		9	3	6	7,80	4,20
12/4		12,0	4,0	8	10,40	5,60
18/6		18	6	12	15,60	8,40
24/8		24,0	8,0	16	20,80	11,20
39/13		39,0	13,0	26	33,80	18,20
4/1		4:1	4	1	3	3,40
8/2	8		2	6	6,80	3,20
12/3	12		3	9	10,20	4,80
16/4	16		4	12	13,60	6,40
24/6	24		6	18	20,40	9,60
32/8	32		8	24	27,20	12,80
52/13	52		13	39	44,20	20,80

EV 100



EV 100 is a thin wall heat shrinkable tubing in cross-linked polyolefin, economic, suitable for electrical insulation and general applications where a low shrinking temperature is required.

Available in reel, dispenser box, 1 mtr. length.

TECHNICAL DATA

Shrinking ratio:	2: 1.
Diameters available:	from Ø 1,6 mm to Ø 50,8 mm.
Colours available:	black.
Working temperature:	-30°C ÷ 105°C.
Shrinking temperature:	> 90°C.
Flammability rating:	not self-extinguishing.
Longitudinal change:	+5%; -10%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

FMVSS 302

HALOGEN FREE

APPLICATIONS

- ▶ Insulation, protection and identification cables and joints.

BENEFITS

- ▶ Halogen-free.



LINKED PRODUCTS:

Heat guns & accessories, see pages 95





EV 100 HEAT SHRINKABLE TUBING IN REEL

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12201016	1/16"	1,6	0,8	0,43	200
12201024	3/32"	2,4	1,2	0,51	200
12201032	1/8"	3,2	1,6	0,51	200
12201048	3/16"	4,8	2,4	0,51	200
12201064	1/4"	6,4	3,2	0,65	150
12201095	3/8"	9,5	4,7	0,65	150
12201127	1/2"	12,7	6,4	0,65	100
12201190	3/4"	19,1	9,5	0,77	50
12201254	1"	25,4	12,7	0,89	50
12201381	1 1/2"	38,1	19,1	1	25
12201508	2"	50,8	25,4	1,1	25



EV 100 HEAT SHRINKABLE TUBING IN DISPENSER BOX

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12251016	1/16"	1,6	0,8	0,43	15
12251024	3/32"	2,4	1,2	0,51	15
12251032	1/8"	3,2	1,6	0,51	15
12251048	3/16"	4,8	2,4	0,51	12
12251064	1/4"	6,4	3,2	0,65	12
12251095	3/8"	9,5	4,7	0,65	10
12251127	1/2"	12,7	6,4	0,65	8
12251190	3/4"	19,1	9,5	0,77	5
12251254	1"	25,4	12,7	0,89	3



EV 100 HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12271016	1/16"	1,6	0,8	0,43	30
12271024	3/32"	2,4	1,2	0,51	30
12271032	1/8"	3,2	1,6	0,51	30
12271048	3/16"	4,8	2,4	0,51	24
12271064	1/4"	6,4	3,2	0,65	24
12271095	3/8"	9,5	4,7	0,65	20
12271127	1/2"	12,7	6,4	0,65	16
12271190	3/4"	19,1	9,5	0,77	10
12271254	1"	25,4	12,7	0,89	6

ET 100



ET 100 is a thin wall heat shrinkable tubing in cross-linked polyolefin, self-extinguishing, flexible and strong, with chemical resistance and safety in the electrical insulation, suitable for general applications.

Available in reel, dispenser box, 1 mtr. length.

TECHNICAL DATA

Shrinking ratio:	2: 1.
Diameters available:	from Ø 1,2 mm to Ø 101,6 mm.
Colours available:	black, white, red, blue, transparent, green/yellow.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224 (except transparent).
Longitudinal change:	-5%; +5%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/5 ($\phi \leq 50,8$)
 Class 1 (colour) - class 2 (transparent)
 UL224 125°C - UL cert. E 228117*
 CSA C22.22 N.198.1-98 OFT*
 *except transparent



APPLICATIONS

- Insulation, protection and identification cables and joints.

BENEFITS

- Self-extinguishing.



HEAT SHRINKABLE ET 100 FLOOR DISPLAY

Code	Height (mm)	Width (mm)	Deep (mm)	Pack pcs.
8221705	1.740	415	345	1

NOTE

Floor display without assortment. In order to personalize the assortment, please contact our sales department. Total assortment: 24 boxes.

RECOMMENDED ASSORTMENT: cod. KIT 8221705

Code	Code	Code	Code	Q.ty (Pack)	Pack (m)
Black	Green/Yellow	Blue	Red		
12273016	-	-	-	1	30
12273024	-	-	-	1	30
12273032	-	-	-	1	30
12273048	12273048G/V	12273048BL	12273048R	1	24
12273064	12273064G/V	12273064BL	12273064R	1	24
12273095	12273095G/V	12273095BL	12273095R	1	20
12273127	12273127G/V	12273127BL	12273127R	1	16
12273190	12273190G/V	12273190BL	12273190R	1	10
12273254	-	-	-	1	6

NOTE

Display included in the assortment.


ET 100 HEAT SHRINKABLE TUBING IN REEL - DISPENSER BOX - 1 MTR LENGTH


Code	Pack	Code	Pack	Code	Pack	Ø Internal expanded	Ø Internal expanded	Ø Internal recovered	Wall thickness recovered
Reel	(m)	Box	(m)	1 mtr length	(m)	(inch)	(mm)	(mm)	(mm)
12203012	200	12253012	15	12273012	30	3/64"	1,2	0,6	0,41
12203016	200	12253016	15	12273016	30	1/16"	1,6	0,8	0,43
12203024	200	12253024	15	12273024	30	3/32"	2,4	1,2	0,51
12203032	200	12253032	15	12273032	30	1/8"	3,2	1,6	0,51
12203048	200	12253048	12	12273048	24	3/16"	4,8	2,4	0,51
12203064	150	12253064	12	12273064	24	1/4"	6,4	3,2	0,64
12203095	150	12253095	10	12273095	20	3/8"	9,5	4,7	0,64
12203127	100	12253127	8	12273127	16	1/2"	12,7	6,4	0,64
12203190	50	12253190	5	12273190	10	3/4"	19,1	9,5	0,77
12203254	50	12253254	3	12273254	6	1"	25,4	12,7	0,89
12203381	25	-	-	12273381	4	1 1/2"	38,1	19,1	1,02
12203508	25	-	-	12273508	3*	2"	50,8	25,4	1,14
12203762	15	-	-	12273762	3*	3"	76,2	38,1	1,27
12203994	15	-	-	12273994	3*	4"	101,6	50,8	1,4

*Packed in plastic bag.

For other colours , add after the code: BI=white - BL=blue - R=red - TR=transparent

Size 3" e 4" available only in colour black


ET 100 YELLOW/GREEN HEAT SHRINKABLE TUBING IN REEL - DISPENSER BOX - 1 MTR LENGTH


Code	Pack	Code	Pack	Code	Pack	Ø Internal expanded	Ø Internal expanded	Ø Internal recovered	Wall thickness recovered
Reel	(m)	Box	(m)	1 mtr length	(m)	(inch)	(mm)	(mm)	(mm)
-	-	-	-	12273012 G/V	30	3/64"	1,2	0,6	0,41
-	-	-	-	12273016 G/V	30	1/16"	1,6	0,8	0,43
12203024 G/V	200	12253024 G/V	15	12273024 G/V	30	3/32"	2,4	1,2	0,51
12203032 G/V	200	12253032 G/V	15	12273032 G/V	30	1/8"	3,2	1,6	0,51
12203048 G/V	200	12253048 G/V	12	12273048 G/V	24	3/16"	4,8	2,4	0,51
12203064 G/V	150	12253064 G/V	12	12273064 G/V	24	1/4"	6,4	3,2	0,64
12203095 G/V	150	12253095 G/V	10	12273095 G/V	20	3/8"	9,5	4,7	0,64
12203127 G/V	100	12253127 G/V	8	12273127 G/V	16	1/2"	12,7	6,4	0,64
12203190 G/V	50	12253190 G/V	5	12273190 G/V	10	3/4"	19,1	9,5	0,77
12203254 G/V	50	12253254 G/V	3	12273254 G/V	6	1"	25,4	12,7	0,89
12203381 G/V	25	-	-	12273381 G/V	4	1 1/2"	38,1	19,1	1,02
12203508 G/V	25	-	-	12273508 G/V	3*	2"	50,8	25,4	1,14

*Packed in plastic bag.

EL 100



EL 100 is a flexible, self-extinguishing thin wall heat shrinkable tubing in cross-linked polyolefin, suitable for professional applications in electrical and electronics sectors, in particular for cable insulating, marking, and identification. EL 100 ensures an excellent flame resistance. Available in reel and box dispenser.

TECHNICAL DATA

Shrinking ratio:	2: 1.
Diameters available:	from Ø 1,6 mm to Ø 101,6 mm.
Colours available:	black.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224 - VW1.
Longitudinal change:	-5%; +5%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/5 class 3 ($\varnothing \leq 50,8$)
 UL 224 125°C VW1- UL cert. E 228117
 CSA C22.22 N.198.1-98 OFT.



APPLICATIONS

- Insulation, protection and identification cables and joints.

BENEFITS

- High self-extinguishing.



LINKED PRODUCTS:

Heat guns & accessories, see pages 95





EL 100 HEAT SHRINKABLE TUBING IN REEL

Code	Ø Internal expanded (inch)	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12204016	1/16"	1,6	0,8	0,43	200
12204024	3/32"	2,4	1,2	0,51	200
12204032	1/8"	3,2	1,6	0,51	200
12204048	3/16"	4,8	2,4	0,51	200
12204064	1/4"	6,4	3,2	0,64	150
12204095	3/8"	9,5	4,7	0,64	150
12204127	1/2"	12,7	6,4	0,64	100
12204190	3/4"	19,1	9,5	0,77	50
12204254	1"	25,4	12,7	0,89	50
12204381	1 1/2"	38,1	19,1	1,02	25
12204508	2"	50,8	25,4	1,14	25
12204762	3"	76,2	38,1	1,27	15
12204994	4"	101,6	50,8	1,4	15

CABLE PROTECTION



EL 100 HEAT SHRINKABLE TUBING IN DISPENSER BOX

Code	Ø Internal expanded (inch)	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12254016	1/16"	1,6	0,8	0,43	15
12254024	3/32"	2,4	1,2	0,51	15
12254032	1/8"	3,2	1,6	0,51	15
12254048	3/16"	4,8	2,4	0,51	12
12254064	1/4"	6,4	3,2	0,64	12
12254095	3/8"	9,5	4,7	0,64	10
12254127	1/2"	12,7	6,4	0,64	8
12254190	3/4"	19,1	9,5	0,77	5
12254254	1"	25,4	12,7	0,89	3

ET 301



ET 301 is a thin wall heat shrinkable tubing in cross-linked polyolefin, self-extinguishing, flexible and strong, with chemical resistance and good capacity of electrical insulation, suitable for general applications.

Thanks to its high shrinking ratio, more applications can be covered with the same diameter. Its high expansion ratio is designed for use when wide ranging substrate diameters need to be covered.

Available in reel, dispenser box, 1 mtr. length.

TECHNICAL DATA

Shrinking ratio:	3: 1.
Diameters available:	from Ø 1,5 mm to Ø 39 mm.
Colours available:	black.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224.
Longitudinal change:	+1%; -10%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/5
class 1
UL224 125°C - UL cert. E 228117
CSA C22.22 N.198.1-98 OFT



APPLICATIONS

- ▶ Insulation, protection and identification cables and joints.

BENEFITS

- ▶ High shrinking ratio.
- ▶ Self-extinguishing.



LINKED PRODUCTS:

Heat guns & accessories, see pages 95





ET 301 HEAT SHRINKABLE TUBING IN REEL

Code	∅ Internal expanded (mm)	∅ Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12205015	1,5	0,5	0,45	200
12205030	3	1	0,55	200
12205045	4,8	1,6	0,6	150
12205060	6	2	0,7	150
12205090	9	3	0,7	150
12205120	12	4	0,7	100
12205180	18	6	0,8	50
12205240	24	8	1	50
12205390	39	13	1,15	30



ET 301 HEAT SHRINKABLE TUBING IN DISPENSER BOX

Code	∅ Internal expanded (mm)	∅ Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12255015	1,5	0,5	0,45	15
12255030	3	1	0,55	15
12255060	6	2	0,7	10
12255090	9	3	0,7	8
12255120	12	4	0,7	7
12255180	18	6	0,8	4
12255240	24	8	1	3



ET 301 HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	∅ Internal expanded (mm)	∅ Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12275015	1,5	0,5	0,45	30
12275030	3	1	0,55	30
12275060	6	2	0,7	24
12275090	9	3	0,7	20
12275120	12	4	0,7	16
12275180	18	6	0,8	10
12275240	24	8	1	6
12275390	39	13	1,15	4*

*Packed in plastic bag.

ASSORTIBOX ET 100

with multifunctional gas tool

TECHNICAL DATA

Technical data tubing:	see ET 100.
Ø Int. sleeves (mm):	from 1,2/0,6 to 19,1/9,5.
Length sleeves (mm):	50/100/200.
Colours sleeves:	black, transparent, blue, red, white, green/yellow.
Total:	406 pcs / 21.700 mm.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224, 125°C (except transparent).
Longitudinal change:	-5%; +5%.
Dielectric strength:	> 20 kV/mm.



ASSORTIBOX ET100 - Composition cod.12233001

	Ø Sleeves	Length	Pcs for box
	(mm)	(mm)	nr.
●	1,2/0,6	50	25
○	1,2/0,6	50	25
●	1,2/0,6	50	25
●	1,2/0,8	50	25
○	1,2/0,8	50	25
●	1,2/0,8	50	25
●	2,4/1,2	50	20
○	2,4/1,2	50	20
○	2,4/1,2	50	20
●	3,2/1,6	50	50
●	4,8/2,4	50	40
●	6,4/3,2	50	15
○	6,4/3,2	50	15
●	9,5/4,7	50	15
●	9,5/4,7	50	15
●	9,5/4,7	50	15
●	9,5/4,7	50	15
●	12,7/6,4	100	10
●	19,1/9,5	200	6

N.B: multifunctional gas tool included in the box

ASSORTIBOX ET 301

with multifunctional gas tool

TECHNICAL DATA

Technical data tubing:	see ET 301.
Ø Int. sleeves (mm):	from 1,5/0,5 to 24/8.
Length sleeves (mm):	40/80/120/170.
Colours sleeves:	black, blue, red, white, green/yellow, brown.
Total:	170 pcs / 10.640 mm.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224, 125°C.
Longitudinal change:	+1%; -10%.
Dielectric strength:	> 20 kV/mm.



ASSORTIBOX ET301 - Composition cod. 12235001

	Ø Sleeves	Length	Pcs for box
	(mm)	(mm)	nr.
●	1,5/0,5	40	10
●	1,5/0,5	40	5
●	1,5/0,5	40	5
●	1,5/0,5	40	5
●	1,5/0,5	40	5
●	3/1	40	20
●	3/1	40	5
●	3/1	40	5
●	3/1	40	5
●	3/1	40	5
●	6/2	40	20
●	6/2	40	5
●	6/2	40	5
●	6/2	40	5
●	6/2	40	5
●	9/3	80	5
●	9/3	80	2
●	9/3	80	2
●	9/3	80	2
●	9/3	80	2
●	12/4	80	5
●	12/4	80	2
●	12/4	80	2
●	12/4	80	2
●	12/4	80	2
●	18/6	120	10
●	18/6	80	2
●	18/6	80	2
●	18/6	80	2
●	18/6	80	2
●	24/8	170	8
●	24/8	120	2
●	24/8	120	2
●	24/8	120	2
●	24/8	120	2

N.B: multifunctional gas tool included in the box

EL 301A WITH ADHESIVE



EL 301A is a flexible, heat shrinkable tubing in cross-linked polyolefin, with thermoplastic adhesive inside suitable for professional applications, such as insulation, identification and protection of wires and cables, in electric and electronic components. Its high shrinking ratio and its inner liner allow to seal and encapsulate the inner components, covering sections of different dimensions. Available in dispenser box, 1 mtr. length (reel on request).

TECHNICAL DATA

Shrinking ratio:	3: 1.
Diameters available:	from Ø 3 mm to Ø 24 mm.
Colours available:	black.
Working temperature:	-55°C ÷ 110°C.
Shrinking temperature:	> 100°C.
Flammability rating:	self-extinguishing (external wall).
Longitudinal change:	+1%; -15%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/4 class 3 (external wall)

ADHESIVE

APPLICATIONS

- Insulation and protection cables and joints.

BENEFITS

- Excellent insulating and waterproofing properties.



EL 301A HEAT SHRINKABLE TUBING IN DISPENSER BOX - 1 MTR LENGTH

Code	Pack	Code	Pack	Ø Internal expanded	Ø Internal recovered	Wall thickness recovered
Box	[m]	1 mtr length	[m]	[mm]	[mm]	[mm]
12256030	15	12276030	30	3	1	1
12256060	12	12276060	24	6	2	1,1
12256090	10	12276090	20	9	3	1,3
12256120	8	12276120	16	12	4	1,7
12256180	5	12276180	10	18	6	2
12256240	3	12276240	6	24	8	2,5

*Packed in plastic bag.



LINKED PRODUCTS:

Heat guns & accessories, see pages 95



EL 401A WITH ADHESIVE



EL 401A is a flexible, heat shrinkable tubing in cross-linked polyolefin, with thermoplastic adhesive inside suitable for professional applications, such as insulation, identification and protection of wires and cables, in electric and electronic components. The high shrinking ratio and the thermoplastic adhesive inner liner allow to seal and encapsulate components, covering sections of different dimensions. Available in 1 m cut length (reel on request).

TECHNICAL DATA

Shrinking ratio:	4: 1.
Diameters available:	from Ø 4 mm to Ø 52 mm.
Colours available:	black.
Working temperature:	-55°C ÷ 110°C.
Shrinking temperature:	> 100°C.
Flammability rating:	self-extinguishing (external wall).
Longitudinal change:	+1%; -15%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/4 class 3 (external wall)

ADHESIVE

APPLICATIONS

- ▶ Insulation and protection cables and joints.

BENEFITS

- ▶ High shrinking ratio.
- ▶ Excellent insulating and waterproofing properties.

CABLE PROTECTION



EL 401A HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12278040	4	1	1,02	30
12278080	8	2	1,02	24
12278120	12	3	1,3	20
12278160	16	4	1,78	12
12278240	24	6	2,1	6
12278320	32	8	2,5	10*
12278520	52	13	2,5	10*

*Packed in plastic bag.



LINKED PRODUCTS:

Heat guns & accessories, see pages 95



EM 100A WITH ADHESIVE

CABLE PROTECTION



EM 100A is a medium wall heat shrinkable tubing in cross-linked polyolefin, with internal thermoplastic adhesive, suitable for a wide range of applications, such as insulating and protecting cable joints and terminations. The inner liner provides good moisture sealing and weathering protection. Good strain and abrasion resistance. Available in plastic bag 1 mtr, length.

TECHNICAL DATA

Shrinking ratio:	3:1.
Diameters available:	from Ø 12 mm to Ø 180 mm.
Colours available:	black.
Working temperature:	-40°C ÷ 120°C.
Shrinking temperature:	> 110°C.
Flammability rating:	not self-extinguishing.
Longitudinal change:	-10%.
Dielectric strength:	> 17 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

HALOGEN FREE **ADHESIVE**

APPLICATIONS

- ▶ Insulation and protection cables and joints also in underground laying.

BENEFITS

- ▶ High mechanical resistance.
- ▶ Excellent insulating and waterproofing properties.



EM 100A HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12247012	12	3	2,2	25
12247019	22	6	2,3	15
12247030	33	8	2,6	10
12247040	40	12	2,6	5
12247050	55	17	2,9	3
12247063	65	19	3,15	3
12247070	72	22	3,15	2
12247095	92	26	3,15	1
12247115	115	35	3,35	1
12247140	180	60	3,5	1



LINKED PRODUCTS:

Heat guns & accessories, see pages 95



NEOPRENE SLEEVES



Sleeves in lubricated neoprene suitable for protecting and insulating electrical panels and industrial wirings.

TECHNICAL DATA

Type of material: black lubricated neoprene.
 Diameters available: from Ø 1,25 mm to Ø 17 mm.
 Working temperature: -30°C ÷ 90°C.
 Flammability rating: UL 94 class V0.
 Dielectric strength: 13 kV/mm

APPLICATIONS

- ▶ Protecting and insulating electrical panels.

BENEFITS

- ▶ The sleeves are internally lubricated for an easy and quick application with the dedicated tools.
- ▶ Resistance to oils and solvents.
- ▶ Good resistance to humidity and aging.
- ▶ Resistant to low temperatures.

CABLE PROTECTION

NEOPRENE SLEEVES

Code	Name	Ø Internal (mm)	Ø External (mm)	Length (mm)	Thickness (mm)	Pack pcs.
5380	A0	1,25	2	20	0,5	1.000
5381	A1	1,75	3,5	20	0,5	1.000
5381BIS	A1BIS	2,4	4,5	20	0,6	1.000
5382	A1K	2,5	5,5	25	0,9	1.000
5383	A2	3	6	25	0,6	1.000
5384	A2K	4	8	30	1,2	1.000
5385	A3	5	9	25	0,7	1.000
5386	A4	7,5	12	30	0,8	1.000
5387	A5	10	15	35	0,9	500
5388	A8	12	20	50	1,2	500
5389	A9	14	23	50	1,3	500
5390	A10	17	28	50	1,3	500

Codes 5388, 5389, 5390 available on request (minimum order quantities).



LINKED PRODUCTS:

Tools for neoprene sleeves see pages 91



PVC TUBING SLEEVES



Tubing sleeve in PVC is suitable for mechanical protection, insulating cables in the electrical applications. The material is resistant to ozone, aging and weak acids. Available in reel from 25 mt up to 500 mt long, 0,3mm up to 1,3 mm thickness. High temperature resistance (120°C) on request.

TECHNICAL DATA

Raw material:	PVC.
Diameters available:	from Ø 3 to Ø 50 mm.
Colours available:	black.
Working temperature:	-40°C ÷ 70°C.
Flammability rating:	UL 94 class V1.
Dielectric strength:	25 kV/mm.

APPLICATIONS

- Protection cables in electrical panels, industrial wiring and automotive.

BENEFITS

- Extreme easy and slip of a cable bundle.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.



PVC TUBING SLEEVES

Code	Ø Internal [mm]	Ø External [mm]	Thickness [mm]	Pack [m]
12370300	3	3,6	0,3	200
12370400	4	4,6	0,3	200
12370500	5	5,8	0,4	200
12370600	6	6,8	0,4	200
12370700	7	7,8	0,4	200
12370800	8	8,8	0,4	200
12370101	10	11	0,5	200
12370121	12	13	0,5	100
12370141	14	15,2	0,6	100
12370161	16	17,2	0,6	100
12370181	18	19,4	0,7	100
12370202	20	21,6	0,8	100
12370222	22	23,8	0,9	100
12370242	24	25,8	0,9	50
12370262	26	27,8	0,9	50
12370282	28	30	1	50
12370303	30	32	1	50
12370404	40	42,5	1,2	25
12370505	50	52,6	1,3	25



POLYETHYLENE SPIRALS



The low density polyethylene spiral is extremely flexible and it is ideal for bundle and protect the electrical cable and wire. Available in two colours, good resistance to acid and basic environment. packed in plastic bag

TECHNICAL DATA

Type of material:	Extruded Polyethylene LD (low density).
Colours available:	natural and black.
Dim. available:	for bundle of cables from Ø 3 to Ø 150 mm.
Working temperature:	-50°C ÷ 85°C.
Flammability rating:	UL 94 class HB.
Halogene-free.	

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

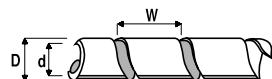
HALOGEN FREE

APPLICATIONS

- ▶ Bundling and protection of electrical cables.

BENEFITS

- ▶ The spiral is obtained by a tube of extruded and cut polyethylene.
- ▶ Extremely flexible.
- ▶ Quick installation also in definitive wiring.
- ▶ Due to the spiral structure, cables can branch out at any point and in any direction.

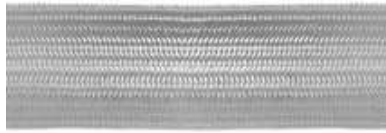


POLYETHYLENE SPIRALS

Code	Code	Thickness	Dimensions (mm)			Wiring (mm)		Pack	Carton
Natural	Black	(mm)	d	D	W	Ø min	Ø max	(m)	(m)
SP 2	SP 2N	0,6	2,3	3,5	5	3	15	50	1.000
SP 4	SP 4N	0,65	3,7	5	7	4	20	25	500
SP 6	SP 6N	0,75	6,5	8	10	7	40	25	500
SP 9	SP 9N	0,85	8,2	10	12	9	50	25	350
SP 12	SP 12N	1	10	12	14	11	70	25	250
SP 15	SP 15N	1	12	14	16	13	80	20	200
SP 20	SP 20N	1,2	17,6	20	22	18	120	25	100
SP 25	SP 25N	1,4	22,2	25	27	23	150	20	80



BRAIDED SLEEVES



The braided sleeve is available in polyester or in polyamide 6.6 according to the type of application required. It is suitable for mechanical protection and cable bundling. The material is resistant to abrasion and chemical agents and it is recommended for applications where an high flame resistance and low smoke toxicity is required (e.g. railway use). Available in reel.

Available in reel.

TECHNICAL DATA - POLYESTER

Raw material:	polyester.
Yarn diameter:	0,22 mm.
Working temperature:	-40°C ÷ 150°C.
Colours available:	grey - black.
Diameters available:	from 6 to 40 mm.
Flammability rating:	UL 94 class V2.
Halogene-free.	

TECHNICAL DATA - POLYAMIDE 6.6

Raw material:	polyamide 6.6.
Yarn diameter:	0,25 mm.
Working temperature:	-40°C ÷ 125°C.
Colours available:	grey - black.
Diameters available:	from 6 to 40 mm.
Flammability rating:	UL 94 class V2.
Halogene-free.	

APPROVALS/CERTIFICATIONS

FMVSS 302, DIN 5510-2 (polyester, polyamide 6.6)
 NF F 16-101 (polyamide 6.6)
 EN 45545-2 (HL3)

HALOGEN FREE

APPLICATIONS

- ▶ Flexible cable protection in the electrical or electronic installations, and in the telecommunications.
- ▶ Extreme easy insertion and slip of a cables bundle.

BENEFITS

- ▶ Extreme easy insertion and slip of a cables bundle.
- ▶ The braided sleeve can be cut with a heat cutter, to prevent fraying at the end of the yarn.

