

# INSULATION SLEEVING AND TUBING



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## Heatshrinkable tubing

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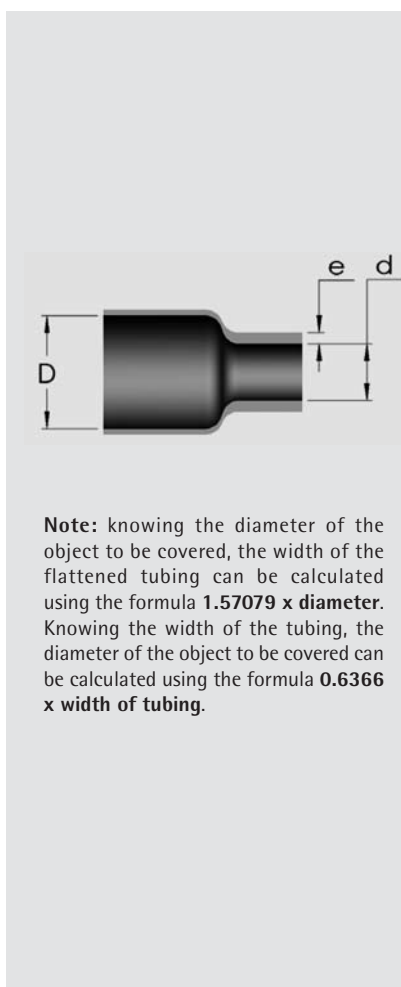
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# STP125

(Shrink ratio 2÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING		AFTER FREE SHRINKING		Packaging in mt
Internal diameter in mm (D)	Wall thickness in mm (e)	Internal diameter in mm (d)	Wall thickness in mm (e)	
1.2	0.15 ± 0.05	0.6	0.28 ± 0.10	200
1.6	0.18 ± 0.05	0.8	0.32 ± 0.10	200
2.0	0.18 ± 0.05	1.0	0.35 ± 0.10	200
2.4	0.18 ± 0.05	1.2	0.38 ± 0.10	200
3.2	0.18 ± 0.05	1.4	0.40 ± 0.10	200
3.5	0.22 ± 0.05	1.6	0.42 ± 0.10	200
4.0	0.25 ± 0.05	2.0	0.45 ± 0.10	200
4.8	0.25 ± 0.05	2.4	0.55 ± 0.10	100
6.4	0.28 ± 0.05	3.2	0.55 ± 0.10	100
7.0	0.28 ± 0.05	3.5	0.55 ± 0.10	100
8.0	0.28 ± 0.05	4.0	0.60 ± 0.10	100
9.5	0.30 ± 0.08	4.5	0.60 ± 0.10	100
10.0	0.30 ± 0.08	5.0	0.60 ± 0.10	100
11.0	0.30 ± 0.08	5.5	0.60 ± 0.10	100
12.0	0.30 ± 0.08	6.0	0.60 ± 0.10	100
12.7	0.35 ± 0.10	6.3	0.65 ± 0.10	100
14.0	0.35 ± 0.10	7.0	0.65 ± 0.10	100
15.0	0.40 ± 0.12	7.5	0.70 ± 0.10	100
16.0	0.40 ± 0.12	8.0	0.70 ± 0.10	100
17.0	0.40 ± 0.12	8.5	0.70 ± 0.10	100
18.0	0.40 ± 0.15	9.0	0.80 ± 0.15	100
19.1	0.40 ± 0.15	9.6	0.80 ± 0.15	100
22.0	0.40 ± 0.15	11.0	0.80 ± 0.15	100
25.4	0.50 ± 0.15	12.5	0.90 ± 0.15	50
28.0	0.50 ± 0.15	14.0	0.90 ± 0.15	50
32.0	0.50 ± 0.15	15.0	0.95 ± 0.15	50
35.0	0.50 ± 0.15	16.0	1.00 ± 0.15	50
38.1	0.55 ± 0.15	20.0	1.00 ± 0.15	50
50.0	0.55 ± 0.15	25.0	1.00 ± 0.15	25
60.0	0.60 ± 0.15	30.0	1.30 ± 0.20	25
70.0	0.65 ± 0.15	35.0	1.30 ± 0.20	25
80.0	0.65 ± 0.15	40.0	1.46 ± 0.20	25
90.0	0.65 ± 0.15	45.0	1.46 ± 0.20	25
100.0	0.65 ± 0.20	50.0	1.46 ± 0.20	25
120.0	0.65 ± 0.20	60.0	1.56 ± 0.20	15
150.0	0.65 ± 0.20	75.0	1.56 ± 0.20	15
180.0	0.65 ± 0.30	91.0	1.56 ± 0.20	15

**Note:** please contact the Sales Office before ordering the transparent tubings packs.

## General features

Series STP125 polyolefin tubing is a self-extinguishing heatshrinkable tubing with excellent physical and electrical properties.

It is ideal for general protective covering, cabling and insulation and thanks to the simplicity with which it shrinks it adapts very easily to the item being covered.

**HEATSHRINKABLE  
SELF-EXTINGUISHING  
TUBING  
IN POLYOLEFIN  
"SERIES STP125"  
SHRINK RATIO 2÷1**

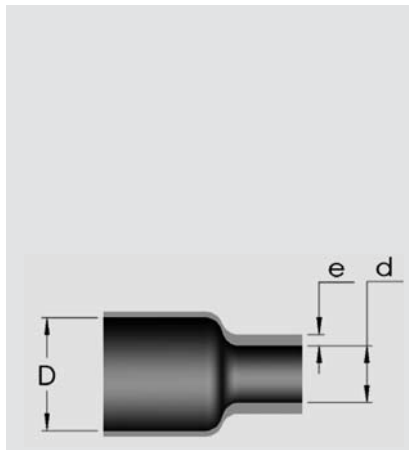


## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	-55 °C ÷ +125 °C	
• Flammability		ACCORDING TO STANDARD UL 224 VW-1
• Standard colours	Black - White - Red - Yellow Blue - Green - Transparent	
• Packaging	On reels	
• Minimum shrinking temperature	> +90 °C	
• Dielectric strength	≥ 15 KV/mm	
• Tensile strength	15 MPA	ACCORDING TO STANDARD ISO37
• Tensile strength after ageing (7 days)	12 MPA	
• Elongation to break	450%	ACCORDING TO STANDARD ISO37
• Elongation after heat ageing test	400%	(168 hours at 158 °C)
• Heat shock	No dripping, slipping or cracking	(4 hours at 250 °C)
• Water absorption	0,2%	ACCORDING TO STANDARD ASTM D570
• Resistance to fluids		ACCORDING TO STANDARD ISO1817, ISO37 MIL-1-23053
• Longitudinal variation	± 5%	
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# STP125-MINIBOX

(Shrink ratio 2÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula **1.57079 x diameter**.  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula **0.6366 x width of tubing**

BEFORE SHRINKING		AFTER FREE SHRINKING		Packaging mT.
Internal diameter in mm (D)	Wall thickness in mm (e)	Internal diameter in mm (d)	Wall thickness in mm (e)	
1.2	0.15 ± 0.05	0.6	0.28 ± 0.10	15
1.6	0.18 ± 0.05	0.8	0.32 ± 0.10	15
2.4	0.18 ± 0.05	1.2	0.38 ± 0.10	15
3.2	0.18 ± 0.05	1.4	0.40 ± 0.10	15
4.8	0.25 ± 0.05	2.4	0.55 ± 0.10	10
6.4	0.28 ± 0.05	3.2	0.55 ± 0.10	10
9.5	0.30 ± 0.08	4.5	0.60 ± 0.10	10
12.7	0.35 ± 0.10	6.3	0.65 ± 0.10	8
16	0.40 ± 0.12	8	0.70 ± 0.10	7
19.1	0.40 ± 0.15	9.6	0.80 ± 0.15	7
25.4	0.50 ± 0.15	12.5	0.90 ± 0.15	4

**MINIBOX  
HEATSHRINKABLE  
SELF-EXTINGUISHING  
TUBING IN POLYOLEFIN  
"SERIES  
STP125-MINIBOX"  
SHRINK RATIO  
2÷1**

## General features

The Minibox packs of the Series STP125-MINIBOX, containing heatshrinkable self-extinguishing tubing, are ideal for use in sectors in which the consumption of tubing is not particularly high. They contain tubing STP125, certified "UL" - "CSA", and are available in various lengths, depending on the diameter of the tubing.



## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	- 55 °C ÷ +125 °C	
• Self-extinguishing properties		IN ACCORDANCE WITH UL224 VW-1
• Standard colours	Black Other colours upon request	
• Packaging	In minibox	
• Minimum shrink temperature	> +90 °C	
• Dielectric strength	≥15 KV/mm	
• Tensile strength	15 MPA	IN ACCORDANCE WITH ISO37
• Tensile strength after ageing (7 days)	12 MPA	
• Elongation to break	400%	IN ACCORDANCE WITH ISO37
• Elongation after ageing test with heat	400 %	(168 hours at 158 °C)
• Thermal shock	No dripping, slipping or cracking	(4 hours at 250 °C)
• Water absorption	0,2%	IN ACCORDANCE WITH ASTM D 570
• Resistance to fluids		IN ACCORDANCE WITH ISO 1817, ISO 37, MIL-1-23053
• Longitudinal variation	± 5%	
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# STP125-BS

Thin Wall

(Shrink ratio 2÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING		AFTER FREE SHRINKING		Packaging mt.
Internal diameter in mm (D)	Wall thickness in mm (e)	Internal diameter in mm (d)	Wall thickness in mm (e)	
1.2	0.10 ± 0.05	0.4 ± 0.1	0.20 ± 0.05	200
1.6	0.10 ± 0.05	0.6 ± 0.1	0.20 ± 0.05	200
2	0.13 ± 0.05	0.9 ± 0.1	0.22 ± 0.05	200
2.4	0.13 ± 0.05	1.1 ± 0.1	0.25 ± 0.05	200
3.2	0.13 ± 0.05	1.4 ± 0.1	0.28 ± 0.05	200
3.5	0.13 ± 0.05	1.6 ± 0.1	0.28 ± 0.05	200
4	0.15 ± 0.05	1.8 ± 0.1	0.30 ± 0.05	200
4.8	0.15 ± 0.05	2.3 ± 0.2	0.32 ± 0.05	100
6.4	0.15 ± 0.05	2.8 ± 0.2	0.32 ± 0.05	100
7	0.15 ± 0.05	3.3 ± 0.2	0.32 ± 0.05	100
8	0.15 ± 0.05	3.8 ± 0.2	0.32 ± 0.05	100
9.5	0.16 ± 0.05	4.3 ± 0.2	0.35 ± 0.05	100
10	0.16 ± 0.05	4.8 ± 0.2	0.35 ± 0.05	100
11	0.18 ± 0.05	5.3 ± 0.2	0.40 ± 0.05	100
12	0.20 ± 0.1	5.7 ± 0.3	0.40 ± 0.05	100
12.7	0.20 ± 0.1	6.2 ± 0.3	0.40 ± 0.05	100
14	0.20 ± 0.1	6.7 ± 0.3	0.40 ± 0.05	100
15	0.22 ± 0.1	7.2 ± 0.3	0.40 ± 0.05	100
16	0.22 ± 0.1	7.7 ± 0.3	0.40 ± 0.05	100
18	0.22 ± 0.10	9.0 ± 0.3	0.45 ± 0.10	100
19.1	0.22 ± 0.10	10.0 ± 0.3	0.45 ± 0.10	100
22	0.25 ± 0.10	11.0 ± 0.3	0.45 ± 0.10	100
25.4	0.25 ± 0.10	12.5 ± 0.3	0.45 ± 0.10	50

**HEATSHRINKABLE  
SELF-EXTINGUISHING  
TUBING  
IN POLYOLEFIN  
"SERIES STP125-BS"  
THIN WALL  
SHRINK RATIO  
2÷1**

## General features

Series STP125-BS polyolefin tubing is a self-extinguishing heatshrinkable tubing which has excellent physical and electrical properties. It is ideal for general protective covering, cabling and insulation and thanks to the simplicity with which it shrinks it adapts very easily to the item being covered. In addition, thanks to the speed with which it shrinks it is particularly suitable when limited shrinking time and/or working time is needed.



## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	- 55 °C ÷ +125 °C	
• Flammability		Meets Standard UL224 VW-1
• Standard colours	Black other colours upon request	
• Packaging	on reels	
• Minimum shrinking temperature	> +90°C	
• Dielectric strength	≥15 KV/mm	
• Tensile strength	14 MPA	
• Tensile strength after ageing (7 days)	10 MPA	
• Elongation to break	400%	
• Elongation after heat ageing test	300 %	(168 hours at 158 °C)
• Heat shock	No dripping, slipping or cracking	(4 hours at 250 °C)
• Water absorption	0,2%	
• Longitudinal variation	± 5%	
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# STP125-F

(Shrink ratio 2÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING		AFTER FREE SHRINKING		Packaging in mt
Internal diameter in mm (D)	Wall thickness in mm (e)	Internal diameter in mm (d)	Wall thickness in mm (e)	
1.2	0.15 ± 0.05	0.6	0.28 ± 0.10	200
1.6	0.18 ± 0.05	0.8	0.32 ± 0.10	200
2.0	0.18 ± 0.05	1.0	0.35 ± 0.10	200
2.4	0.18 ± 0.05	1.2	0.38 ± 0.10	200
3.2	0.18 ± 0.05	1.4	0.40 ± 0.10	200
3.5	0.22 ± 0.05	1.6	0.42 ± 0.10	200
4.0	0.25 ± 0.05	2.0	0.45 ± 0.10	200
4.8	0.25 ± 0.05	2.4	0.55 ± 0.10	100
6.4	0.28 ± 0.05	3.2	0.55 ± 0.10	100
7.0	0.28 ± 0.05	3.5	0.55 ± 0.10	100
8.0	0.28 ± 0.05	4.0	0.60 ± 0.10	100
9.5	0.30 ± 0.08	4.5	0.60 ± 0.10	100
10.0	0.30 ± 0.08	5.0	0.60 ± 0.10	100
11.0	0.30 ± 0.08	5.5	0.60 ± 0.10	100
12.0	0.30 ± 0.08	6.0	0.60 ± 0.10	50
12.7	0.35 ± 0.10	6.3	0.65 ± 0.10	50
14.0	0.35 ± 0.10	7.0	0.65 ± 0.10	50
15.0	0.40 ± 0.12	7.5	0.70 ± 0.10	50
16.0	0.40 ± 0.12	8.0	0.70 ± 0.10	50
17.0	0.40 ± 0.12	8.5	0.70 ± 0.10	50
18.0	0.40 ± 0.15	9.0	0.80 ± 0.15	50
19.1	0.40 ± 0.15	9.6	0.80 ± 0.15	50
22.0	0.40 ± 0.15	11.0	0.80 ± 0.15	50
25.4	0.50 ± 0.15	12.5	0.90 ± 0.15	50
28.0	0.50 ± 0.15	14.0	0.90 ± 0.15	50
32.0	0.50 ± 0.15	15.0	0.95 ± 0.15	50
35.0	0.50 ± 0.15	16.0	1.00 ± 0.15	50
38.1	0.55 ± 0.15	20.0	1.00 ± 0.15	50
50.0	0.55 ± 0.15	25.0	1.00 ± 0.15	25
60.0	0.60 ± 0.15	30.0	1.30 ± 0.20	25
70.0	0.65 ± 0.15	35.0	1.30 ± 0.20	25
80.0	0.65 ± 0.15	40.0	1.46 ± 0.20	25
90.0	0.65 ± 0.15	45.0	1.46 ± 0.20	25
100.0	0.65 ± 0.20	50.0	1.46 ± 0.20	25
120.0	0.65 ± 0.20	60.0	1.56 ± 0.20	25
150.0	0.65 ± 0.20	75.0	1.56 ± 0.20	25
180.0	0.65 ± 0.30	91.0	1.56 ± 0.20	25

## General features

Series STP125-F polyolefin tubing is a self-extinguishing heatshrinkable tubing with excellent physical and electrical properties.

It is ideal for general protective covering, cabling and insulation and thanks to the simplicity with which it shrinks it adapts very easily to the item being covered.

**HEATSHRINKABLE  
SELF-EXTINGUISHING  
TUBING  
IN POLYOLEFIN**

**"SERIES STP125-F"**  
SHRINK RATIO 2÷1



## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	-55 °C ÷ +125 °C	
• Flammability		ACCORDING TO STANDARD UL 224 VW-1
• Standard colours	Black - White - Red - Yellow Blue - Green - Transparent	
• Packaging	On reels	
• Minimum shrinking temperature	> +90 °C	
• Dielectric strength	≥ 15 KV/mm	
• Tensile strength	15 MPa	ACCORDING TO STANDARD ISO37
• Tensile strength after ageing (7 days)	12 MPa	
• Elongation to break	450%	ACCORDING TO STANDARD ISO37
• Elongation after heat ageing test	400%	(168 hours at 158 °C)
• Heat shock	No dripping, slipping or cracking	(4 hours at 250 °C)
• Water absorption	0,2%	ACCORDING TO STANDARD ASTM D570
• Resistance to fluids		ACCORDING TO STANDARD ISO1817, ISO37 MIL-1-23053
• Longitudinal variation	± 5%	
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# HF HALOGEN FREE

(Shrink ratio 2÷1)



Halogen Free



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING		AFTER FREE SHRINKING		Packaging in mt
Internal diameter in mm (D)	Wall thickness in mm (e)	Internal diameter in mm (d)	Wall thickness in mm (e)	
1.2	0.15 ± 0.05	≤ 0.65	0.28 ± 0.10	200
1.6	0.18 ± 0.05	≤ 0.85	0.32 ± 0.10	200
2.0	0.18 ± 0.05	≤ 1.00	0.35 ± 0.10	200
2.4	0.18 ± 0.05	≤ 1.30	0.38 ± 0.10	200
3.2	0.18 ± 0.05	≤ 1.50	0.40 ± 0.10	200
3.5	0.22 ± 0.05	≤ 1.80	0.42 ± 0.10	200
4.0	0.25 ± 0.05	≤ 2.00	0.45 ± 0.10	200
4.8	0.25 ± 0.05	≤ 2.50	0.55 ± 0.10	100
6.4	0.28 ± 0.05	≤ 3.00	0.55 ± 0.10	100
7.0	0.28 ± 0.05	≤ 3.50	0.55 ± 0.10	100
8.0	0.28 ± 0.05	≤ 4.00	0.60 ± 0.10	100
9.5	0.30 ± 0.08	≤ 4.50	0.60 ± 0.10	100
10.0	0.30 ± 0.08	≤ 5.00	0.60 ± 0.10	100
11.0	0.30 ± 0.08	≤ 5.50	0.60 ± 0.10	100
12.0	0.30 ± 0.08	≤ 6.00	0.60 ± 0.10	100
12.7	0.35 ± 0.10	≤ 6.50	0.65 ± 0.10	100
14.0	0.35 ± 0.10	≤ 7.00	0.65 ± 0.10	100
15.0	0.40 ± 0.12	≤ 7.50	0.70 ± 0.10	100
16.0	0.40 ± 0.12	≤ 8.00	0.70 ± 0.10	100
17.0	0.40 ± 0.12	≤ 8.50	0.70 ± 0.10	100
18.0	0.40 ± 0.15	≤ 9.00	0.80 ± 0.15	100
19.1	0.40 ± 0.15	≤ 10.00	0.80 ± 0.15	100
22.0	0.40 ± 0.15	≤ 11.00	0.80 ± 0.15	100
25.4	0.55 ± 0.15	≤ 12.50	0.90 ± 0.15	50
28.0	0.55 ± 0.15	≤ 14.00	0.90 ± 0.15	50
32.0	0.55 ± 0.15	≤ 15.00	0.95 ± 0.15	50
35.0	0.55 ± 0.15	≤ 17.50	1.00 ± 0.15	50
38.1	0.55 ± 0.15	≤ 20.00	1.00 ± 0.15	50
50.8	0.55 ± 0.15	≤ 25.00	1.00 ± 0.15	25
60.0	0.60 ± 0.15	≤ 30.00	1.30 ± 0.20	25
70.0	0.65 ± 0.15	≤ 35.00	1.30 ± 0.20	25
80.0	0.70 ± 0.15	≤ 40.00	1.46 ± 0.20	25
90.0	0.70 ± 0.15	≤ 45.00	1.46 ± 0.20	25
100.0	0.70 ± 0.20	≤ 50.00	1.46 ± 0.20	25
120.0	0.70 ± 0.20	≤ 60.00	1.56 ± 0.20	15
150.0	0.70 ± 0.20	≤ 75.00	1.56 ± 0.20	15
180.0	0.70 ± 0.30	≤ 90.00	1.56 ± 0.20	15

**HEATSHRINKABLE  
SELF-EXTINGUISHING  
TUBING  
IN POLYOLEFIN  
"SERIES HF  
HALOGEN FREE"  
SHRINK RATIO 2÷1**

## General features

Series HF HALOGEN FREE polyolefin tubing is a self-extinguishing heatshrinkable tubing with excellent physical and electrical properties. It is ideal for general protective covering, cabling and insulation and thanks to the simplicity with which it shrinks it adapts very easily to the item being covered.

**RTE**<sup>®</sup>

## Technical features

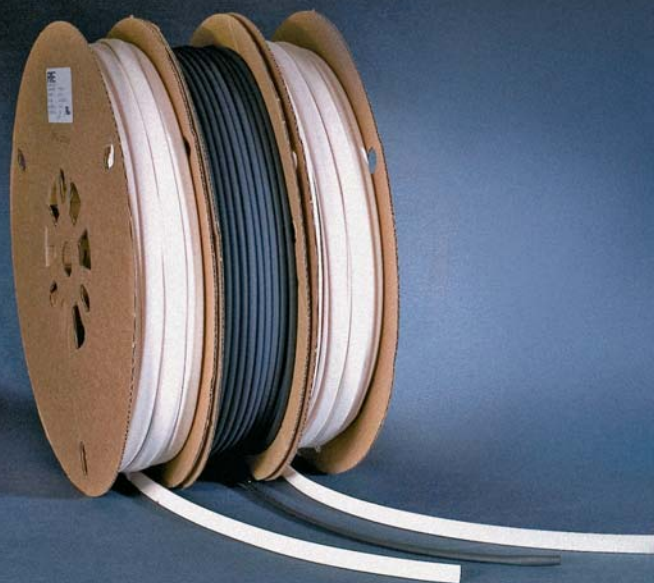
• Shrink ratio	2 ÷ 1	
• Operating temperature	-55 °C ÷ +125 °C	
• Flammability (except transparent)		ACCORDING TO STANDARD UL 224 VW-1
• Standard colours	Black - Red - Yellow - Blue - Green Transparent	
• Packing	On reels	
• Minimum shrinking temperature	> +70 °C	
• Dielectric strength	≥ 15 KV/mm	ACCORDING TO STANDARD IEC 243
• Tensile strength	10 MPA	ACCORDING TO STANDARD ASTM D2671
• Tensile strength after aging (7 days at 158 °C)	≥ 7 MPA	ACCORDING TO STANDARD UL224
• Elongation after aging (7 days at 158 °C)	≥ 100%	ACCORDING TO STANDARD UL224
• Heat shock (4 hours at 250 °C)	No dripping, slipping or cracking	ACCORDING TO STANDARD UL224
• Volume resistivity	≥ 10 <sup>14</sup> ohm/cm	ACCORDING TO STANDARD IEC 93
• Dielectric withstand	No breakdown	ACCORDING TO STANDARD UL224 600V
• Corrosion of bare copper (7 days at 158 °C)	Passed	ACCORDING TO STANDARD UL224
• Copper stability (7 days at 158 °C)	Passed	ACCORDING TO STANDARD UL224
• Halogen Free	Passed	ACCORDING TO STANDARD UNI EN 14582:2007
• Directive	2002/95/CE/RoHS	
• Longitudinal shrink ratio	± 8%	ACCORDING TO STANDARD UL224
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# HF-105 HALOGEN FREE

(Restringimento 2÷1)



Halogen Free



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING		AFTER FREE SHRINKING	
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	Packing in mt
1,2	0,6	0,41	200
1,6	0,8	0,43	200
2,4	1,2	0,51	200
3,2	1,6	0,51	200
4,8	2,4	0,51	200
6,4	3,2	0,65	150
9,5	4,8	0,65	150
12,7	6,4	0,65	100
19,1	9,5	0,77	50
25,4	12,7	0,89	50
38,1	19,1	1,00	50
50,8	25,4	1,10	50

**HEATSHRINKABLE  
TUBING  
IN POLYOLEFIN**  
**"SERIES HF-105"**  
**SHRINK RATIO 2÷1**

## General features

Series HF 105 polyolefin tubing is a heatshrinkable tubing with excellent physical and electrical properties.

It is ideal for general protective covering, cabling and insulation and thanks to the simplicity with which it shrinks it adapts very easily to the item being covered.

In accordance with Standard FMVSS 302 it is applied in the "Automotive" sector.

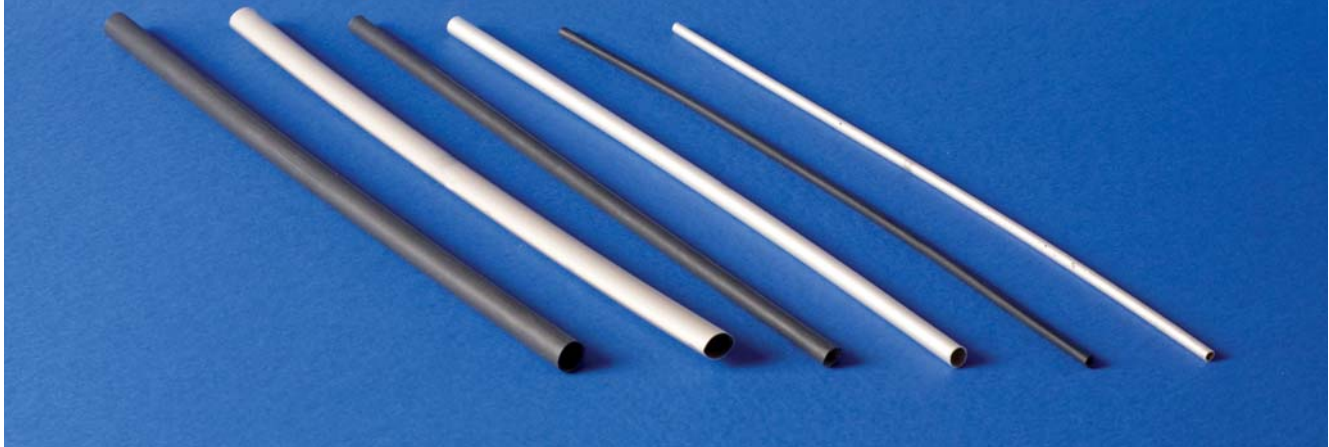
**RTE**<sup>®</sup>


## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	-30 °C ÷ +105 °C	
• Flammability		ACCORDING TO STANDARD FMVSS 302
• Standard colours	Black - White - Red Blue - Yellow/Green	Diameter 1,2 mm available only in colour Black
• Packing	On reels	
• Resistance to traction	10 N/mm <sup>2</sup>	ACCORDING TO STANDARD ASTM D 638
• Elongation at break	200%	ACCORDING TO STANDARD ASTM D 638
• Longitudinal change	-10% / +5%	ACCORDING TO STANDARD ASTM D 2671
• Water absorption	< 0,5%	ACCORDING TO STANDARD ASTM D 570
• Specific gravity	1.20 gr/cm <sup>3</sup>	ACCORDING TO STANDARD ASTM D 792
• Minimum shrinking temperature	> 90 °C	
• Heat shock (4 hours at 175 °C)	No dripping, cracking or slowing	ACCORDING TO STANDARD ASTM D 2671
• Elongation after aging (168 hours at 150 °C)	100%	ACCORDING TO STANDARD ASTM D 638
• Low temperature flexibility (at -30 °C)	No cracking	ACCORDING TO STANDARD ASTM D 2671 C
• Volumetric resistivity	Good	ACCORDING TO STANDARD AMS-DTL-23053/5
• Copper corrosion	No corrosion	ACCORDING TO STANDARD ASTM D 2671 B
• Volume resistance	10 <sup>14</sup> ohm.cm	ACCORDING TO STANDARD ASTM D 257
• Dielectric strength	20 KV/mm	ACCORDING TO STANDARD ASTM D 2671
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# STP135-EMI

(Shrink ratio 2÷1)



	BEFORE SHRINKING	AFTER FREE SHRINKING	Packaging mt/bars
	Internal diameter in mm (D)	Internal diameter in mm (d)	
	3.2	1.6	0,91
	6.4	3.2	0,91
	12.7	6.3	0,91
	25.4	12.5	0,91
	32	16	0,91
	38	19	0,91
	50.8	25.4	0,91

**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

**CONDUCTIVE  
HEATSHRINKABLE  
TUBING IN POLYOLEFIN  
"SERIES STP135-EMI"  
SHRINK RATIO 2÷1**

## General features

The Series STP135-EMI tubing is a heat shrinkable tubing in polyolefin with a highly-conductive internal lining. It is used in particular for electrical splicing and can also be used instead of traditional welding. The use of this type of tubing, in addition to assuring electrical continuity between splicing, for example between two electric cables, also guarantees EMI protection (electromagnetic interferences), around the splice itself.

## Technical features

• Shrink ratio	2 ÷ 1	
• Working temperature	-55 °C ÷ +135 °C	
• Shrink temperature	120 °C	
• Longitudinal variation	2%	
• Dielectric strength	600 V/mm	
• Conductivity internal lining	1 Ohm/2,54 cm	
• European directives	2002/95/CE RoHS	
• Norms	<ul style="list-style-type: none"> <li>• MIL Standard R46846</li> <li>• ASTM E-595</li> </ul>	
• Standard colours	Black - Gray	
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# TTP135

(Shrink ratio 2÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING	AFTER FREE SHRINKING		Packing in mt
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	
1.6	0.8	0.43	200
2.4	1.2	0.51	
3.2	1.6	0.51	
4.8	2.4	0.51	
6.4	3.2	0.64	
9.5	4.7	0.64	150
12.7	6.4	0.64	100
16.0	8.0	0.70	
19.1	9.5	0.77	
25.4	12.7	0.89	50
32.0	16.0	0.95	
38.1	19.1	1.02	
50.8	25.4	1.14	
76.2	38.1	1.27	25
101.6	50.8	1.40	

**HEATSHRINKABLE  
SELF-EXTINGUISHING  
TUBING IN POLYOLEFIN**  
**"SERIES TTP135"**  
**SHRINK RATIO 2÷1**

## General features

Series TTP135 polyolefin tubing is a self-extinguishing heatshrinkable tubing with excellent physical and electrical properties. It is suitable for all uses in which components have to be covered, and protected, for example in wiring and insulation, as it shrinks and adapts very well to the part to be covered.

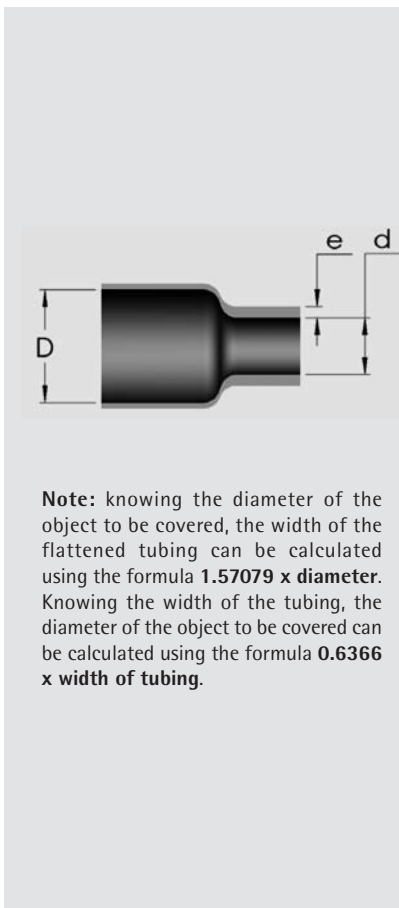
## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	-55 °C ÷ +135 °C	
• Self-extinguishing properties		IN ACCORDANCE WITH UL 224
• Standard colours	Black - White - Red Blue - Yellow	
• Packaging	On reels	
• Tensile strength	13 N/mm <sup>2</sup>	IN ACCORDANCE WITH ASTM D 638
• Elongation to break	300%	IN ACCORDANCE WITH ASTM D 638
• Longitudinal variation	±5%	IN ACCORDANCE WITH ASTM D 2671
• Water absorption	0,15%	IN ACCORDANCE WITH ASTM D 570
• Specific weight	1.45	IN ACCORDANCE WITH ASTM D 792
• Minimum shrink temperature	> +90 °C	
• Thermal shock (4 hours at 250 °C)	No damage	IN ACCORDANCE WITH ASTM D 2671
• Elongation after heat ageing test (168 hours at 150 °C)	250%	IN ACCORDANCE WITH ASTM D 638
• Low temperature flexibility (-55 °C)	No splitting	IN ACCORDANCE WITH ASTM D 2671 C
• Resistance to fungus	Good	IN ACCORDANCE WITH MIL-DTL-7444
• Resistance to fluids	Good	IN ACCORDANCE WITH MIL-DTL-23053/5
• Copper corrosion	No corrosion	IN ACCORDANCE WITH ASTM D 2671B
• Volume resistivity	10 <sup>14</sup> ohm.cm	IN ACCORDANCE WITH ASTM D 257
• Dielectric strength	20 kV/mm	IN ACCORDANCE WITH ASTM D 2671
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TTP135GV

## Yellow/Green

(Shrink Ratio 2÷1)



BEFORE SHRINKING		AFTER FREE SHRINKING	
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	Packaging in mt
1.6	0.8	0.43	200
2.4	1.2	0.51	200
3.2	1.6	0.51	200
4.8	2.4	0.51	200
6.4	3.2	0.64	150
9.5	4.7	0.64	150
12.7	6.4	0.64	100
19.1	9.5	0.77	50
25.4	12.7	0.89	50
38.1	19.1	1.02	25
50.8	25.4	1.14	25
76.2	38.1	1.27	25
101.6	50.8	1.40	25

**HEATSHRINKABLE SELF-EXTINGUISHING TUBING IN POLYOLEFIN YELLOW/GREEN**

**"SERIES TTP135GV"**

**SHRINK RATIO**  
2÷1

## General features

Series TTP135GV polyolefin tubing is a self-extinguishing heatshrinkable tubing which is used to identify the grounding.

## Technical features

• Shrink ratio	2 ÷ 1	
• Continuous operating temperature	- 55 °C ÷ +135 °C	
• Flammability		Meets Standard UL224 VW-1
• Standard colour	Yellow/Green	
• Packaging	on reels	
• Tensile strength	13 N/mm <sup>2</sup>	Meets Standard ASTM D 638
• Elongation to break	300%	Meets Standard ASTM D 638
• Longitudinal variation	± 5%	Meets Standard ASTM D 2671
• Water absorption	0,15%	Meets Standard ASTM D 570
• Specific weight	1.45	Meets Standard ASTM D 792
• Minimum shrinking temperature	> +90 °C	
• Heat shock (4 hours at 250 °C)	no damage	Meets Standard ASTM D 2671
• Elongation after heat ageing test (168 hours at 150°C)	250%	Meets Standard ASTM D 638
• Low flexibility temperature (-55°C)	No cracking	Meets Standard ASTM D 2671 C
• Resistance to mould	good	Meets Standard MIL-DTL-7444
• Resistance to fluids	good	Meets Standard MIL-DTL-23053/5
• Copper corrosion	none	Meets Standard ASTM D 2671 B
• Volume resistivity	10 <sup>14</sup> ohm.cm	Meets Standard ASTM D 257
• Dielectric strength	20 kV/mm	Meets Standard ASTM D 2671
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# KYN175

(Shrink ratio 2÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

Internal diameter in mm (D)	AFTER FREE SHRINKING		Packing
	Internal diameter in mm (d)	Wall thickness in mm (e)	
1.2	0.6	0.20 ± 0.3	200 mt
1.6	0.8	0.20 ± 0.3	200 mt
2.4	1.2	0.23 ± 0.4	200 mt
3.2	1.6	0.23 ± 0.4	100 mt
4.8	2.4	0.23 ± 0.4	100 mt
6.4	3.2	0.28 ± 0.5	100 mt
9.5	4.8	0.28 ± 0.5	In cut lengths of 1.22 mt
12.7	6.4	0.32 ± 0.5	In cut lengths of 1.22 mt
19.1	9.5	0.36 ± 0.7	In cut lengths of 1.22 mt
25.4	12.7	0.41 ± 0.7	In cut lengths of 1.22 mt

## General features

The heatshrinkable tubing in Kynar of the Series KYN 175 is self-extinguishing and has excellent physical and electrical properties. It is ideal for uses in which a high degree of protection is required, for protection against high temperatures, and is used especially for the protection of electrical cables and general covering.

**HEATSHRINKABLE  
TUBING IN  
SELF-EXTINGUISHING  
KYNAR 175 °C  
"SERIES KYN175"  
SHRINK RATIO 2÷1**

## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	-55 °C ÷ +175 °C	IN ACCORDANCE WITH IEC 216
• Self-extinguishing properties		IN ACCORDANCE WITH UL 224 VW-1
• Standard colour	Transparent	
• Packaging	On reels and in cut lengths	
• Minimum shrink temperature	> +175 °C	
• Dielectric strength	≥30 KV/mm	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	150%	IN ACCORDANCE WITH ASTM D 2671
• Elongation after heat ageing test (168 hours at 250 °C)	100 %	
• Thermal shock (1 hour at 300 °C)	No damage	
• Volume resistivity	10 <sup>13</sup> Ω/cm	IN ACCORDANCE WITH ASTM D 2671
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# STE ELASTOMER

Normal wall

# STE-BS ELASTOMER

Thin wall

(Resistant to diesel)

(Shrink ratio 2÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula **1.57079 x diameter**.  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula **0.6366 x width of tubing**.

	BEFORE SHRINKING	AFTER FREE SHRINKING		
	Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	Packaging in mt
STE NORMAL WALL	3.2	1.6	0.76	50
	4.8	2.4	0.85	50
	6.4	3.2	0.90	50
	9.5	4.8	1.02	50
	12.7	6.4	1.22	30
	19.1	9.5	1.45	30
	25.4	12.7	1.80	30
	38.1	19.1	2.40	15
	50.8	25.4	2.40	15
STE-BS THIN WALL	2.4	1.2	0.51	150
	3.2	1.6	0.51	150
	4.8	2.4	0.51	75
	6.4	3.2	0.64	75
	9.5	4.8	0.64	50
	12.7	6.4	0.64	30
	19.1	9.5	0.76	30
	25.4	12.7	0.90	30
	31.8	15.9	1.10	30
	38.1	19.1	1.20	30
	50.8	25.4	1.20	30
	63.5	30.0	1.20	30

**SELF-EXTINGUISHING  
HEATSHRINKABLE  
TUBING IN ELASTOMER**

**"SERIES STE"  
"SERIES STE-BS"**

**SHRINK RATIO 2÷1**

## General features

The elastomeric heatshrinkable tubing of the Series STE and Series STE-BS has excellent physical and electrical properties. It is ideal for general covering uses, cabling and insulation and is particularly suitable for protection against abrasions, high temperatures, oils and lubricants.

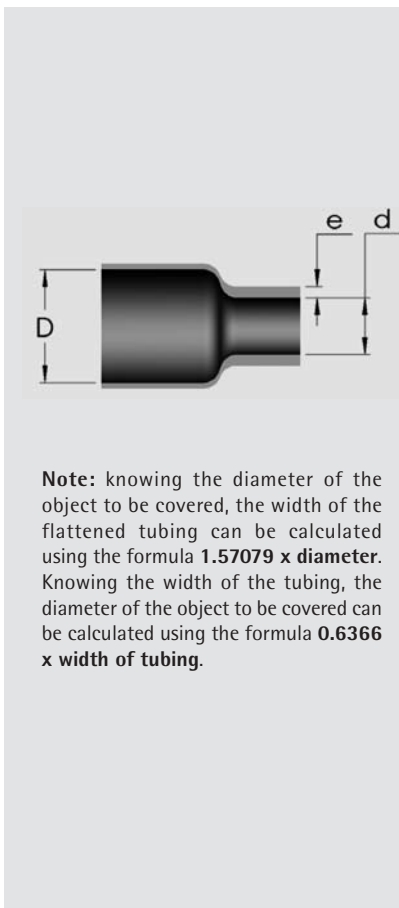
**RTE**<sup>®</sup>

## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	-65 °C ÷ +150 °C	
• Minimum shrink temperature	+175 °C	
• Resistance to traction	≥ 13 MPA	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	≥ 250%	IN ACCORDANCE WITH ASTM D 2671
• Heat ageing test Elongation to break	> 200%	IN ACCORDANCE WITH ASTM D 2671 (150 °C - 168 hours)
• Thermal shock (4 hours at 200 °C)	No damage	
• Flexibility (2% intersecting)	≤ 50 MPA	IN ACCORDANCE WITH ASTM D 882
• Flammability	Self-extinguishing in 15"	IN ACCORDANCE WITH ASTM D 2671
• Volume resistivity	≥ 10 <sup>9</sup> Ω cm	IN ACCORDANCE WITH ASTM D 876
• Standard colour	Black	
• Other colours	Not available	
• Resistance to fluids - Traction - Elongation	≥ 10 MPA ≥ 200%	24 hours (diesel 70 °C, hydraulic 70 °C, lubricant 100 °C) IN ACCORDANCE WITH ISO 37
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# STV VITON

(Shrink ratio 2÷1)



	BEFORE SHRINKING	AFTER FREE SHRINKING		
	Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	Packaging in mt
STV NORMAL WALL	2,4	1,2	$0,76 \pm 0,2$	50
	3,2	1,6	$0,76 \pm 0,2$	50
	4,8	2,4	$0,89 \pm 0,2$	50
	6,4	3,2	$0,89 \pm 0,2$	50
	9,5	4,8	$0,89 \pm 0,2$	50
	12,7	6,4	$0,89 \pm 0,2$	25
	19,1	9,5	$1,07 \pm 0,2$	25
	25,4	12,7	$1,25 \pm 0,2$	25
	38,1	19,1	$1,40 \pm 0,2$	25
	50,8	25,4	$1,65 \pm 0,2$	1,22

## General features

The heatshrinkable tubing in fluoroelastomer Series VITON STV has excellent physical and electrical properties. It is ideal for general covering uses, cabling and insulation and is particularly suitable for protection against abrasion, high temperatures, fuel, lubricating liquids and in general against particularly aggressive fluids and solvents.

**HEATSHRINKABLE  
TUBING IN  
FLUROELASTOMER  
"SERIES STV VITON"  
SHRINK RATIO 2÷1**

## Technical features

• Shrink ratio	2 ÷ 1	
• Operating temperature	-55 °C ÷ +200 °C	
• Self-extinguishing properties		ACCORDING TO STANDARD UL 224 VW-1
• Standard colour	Black	
• Packaging	On reels	
• Minimum shrink temperature	> +175 °C	
• Dielectric strength	≥ 7,9 KV/mm	ACCORDING TO STANDARD ASTM D 2671
• Thermal shock (4 hours at 300 °C)	No damage	
• Volume resistivity	≥ 10 <sup>14</sup> Ω.cm	ACCORDING TO STANDARD ASTM D 876
• Copper stability	Positive	ACCORDING TO STANDARD UL 224
• Copper corrosion	No corrosion	ACCORDING TO STANDARD UL 224
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# GTT125 – AUTOMOTIVE

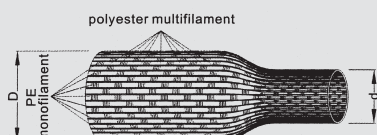
(Shrink ratio 2÷1)



Halogen Free



	BEFORE SHRINKING	AFTER FREE SHRINKING	
	Internal diameter in mm (D)	Internal diameter in mm (d)	Packing mt
	10	5	100
	12	6	
	20	10	
	25	12	
	30	15	
	34	17	
	40	20	
	50	25	
	60	30	



**WOVEN HEATSHRINKABLE  
SELF-EXTINGUISHING  
SLEEVING**

**"SERIES GTT125"**

**SHRINK RATIO  
2÷1**

## General features

The sleeving Series GTT125 is a heatshrinkable self-extinguishing sleeving made from multifilaments in polyester and modified polyolefin. The combination of these two components was devised in order to obtain a sleeving with the characteristics of a woven material, with good resistance to abrasion and greater acoustic absorption, together with the characteristics of polyolefin, which, being a heatshrinkable material, guarantees that the GTT125 sleeving adheres perfectly to the object to be protected. GTT125 sleeving is particularly suitable for protecting tubing in the automotive sector.

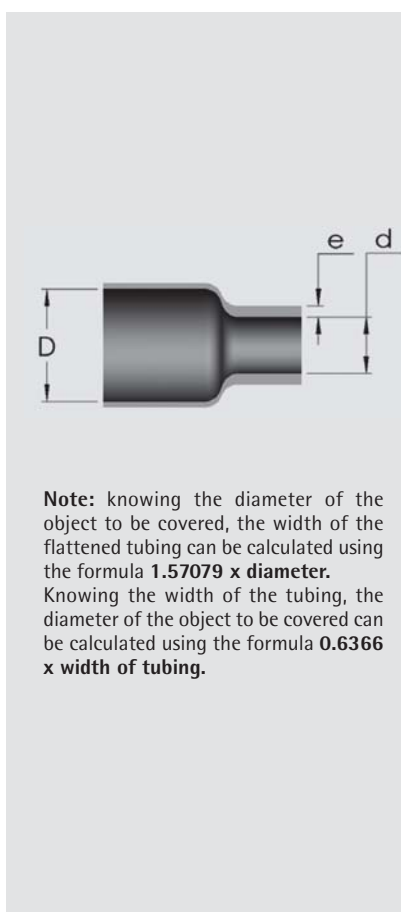
**RTE**<sup>®</sup>

## Technical features

• Shrink ratio	2 ÷ 1	
• Working temperature	-40 °C ÷ +125 °C	
• Inflammability	Self-extinguishing	
• Standard colour	Black	
• Packing	On reels	
• Minimum shrinking temperature	> +90 °C	
• Directives	2002/95/CE RoHS	
• Information regarding application	See chapter "Choosing heatshrinkable tubing and information regarding its application"	

# GTS

(Heatshrinkable in silicon)



BEFORE SHRINKING		AFTER SHRINKING	
Internal diameter in mm (D)	Internal diameter tolerances in mm	Internal diameter in mm (d)	Wall thickness in mm (e)
2 mm	2,2-3,0	0,8-1,3	0,3-0,7
3 mm	2,9-3,8	1,3-1,8	0,3-0,7
4 mm	4,0-5,6	1,7-2,3	0,3-0,7
5 mm	5,0-6,7	2,2-2,9	0,8-1,2
6 mm	6,2-8,0	2,7-3,5	0,8-1,2
8 mm	7,8-10,0	3,5-4,4	0,8-1,2
11 mm	10,0-13,0	5,0-6,2	1,2-1,8
16 mm	15,0-19,0	7,3-9,0	1,2-1,8
22 mm	20,0-25,0	10,2-12,5	1,7-2,3
28 mm	24,0-29,0	13,5-16,0	1,0-1,6
32 mm	29,0-35,0	15,0-19,0	1,7-2,3
43 mm	41,0-49,0	20,0-26,0	2,7-3,3
55 mm	50,0-60,0	27,0-34,0	2,7-3,3
66 mm	62,0-75,0	34,0-43,0	1,2-1,8
70 mm	67,0-84,0	37,0-49,0	2,5-3,5
80 mm	78,0-98,0	45,0-60,0	2,5-3,5
96 mm	95,0-118,0	55,0-70,0	2,5-3,5
128 mm	130,0-160,0	75,0-95,0	2,5-3,5
160 mm	158,0-193,0	90,0-115,0	2,5-3,5
192 mm	190,0-230,0	110,0-140,0	2,5-3,5
240 mm	235,0-285,0	135,0-170,0	2,5-3,5

**SELF-EXTINGUISHING  
HEATSHRINKABLE  
TUBING IN SILICON**

**"SERIES GTS"**

## General features

The heat shrinkable silicone GTS series is particularly used in those situations in which there is the need to protect components, electrical cables and mechanical components from high temperatures.

Besides possessing excellent electrical characteristics and a good resistance to chemicals agents its great flexibility makes it extremely easy to use. Being GTS heatshrinkable a very versatile product it is used in many fields, since it doesn't exist on the market, a heatshrink tubing able to meet the need of strength against high temperatures with maximum flexibility.

**RTE**<sup>®</sup>

## Technical features

• Shrink ratio	See chart	
• Operating temperature	-50 °C ÷ +200 °C	ACCORDING TO STANDARD UL 224
• Shrink temperature	From +80 °C	ACCORDING TO STANDARD UL 224
• Self-extinguishing	Self-extinguishing	
• Flame resistance	VW1	ACCORDING TO STANDARD UL 224
• % of retraction	≥ 47 %	INTERNAL METHOD
• Laceration load	≥ 14 KN/m	ACCORDING TO STANDARD ASTM D 624
• Longitudinal variation	-10 % Max	INTERNAL METHOD
• Density	1,2 ± 0,1 g/cm <sup>3</sup>	ACCORDING TO STANDARD ASTM D 1817
• Hardness	60 ÷ 75 Shore A	ACCORDING TO STANDARD ASTM D 2240
• Standard colour	Grey	
• Breaking load	≥ 4 MPa	ACCORDING TO STANDARD ASTM D 624
• Packing	On reels	
• Elongation to break	≥ 250 %	ACCORDING TO STANDARD ASTM D 412
• Volume resistivity	1x10 <sup>12</sup> Ω/cm	ACCORDING TO STANDARD ASTM D 149
• Dielectric strength	≥ 20 kV/mm	ACCORDING TO STANDARD ASTM D 149
• Dielectric constant	2,5 ÷ 3,5	ACCORDING TO STANDARD ASTM D 150
• Dissipation factor	0,001	ACCORDING TO STANDARD ASTM D 150
• ACCORDING TO STANDARD UNI EN 45545 2015		

# GTS-HP

(Heatshrinkable in silicon)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING		AFTER SHRINKING	
Internal diameter in mm (D)	Internal diameter tolerances in mm	Internal diameter in mm (d)	Wall thickness in mm (e)
2 mm	2,2-3,0	0,8-1,3	0,3-0,7
3 mm	2,9-3,8	1,3-1,8	0,3-0,7
4 mm	4,0-5,6	1,7-2,3	0,3-0,7
5 mm	5,0-6,7	2,2-2,9	0,8-1,2
6 mm	6,2-8,0	2,7-3,5	0,8-1,2
8 mm	7,8-10,0	3,5-4,4	0,8-1,2
11 mm	10,0-13,0	5,0-6,2	1,2-1,8
16 mm	15,0-19,0	7,3-9,0	1,2-1,8
22 mm	20,0-25,0	10,2-12,5	1,7-2,3
28 mm	24,0-29,0	13,5-16,0	1,0-1,6
32 mm	29,0-35,0	15,0-19,0	1,7-2,3
43 mm	41,0-49,0	20,0-26,0	2,7-3,3
55 mm	50,0-60,0	27,0-34,0	2,7-3,3
66 mm	62,0-75,0	34,0-43,0	1,2-1,8
70 mm	67,0-84,0	37,0-49,0	2,5-3,5
80 mm	78,0-98,0	45,0-60,0	2,5-3,5
96 mm	95,0-118,0	55,0-70,0	2,5-3,5
128 mm	130,0-160,0	75,0-95,0	2,5-3,5
160 mm	158,0-193,0	90,0-115,0	2,5-3,5
192 mm	190,0-230,0	110,0-140,0	2,5-3,5
240 mm	235,0-285,0	135,0-170,0	2,5-3,5

**SELF-EXTINGUISHING  
HEATSHRINKABLE  
TUBING IN SILICON**

**"SERIES GTS-HP"**

## General features

The heat shrinkable silicone GTS-HP series is particularly used in those situations in which there is the need to protect components, electrical cables and mechanical components from high temperatures.

Besides possessing excellent electrical characteristics and a good resistance to chemicals agents its great flexibility makes it extremely easy to use. Being GTS-HP heatshrinkable a very versatile product it is used in many fields, since it doesn't exist on the market, a heatshrink tubing able to meet the need of strength against high temperatures with maximum flexibility.

**RIE**

## Technical features

• Shrink ratio	See chart	
• Operating temperature	-50 °C ÷ +200 °C	ACCORDING TO STANDARD UL 224
• Shrink temperature	From +80 °C	ACCORDING TO STANDARD UL 224
• Self-extinguishing	Self-extinguishing	
• Flame resistance	VW1	ACCORDING TO STANDARD UL 224
• % of retraction	> 50 %	INTERNAL METHOD
• Laceration load	> 15 KN/m	ACCORDING TO STANDARD ASTM D 624
• Longitudinal variation	-5 % Max	INTERNAL METHOD
• Density	1,2 6 0,1 g/cm <sup>3</sup>	ACCORDING TO STANDARD ASTM D 1817
• Hardness	70 Shore A	ACCORDING TO STANDARD ASTM D 2240
• Standard colour	Grey	
• Breaking load	> 6 MPa	ACCORDING TO STANDARD ASTM D 624
• Packing	On reels	
• Elongation to break	> 350 %	ACCORDING TO STANDARD ASTM D 412
• Volume resistivity	2x10 <sup>12</sup> Ω/cm	ACCORDING TO STANDARD ASTM D 149
• Dielectric strength	> 25 kV/mm	ACCORDING TO STANDARD ASTM D 149
• Dielectric constant	3,2	ACCORDING TO STANDARD ASTM D 150
• Dissipation factor	0,001	ACCORDING TO STANDARD ASTM D 150
• ACCORDING TO STANDARD UNI EN 45545 2015		

# TTP31-UL

(Shrink ratio 3÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING	AFTER FREE SHRINKING		Packing in mt
	Internal diameter in mm (D)	Internal diameter in mm (d)	
1.5	0.5	0.45	200
3.0	1.0	0.55	200
4.8	1.6	0.60	150
6.0	2.0	0.70	100
9.0	3.0	0.70	100
12.0	4.0	0.70	50
18.0	6.0	0.80	50
24.0	8.0	1.00	50
39.0	13.0	1.15	25

**HEATSHRINKABLE  
SELF-EXTINGUISHING  
TUBING IN POLYOLEFIN**  
**"SERIES TTP31-UL"**  
SHRINK RATIO 3÷1

## General features

Series TTP31 polyolefin tubing is a self-extinguishing heatshrinkable tubing that has a high shrinking ratio. In addition to being particularly suitable for all uses in which irregular-shaped objects and components have to be covered and protected, it has a good resistance to common fluids and solvents.



## Technical features

• Shrink ratio	3 ÷ 1	
• Operating temperature	- 55 °C ÷ +135 °C	
• Flammability		ACCORDING TO STANDARD UL224 VW-1
• Standard colour	Black Other colours upon request	
• Packaging	On reels	
• Tensile strength	13 N/mm <sup>2</sup>	ACCORDING TO STANDARD ASTM D 638
• Elongation to break	300%	ACCORDING TO STANDARD ASTM D 638
• Longitudinal variation	≤ +1% - 10% maximum	ACCORDING TO STANDARD ASTM D 2671
• Water absorption	≤ 0.15%	ACCORDING TO STANDARD ASTM D 570
• Specific weight	1.45 g/cm <sup>3</sup>	ACCORDING TO STANDARD ASTM D 792
• Minimum shrinking temperature	> +90 °C	
• Heat shock (4 hours at 250 °C)	No damage	ACCORDING TO STANDARD ASTM D 2671
• Elongation after heat ageing test (168 hours at 150 °C)	200%	ACCORDING TO STANDARD ASTM D 638
• Low flexibility temperature (-55 °C)	No cracking	ACCORDING TO STANDARD ASTM D 2671 C
• Resistance to mould	Good	ACCORDING TO STANDARD MIL-DTL-7444
• Resistance to fluids	Good	ACCORDING TO STANDARD MIL-DTL-23053/5
• Copper corrosion	None	ACCORDING TO STANDARD ASTM D 2671 B
• Volume resistivity	10 <sup>14</sup> ohm.cm	ACCORDING TO STANDARD ASTM D 257
• Dielectric strength	20 kV/mm	ACCORDING TO STANDARD ASTM D 2671
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# T3155 – AUTOMOTIVE

(Shrink ratio 3÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .

Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING		AFTER FREE SHRINKING	
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	Packaging in mt
1.6	0.5	0.45	200
3.0	1.0	0.55	200
4.8	1.5	0.60	100
6.4	2.0	0.65	100
9.5	3.0	0.75	100
12.7	4.0	0.80	50
19.1	6.0	0.90	50
25.4	8.0	1.00	50
39.0	13.0	1.25	50

**HEATSHRINKABLE  
TUBING IN  
POLYOLEFIN**  
**"SERIES T3155"**  
**SHRINK RATIO 3÷1**  
**AUTOMOTIVE**

## General features

The T3155 tubing is a flexible heatshrinkable tubing with a high shrink ratio which makes it suitable for protecting particularly irregular objects. Ideal for use in all applications in which a high degree of protection is needed, T3155 tubing is especially suitable for use in the "Automotive" sector.

## Technical features

• Shrink ratio	3 ÷ 1	
• Operating temperature	-55 °C ÷ +125 °C	IN ACCORDANCE WITH UL 224
• Self-extinguishing properties	VW-1	IN ACCORDANCE WITH VW-1
• Standard colours	Black - Red - Blue - Yellow Green - White Other colours upon request	
• Packaging	On reels	
• Minimum shrink temperature	> +100 °C	
• Elongation after heat ageing test (168 hours at 158 °C)	300%	
• Tensile strength	> 14 MPa	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	400%	IN ACCORDANCE WITH ASTM D 2671
• Longitudinal variation	0 ÷ -10%	IN ACCORDANCE WITH UL 224
• Eccentricity	< 30%	IN ACCORDANCE WITH ASTM D 2671
• Stability to copper	Positive	IN ACCORDANCE WITH ASTM D 2671
• Resistance to fluids (24 hours at 23 °C in diesel fuel and lubricating oil)	Break resistance 7 MPa Elongation 300%	IN ACCORDANCE WITH MIL-DTL-23053/4
• Volume resistance	10 <sup>14</sup> ohm.cm	IN ACCORDANCE WITH IEC 93
• Dielectric strength	20 kV/mm	IN ACCORDANCE WITH IEC 243
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# PTFE-AWG

High temperature  
(Shrink ratio 4÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

Minimum internal diameter in mm (D)	AFTER FREE SHRINKING		Packing on reels
	Internal diameter in mm (d)	Wall thickness in mm (e)	
1,98	0,64	0,22 ± 0,05	1,22 mt
3,18	0,94	0,25 ± 0,05	1,22 mt
4,75	1,27	0,30 ± 0,08	1,22 mt
6,35	1,60	0,30 ± 0,08	1,22 mt
7,92	2,00	0,30 ± 0,08	1,22 mt
9,52	2,44	0,30 ± 0,08	1,22 mt
11,13	2,85	0,30 ± 0,08	1,22 mt
12,70	3,66	0,38 ± 0,10	1,22 mt
14,27	3,94	0,38 ± 0,10	1,22 mt
15,88	4,52	0,38 ± 0,10	1,22 mt
17,45	5,03	0,38 ± 0,10	1,22 mt
19,05	5,70	0,38 ± 0,10	1,22 mt
22,23	6,20	0,38 ± 0,10	1,22 mt
25,40	7,06	0,38 ± 0,10	1,22 mt
31,75	8,82	0,38 ± 0,10	1,22 mt
38,10	10,20	0,38 ± 0,10	1,22 mt
44,45	11,43	0,38 ± 0,10	1,22 mt
50,80	13,20	0,50 ± 0,13	1,22 mt
57,15	14,85	0,50 ± 0,13	1,22 mt
63,50	16,50	0,50 ± 0,13	1,22 mt
69,85	18,00	0,50 ± 0,13	1,22 mt

## General features

The heatshrinkable tubing of the Series PTFE-AWG has excellent physical, electrical and thermal properties. It is ideal for general covering uses, cabling and insulation and is particularly suitable for protecting applications in extreme environmental conditions.

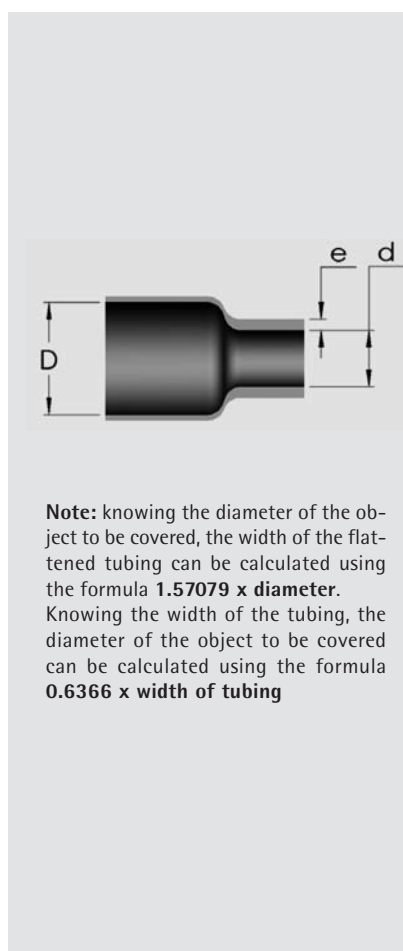
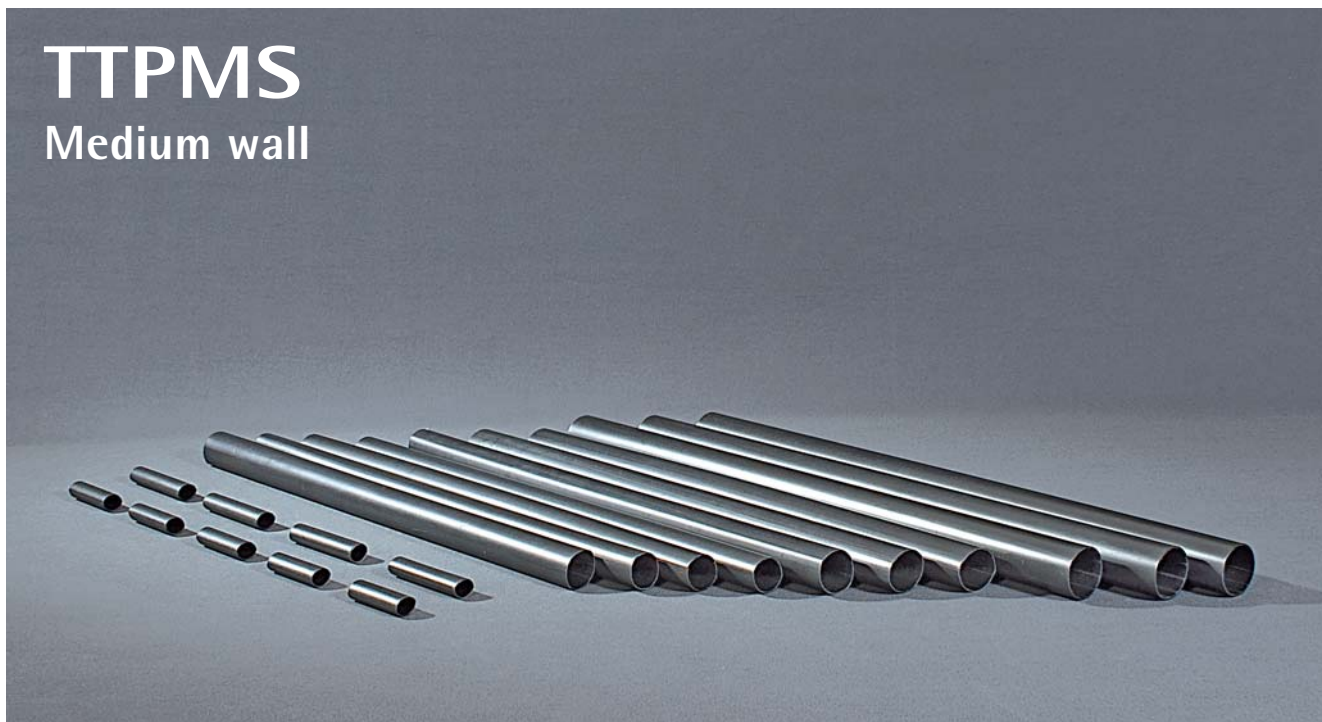
**HEATSHRINKABLE  
TUBING IN  
FLUOROPOLYMER**  
**"SERIE PTFE-AWG"**  
SHRINK RATIO 4÷1

## Technical features

• Shrink ratio	4 ÷ 1	
• Operating temperature	-70 °C ÷ +260 °C	
• Minimum shrinking temperature	> +330 °C	
• Melting temperature	327 °C	ACCORDING TO STANDARD ASTM D 2116
• Flammability	V0	ACCORDING TO STANDARD UL 94-V0
• Oxygenation index	> 95%	
• Resistance to traction (at 23 °C)	29 ÷ 39 N/mm <sup>2</sup>	ACCORDING TO STANDARD DIN 53455
• Elongation to break (at 23 °C)	200 ÷ 500%	ACCORDING TO STANDARD DIN 53455
• Longitudinal variation	± 10%	
• Density	2.14 ÷ 2.19 g/cm <sup>3</sup>	ACCORDING TO STANDARD DIN 53479
• Dielectric strength	40 ÷ 80 kV/mm	ACCORDING TO STANDARD DIN 53481
• Volume resistivity	≥ 10 <sup>18</sup> Ω cm	ACCORDING TO STANDARD DIN 53482
• Water absorption	0.01%	ACCORDING TO STANDARD DIN 53495
• Standard colour	Transparent	
• Thermal conductivity (at 23 °C)	0.23 W/Km	ACCORDING TO STANDARD DIN 52612
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TTPMS

## Medium wall



BEFORE SHRINKING	AFTER FREE SHRINKING		Packaging in lengths
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	
8	2	1.7	1 mt./1,5 mt.
12	3	1.8	1 mt./1,5 mt.
16	5	2.0	1 mt./1,5 mt.
22	6	2.2	1 mt./1,5 mt.
28	6	2.5	1 mt./1,5 mt.
33	8	2.5	1 mt./1,5 mt.
40	12	2.5	1 mt./1,5 mt.
55	16	2.7	1 mt./1,5 mt.
65	19	2.8	1 mt./1,5 mt.
75	22	3.0	1 mt./1,5 mt.
85	25	3.0	1 mt./1,5 mt.
95	25	3.0	1 mt./1,5 mt.
115	34	3.3	1 mt./1,5 mt.
140	42	3.5	1 mt./1,5 mt.
160	50	3.5	1 mt./1,5 mt.
180	58	3.5	1 mt./1,5 mt.
205	65	3.5	1 mt./1,5 mt.
235	65	3.7	1 mt./1,5 mt.
265	75	4.0	1 mt./1,5 mt.
300	75	4.0	1 mt./1,5 mt.
350	100	4.3	1 mt./1,5 mt.
380	100	4.3	1 mt./1,22 mt.
410	150	4.3	1 mt./1,22 mt.

## General features

The Series TTPMS medium wall polyolefin tubing is a heatshrinkable tubing with a high shrink ratio. In addition to being particularly suitable for all uses in which it is necessary to cover and protect irregular-shaped objects and components, it has a good resistance to common fluids and solvents. In addition, the thickness of the wall after shrinking makes this tubing especially suited for uses in which high mechanical protection is required.

**HEATSHRINKABLE  
TUBING IN  
POLYOLEFIN  
MEDIUM WALL  
"SERIES TTPMS"**

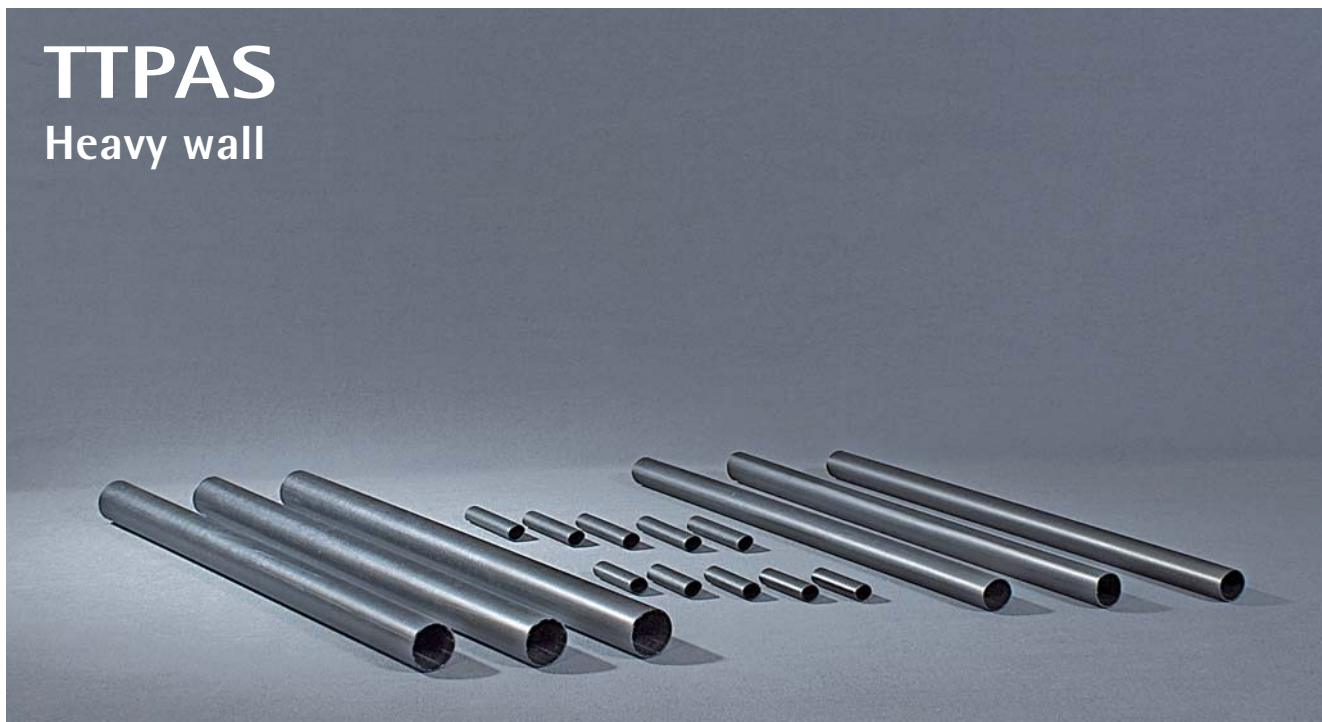
**RTE**®

## Technical features

• Shrink ratio	See table	
• Operating temperature	-55 °C ÷ +110 °C	In accordance with UL 224
• Minimum shrink temperature	+120 °C	
• Tensile strength	≥ 14 MPa	IN ACCORDANCE WITH ASTM D 2671
• Elongation	≥ 400%	IN ACCORDANCE WITH ASTM D 2671
• Heat ageing test Tensile strength Elongation to break	> 12 MPa > 300 %	IN ACCORDANCE WITH ASTM D 2671/150°C, 168 HOURS
• Density	1.05g/cm <sup>3</sup>	IN ACCORDANCE WITH ASTM D 792
• Longitudinal shrinkage/ change	0 ÷ - 10%	IN ACCORDANCE WITH UL224
• Dielectric strength	≥ 18 kV/mm	IN ACCORDANCE WITH IEC 243
• Volume Resistance	≥ 10 <sup>13</sup> ohm cm	IN ACCORDANCE WITH IEC 93
• Stability to copper	good	IN ACCORDANCE WITH ASTM D 2671
• Water absorption	< 0,15%	IN ACCORDANCE WITH ISO 62 / 23°C, 14 DAYS
• Standard colours	black	
• Altri colori	not available	
• Other colours	Length of 1,000 mm 1,200 mm - 1,500 mm Other lengths upon request	
• Standard Packaging	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TTPAS

## Heavy wall



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula **1.57079 x diameter**.  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula **0.6366 x width of tubing**

BEFORE SHRINKING	AFTER FREE SHRINKING		Packaging in lengths
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	
9	3	1.8	1 mt./1,5 mt.
15	4	2.4	1 mt./1,5 mt.
22	6	2.7	1 mt./1,5 mt.
33	8	3.2	1 mt./1,5 mt.
40	12	4.1	1 mt./1,5 mt.
45	12	4.1	1 mt./1,5 mt.
55	16	4.1	1 mt./1,5 mt.
75	22	4.1	1 mt./1,5 mt.
85	25	4.3	1 mt./1,5 mt.
95	30	4.3	1 mt./1,5 mt.
105	30	4.3	1 mt./1,5 mt.
115	34	4.3	1 mt./1,5 mt.
130	36	4.3	1 mt./1,5 mt.
160	50	4.3	1 mt./1,5 mt.
180	50	4.3	1 mt./1,5 mt.
200	60	4.3	1 mt./1,5 mt.
235	65	4.5	1 mt./1,5 mt.
265	75	4.5	1 mt./1,5 mt.
300	85	4.5	1 mt./1,5 mt.
350	100	4.5	1 mt./1,5 mt.

## General features

The Series TTPAS heavy wall polyolefin tubing is a heatshrinkable tubing with a high shrink ratio. In addition to being particularly suitable for all uses in which it is necessary to cover and protect irregular-shaped objects and components, it has a good resistance to common fluids and solvents.

After shrinking, the heavy wall makes this tubing especially suited for uses in which high mechanical protection is required.

**HEATSHRINKABLE  
TUBING IN  
POLYOLEFIN  
"SERIES TTPAS"**

**RTE**<sup>®</sup>

## Technical features

• Shrink ratio	See table	
• Operating temperature	-55 °C ÷ +110 °C	IN ACCORDANCE WITH UL 224
• Minimum shrink temperature	+120 °C	
• Tensile strength	≥ 14 MPa	IN ACCORDANCE WITH ASTM D 2671
• Elongation	≥ 400%	IN ACCORDANCE WITH ASTM D 2671
• Heat ageing test Tensile strength Elongation to break	> 12 MPa > 300 %	IN ACCORDANCE WITH ASTM D 2671/150°C, 168 HOURS
• Density	1.05g/cm <sup>3</sup>	IN ACCORDANCE WITH ASTM D 792
• Shrinkage/Longitudinal change	0 ÷ - 10%	IN ACCORDANCE WITH UL224
• Dielectric strength	≥ 18 kV/mm	IN ACCORDANCE WITH IEC 243
• Volume Resistance	≥ 10 <sup>13</sup> ohm cm	IN ACCORDANCE WITH IEC 93
• Stability to copper	good	IN ACCORDANCE WITH ASTM D 2671
• Water absorption	< 0,15%	IN ACCORDANCE WITH ISO 62 / 23°C, 14 DAYS
• Standard colours	black	
• Other colours	not available	
• Standard Packaging	Length of 1,000 mm 1,200 mm - 1,500 mm Other lengths upon request	
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TTPA31

With internal adhesive

(Shrink ratio 3÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

Internal diameter in mm (D)	AFTER FREE SHRINKING		Packaging mt.
	Internal diameter in mm (d)	Wall thickness parete in mm (e)	
3.0	1.0	1.00	200
4.8	1.6	1.00	200
6.0	2.0	1.10	150
9.0	3.0	1.30	150
12.0	4.0	1.50	100
18.0	6.0	2.00	50
24.0	8.0	2.50	50
39.0	13.0	2.50	50

**HEATSHRINKABLE  
TUBING IN POLYOLEFIN**

**"SERIES TTPA31"**

**SHRINK RATIO  
3÷1**

**WITH INTERNAL  
ADHESIVE**

## General features

Series TTPA31 is flexible heatshrinkable tubing with internal adhesive. The internal surface of the tubing is coated with a heat-melt adhesive which melts around the object during shrinking, in order to protect it from any infiltration of water or humidity. The high shrink ratio makes this tubing suitable for protecting particularly irregular objects due to its high dimensional differences. It is ideal for all applications in which a high degree of protection is necessary.



## Technical features

• Shrink ratio	3 ÷ 1	
• Operating temperature	-55 °C ÷ +110 °C	
• Flammability (only the external wall)		Meets Standard ASTM D 2671 B
• Standard colour	Black other colours upon request	
• Packaging	on reels	
• Minimum shrinking temperature	> +110 °C	
• Heat shock (4 hours at 250°C)	No damage	Meets Standard ASTM D 2671
• Elongation after heat ageing test (168 hours at 175°C)	250%	Meets Standard ASTM D 638
• Low flexibility temperature (-55°C)	No cracking	Meets Standard ASTM D 2671 C
• Tensile strength	11 N/mm <sup>2</sup>	Meets Standard ASTM D 638
• Elongation to break	300%	Meets Standard ASTM D 638
• Longitudinal variation	≤+1% ≤-15% maximum	Meets Standard ASTM D 2671
• Water absorption	≤ 0,5%	Meets Standard ASTM D 570
• Specific weight	1.45 G/cm <sup>3</sup>	Meets Standard ASTM D 792
• Resistance to mould	good	Meets Standard MIL-DTL-7444
• Resistance to fluids	good	Meets Standard MIL-DTL-23053/4
• Copper corrosion	none	Meets Standard ASTM D 2671 B
• Volume resistivity	10 <sup>14</sup> ohm.cm	Meets Standard ASTM D 257
• Dielectric strength	≥ 15 kV/mm	Meets Standard ASTM D 2671
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# TA3155 – AUTOMOTIVE

With internal adhesive  
(Shrink ratio 3÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .

Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING	AFTER FREE SHRINKING		
	Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)
3.0	1.0	1.00	150
4.8	1.6	1.00	75
6.0	2.0	1.00	75
9.0	3.0	1.40	75
12.0	4.0	1.60	50
19.0	6.0	2.15	25
24.0	8.0	2.40	25
30.0	10.0	2.40	25
39.0	13.0	2.40	25
50.0	19.0	2.40	25

**HEATSHRINKABLE  
TUBING IN POLYOLEFIN**

**"SERIES TA3155"**

**SHRINK RATIO 3÷1  
WITH INTERNAL ADHESIVE  
AUTOMOTIVE**

## General features

The TA3155 tubing is a flexible heatshrinkable tubing with internal adhesive. The internal surface is coated with a hot-melt adhesive which melts around the object during the shrinking process, so as to protect it from any infiltration of water or humidity.

The high shrink ratio makes it suitable for protecting particularly irregular objects. Ideal for use in all applications in which a high degree of protection is needed, TA3155 tubing is especially suitable for use in the "Automotive" sector.

**RTE**<sup>®</sup>

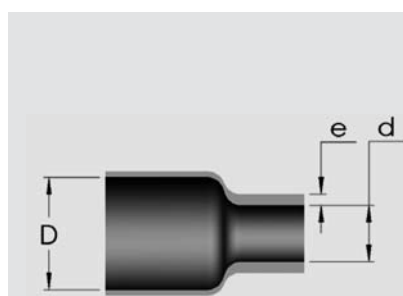
## Technical features

• Shrink ratio	3 ÷ 1	
• Operating temperature	- 55 °C ÷ +125 °C	
• Self-extinguishing properties (only external wall)	Within 30 seconds	IN ACCORDANCE WITH SEA-AMS-DTL 23053/4
• Standard colours	Black Other colours upon request	
• Packaging	On reels	
• Minimum shrink temperature	> +100 °C	
• Thermal shock (4 hours at 250 °C)	No damage	
• Elongation after heat ageing test (168 hours at 158 °C)	150%	
• Cold bend test	No splitting	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	300%	IN ACCORDANCE WITH ASTM D 2671
• Longitudinal variation	0 ÷ -10%	IN ACCORDANCE WITH UL 224
• Water absorption	≤ 0,5%	IN ACCORDANCE WITH ASTM D 570
• Adhesion to aluminium	60 N/25 mm	IN ACCORDANCE WITH ASTM D 2671
• Resistance to fluids (24 hours at 23 °C in diesel fuel and lubricating oil)	Break resistance 7 MPA elongation 300%	IN ACCORDANCE WITH MIL-DTL-23053/4
• Volume resistance	10 <sup>14</sup> ohm.cm	IN ACCORDANCE WITH ASTM D 257
• Dielectric strength	20 kV/mm	IN ACCORDANCE WITH ASTM D 150
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TTPA41

With internal adhesive

(Shrink ratio 4÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

	BEFORE SHRINKING		AFTER FREE SHRINKING	
	Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	Packaging mt.
	4.0	1.0	1.02	200
	8.0	2.0	1.02	150
	12.0	3.0	1.30	100
	16.0	4.0	1.78	50
	24.0	6.0	2.10	50
	32.0	8.0	2.50	50
	52.0	13.0	2.50	50

HEATSHRINKABLE  
TUBING IN POLYOLEFIN

**"SERIES TTPA41"**

SHRINK RATIO  
4÷1

WITH INTERNAL  
ADHESIVE

## General features

Series TTPA41 polyolefin tubing is heatshrinkable tubing with internal adhesive. The internal surface of the tubing is coated with a heat-melt adhesive which melts around the object during shrinking, in order to protect it from any infiltration of water or humidity. The high shrink ratio makes this tubing suitable for protecting particularly irregular objects due to its high dimensional differences. It is ideal for all applications in which a high degree of protection is necessary.



## Technical features

• Shrink ratio	4 ÷ 1	
• Operating temperature	-55 °C ÷ +110 °C	
• Flammability (only the external wall)		Meets Standard ASTM D 2671 B
• Standard colour	Black other colours upon request	
• Tensile strength	11 N/mm <sup>2</sup>	Meets Standard ASTM D 638
• Elongation to break	300%	Meets Standard ASTM D 638
• Longitudinal variation	≤+1% ≤-10% maximum	Meets Standard ASTM D 2671
• Water absorption	≤0,5%	Meets Standard ASTM D 570
• Specific weight	1.45 G/cm <sup>3</sup>	Meets Standard ASTM D 792
• Minimum shrinking temperature	> +110 °C	
• Heat shock (4 hours at 250°C)	No damage	Meets Standard ASTM D 2671
• Elongation after heat ageing test (168 hours at 150°C)	250%	Meets Standard ASTM D 638
• Low flexibility temperature (-55°C)	No cracking	Meets Standard ASTM D 2671 C
• Resistance to mould	good	Meets Standard MIL-DTL-7444
• Resistance to fluids	good	Meets Standard MIL-DTL-23053/4
• Copper corrosion	none	Meets Standard ASTM D 2671 B
• Volume resistivity	10 <sup>14</sup> ohm.cm	Meets Standard ASTM D 257
• Dielectric strength	≥ 15 kV/mm	Meets Standard ASTM D 2671
• Information regarding application	See chapter "Choice of heatshrinkable tubing and information regarding its application"	

# TA4155 – AUTOMOTIVE

With internal adhesive

(Shrink ratio 4÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING	AFTER FREE SHRINKING		Packing in mt
	Minimum internal diameter in mm (D)	Internal diameter in mm (d)	
4.0	1.0	1.00	150
6.0	1.5	1.00	75
8.0	2.0	1.00	75
12.0	3.0	1.40	50
16.0	4.0	1.60	25
24.0	6.0	2.15	25
32.0	8.0	2.40	25
52.0	13.0	2.40	1 mt cut lengths

**HEATSHRINKABLE TUBING IN POLYOLEFIN**  
**"SERIES TA4155"**  
**SHRINK RATIO 4÷1**  
**WITH INTERNAL ADHESIVE AUTOMOTIVE**

## General features

The TA4155 tubing is a flexible heatshrinkable tubing with internal adhesive. The internal surface is coated with a hot-melt adhesive which melts around the object during the shrinking process, so as to protect it from any infiltration of water or humidity. The high shrink ratio makes it suitable for protecting particularly irregular objects. Ideal for use in all applications in which a high degree of protection is needed, TA4155 tubing is especially suitable for use in the "Automotive" sector.

**RTE**<sup>®</sup>

## Technical features

• Shrink ratio	4 ÷ 1	
• Operating temperature (only external wall)	-55 °C ÷ +125 °C	
• Self-extinguishing properties (only external wall)	Within 30 seconds	ACCORDING TO STANDARD SEA-AMS-DTL-23053/4
• Standard colours	Black Other colours upon request	
• Packing	On reels	
• Minimum shrink temperature	> +100 °C	
• Thermal shock (4 hours at 250 °C)	No damage	
• Elongation after heat ageing test (168 hours at 158 °C)	150%	
• Cold bend test	No splitting	ACCORDING TO STANDARD ASTM D 2671
• Elongation to break	300%	ACCORDING TO STANDARD ASTM D 2671
• Longitudinal variation	0 ÷ -10%	ACCORDING TO STANDARD UL 224
• Water absorption	≤ 0,5%	ACCORDING TO STANDARD ASTM D 570
• Adhesion to aluminium	60 N / 25 mm	ACCORDING TO STANDARD ASTM D 2671
• Resistance to fluids (24 hours at 23 °C in diesel fuel and lubricating oil)	Break resistance 7 MPa Elongation 300%	ACCORDING TO STANDARD MIL-DTL-23053/4
• Volume resistance	10 <sup>14</sup> ohm.cm	ACCORDING TO STANDARD ASTM D 257
• Dielectric strength	Does not discharge (AC 2500V / 60 seconds)	ACCORDING TO STANDARD ASTM D 2671
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TA61

With internal adhesive  
(Shrink ratio 6÷1)



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula **1.57079 x diameter**.  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula **0.6366 x width of tubing**.

BEFORE SHRINKING	AFTER FREE SHRINKING		Packaging in cut lengths
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	
19.0	3.2	3.2	1 mt./1,22 mt.
33.0	5.5	3.4	1 mt./1,22 mt.
44.4	7.4	3.6	1 mt./1,22 mt.
50.8	8.3	4.3	1 mt./1,22 mt.
69.8	11.7	4.8	1 mt./1,22 mt.
88.9	17.1	4.8	1 mt./1,22 mt.
119.4	22.9	4.8	1 mt./1,22 mt.
235.0	40.0	4.8	1 mt./1,22 mt.

**HEATSHRINKABLE  
TUBING IN POLYOLEFIN  
"SERIES TA61"  
SHRINK RATIO 6÷1  
WITH INTERNAL  
ADHESIVE**

## General features

The TA61 tubing is a flexible heatshrinkable tubing with internal adhesive. The internal surface is coated with a hot-melt adhesive which melts around the object during the shrinking process, so as to protect it from any infiltration of water or humidity. The high shrink ratio makes it suitable for protecting particularly irregular objects. Ideal for use in all applications in which a high degree of protection is needed.

**RTE**<sup>®</sup>

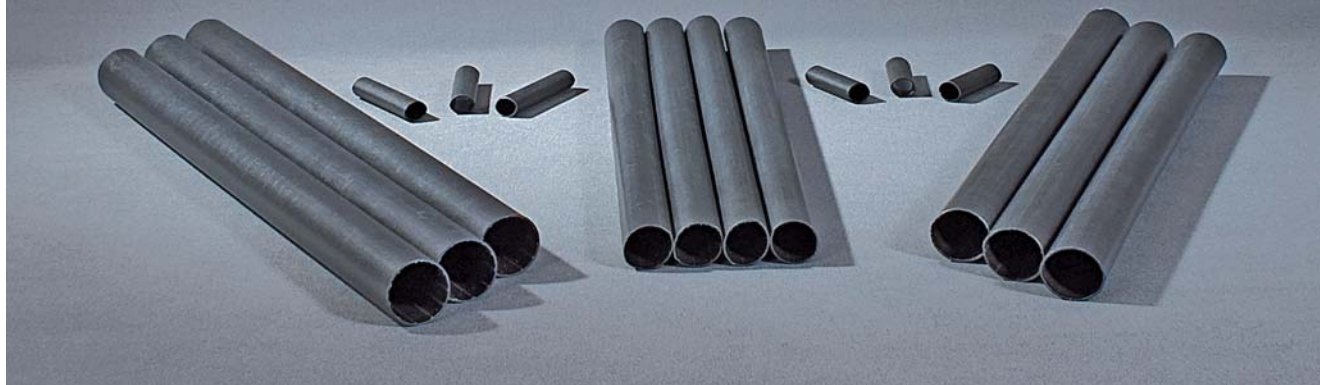
## Technical features

• Shrink ratio	6 ÷ 1	
• Operating temperature	-55 °C ÷ +110 °C	
• Standard colour	Nero	
• Packaging	In cut lengths	
• Minimum shrink temperature	> +120 °C	
• Thermal shock (4 hours at 250 °C)	No damage	
• Elongation after heat ageing test (168 hours at 150 °C)	300%	IN ACCORDANCE WITH ASTM D 2671 (150 °C - 168 hours)
• Tensile strength (168 hours at 150 °C)	> 12 MPA	IN ACCORDANCE WITH ASTM D 2671 (150 °C - 168 hours)
• Elongation to break	400%	IN ACCORDANCE WITH ASTM D 2671
• Tensile strength	≥ 14 MPA	IN ACCORDANCE WITH ASTM D 2671
• Longitudinal variation	0 ÷ -10%	IN ACCORDANCE WITH UL 224
• Water absorption	≤ 0,15%	IN ACCORDANCE WITH ISO 62 (23 °C - 14 days)
• Resistance to abrasion	4 N/cm	IN ACCORDANCE WITH IEC 243
• Resistance to fungus and decay	Passed	IN ACCORDANCE WITH ISO 846
• Volume resistivity	10 <sup>13</sup> ohm.cm	IN ACCORDANCE WITH IEC 93
• Dielectric strength	≥ 18 kV/mm	IN ACCORDANCE WITH IEC 243
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TTPAMS

Medium wall

With internal adhesive



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$

BEFORE SHRINKING	AFTER FREE SHRINKING		Packaging in lengths
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	
8	2	1.7	1 mt./1,5 mt.
12	3	1.8	1 mt./1,5 mt.
16	5	2.0	1 mt./1,5 mt.
22	6	2.2	1 mt./1,5 mt.
28	6	2.5	1 mt./1,5 mt.
33	8	2.5	1 mt./1,5 mt.
40	12	2.5	1 mt./1,5 mt.
55	16	2.7	1 mt./1,5 mt.
65	19	2.8	1 mt./1,5 mt.
75	22	3.0	1 mt./1,5 mt.
85	25	3.0	1 mt./1,5 mt.
95	25	3.0	1 mt./1,5 mt.
115	34	3.3	1 mt./1,5 mt.
140	42	3.5	1 mt./1,5 mt.
160	50	3.5	1 mt./1,5 mt.
180	58	3.5	1 mt./1,5 mt.
205	65	3.5	1 mt./1,5 mt.
235	65	3.7	1 mt./1,5 mt.
265	75	4.0	1 mt./1,5 mt.
300	75	4.0	1 mt./1,5 mt.
350	100	4.3	1 mt./1,5 mt.
380	150	4.3	1 mt./1,22 mt.
410	150	4.3	1 mt./1,22 mt.

**HEATSHRINKABLE  
TUBING IN  
POLYOLEFIN  
MEDIUM WALL  
"SERIES TTPAMS"  
WITH INTERNAL  
ADHESIVE**

## General features

The Series TTPAMS medium wall polyolefin tubing is a flexible heatshrinkable tubing with internal adhesive. The internal surface is coated with a hot-melt adhesive which melts around the object during the shrinking process, so as to protect it from any infiltration of water or humidity. The high shrink ratio makes it suitable for protecting particularly irregular objects. Ideal for use in all applications in which a high degree of protection is needed. In addition, the thickness of the wall after shrinking makes this tubing especially suited for uses in which high mechanical protection is required.



## Technical features

### Properties of the tubing:

• Shrink ratio	See table	
• Operating temperature	-55 °C ÷ +110 °C	IN ACCORDANCE WITH UL 224
• Minimum shrink temperature	+120 °C	
• Tensile strength	≥ 14 MPa	IN ACCORDANCE WITH ASTM D 2671
• Elongation	≥ 400%	IN ACCORDANCE WITH ASTM D 2671
• Heat ageing test Tensile strength Elongation to break	> 12 MPa > 300 %	IN ACCORDANCE WITH ASTM D 2671/150°C, 168 HOURS
• Density	1.05g/cm <sup>3</sup>	IN ACCORDANCE WITH ASTM D 792
• Longitudinal shrinkage/change	0 ÷ - 10%	IN ACCORDANCE WITH UL224
• Dielectric strength	≥ 18 kV/mm	IN ACCORDANCE WITH IEC 243
• Volume Resistance	≥ 10 <sup>13</sup> ohm cm	IN ACCORDANCE WITH IEC 93
• Stability to copper	good	IN ACCORDANCE WITH ASTM D 2671
• Water absorption	< 0,15%	IN ACCORDANCE WITH ISO 62 / 23°C, 14 DAYS
• Standard colours	black	
• Other colours	not available	
• Standard Packaging	Length of 1,000 mm 1,200 mm - 1,500 mm Other lengths upon request	

### Properties of the adhesive

• Water absorption	< 0,2%	IN ACCORDANCE WITH ISO 62
• Softening point	85 ± 5 °C	IN ACCORDANCE WITH ASTM E28
• Peeling	4 N/cm	IN ACCORDANCE WITH DIN 30672
• Resistance to fungus and decay	positive	IN ACCORDANCE WITH ISO 846
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# TTPAAS

Heavy wall

With internal adhesive



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula **1.57079 x diameter**.

Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula **0.6366 x width of tubing**

BEFORE SHRINKING		AFTER FREE SHRINKING	
Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)	Packaging in lengths
9	3	1.8	1 mt./1,5 mt.
15	4	2.4	1 mt./1,5 mt.
22	6	2.7	1 mt./1,5 mt.
33	8	3.2	1 mt./1,5 mt.
40	12	4.1	1 mt./1,5 mt.
45	12	4.1	1 mt./1,5 mt.
55	16	4.1	1 mt./1,5 mt.
75	22	4.1	1 mt./1,5 mt.
85	25	4.3	1 mt./1,5 mt.
95	30	4.3	1 mt./1,5 mt.
105	30	4.3	1 mt./1,5 mt.
115	34	4.3	1 mt./1,5 mt.
130	36	4.3	1 mt./1,5 mt.
160	50	4.3	1 mt./1,5 mt.
180	50	4.3	1 mt./1,5 mt.
200	60	4.3	1 mt./1,5 mt.
235	65	4.5	1 mt./1,5 mt.
265	75	4.5	1 mt./1,5 mt.
300	85	4.5	1 mt./1,5 mt.
350	100	4.5	1 mt./1,5 mt.

**HEATSHRINKABLE  
TUBING IN  
POLYOLEFIN  
"SERIES TTPAAS"  
WITH INTERNAL  
ADHESIVE**

## General features

The Series TTPAAS heavy wall polyolefin tubing is a self-extinguishing heatshrinkable tubing with a high shrink ratio. In addition to being particularly suitable for all uses in which it is necessary to cover and protect irregular-shaped objects and components, it has a good resistance to common fluids and solvents.

After shrinking, the heavy wall makes this tubing especially suited for uses in which high mechanical protection is required.



## Technical features

### Properties of the tubing:

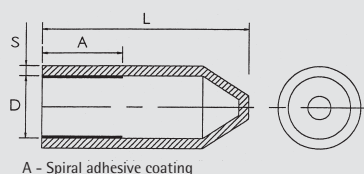
• Shrink ratio	See table	
• Operating temperature	-55 °C ÷ +110 °C	IN ACCORDANCE WITH UL 224
• Minimum shrink temperature	+120 °C	
• Tensile strength	≥ 14 MPa	IN ACCORDANCE WITH ASTM D 2671
• Elongation	≥ 400%	IN ACCORDANCE WITH ASTM D 2671
• Heat ageing test Tensile strength Elongation to break	> 12 MPa > 300 %	IN ACCORDANCE WITH ASTM D 2671/150°C, 168 HOURS
• Density	1.05g/cm <sup>3</sup>	IN ACCORDANCE WITH ASTM D 792
• Shrinkage/Longitudinal change	0 ÷ - 10%	IN ACCORDANCE WITH UL224
• Dielectric strength	≥ 18 kV/mm	IN ACCORDANCE WITH IEC 243
• Volume Resistance	≥ 10 <sup>13</sup> ohm cm	IN ACCORDANCE WITH IEC 93
• Stability to copper	good	IN ACCORDANCE WITH ASTM D 2671
• Water absorption	< 0,15%	IN ACCORDANCE WITH ISO 62 / 23°C, 14 DAYS
• Standard colours	black	
• Other colours	not available	
• Standard Packaging	Length of 1,000 mm 1,200 mm - 1,500 mm Other lengths upon request	

### Properties of the adhesive

• Water absorption	< 0,2%	IN ACCORDANCE WITH ISO 62
• Softening point	85 ± 5 °C	IN ACCORDANCE WITH ASTM E28
• Peeling	4 N/cm	IN ACCORDANCE WITH DIN 30672
• Resistance to fungus and decay	good	IN ACCORDANCE WITH ISO 846
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# CAPS CT

With internal adhesive  
(Heatshrinkable)



	BEFORE SHRINKING	AFTER FREE SHRINKING				Cable diameter mm
	Internal diameter in mm (D)	Internal diameter in mm (D)	A (±10%) mm	L (±10%) mm	S (±5%) mm	
STANDARD CAPS	12	4.0	15	40	2.6	4-10
	14	5.0	18	45	2.2	5-12
	20	6.0	25	55	2.8	6-16
	25	8.5	30	68	2.8	10-20
	35	16.0	35	83	3.3	17-30
	40	15.0	40	83	3.3	18-32
	55	26.0	50	103	3.5	28-48
	75	36.0	55	120	4.0	45-68
	100	52.0	70	140	4.0	55-90
	120	60.0	70	150	4.0	65-110
	145	60.0	70	150	4.0	70-30
	160	82.0	70	150	4.0	90-150
200	90.0	70	160	4.2	100-180	
LONG CAPS	14	5.0	30	55	2.2	5-12
	42	15.0	40	110	3.3	18-34
	55	23.0	70	140	3.8	25-48
	62	23.0	70	140	3.8	25-55
	75	32.0	70	150	4.0	40-68
	75	36.0	70	170	4.2	45-68
	105	45.0	65	150	4.0	50-90

**HEATSHRINKABLE  
CABLE END CAPS**

**"SERIES CT"**

**WITH INTERNAL  
ADHESIVE**

## General features

Series CT caps are heatshrinkable and have internal adhesive. The internal surface of the cap is coated with a hot-melt adhesive which melts around the object during the heat shrinking process to protect it from the infiltration of water. This product is used especially for protecting the ends of electric cables which are installed outside or for protecting electric underground cables which are protected with PVC, lead or XLPE sleeving.

**RTE**<sup>®</sup>

## Technical features

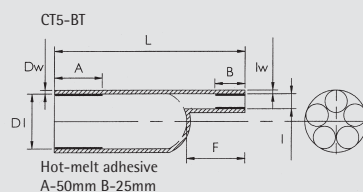
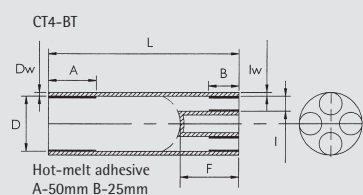
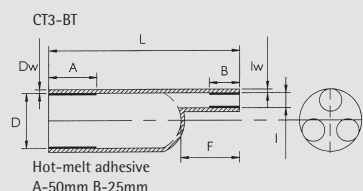
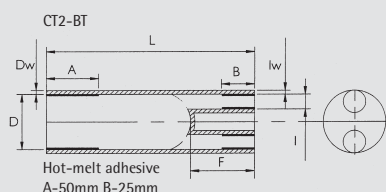
• Operating temperature	-55 °C ÷ +110 °C	IN ACCORDANCE WITH IEC 216
• Standard colour	Black	
• Minimum shrink temperature	> +120 °C	
• Elongation after heat ageing test (168 hours at 150 °C)	300%	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	400%	IN ACCORDANCE WITH ASTM D 2671
• Density	1.05 g/cm <sup>3</sup>	IN ACCORDANCE WITH ASTM D 792
• Volume resistivity	10 <sup>14</sup> ohm.cm	IN ACCORDANCE WITH IEC 93
• Dielectric strength	15 kV/mm	IN ACCORDANCE WITH IEC 243
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# CAPS CT2-BT CT3-BT CT4-BT CT5-BT

For low voltage cables

2-3-4-5 poles

With internal adhesive  
(Heatshrinkable)



	BEFORE FREE SHRINKING		AFTER FREE SHRINKING					
	Internal diameter in mm (D)	Internal diameter in mm (l)	Internal diameter in mm (D)	Internal diameter in mm (l)	L (±10%) mm	F (±10%) mm	DW (±20%) mm	IW (±20%) mm
CAPS CT2-BT	22	9	8	3.5	55	18	2.2	1.8
	30	14	12	4.5	93	23	2.6	2.2
	40	15	16	5	125	35	2.1	2.1
	60	25	23	7.5	118	29	2.6	2.6
	60	25	23	7.5	155	45	2.6	2.6
	100	30	42	9	115	55	3.1	3.1
	150	20	75	6	170	64	3.8	3.8
CAPS CT3-BT	38	14	17	4.5	98	23	2.7	2.7
	60	25	25	8	165	50	3	2.5
	80	35	38	11	185	55	3.5	3.5
	110	46	50	17.5	250	65	4	4
	125	55	57	20	260	75	4	4
	140	62	70	26	280	75	4	4
	170	75	77	28	280	80	4	4
CAPS CT4-BT	40	15	16	4.5	125	35	2.1	2.1
	60	25	24	8	180	45	3.2	2.8
	80	35	38	11	215	57	4	4
CAPS CT4-BT	42	14	15	3.5	105	26	2.2	2
	55	20	21	5	150	40	3.1	2.6
	65	26	26	7	175	45	3.3	2.9
	75	28	26	7	175	45	3.3	2.9
	82	30	37	9	190	60	4	3
	90	32	37	9	190	60	4	3
	102	38	47	12	198	58	4	3
CAPS CT5-BT	130	52	52	15	240	75	4	4
	160	64	70	19	260	75	4	4
	40	13	19	4	98	25	2.5	2
	55	18	24	5	155	40	3.2	2.6
	80	26	33	8	175	53	3	2.8
	110	34	42	10	190	60	3	3

## HEATSHRINKABLE CAPS

"SERIES CT2-BT"

"SERIES CT3-BT"

"SERIES CT4-BT"

"SERIES CT5-BT"

WITH INTERNAL  
ADHESIVE

## General features

The caps of the Series CT2-BT/CT3-BT/CT4-BT/CT5-BT are heatshrinkable and have internal adhesive. The internal surface of the cap is coated with a hot-melt adhesive which melts around the object during the heat shrinking process to protect it from the infiltration of water. This product is used especially for low voltage electric cables of 2 to 5 poles.



## Technical features

• Operating temperature	-55 °C ÷ +110 °C	IN ACCORDANCE WITH IEC 216
• Standard colour	Black	
• Minimum shrink temperature	> +110 °C	
• Elongation after the heat ageing test (168 hours at 120 °C)	≥ 250%	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	300%	IN ACCORDANCE WITH ASTM D 2671
• Resistance to traction	≥ 13 MPA	IN ACCORDANCE WITH ASTM D 2671
• Resistance to traction after the heat ageing test (168 hours at 120 °C)	≥ 10 MPA	IN ACCORDANCE WITH ASTM D 2671
• Volume resistivity	10 <sup>13</sup> ohm.cm	IN ACCORDANCE WITH IEC 93
• Dielectric strength	15 kV/mm	IN ACCORDANCE WITH IEC 243
• Water absorption	≤ 1%	IN ACCORDANCE WITH ISO 62
• Information regarding application	See the chapter "Choosing heatshrinkable tubing and information regarding its application"	

# STMT24MS – BUS BAR

6÷24 KV

(Shrink ratio > 2÷1)



Halogen Free



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ . Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING	AFTER FREE SHRINKING		
	Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)
25	10	2.5	30
30	12	2.65	30
40	16	2.65	30
50	20	2.65	15
65	25	2.85	15
75	30	2.85	15
85	35	2.85	15
100	40	2.85	15
120	50	2.85	15
150	60	2.90	15
175	75	2.90	15

**HEATSHRINKABLE  
TUBING FOR MEDIUM  
VOLTAGE BUS-BARS OF  
MEDIUM THICKNESS**  
**"SERIES STMT24KVMS"**  
**SHRINK RATIO > 2÷1**

## General features

The medium wall heatshrinkable cross-linked polyolefin tubing series STMT24KVMS is mainly used for the insulation of medium voltage bus bar until a value of 24KV, from accidental contacts due mainly by the intrusion of small animals. Furthermore, the application of this heatshrinkable tubing optimizes the interior spaces of medium voltage electrical board. In fact assembling the STMT24KVMS heatshrinkable tubing, the distances between a phase and the other will be considerably reduced so that enable the utilization of even more compact control boards. The STMT24KVMS heatshrinkable tubing is Halogen free and that represents a further advantage because, in case of fire, it doesn't emit toxic substances very dangerous for health.

**RTE**<sup>®</sup>

## Technical features

• Operating temperature	- 40 °C ÷ +105 °C	
• Shrink ratio	> 2 ÷ 1	
• Flexibility	Excellent	
• Standard color	Redbrick	
• Shrinking temperature	125 °C	
• Longitudinal variation	+5 / -10%	
• Tensile strength	≥ 12Mpa	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	≥ 400%	IN ACCORDANCE WITH ASTM D 2671
• Density	0.95-1.05	IN ACCORDANCE WITH ASTM D 2671
• Water absorption	≤ 0.2%	IN ACCORDANCE WITH ASTM D 570
• Flexibility low temperature	No cracking	IN ACCORDANCE WITH ASTM D 2671
• Heat shock (200 °C/4 hours)	No drop No flow No cracking	IN ACCORDANCE WITH ASTM D 2671
• Halogen free	CL: 900ppm max Br: 900ppm max	IN ACCORDANCE WITH IEC 61249-2-21
	Total (CL+Br): 1500ppm max	
• Volume resistivity	≥ 10 <sup>12</sup> Ω.cm	IN ACCORDANCE WITH ASTM D 2671
• Dielectric strength	≥ 16KV / mm	IN ACCORDANCE WITH ASTM D 2671
• Color fastness to light	Compare between exposed and unexposed	IN ACCORDANCE WITH IEC 60684-3
	Parts the color doesn't change	
• Copper corrosion (158 °C/168 hours)	Pass	IN ACCORDANCE WITH IEC 60684-3

**REFERENCE TABLE FOR USE OF STMT24KVMS - BUS BAR**

Bus bar dimensions (mm)	Single bus bar	Double overlapping bus bar
20x3 25x3	Ø 25/10	Ø 30/12
30x3 30x4	Ø 30/12	Ø 30/12
30x10 40x4	Ø 40/16	Ø 50/20
40x10 50x5 50x6	Ø 50/20	Ø 65/25 (Ø 75/30)
50x8 50x10 60x6 60x8	Ø 65/25 (Ø 75/30)	Ø 75/30 (Ø 85/35)
60x10 80x6 80x8 80x10	Ø 75/30 (Ø 85/35)	Ø 100/40 (Ø 120/50)
100x8 100x10 100x12	Ø 100/40 (Ø 120/50)	Ø 120/50
100x15 120x10 120x12 120x15	Ø 120/50	Ø 150/60
150x12 150x15	Ø 150/60	Ø 175/75

\*Note: diameters between brackets have to be considered only in case bus bar present curves.

# STMT36AS – BUS BAR

## 36 KV

(Shrink ratio > 2÷1)



Halogen Free



**Note:** knowing the diameter of the object to be covered, the width of the flattened tubing can be calculated using the formula  $1.57079 \times \text{diameter}$ .  
Knowing the width of the tubing, the diameter of the object to be covered can be calculated using the formula  $0.6366 \times \text{width of tubing}$ .

BEFORE SHRINKING	AFTER FREE SHRINKING		
	Internal diameter in mm (D)	Internal diameter in mm (d)	Wall thickness in mm (e)
25	10	3.50	30
30	12	3.60	30
40	16	3.60	30
50	20	3.60	15
65	25	3.60	15
75	30	3.70	15
85	40	3.70	15
100	50	3.70	15
120	60	3.70	15
150	75	3.80	15
175	85	3.80	15

**HEATSHRINKABLE  
TUBING FOR MEDIUM  
VOLTAGE BUS-BARS OF  
HIGH THICKNESS**

**"SERIES STMT36KVAS"**

**SHRINK RATIO > 2÷1**

## General features

The heavy wall heatshrinkable cross-linked polyolefin tubing series STMT36KVAS is mainly used for the insulation of medium voltage bus bar until a value of 36KV, from accidental contacts due mainly by the intrusion of small animals. Furthermore, the application of this heatshrinkable tubing optimizes the interior spaces of medium voltage electrical board. In fact assembling the STMT36KVAS heatshrinkable tubing, the distances between a phase and the other will be considerably reduced so that enable the utilization of even more compact control boards. The STMT36KVAS heatshrinkable tubing is Halogen free and that represents a further advantage because, in case of fire, it doesn't emit toxic substances very dangerous for health.

## Technical features

• Operating temperature	- 40 °C ÷ +105 °C	
• Shrink ratio	> 2 ÷ 1	
• Flexibility	Excellent	
• Standard color	Redbrick	
• Shrinking temperature	125 °C	
• Longitudinal variation	+5 / -10%	
• Tensile strength	≥ 12Mpa	IN ACCORDANCE WITH ASTM D 2671
• Elongation to break	≥ 400%	IN ACCORDANCE WITH ASTM D 2671
• Density	0.95-1.05	IN ACCORDANCE WITH ASTM D 2671
• Water absorption	≤ 0.2%	IN ACCORDANCE WITH ASTM D 570
• Flexibility low temperature	No cracking	IN ACCORDANCE WITH ASTM D 2671
• Heat shock (200 °C/4 hours)	No drop No flow No cracking	IN ACCORDANCE WITH ASTM D 2671
• Halogen free	CL: 900ppm max Br: 900ppm max	IN ACCORDANCE WITH IEC 61249-2-21
	Total (CL+Br): 1500ppm max	
• Volume resistivity	≥ 10 <sup>12</sup> Ω.cm	IN ACCORDANCE WITH ASTM D 2671
• Dielectric strength	≥ 16KV / mm	IN ACCORDANCE WITH ASTM D 2671
• Color fastness to light	Compare between exposed and unexposed	IN ACCORDANCE WITH IEC 60684-3
	Parts the color doesn't change	
• Copper corrosion (158 °C/168 hours)	Pass	IN ACCORDANCE WITH IEC 60684-3

**REFERENCE TABLE FOR USE OF STMT36KVAS - BUS BAR**

Bus bar dimensions (mm)	Single bus bar	Double overlapping bus bar
20x3 25x3	Ø 25/10	Ø 30/12
30x3 30x4	Ø 30/12	Ø 30/12
30x10 40x4	Ø 40/16	Ø 50/20
40x10 50x5 50x6	Ø 50/20	Ø 65/25 (Ø 75/30)
50x8 50x10 60x6 60x8	Ø 65/25 (Ø 75/30)	Ø 75/30 (Ø 85/35)
60x10 80x6 80x8 80x10	Ø 75/30 (Ø 85/35)	Ø 100/40 (Ø 120/50)
100x8 100x10 100x12	Ø 100/40 (Ø 120/50)	Ø 120/50
100x15 120x10 120x12 120x15	Ø 120/50	Ø 150/60
150x12 150x15	Ø 150/60	Ø 175/75

\*Note: diameters between brackets have to be considered only in case bus bar present curves.

# NTMT24KV-BUS BAR



Code	Tape width in mm	Wall thickness after free shrinking in mm	Packing in mt
NTMT24KV025	25	1 ± 0,1	10
NTMT24KV050	50	1 ± 0,1	10
NTMT24KV100	100	1 ± 0,1	10

**HEATSHRINKABLE  
M.V. TAPE IN  
POLYOLEFIN  
"SERIES NTMT24KV"  
WITH INTERNAL  
ADHESIVE**

## General features

The heatshrinkable tape of the Series NTMT24KV is made of polyolefin. The internal part of the tape is coated with a hot melt adhesive which liquefies during the shrinking phase and envelops the object thus blocking it and guaranteeing protection against infiltration of water and humidity. It is generally used for electrically and mechanically insulating busbar up to 24KV and irregularly-shaped objects, in situations where it is not possible to apply closed protective tubing.



## Technical features

• Operating temperature	-55 °C ÷ +105 °C	
• Shrink ratio	30%	
• Flexibility	Excellent	
• Self-extinguishing	Self-extinguishing in 60 seconds	ACCORDING TO STANDARD ASTM D2671
• Standard colour	Redbrick	
• Water absorption 336 hours at 23 °C	< 0,5%	ACCORDING TO STANDARD ISO 52
• Minimum shrinking temperature	+100 °C	
• Resistance to traction	≥ 11.8 MPa	ACCORDING TO STANDARD ASTM D2671
• Resistance to traction after ageing (120 °C/168 hours)	≥ 10 MPa	ACCORDING TO STANDARD ASTM D2671
• Elongation	≥ 550%	ACCORDING TO STANDARD ASTM D2671
• Elongation after ageing (120 °C/168 hours)	≥ 450%	ACCORDING TO STANDARD ASTM D2671
• Dielectric strength	≥ 20 KV/mm	ACCORDING TO STANDARD IEC 243
• Volume resistivity	≥ 10 <sup>13</sup> Ω.cm	ACCORDING TO STANDARD IEC 93
• Costant volume	3,5 (max.)	ACCORDING TO STANDARD IEC 250
• Copper corrosion (120 °C/168 hours)	No corrosion	ACCORDING TO STANDARD ASTM D2671

# TSRI

## UL VW-1



Halogen Free



Internal nominal working diameter in mm (D)	Packing in mt
4	200
5	
6	
8	
10	
12	
15	100
20	
25	
30	
40	50
50	
60	



Rozszerzalny pleciony  
**EXPANDABLE BRAIDED  
 POLYESTER SLEEVING**  
**"SERIES TSRI"**

## General features

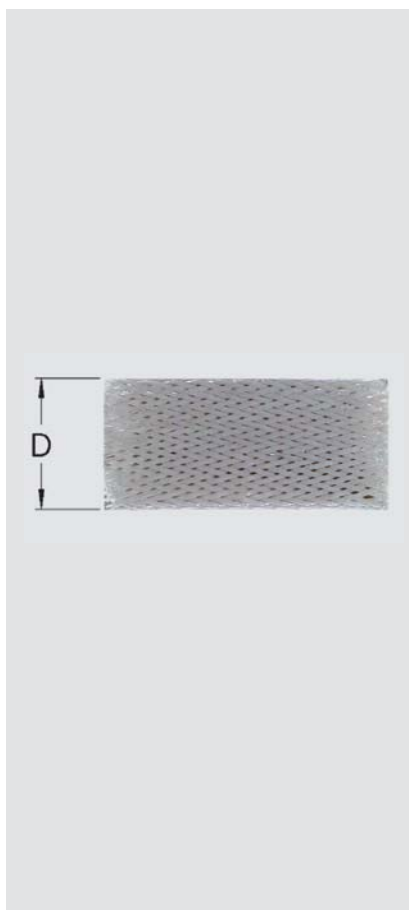
The braided sleeving of the Series TSRI, made from single polyester strands, is particularly suitable for protecting electrical cables and wiring. It is flame-retardant, insulating, resistant to abrasion and to the marine atmosphere. This series is available in diameters ranging from 4 mm to 60 mm and upon special request diameters of up to 90 mm can be made available.

## Technical features

• Operating temperature	-50 °C ÷ +150 °C	
• Maximum temperature for a short period	+220 °C	
• Melting pot	+250 °C	
• Flammability		ACCORDING TO STANDARD UL VW-1
• Halogen Free	Passed	ACCORDING TO STANDARD UNI EN 14582:2007
• Directive	2002/95/CE RoHS	
• Standard colours	Grey - Black	
• Other diameters and colours	Upon request	
• Packing	On reels	

# TS66

## UL VW-1



Internal nominal diameter in mm (D)	Packaging in mt
3	200
4	200
5	200
6	200
8	200
10	200
12	200
15	200
20	100
25	100
30	100
40	100
50	50
60	50

**EXPANDABLE BRAIDED  
NYLON 66 SLEEVING  
"SERIES TS66"**

## General features

The braided sleeving of the series TS66 is made from monofilaments of NYLON 66 and is particularly suitable for applications in which good resistance to abrasion and to UV rays is required.

It is self-extinguishing and insulating and is available in standard diameters from 3 mm to 60 mm.

Other diameters up to a maximum of 150 mm are available upon request.



## Technical features

• Working temperature	-60 °C ÷ +160 °C	
• Maximum temperature for a short time	+220 °C	
• Melting temperature	+256 °C	
• Flammability		ACCORDING TO STANDARD UL VW-1
• Directive	2002/95/CE RoHS	
• Standard colours	Gray - Black	
• Other diameters and colours	Upon request	
• Packaging	On reels	

# TS800

## UL94-V0



	Internal nominal diameter in mm (D)	No. single strands	Diameter of single strands in mm	Packaging in mt
	4	48	0.25	100
	5	64	0.25	100
	6	80	0.25	100
	8	96	0.25	100
	10	112	0.25	100
	12	128	0.25	100
	16	160	0.25	100
	20	224	0.25	50
	25	240	0.25	50
	30	256	0.25	50
	40	416	0.25	50
	50	536	0.25	50



**EXPANDABLE BRAIDED  
POLYESTER SLEEVING**

**"SERIES TS800"  
UL94-V0**

## General features

The braided sleeving of the Series TS800, made from single polyester strands, is particularly suitable where a high degree of flame-retardance is required. It is insulating, resistant to abrasion and to the marine atmosphere and is mainly used for protecting electrical cables and wiring. The UL94-V0 characteristic can be recognised from the single strand of a different colour from that used for the sleeving which is inserted during its production. This series is available in diameters ranging from 4 mm to 60 mm.

**RTE**<sup>®</sup>

## Technical features

• Working temperature	-40 °C ÷ +200 °C	
• Maximum temperature for a short time	+220 °C	
• Melting point	+255 °C	
• Flammability		ACCORDING TO STANDARD UL94-V0
• Halogens	< 0.01%	
• Directives	2002/95/CE RoHS	
• Standard colours	Gray - Black with identification strand	
• Other diameters and colours	Upon request	
• Packaging	On reels	

# TS800-RI

UL94-V0  
EN 45545



According to RFI Italian  
Railways Company rules



Internal nominal diameter in mm (D)	Packaging in mt
4	100
5	100
6	100
8	100
10	100
12	100
16	100
20	50
25	50
30	50
40	50
50	50

**EXPANDABLE BRAIDED  
POLYESTER SLEEVING**

**"SERIES TS800-RI"**  
UL94-V0  
ACCORDING TO  
RAILWAY RULE EN 45545

## General features

The braided sleeving of the Series TS800-RI, made from single polyester strands, is particularly suitable where a high degree of flame-retardance is required. It is insulating, resistant to abrasion and to the marine atmosphere and is mainly used for protecting electrical cables and wiring. The UL94-V0 characteristic can be recognised from the single strand of a different colour from that used for the sleeving which is inserted during its production. This series is available in diameters ranging from 4 mm to 60 mm. According to railway rule EN 45545.

**RTE**<sup>®</sup>

## Technical features

• Working temperature	-50 °C ÷ +150 °C	
• Maximum temperature for a short time	+160 °C	
• Melting point	+230 °C	
• Flammability		ACCORDING TO STANDARD UL94-V0
• Reaction to fire and smoke/gas determination		HL3 ACCORDING REQUIREMENT R22 - R23 OF THE RAILWAY RULE EN 45545-2:2013+A1:2015
• Directives	2002/95/CE RoHS	
• Standard colours	Gray - Black with identification strand	
• Other diameters and colours	Upon request	
• Packaging	On reels	

# TS800-UL

## UL VW-1



Wymagane  
na rynku USA



Internal nominal working diameter in mm (D)	Packing in mt
4	200
5	
6	
8	
10	
12	
15	100
20	
25	
30	
40	50
50	
60	

**"SERIES TS800-UL"**

**EXPANDABLE  
BRAIDED SLEEVING  
ESPANDIBLE  
IN POLYESTER**

## General features

The braided sleeving of the series TS800-UL, made from monofilaments of polyester, is particularly suitable for protecting electrical wires and cabling. It is self-extinguishing, insulating and resists against rubbing and marine atmosphere. This series is available in diameters from 4 mm to 60 mm. Upon special request diameters up to 90 mm can be made.

**RTE**<sup>®</sup>

## Technical features




• Working temperature	-50 °C ÷ +150 °C	
• Maximum temperature for a short time	+220 °C	
• Melting temperature	+250 °C	
• Inflammability		ACCORDING TO STANDARD UL VW-1
• Directive	2002/95/CE RoHS	
• Standard colour	Black	
• Other diameters and colours	Upon request	
• Packaging	On reels	

# TS1000

## VW-1

### Resistant to abrasion



	Nominal internal diameter usable in mm (D)	Max. internal diameter expansion in mm (D1)	Packing mt
  	12	16	100
	19	25	
	25	35	
	32	42	
	38	51	
	45	59	
	50	67	
	64	83	

**EXPANDABLE BRAIDED SLEEVING IN NYLON 66 RESISTANT TO ABRASION**

**"SERIES TS1000"**

## General features

The braided sleeving Series TS1000 is made from flat nylon 66 multifilaments. The particular shape of the monofilament and its form make the TS1000 sleeving particularly suitable for protecting flexible high-pressure tubes fitted on moving parts of excavators, pneumatic and/or hydraulic arms and earth-moving equipment. The Series TS1000 sleeving also guarantees excellent resistance to abrasion, excellent flexibility and thanks to the flat monofilament it prevents tubes or cables from tangling and compromising their correct functioning.

**RTE**<sup>®</sup>

## Technical features

• Working temperature	-60 °C ÷ +160 °C	
• Melt temperature	+256 °C	
• Inflammability	Self-extinguishing	ACCORDING TO STANDARD VW-1
• Directives	2002/95/CE RoHS	
• Standard colours	Grey - Black	
• Other diameters and colours	Upon request	
• Packing	On reels	

# WA

## WRAP AROUND



Halogen Free



Internal usage diameter in mm (D)	Width open sleeving in mm (D)	Packaging in mt
5	21 ± 3	100
8	32 ± 5	100
10	40 ± 5	100
13	52 ± 5	50
16	65 ± 10	50
19	80 ± 10	25
25	105 ± 10	25
29	135 ± 10	25
32	155 ± 10	25
38	170 ± 10	25
50	240 ± 10	25

**BRAIDED SLEEVING  
WITH WRAP AROUND  
EFFECT IN POLYESTER  
"SERIES WA"**

## General features

The braided sleeving of the series "WA" Wrap Around, produced from open fabric made of polyester fibre, is used in particular for the protection of electrical wires and cabling. Thanks to its Wrap Around self-closing feature the "WA" series is the ideal product for assembling cabling at the completion of a process.

**RTE**<sup>®</sup>

## Technical features

• Operating temperature	-50 °C ÷ +150 °C	
• Maximum temperature for a short time	+180 °C	
• Melting temperature	+250 °C	
• Flammability		ACCORDING TO STANDARD UL VW-1
• Directive	2002/95/CE RoHS	
• Standard colours	Black	
• Other diameters and colours	Upon request	
• Packaging	On reels	

# TSWA

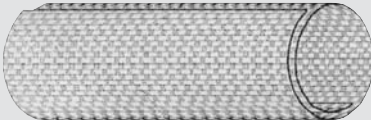
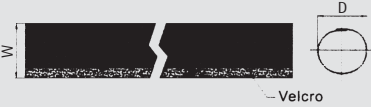
## WRAP AROUND

In polyester  
with velcro



Halogen Free



	Internal usage diameter in mm (d)	Width open sleeving in mm (W)	Packing in mt
	13	40 ± 6	25
	19	65 ± 7	25
	25	65 ± 7	25
	32	90 ± 7	25
	51	115 ± 10	25
	64	150 ± 15	25
	75	190 ± 15	25
	100	220 ± 20	25
	135	290 ± 20	25

**BRAIDED POLYESTER  
SLEEVING WITH  
VELCRO OPEN-CLOSE  
WRAP AROUND EFFECT  
"SERIES TSWA"**

## General features

The braided sleeving of the Series TSWA is made from braided monofilaments in polyester and has a polyamide velcro closure. It is suitable for protecting tubing and flexible cables that have already been installed or cabled with connectors, where it would be impossible to use a traditional type of closed sleeving. Thanks to the velcro which enables the sleeving to be re-opened and closed again, maintenance and/or repair operations are greatly facilitated.

**RTE**<sup>®</sup>

## Technical features

• Working temperature	-50 °C ÷ +150 °C	
• Melting temperature	+240 °C ±10 °C	
• Inflammability	Self-extinguishing	ACCORDING TO STANDARD VW-1
• Directives	2002/95/CE RoHS	
• Standard colour	Black	
• Other diameters and colours	Upon request	
• Packing	On reels	

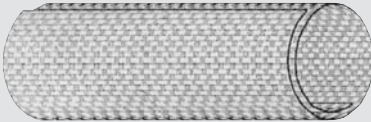
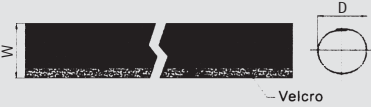
# TVWA

## WOVEN WRAP AROUND with velcro



Halogen Free



	Max internal diameter usage in mm (D)	Width open sleeving in mm (W)	Packing in mt
	20	80 ± 5	25
	25	95 ± 5	25
	30	115 ± 5	25
	35	130 ± 5	25
	40	146 ± 5	25
	45	162 ± 5	25
	50	178 ± 5	25

**WOVEN SLEEVING WITH  
VELCRO OPEN-CLOSE  
WRAP AROUND EFFECT  
"SERIES TVWA"**

## General features

The woven sleeving of the Series TVWA, made from polyester multifilaments has a polyamid velcro closure and is used especially to protect tubing and flexible cables that have already been installed or cabled with connectors, or to replace previously installed sleeving that is worn from continuous use and has to be replaced. The use of the velcro, with its excellent resistance, makes the application of the sleeving particularly simple and guarantees safe and sure closure.

**RTE**<sup>®</sup>

## Technical features

• Working temperature	-50 °C ÷ +150 °C	
• Melting temperature	+240 °C ±10 °C	
• Inflammability	Self-extinguishing	ACCORDING TO STANDARD VW-1
• Directives	2002/95/CE RoHS	
• Standard colour	Black	
• Other diameters and colours	Upon request	
• Packing	On reels	

# SPWA

## WRAP AROUND

### Resistant to abrasion



Nominal internal diameter in mm (d)	Wall thickness in mm		Spiral width in mm (W)	Nominal internal diameter usage in mm	Packing mt
	(T)	(t)			
10.0	1.3	0.4	10.0	10.0 - 13.0	50
12.0	1.5	0.5	12.0	12.0 - 15.0	
14.0	1.5	0.5	14.0	14.0 - 16.0	
16.0	2.0	0.5	15.0	15.0 - 18.0	
19.0	2.0	0.5	16.0	18.0 - 21.0	
20.0	2.5	0.5	18.0	19.0 - 25.0	
25.0	2.5	0.7	21.0	23.0 - 29.0	
28.0	3.0	0.7	22.0	26.0 - 32.0	
30.0	3.0	1.0	22.0	28.0 - 35.0	
32.0	3.0	1.0	23.0	30.0 - 37.0	
35.0	3.5	1.0	24.0	32.0 - 40.0	
38.0	3.5	1.0	25.0	35.0 - 43.0	
42.0	3.5	1.0	25.5	39.0 - 47.0	
45.0	3.5	1.0	26.0	42.0 - 50.0	
50.0	3.5	1.2	27.0	46.0 - 55.0	
60.0	4.0	2.0	28.0	55.0 - 66.0	
74.0	4.4	2.2	29.0	68.0 - 70.0	
88.0	4.9	2.4	31.0	82.0 - 95.0	
100.0	5.2	2.5	33.0	94.0 - 110.0	
130.0	5.2	2.5	49.0	130.0 - 150.0	

**SPIRAL SLEEVING  
SELF-CLOSING HEAVY-WALL  
WITH WRAP AROUND EFFECT  
RESISTANT TO ABRASION**

**"SERIES SPWA"**

## General features

The main characteristic of the sleeving Series SPWA, made from modified polypropylene, is its high resistance to abrasion. Especially designed for use on moving parts of excavators, pneumatic and/or hydraulic arms and earth-moving equipment, this sleeving is suitable for use in all those situations in which it is necessary to protect cables and flexible high-pressure tubes that operate under particularly difficult conditions.

## Technical features

• Working temperature	-10 °C ÷ +105 °C	
• Breaking strength at 20 °C	25 MPa	
• Resistance to oils and solvents	Impervious	
• Directives	2002/95/CE RoHS	
• Standard colour	Black	
• Packing	On reels	

# PVCWA

## WRAP AROUND



	Internal usage diameter in mm (D)	Width open sleeving in mm (W)	Packing in mt
	12	60	75
	19	80	75
	25	100	75
	31	120	75
	37	140	75
	44	160	75
	50	180	75
	57	202	75
	70	241	75
	100	333	75
	150	495	75

**PVC SLEEVING WITH  
PRESS-FASTENERS  
OPEN-CLOSE  
"SERIES PVCWA"**

## General features

The sleeving Series PVCWA was created for bundling and protecting cables that have already been installed or cabled with connectors. Thanks to its mainly characteristics that can be easily open and close by using press-fasteners this kind of sleeve can be easily installed or removed. Two others appreciated features of PVCWA necessary in some particular environments are its esthetic appearance and that can be simply clean.

## Technical features

• Working temperature	-15 °C ÷ +85 °C	
• Directives	2002/95/CE RoHS	
• Standard colour	Grey	
• Other diameters and colours	On request - Black	
• Packing	On reels	

# PVC-UL (105 °C)



	Internal diameter in mm (D)	Wall thickness in mm (e)	Packaging	
			mt	Bars
	2.0 ± 0.15	0.560 ÷ 0.672	1.000	Upon request
	2.5 ± 0.15	0.560 ÷ 0.672	1.000	
	3.0 ± 0.15	0.560 ÷ 0.672	1.000	
	3.5 ± 0.15	0.560 ÷ 0.672	1.000	
	4.0 ± 0.25	0.560 ÷ 0.672	900	
	4.5 ± 0.25	0.560 ÷ 0.672	900	
	5.0 ± 0.25	0.560 ÷ 0.672	700	
	6.0 ± 0.25	0.560 ÷ 0.672	500	
	7.0 ± 0.25	0.560 ÷ 0.672	400	
	8.0 ± 0.25	0.560 ÷ 0.672	300	
	9.0 ± 0.25	0.560 ÷ 0.672	300	
	10.0 ± 0.50	0.560 ÷ 0.672	200	
	12.0 ± 0.50	0.560 ÷ 0.672	250	
	13.0 ± 0.50	0.690 ÷ 0.828	250	
	14.0 ± 0.50	0.690 ÷ 0.828	200	
	16.0 ± 0.50	0.690 ÷ 0.828	150	
	18.0 ± 0.50	0.690 ÷ 0.828	125	
	20.0 ± 0.50	0.770 ÷ 0.828	100	
	22.0 ± 0.50	0.770 ÷ 0.828	100	

**SELF-EXTINGUISHING  
PVC TUBING  
"SERIES PVC-UL"**

## General features

The Series PVC-UL self-extinguishing PVC tubing has excellent physical and electrical properties. It is ideal for general use in covering, cabling and insulation and can be used in the most varied industrial sectors such as : automotive, home appliances and electrical cabling.

## Technical features

• Shore A hardness	91 ± 02	ACCORDING TO STANDARD ISO868
• Operating temperature	-15 °C ÷ +105 °C	
• Self-extinguishing properties	Self-extinguishing	ACCORDING TO STANDARD UL 224 VW-1
• Standard colours	Black - White - Red- Green Yellow - Blue - Gray	
• Packaging	On reels or in bars	
• Volume resistance at 20 °C	5x10 <sup>13</sup> Ω/cm	ACCORDING TO STANDARD ASTM D257
• Breaking load	≥ 16 N/mm <sup>2</sup>	ACCORDING TO STANDARD ISO527
• Tensile strength after ageing test (7 days)	17 MPa	
• Elongation to break	270%	ACCORDING TO STANDARD ISO527
• Halogen Free	Passed	ACCORDING TO STANDARD UNI EN 14582:2007
• Specific weight	1,44 ± 0,02% gr/cm <sup>3</sup>	ACCORDING TO STANDARD ISO1183
• Water absorption	0,3%	ACCORDING TO STANDARD ASTM D570
• Information regarding storage	PVC-UL must not be stored in open or torn packaging or in direct sunlight and must be protected from atmospheric agents.	

HL



## Technical features

### Series HL1920E

• Power supply voltage	230/240 V 50 HZ
• Power output	2000 W
• Temperature	80÷600 °C
• Temperature regulation	with knob
• Volume of air	switch pos. 1): 150 LT/MIN. switch pos. 2): 300 LT/MIN. switch pos. 3): 500 LT/MIN.
• Dimensions (length x width x height)	253 mm x 84,5 mm x 200 mm
• Weight	850 g

### Series HL2020E

• Power supply voltage	230/240 V 50 HZ
• Power output	2200 W
• Temperature	switch pos. 1): 80 °C switch pos. 2-3): 80÷600 °C
• Temperature regulation	in 10 °C steps
• Temperature visualisation	liquid crystal display
• Volume of air	switch pos. 1): 150 LT/MIN. switch pos. 2): 300 LT/MIN. switch pos. 3): 500 LT/MIN.
• Dimensions (length x width x height)	253 mm x 85,5 mm x 200 mm
• Weight	860 g

**HEATGUN FOR  
SHRINKING  
HEATSHRINKABLE  
TUBING**

**"SERIES HL"**

## General features

Series HL heat guns for shrinking heatshrinkable tubing, light and easy to handle, are particularly suitable for use on production lines. They are also available in the HL2020E electronic version, in which the output temperature of the hot air is constantly visualised.

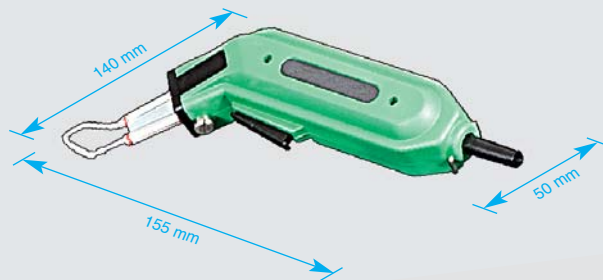
**RTE®**

# TGR60



## Technical features

• Power supply voltage	230 V 50/60 Hz	
• Power	60 W	
• Ignition time	6 sec	
• Weight	1 kg	
• Cutting blade width	29 mm	



## General features

The Series TGR60 device is used for hot-cutting expandable braided polyester sleeving, is particularly suitable for use on production lines and being portable, it satisfies all hot-cutting requisites.

**DEVICE FOR  
HOT CUTTING  
EXPANDABLE BRAIDED  
POLYESTER SLEEVING  
"SERIES TGR60"**

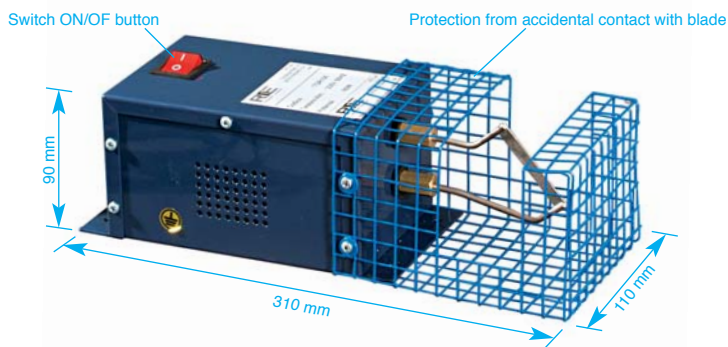
# TGR100

WITH  
PROTECTION FROM  
ACCIDENTAL CONTACT  
WITH BLADE



## Technical features

• Container	Metal
• Power supply voltage	230 V 50/60 Hz
• Power	60 W
• Blade temperature	Up to 500 °C
• Weight	1,5 kg
• Cutting blade width	50 mm



**DEVICE FOR  
HOT CUTTING  
EXPANDABLE BRAIDED  
POLYESTER SLEEVING  
"SERIES TGR100"**

## General features

The Series TGR100 device used for hot cutting expandable braided polyester sleeving is particularly suitable for use on production lines. Thanks to the cutting blade positioned at the front of this bench version device, the TGR100 simplifies cutting operations, at the same time reducing production times.

## Choosing heatshrinkable tubing and information regarding its application

- The internal diameter of the tubing should be chosen so that after shrinking, it is 20% less than the object being covered.
- Cut the heatshrinkable tubing so that the edge is smooth and clean.
- Cover the object that has to be protected.
- Shrink the tubing on the object starting from one end of the object, using a hot air device, for example, a heat gun or a hot air tunnel.
- The correct shrinking temperature is essential in order to reduce the shrinking time. The corresponding charts indicate the shrink temperature.
- For tubing with internal adhesive the adhesive layer can seep out very slightly at the ends of the tubing.
- To avoid over-heating of the tubing make sure that the heat is applied evenly. The over-heating of the material during the shrinking process causes bubbles, discolouring or tears the tubing.
- For correct storing of heatshrinkable tubing make sure that it is stored in a cool, dry, clean place and that it is far from sources of direct heat.
- Storage temperature 0 ÷ +40 °C max - Relative humidity < 75%.

Our specialists are available for any assistance you may need in choosing the most suitable type of tubing for your requirements.

Founded in 1958 by Giovanni Brambilla, for over 50 years RTE has been designing, manufacturing and selling alarm annunciators with ISA sequences intended for use in sectors such as: energy, electromechanics, transports, chemical, petrolchemical and engineering.

Luisa, Massimo and Giorgio Brambilla followed in their father's footsteps and after a number of years of experience working alongside him, RTE obtained the Quality System Certification, being among the first companies in Italy to be certified. The certification has recently been updated in accordance with UNI EN ISO 9001:2008.

RTE managerial policy has always been oriented towards top-quality products at convenient and competitive prices. Thanks to its modern, flexible commercial structure RTE can guarantee efficient service, capable of meeting its customers' needs.



# ACTIVELY PRESENT IN THE WORLD OF INDUSTRY SINCE **1958**

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 =

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