



Heat Shrink Tubing Selection Guide

Use our flow chart to find the correct heat shrink tubing for your particular application.

Begin your search in the flow chart at the START point. You will be guided through Diagrams 1 to 4 to the target according to your heat shrink tubing requirements. Using the "yes/no" and "either/or" decisions, you will be able to select the correct heat shrink tubing with ease.

Of course, you can always call us whenever you wish on our usual telephone numbers.

Diagram 1

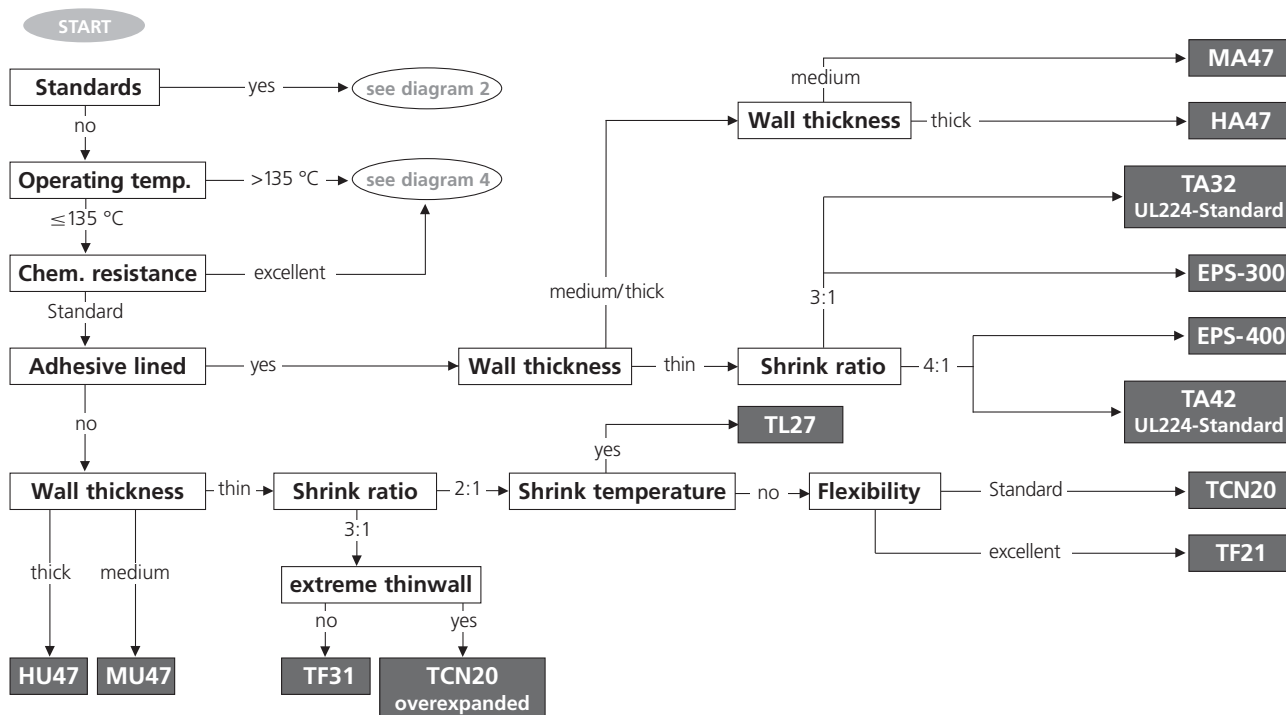
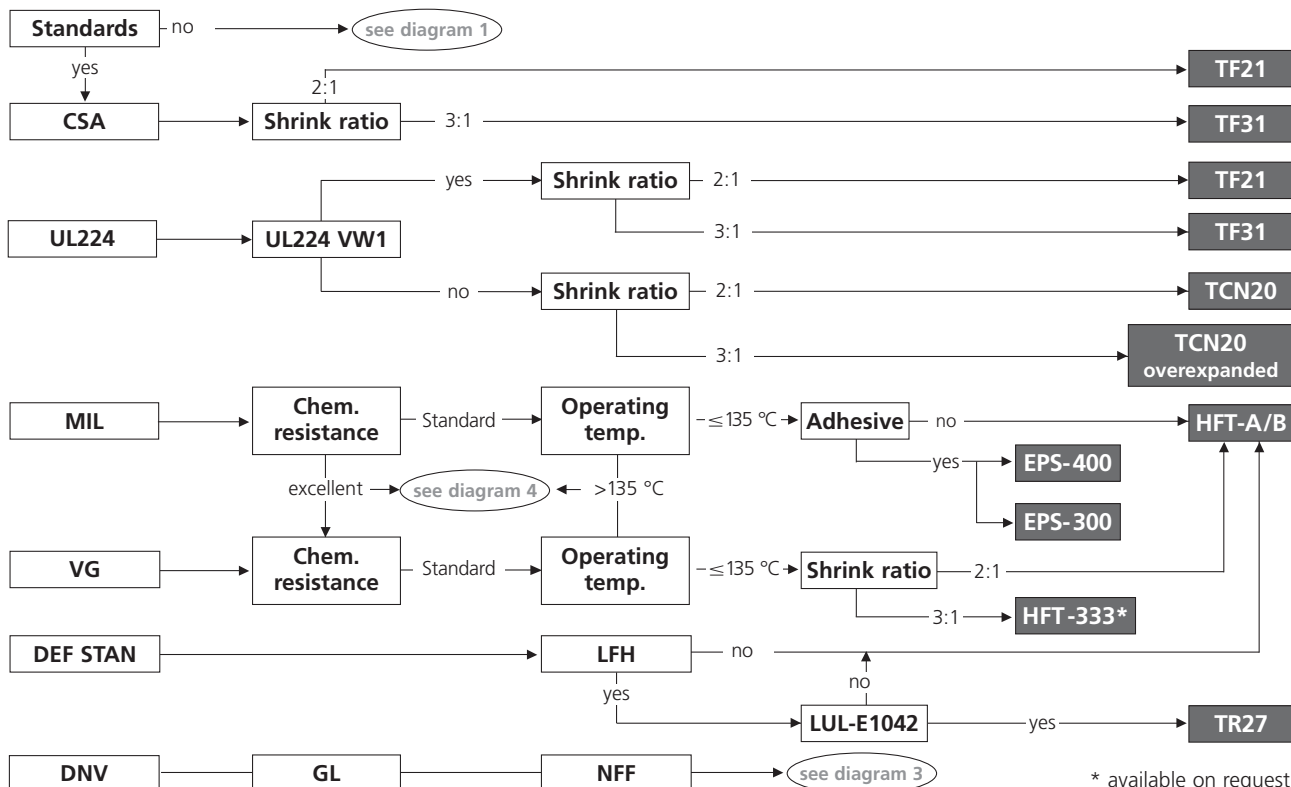


Diagram 2



* available on request



Diagram 3

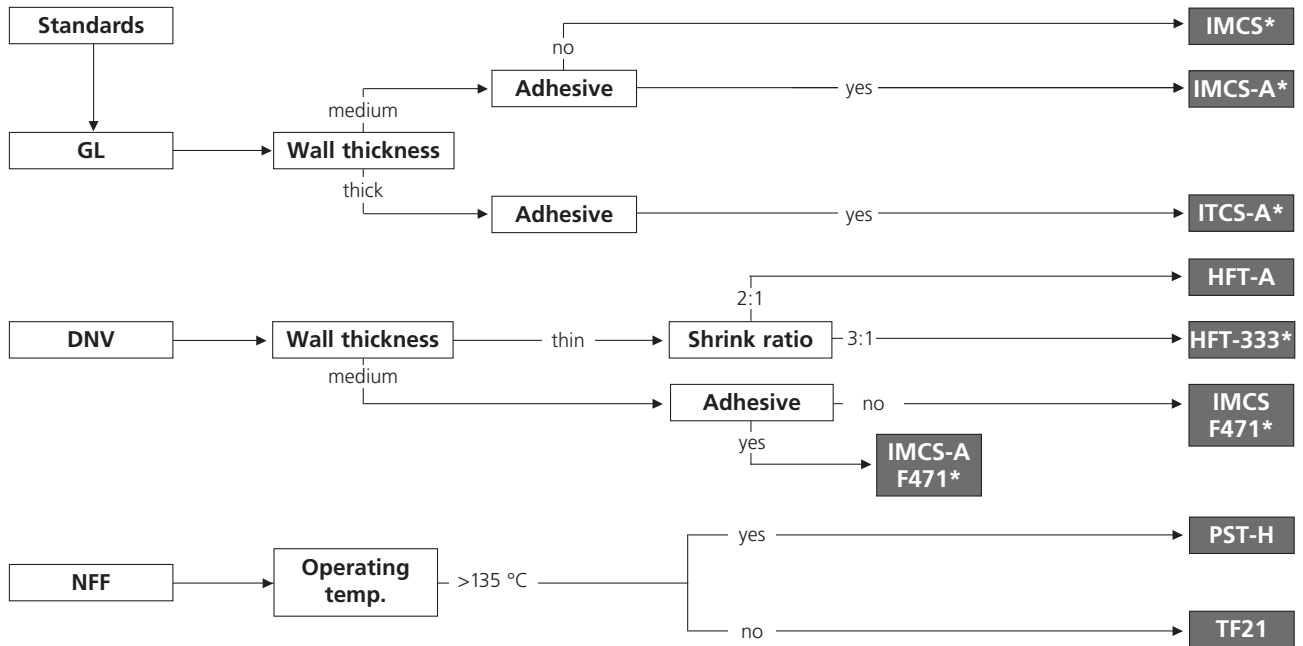
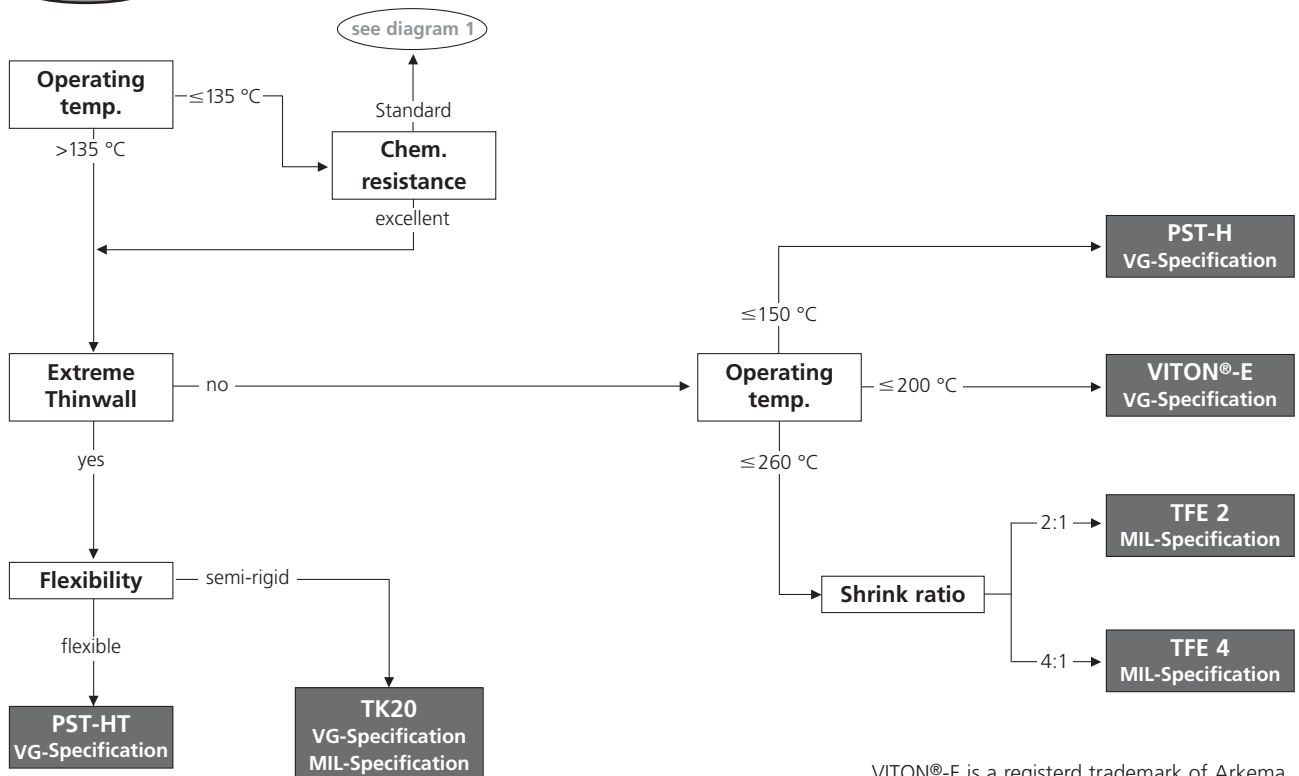


Diagram 4



* available on request

VITON®-E is a registered trademark of Arkema.



■ suitable

□ of limited suitability

++ very good

+ good

o limited

These details are only rough guide values.
They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.

	Material Data					Technical data	
	Page	Material	Operating Temperature [°C]	Shrink Ratio	Longitudinal change after complete shrinkage [%]	Dielectric strength [kV/mm]	
Heat Shrinkable Tubing							
Heat shrinkable kit							
• ShrinkKit 321 Universal	242	PEX	-55 °C to +135 °C	3:1	+/-5% max.	20 kV/mm acc. to ASTM D 2671	
• ShrinkKit 321-A with adhesive liner	243	PEX	-55 °C to +110 °C	3:1	+1%/-15% max.	15kV/mm acc. to IEC 684 P2	
• ShrinkKit 321-A Basic with adhesive liner	244	PEX	-55 °C to +110 °C	3:1	+1%/-15% max.	15kV/mm acc. to IEC 684 P3	
• ShrinkKit 321 Basic	245	PEX	-55 °C to +135 °C	3:1	+/-5% max.	20 kV/mm acc. to ASTM D 2671	
• ShrinkKit 321 Universal Basic	246	PEX	-55 °C to +135 °C	3:1	+/-5% max.	20 kV/mm acc. to ASTM D 2671	
• HIS-3 BAG	247	PEX	-55 °C to +135 °C	3:1	-5% max.	20 kV/mm acc. to ASTM D 150	
• HIS-3	249	PEX	-55 °C to +135 °C	3:1	-10% max.	25kV/mm acc. to ASTM D 876	
• HIS-A, with adhesive liner	251	PEX	-55 °C to +125 °C	3:1	-10% max.	15kV/mm acc. to IEC 684 P2	
• HIS-PACK	252	PEX	-55 °C to +125 °C	2:1	-5% max.	25kV/mm acc. to IEC 684 P2	
• TREDUX thin wall	255	PEX	-55 °C to +135 °C	3:1/2:1	+/- 5% max.	20kV/mm	
• TREDUX medium wall with adhesive liner	256	PEX	-55 °C to +110 °C	4:1	+/- 5% max.	20kV/mm	
• TREDUX thick wall with adhesive liner	257	PEX	-55 °C to +110 °C	3,5:1	+/- 5% max.	20kV/mm	
Hot melt tape • HMT200A	258	EVA	-50 °C to +105 °C	-	-	-	
Out of PVC • LVR, self extinguishing	259	PVC	-30 °C to +105 °C	2:1	+/-10% max.	15kV/mm acc. to IEC 243	
Flexible and coloured HFT-A, self extinguishing	260	PEX	-55 °C to +135 °C	2:1	-5% max.	20kV/mm acc. to IEC 684 P2	
Low-heat							
• TCN20, self extinguishing, 2:1	263	PEX	-55 °C to +125 °C	2:1	+/-5% max.	20KV/mm acc. to IEC 243	
• TCN20, self extinguishing, 3:1	264	PEX	-55 °C to +125 °C	3:1	+/-5% max.	20kV/mm	
• TL27, halogen free	265	PEX	-55 °C to +135 °C	2:1	+5%/-15% max.	22KV/mm acc. to IEC 684 P2	
Flexible and coloured							
• TF21	266	PEX	-55 °C to +135 °C	2:1	+/-5% max.	37KV/mm	
• TF31	270	PEX	-55 °C to +135 °C	3:1	-10% max.	37KV/mm	
Flexible and transparent							
• TF24	269	PEX	-55 °C to +135 °C	2:1	+/-5%	46KV/mm	
• TF34	272	PEX	-55 °C to +135 °C	3:1	-5% max.	46KV/mm	
Thin wall with adhesive liner							
• EPS-300	273	PEX	-55 °C to +110 °C	3:1	-10% max.	15kV/mm acc. to IEC 684 P2	
• EPS-400	273	PEX	-55 °C to +110 °C	4:1	-10% max.	15kV/mm acc. to IEC 684 P2	
1 m lengths							
• TA32 with adhesive liner	274	PEX	-55 °C to +125 °C	3:1	-15% max.	15kV/mm acc. to IEC 684 P2	
• TA42 with adhesive liner	274	PEX	-55 °C to +125 °C	4:1	-15% max.	15kV/mm acc. to IEC 684 P2	
• MA47 medium wall with adhesive liner	275	PEX	-55 °C to +110 °C	4:1	-10% max.	20kV/mm	
• HA47 thick wall with adhesive liner	276	PEX	-55 °C to +110 °C	to 3,5:1	-10% max.	20kV/mm	
• MU47 medium wall without adhesive line	275	PEX	-55 °C to +110 °C	to 4:1	-10% max.	20kV/mm	
• HU47 thick wall without adhesive liner	276	PEX	-55 °C to +110 °C	to 3,5:1	-10% max.	20kV/mm	
• HA67 with adhesive liner	277	PEX	-55 °C to +110 °C	to 3,5:1	-10% max.	20kV/mm	
Out of Elastomer							
• PST-H	278	POA	-75 °C to +150 °C	2:1	-10% max.	20kV/mm acc. to IEC684 P2	
• PST-HT light weight	279	PES	-75 °C to +150 °C	2:1	-10% max.	20kV/mm acc. to IEC684 P2	
Out of Fluororubber • Viton®-E	280	XLPPM	-55 °C to +200 °C	2:1	-10% max.	15kV/mm acc. to IEC 684 P2	
Out of PVDF • TK20	281	PVDF	-55 °C to +175 °C	2:1	+/- 10% max	30kV/mm acc. to IEC 684P2	
Out of PTFE							
• TFE2	282	PTFE	-65 °C to +260 °C	2:1	-20% max.	40kV/mm acc. to DIN 53481	
• TFE4	282	PTFE	-65 °C to +260 °C	4:1	-20% max.	40kV/mm acc. to DIN 53481	
Flame retardant							
• TR27	284	PEX	-40 °C to +105 °C	2:1	+5%/-10%max.	15kV/mm acc. to IEC 684 P2	

* Only valid for Central European Climate

** Only outer sleeve



	Technical data				Resistant properties				Possible applications												Sample Applications				
	Self-extinguishing	Silicone-free	Copper compatibility (non-corrosive)	Printable	UV light*	Solvents	Fuels	Acids and bases	Harnessmaker	Electronics	Automotive industry	Motor sport	Railway vehicles	Military	Aviation	Ship building	Repair of underground cables	Energy supply	Wind energy	Solar energy	Electrical insulation	Colour coding	Strain relief	Anti-kinking protection	Protection against moisture
	Yes	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes**	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes**	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes**	Yes			+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■								■	■		■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■								■	■		■	■		■	■
						o	o	o	■	■											■	■		■	■
	Yes	Yes	Yes		+	o	o	o	■	■											■	■		■	■
	Yes	Yes	Yes	Yes	+	+	+	+	■	■			■	■	■						■	■		■	■
	Yes	Yes	Yes	Yes	+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	o	+	■	■											■	■		■	■
		Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes	Yes	Yes		+	+	+	+	■	■											■	■		■	■
	Yes	Yes	Yes	Yes	+	+	+	+	■	■											■	■		■	■
		Yes	Yes	Yes	+	+	+	+	■	■											■	■		■	■
		Yes	Yes	Yes	+	+	+	+	■	■											■	■		■	■
	Yes**				+	+	o	+	■	■											■	■		■	■
	Yes**	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes**	Yes	Yes		+	+	o	+	■	■											■	■		■	■
	Yes**	Yes	Yes		+	+	o	+	■	■											■	■		■	■
		Yes	Yes		+	o	o	+									■	■	■		■	■		■	■
		Yes	Yes		+	o	o	+									■	■	■		■	■		■	■
		Yes	Yes		+	o	o	+									■	■	■		■	■		■	■
		Yes	Yes		+	o	o	+									■	■	■		■	■		■	■
	Yes	Yes	Yes		+	+	++	+	■	■		■	■	■	■						■	■		■	■
	Yes	Yes	Yes		+	+	++	+	■	■		■	■	■	■						■	■		■	■
	Yes	Yes	Yes		+	+	++	+						■	■						■	■		■	■
	Yes	Yes	Yes		+	++	++	++						■	■						■	■		■	■
	Yes	Yes	Yes		+	++	++	++						■	■						■	■		■	■
	Yes	Yes	Yes		+	++	++	++						■	■						■	■		■	■
	Yes	Yes	Yes		+	+	+	+					■								■	■		■	■



■ suitable

□ of limited suitability

++ very good

+ good

o limited

These details are only rough guide values.
They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.

		Material Data				Technical data				
Page	Material	Operating Temperature [°C]	Shrink Ratio	Dielectric strength [kV/mm]	Self-extinguishing	Silicone-free	Copper compatibility (non-corrosive)	Printable		

Heat Shrinkable Moulded Shapes

For plug-and-socket connectors

- Helashrink 100 Series, straight
- Helashrink 1100 Series, right angle

For branch points

- Helashrink 200 Series, two way outlet

For plug-and-socket connectors

- Helashrink 300 Series, tree way outlet
- Helashrink 400 Series, four way outlet
- Helashrink 1200 Series, T-joint
- Helashrink 1300 Series, Y-joint

Low profile

- Helashrink 333F Series, straight and flexible
- Helashrink 313C Series, right angle
- Helashrink 313E Series, straight
- Helashrink 313F Series, straight
- Helashrink 412H Series, T-joint
- Helashrink 492H Series, Y-joint
- Helashrink 573H Series, tree way outlet

Two component adhesive

- V9500

End caps

- pinched, PEC
- for low voltage, HEK

Cable break out boots for low voltage

- HEV
- Helashrink 500 Series
- Helashrink 600 Series

Detailed Information
about the Materials
and Adhesives of
these moulded parts
can be found on
page 286.

Detailed Information
about the Materials and
Adhesives of these
moulded parts can be found
on page 286.

		Material Data				Technical data				
Page	Material	Operating Temperature [°C]	Shrink Ratio	Dielectric strength [kV/mm]	Self-extinguishing	Silicone-free	Copper compatibility (non-corrosive)	Printable		

■ suitable

□ of limited suitability

++ very good

+ good

o limited

These details are only rough guide values.
They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.

Non Shrinkable Tubing

Rubber tubing Chloroprene • Helsyn H	303	CR	-65 °C to +95 °C, intermittent 120 °C	Yes	Yes	Yes	Yes	
Rubber tubing Chloroprene • Helsyn HS, HT	304	CR	-25 °C to +100 °C, intermittent 120 °C	Yes	Yes	Yes	Yes	
Rubber tubing Silicone • Helsyn SLP	305	SI	-65 °C to +180 °C, intermittent 250 °C	Yes	No	Yes	Yes	
Rubber tubing PTFE • FE	306	PTFE	-65 °C to +250 °C, intermittent 350 °C	Yes	Yes	Yes	No	

* Only valid for Central European Climate



Overview of applications for Heat Shrink Tubing

When selecting the correct heat shrink tubing size, it is important to bear in mind the 80:20 rule. The heat shrink tubing must shrink by at least 20% and not more than 80% of its complete shrinkage capacity to achieve the right result. In our overview of applications you will find the best heat shrink tube for every cable diameter. The 80:20 rule has of course been taken into account in the table.

Heat Shrink Tubing with a shrink ratio of 2:1

HIS-Pack; LVR; HFT-A; TL27; TF21; TF24;
PST-H; PST-HT; VITON-E®; TK20; TFE-2;
TR27; TCN20

Shrink ratio 2:1

Size mm		Cable/Wire diameter
1.2/0.6		0.7 mm
		1.1 mm
		1.4 mm
3.2/1.6	2.4/1.2	1.9 mm
		2.2 mm
		2.9 mm
6.4/3.2	4.8/2.4	3.8 mm
		4.3 mm
		5.7 mm
12.7/6.4	9.5/4.7	5.8 mm
		7.7 mm
		8.6 mm
25.4/12.7	19.1/9.5	11.4 mm
		15.2 mm
		17.2 mm
50.8/25.4	38.1/19.1	22.9 mm
		30.5 mm
		34.3 mm
101.6/50.8	76.2/38.1	45.7 mm
		61.0 mm
		68.6 mm
		91.4 mm

Heat Shrink Tubing with a shrinkage ratio of 3:1

With the optimal shrinkage ratio of 3:1, you can cover a wide range of applications with just a few sizes. This leads to reduced stock expenditure and requires less space. 3:1 heat shrink tubes: HIS-3; HIS-A; TREDUX; TF34; TF31; EPS-300; TA32; TCN20; HIS-3 BAG; ShrinKits 321

Shrink ratio 3:1

Size mm		Cable/Wire diameter
1.5/0.5		0.7 mm
		1.3 mm
		1.4 mm
6/2	3/1	2.6 mm
		2.8 mm
		5.2 mm
18/6	12/4	5.6 mm
		8.4 mm
		10.4 mm
40/13	24/8	11.2 mm
		15.6 mm
		18.4 mm
		20.8 mm
		34.6 mm

Conversion from imperial to metric

Inch	1/32"	3/64"	1/16"	5/64"	3/32"	1/8"	3/16"	1/4"	3/8"
mm	0.8	1.2	1.6	2.0	2.4	3.2	4.8	6.4	9.5
Inch	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
mm	12.7	15.9	19.1	25.4	31.8	38.1	50.8	76.2	101.6

Viton® is a registered trademark of DuPont.



The right Heat Shrink Tube

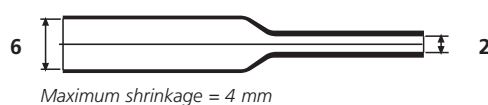
The **80:20 rule** means that a heat shrink tube should shrink by a **maximum of 80%** and a **minimum of 20%**.

For example:

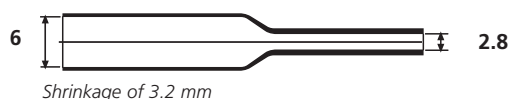
A cable with a diameter of 5 mm is to be wrapped in heat shrink tubing. In theory both sizes 6/2 and 12/4 would be suitable, since the required diameter of 5 mm lies within the shrink range of both tube sizes.

Size 6/2

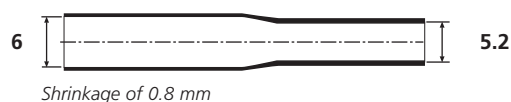
Maximum shrink (100%)



Optimum shrinkage max. (80%)



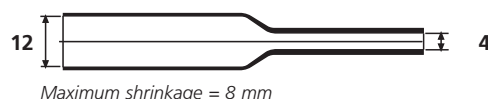
Optimum shrinkage min. (20%)



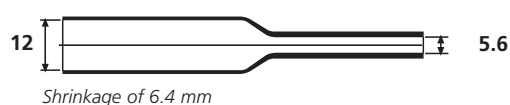
Size 6/2 has a range of application of between 2.8 mm and 5.2 mm and is therefore suitable for the cable diameter of 5 mm.

Size 12/4

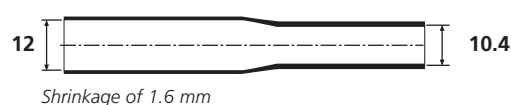
Maximum shrink (100%)



Optimum shrinkage max. (80%)



Optimum shrinkage min. (20%)



The smallest application diameter of size 12/4 is 5.6 mm. This size is therefore unsuitable for a cable diameter of 5 mm.

Calculator tool for Heat Shrink Tubing

The calculator tool for heat shrink tubing is a selection guide for shrink tubing sizes based on the object to be covered. Fill in your specification and the calculator presents the right tubing size according to the 80:20 rule.

Find more information under <http://www.hellermannTyton.co.uk/heatshrink-calculator!>

The calculator tool also checks if the heat shrink tubing you have chosen is suitable for your application.

For example you can find the heat shrink tubing with the Product Search on the HellermannTyton website.



Heat Shrinkable Tubing 3:1 in a Kit

• ShrinKit 321 Universal

Features and Benefits

ShrinKit 321 is a family of five heat shrink tubing assortments in attractive and handy assembly kits. The range consists of ShrinKit 321 Universal, ShrinKit 321 Universal Basic, ShrinKit 321 Basic black, ShrinKit 321-A (a dual wall tubing) and ShrinKit 321-A Basic. With their ideal shrink ratio of 3:1 these products replace many differently sized tubing solutions by fitting almost any heat shrink requirements. Choosing the required product is simplicity itself as the tubings are clearly identified by size, length and content printed on every compartment of the assortment boxes.

The attractive and reusable kit is the solution for almost every heat shrink task. The big variety of sizes, colours and lengths offers a wide number of applications: insulation, bend protection or identification. The 3:1 shrink ratio can easily cope with substrates of varying diameter.

Content

This kit contains a range of general purpose tubing lengths clearly sorted in various sizes and colours. Its ideal shrink ratio of 3:1 replaces many differently sized tubings. The application range from 1 mm to 20 mm can be covered with ShrinKit 321 Universal.



ShrinKit 321 Universal.



Shrink ratio 3:1 for a wider range of application.

Material Data	
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	+5%/-10% max.
Minimum Shrink Temperature	+90 °C
Operating Temperature	-55 °C to +135 °C
Insulation Class	B (VDE 0530)
Dielectric Strength	20 kV/mm according to ASTM D 2671
Flammability	self-extinguishing (except for transparent)



New Standard: Shrink Ratio 3:1

Technical Table

Article-No.	Comp.	Supplied Ø D	Recov. Ø d	Length (L)	Wall (WT)	Colour	Number of tubes
380-03002 ShrinKit 321 Universal	1	6	2	60	0.70	Black (BK)	50
	2	12	4	100	0.70	Black (BK)	15
Pack Cont.	3	24	8	200	1.00	Black (BK)	10
	4	6	2	60	0.70	Green-Yellow (GNYE)	50
	5	3	1	50	0.55	Transparent (CL)	100
	6	3	1	50	0.55	Black (BK)	100
	7	12	4	100	0.70	Transparent (CL)	15
	8	12	4	100	0.70	Red (RD)	15
	9	3	1	50	0.55	Red (RD)	100
	10	3	1	40	0.55	Blue (BU)	100
	11	3	1	40	0.55	Green-Yellow (GNYE)	100
	12	1.5	0.5	40	0.45	Black (BK)	75
	12	1.5	0.5	40	0.45	Green-Yellow (GNYE)	75
	13	6	2	60	0.70	Blue (BU)	50
	14	6	2	60	0.70	Red (RD)	50
	15	6	2	60	0.70	Transparent (CL)	50
	16	12	4	170	0.70	Green-Yellow (GNYE)	10
	17	12	4	170	0.70	Blue (BU)	10

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 3:1 in a Kit

• ShrinkKit 321-A - with adhesive liner

Features and Benefits

ShrinkKit 321-A is dual wall heat shrink tubing with a 3:1 shrink ratio. The attractive and reusable kit is ideal for assembling and identification. The inner wall melts when heated and is forced into gaps. When the tubing cools down the adhesive forms a seal against the moisture and protects components. The black tubes are mainly used for the protection of connectors and splices, the clear tubing is ideal for the protection of printed label markers. ShrinkKit 321-A covers a wide range of applications due to its ideal 3:1 shrink ratio.

When all tubing has been consumed the case can be re-used for storing nails, screws, nuts, fish hooks, et cetera. The size of the compartments can be changed by simply moving the yellow space dividers.

Content

This kit contains a range of general purpose tubing lengths clearly sorted. Four different sizes are included in black and clear.



ShrinkKit 321-A: permanent protection of identification solutions.



ShrinkKit 321-A.

Material Data	
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	+1%/-15% max.
Minimum Shrink Temperature	+110 °C
Operating Temperature	-55 °C to +110 °C
Softening Point Adhesive	+120 °C
Insulation Class	A (VDE 0530)
Dielectric Strength	15kV/mm according to ASTM D2671
Flammability	self-extinguishing outer wall (black only)



New: With Adhesive

Technical Table

Article-No.	Comp.	Supplied Ø D	Recov. Ø d	Length (L)	Wall (WT)	Colour	Number of tubes
380-03003 ShrinkKit 321-A	1	24	8	200	2.50	Black (BK)	5
	2	12	4	65	1.70	Transparent (CL)	15
Pack Cont.	3	6	2	50	1.10	Black (BK)	20
	3	6	2	50	1.10	Transparent (CL)	20
	4	12	4	65	1.70	Black (BK)	15
	5	3	1	50	1.00	Black (BK)	50
	5	3	1	50	1.00	Transparent (CL)	50
	6	6	2	35	1.10	Black (BK)	30
	6	6	2	35	1.10	Transparent (CL)	30
	7	24	8	200	2.50	Transparent (CL)	5
	8	12	4	100	1.70	Black (BK)	15
	9	12	4	100	1.70	Black (BK)	15
	10	12	4	100	1.70	Transparent (CL)	15
	11	3	1	40	1.00	Black (BK)	50
	11	3	1	40	1.00	Transparent (CL)	50

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 3:1 in a Kit

• ShrinkKit 321-A Basic - with adhesive liner

Features and Benefits

ShrinkKit 321-A Basic is dual wall heat shrink tubing with a 3:1 shrink ratio. The attractive and reusable kit is ideal for assembling and identification. The inner wall melts when heated and is forced into gaps. When the tubing cools down the adhesive forms a seal against the moisture and protects components. The black tubes are mainly used for the protection of connectors and splices, the clear tubing is ideal for the protection of printed label markers. ShrinkKit 321-A Basic covers a wide range of applications due to its ideal 3:1 shrink ratio. When all tubing has been consumed the case can be re-used for storing nails, screws, nuts, fish hooks, et cetera. The size of the compartments can be changed by simply moving the yellow space dividers.

Content

This kit contains a range of general purpose tubing lengths clearly sorted. Three different sizes are included in black and clear.



ShrinkKit 321-A Basic.

Material Data	
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	+1%/-15% max.
Minimum Shrink Temperature	+110 °C
Operating Temperature	-55 °C to +110 °C
Softening Point Adhesive	+120 °C
Insulation Class	A (VDE 0530)
Dielectric Strength	15kV/mm according to ASTM D2671
Flammability	self-extinguishing outer wall (black only)



Technical Table

Article-No.	Comp.	Supplied Ø D	Recov. Ø d	Length (L)	Wall (WT)	Colour	Number of tubes
380-03004 ShrinkKit 321-A Basic Pack Cont.	1	3	1	35	1.00	Black (BK)	25
	2	12	4	35	1.70	Black (BK)	10
	3	3	1	35	1.00	Transparent (CL)	25
	4	6	2	35	1.10	Black (BK)	15
	5	6	2	35	1.10	Transparent (CL)	15
	6	6	2	35	1.10	Transparent (CL)	15
	7	6	2	35	1.10	Black (BK)	15
	8	12	4	80	1.70	Transparent (CL)	5
	8	12	4	80	1.70	Black (BK)	5

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 3:1 in a Kit

• ShrinkKit 3:1 Basic - black

Features and Benefits

The compact and handy kit belongs to the Basic equipment for every assembler. Its ideal shrink ratio of 3:1 replaces many differently sized tubing. The application range from 1 mm to 20 mm can be covered with ShrinkKit 3:1 basic.

Content

This kit contains a selection of widely used black tubing in seven sizes and different lengths.



ShrinkKit 3:1 Basic.

Material Data	
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	+5%/-10% max.
Minimum Shrink Temperature	+90 °C
Operating Temperature	-55 °C to +135 °C
Insulation Class	B (VDE 0530)
Dielectric Strength	20 kV/mm according to ASTM D 2671
Flammability	Self extinguishing



Technical Table

Article-No.	Comp.	Supplied Ø D	Recov. Ø d	Length (L)	Wall (WT)	Colour	Number of tubes
380-03001 ShrinkKit 3:1 Basic	1	1.5	0.5	35	0.45	Black (BK)	50
	2	6	2	35	0.70	Black (BK)	30
	3	3	1	35	0.55	Black (BK)	25
	4	6	2	35	0.70	Black (BK)	15
	5	6	2	35	0.70	Black (BK)	15
	6	3	1	35	0.55	Black (BK)	25
	7	1.5	0.5	35	0.45	Black (BK)	50
	8	18	6	80	0.80	Black (BK)	5
	8	12	4	80	0.70	Black (BK)	5

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 3:1 in a Kit

• ShrinkKit 3z1 Universal Basic

Features and Benefits

This compact and handy kit is part of the basic toolbox for every assembler. Its ideal shrink ratio of 3:1 replaces many differently sized tubings. An application range from 1 mm to 15 mm can be covered with ShrinkKit 3z1 Universal Basic

Content

This compact kit contains a selection of widely used coloured tubing in five sizes and five colours in different lengths. The kit contains 177 pieces in total.



The right tubing size at hand for any application: ShrinkKit 3z1 Universal, ShrinkKit 3z1-A, ShrinkKit 3z1 Basic, ShrinkKit 3z1-A Basic, ShrinkKit 3z1 Universal Basic.

Material Data	
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	+5%/-10% max.
Minimum Shrink Temperature	+90 °C
Operating Temperature	-55 °C to +135 °C
Insulation Class	B (VDE 0530)
Dielectric Strength	20 kV/mm according to ASTM D 2671
Flammability	Self extinguishing



Technical Table

Article-No.	Comp.	Supplied Ø D	Recov. Ø d	Length (L)	Wall (WT)	Colour	Number of tubes
380-03005 ShrinkKit 3z1 Universal Basic	1	12	4	35	0.70	Black (BK)	12
	2	6	2	80	0.70	Blue (BU)	5
	2	6	2	80	0.70	Red (RD)	5
	2	6	2	80	0.70	White (WH)	5
	2	12	4	80	0.70	Black (BK)	2
	2	12	4	80	0.70	Blue (BU)	2
	2	12	4	80	0.70	Red (RD)	2
	3	6	2	35	0.70	Blue (BU)	10
	3	6	2	35	0.70	White (WH)	10
	3	6	2	35	0.70	Red (RD)	10
	4	9	3	35	0.70	Green-Yellow (GNYE)	15
	5	9	3	35	0.70	Black (BK)	20
	6	3	1	35	0.55	Black (BK)	10
	6	3	1	35	0.55	Red (RD)	10
	6	3	1	35	0.55	White (WH)	10
	6	3	1	35	0.55	Blue (BU)	10
	7	6	2	35	0.70	Black (BK)	20
	7	6	2	35	0.70	Green-Yellow (GNYE)	10
	8	18	6	160	0.80	Black (BK)	3
	8	18	6	160	0.80	White (WH)	3
	8	18	6	160	0.80	Green-Yellow (GNYE)	3

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 3:1 in blister bags

• HIS-3 BAG

Features and Benefits

Handy small packaging with 10 pre-cut pieces of 200mm. Thin walled and flexible tubing made of cross-linked Polyolefin with shrink ratio of 3:1.

Application

HIS-3 BAG tubings are useable for insulation and protection of cables and harnesses.



HIS-3 BAG available in seven colours and four sizes.

Material Data

Type	HIS-3 BAG
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	-5% max.
Minimum Shrink Temperature	+100 °C
Operating Temperature	-55 °C to +135 °C
Insulation Class	B (VDE 0530)
Dielectric Strength	20 kV/mm according to ASTM D 150
Flammability	UL224 VW-1 (except clear)



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 3:1 in blister bags

• HIS-3 BAG

Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Pack Cont.	Colour
308-30151	HIS-3-BAG-1.5/0.5	1.5	0.5	0.45	10 x 200	Black (BK)
308-30160	HIS-3-BAG-1.5/0.5	1.5	0.5	0.45	10 x 200	Red (RD)
308-30161	HIS-3-BAG-1.5/0.5	1.5	0.5	0.45	10 x 200	Blue (BU)
308-30162	HIS-3-BAG-1.5/0.5	1.5	0.5	0.45	10 x 200	Grey (GY)
308-30163	HIS-3-BAG-1.5/0.5	1.5	0.5	0.45	10 x 200	Brown (BN)
308-30164	HIS-3-BAG-1.5/0.5	1.5	0.5	0.45	10 x 200	Transparent (CL)
308-30165	HIS-3-BAG-1.5/0.5	1.5	0.5	0.45	10 x 200	Green-Yellow (GNYE)
308-30310	HIS-3-BAG-3/1	3.0	1.0	0.55	10 x 200	Black (BK)
308-30311	HIS-3-BAG-3/1	3.0	1.0	0.55	10 x 200	Red (RD)
308-30312	HIS-3-BAG-3/1	3.0	1.0	0.55	10 x 200	Blue (BU)
308-30313	HIS-3-BAG-3/1	3.0	1.0	0.55	10 x 200	Grey (GY)
308-30314	HIS-3-BAG-3/1	3.0	1.0	0.55	10 x 200	Brown (BN)
308-30315	HIS-3-BAG-3/1	3.0	1.0	0.55	10 x 200	Transparent (CL)
308-30316	HIS-3-BAG-3/1	3.0	1.0	0.55	10 x 200	Green-Yellow (GNYE)
308-30610	HIS-3-BAG-6/2	6.0	2.0	0.65	10 x 200	Black (BK)
308-30611	HIS-3-BAG-6/2	6.0	2.0	0.65	10 x 200	Red (RD)
308-30612	HIS-3-BAG-6/2	6.0	2.0	0.65	10 x 200	Blue (BU)
308-30613	HIS-3-BAG-6/2	6.0	2.0	0.65	10 x 200	Grey (GY)
308-30614	HIS-3-BAG-6/2	6.0	2.0	0.65	10 x 200	Brown (BN)
308-30615	HIS-3-BAG-6/2	6.0	2.0	0.65	10 x 200	Transparent (CL)
308-31210	HIS-3-BAG-12/4	12.0	4.0	0.80	10 x 200	Black (BK)
308-31211	HIS-3-BAG-12/4	12.0	4.0	0.80	10 x 200	Red (RD)
308-31212	HIS-3-BAG-12/4	12.0	4.0	0.80	10 x 200	Blue (BU)
308-31213	HIS-3-BAG-12/4	12.0	4.0	0.80	10 x 200	Grey (GY)
308-31214	HIS-3-BAG-12/4	12.0	4.0	0.80	10 x 200	Brown (BN)
308-31215	HIS-3-BAG-12/4	12.0	4.0	0.80	10 x 200	Transparent (CL)

All dimensions in mm. Subject to technical changes.



HIS is a range of two heat shrink tubing types in handy dispenser boxes. The range consists of HIS-3 and HIS-A (a dual wall tubing) with 3:1 shrink ratios. With their ideal shrink ratio of 3:1 these products replace many differently sized tubing solutions by fitting almost any heat shrink task. The handy dispenser boxes allow for proper storage and the tubing can remain dust-free even after breaking open a package.

Heat Shrinkable Tubing 3:1 on a Reel

• HIS-3

Features and Benefits

HIS-3 with 3:1 shrink ratio is the new generation of tubing in dispenser packs fitting highly variable substrate dimensions. Another great benefit of HIS-3 is that only 5 sizes cover the same range of diameters from 1mm up to 20mm in 10 sizes of 2:1 shrink ratio tubing, thus reducing the inventory by half. To complete the range sizes 9/3 and 18/6 are also available.

Application

- General purpose electrical insulation
- Coloured Identification
- Protection against corrosion and mechanical abrasion



HIS-3 can fit highly variable substrate dimensions.

Material Data	
Type	HIS-3
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	-5% max.
Minimum Shrink Temperature	+100 °C
Operating Temperature	-55 °C to +135 °C
Insulation Class	B (VDE 0530)
Dielectric Strength	20 kV/mm according to ASTM D 150
Flammability	UL224 VW-1





Heat Shrinkable Tubing 3:1 on a Reel

• HIS-3

Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Pack Cont. (m)	Colour
308-30150	HIS-3-1.5/0.5	1.5	0.5	0.45	10	Black (BK)
308-30152	HIS-3-1.5/0.5	1.5	0.5	0.45	10	Red (RD)
308-30153	HIS-3-1.5/0.5	1.5	0.5	0.45	10	Transparent (CL)
308-30156	HIS-3-1.5/0.5	1.5	0.5	0.45	10	Blue (BU)
308-30300	HIS-3-3/1	3.0	1.0	0.55	10	Black (BK)
308-30302	HIS-3-3/1	3.0	1.0	0.55	10	Red (RD)
308-30303	HIS-3-3/1	3.0	1.0	0.55	10	Transparent (CL)
308-30306	HIS-3-3/1	3.0	1.0	0.55	10	Blue (BU)
308-30307	HIS-3-3/1	3.0	1.0	0.55	10	Green-Yellow (GNYE)
308-30600	HIS-3-6/2	6.0	2.0	0.65	5	Black (BK)
308-30602	HIS-3-6/2	6.0	2.0	0.65	5	Red (RD)
308-30603	HIS-3-6/2	6.0	2.0	0.65	5	Transparent (CL)
308-30606	HIS-3-6/2	6.0	2.0	0.65	5	Blue (BU)
308-30607	HIS-3-6/2	6.0	2.0	0.65	5	Green-Yellow (GNYE)
308-30900	HIS-3-9/3	9.0	3.0	0.75	5	Black (BK)
308-30902	HIS-3-9/3	9.0	3.0	0.75	5	Red (RD)
308-30903	HIS-3-9/3	9.0	3.0	0.75	5	Transparent (CL)
308-30906	HIS-3-9/3	9.0	3.0	0.75	5	Blue (BU)
308-30907	HIS-3-9/3	9.0	3.0	0.75	5	Green-Yellow (GNYE)
308-31200	HIS-3-12/4	12.0	4.0	0.80	5	Black (BK)
308-31202	HIS-3-12/4	12.0	4.0	0.80	5	Red (RD)
308-31203	HIS-3-12/4	12.0	4.0	0.80	5	Transparent (CL)
308-31206	HIS-3-12/4	12.0	4.0	0.80	5	Blue (BU)
308-31207	HIS-3-12/4	12.0	4.0	0.80	5	Green-Yellow (GNYE)
308-31800	HIS-3-18/6	18.0	6.0	0.90	4	Black (BK)
308-31802	HIS-3-18/6	18.0	6.0	0.90	4	Red (RD)
308-31803	HIS-3-18/6	18.0	6.0	0.90	4	Transparent (CL)
308-31806	HIS-3-18/6	18.0	6.0	0.90	4	Blue (BU)
308-31807	HIS-3-18/6	18.0	6.0	0.90	4	Green-Yellow (GNYE)
308-32400	308-32400	24.0	8.0	1.20	3	Black (BK)
308-32402	HIS-3-24/8	24.0	8.0	1.20	3	Red (RD)
308-32403	HIS-3-24/8	24.0	8.0	1.20	3	Transparent (CL)
308-32406	HIS-3-24/8	24.0	8.0	1.20	3	Blue (BU)
308-32407	HIS-3-24/8	24.0	8.0	1.20	3	Green-Yellow (GNYE)

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 3:1 on a Reel

• HIS-A - with adhesive liner

Features and Benefits

HIS-A is dual wall tubing with a 3:1 shrink ratio. The inner wall melts when heated and is forced into gaps. When the tubing cools the adhesive forms a seal against moisture and protects the components. HIS-A is now available in black and clear and comes in 6 sizes covering a wide range of applications due to its 3:1 shrink ratio.

Application

- Forms a seal against moisture
- Protection against corrosion and mechanical abrasion



HIS-A - with adhesive liner.

Material Data

Type	HIS-A
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Longitudinal change after shrinkage	-10% max.
Minimum Shrink Temperature	+100 °C
Operating Temperature	-55 °C to +125 °C
Softening Point Adhesive	+85 °C
Insulation Class	A (VDE 0530)
Dielectric Strength	15 kV/mm according to IEC 60684 P2
Flammability	UL224 VW-1 (except clear)

Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Pack Cont. (m)	Colour
308-10300	HIS-A-3/1	3.0	1.0	1.00	10	Black (BK)
308-10303	HIS-A-3/1	3.0	1.0	1.00	10	Transparent (CL)
308-10600	HIS-A-6/2	6.0	2.0	1.00	5	Black (BK)
308-10603	HIS-A-6/2	6.0	2.0	1.00	5	Transparent (CL)
308-10900	HIS-A-9/3	9.0	3.0	1.40	5	Black (BK)
308-10903	HIS-A-9/3	9.0	3.0	1.40	5	Transparent (CL)
308-11200	HIS-A-12/4	12.0	4.0	1.80	5	Black (BK)
308-11203	HIS-A-12/4	12.0	4.0	1.80	5	Transparent (CL)
308-11800	HIS-A-18/6	18.0	6.0	2.25	4	Black (BK)
308-11803	HIS-A-18/6	18.0	6.0	2.25	4	Transparent (CL)
308-12400	HIS-A-24/8	24.0	8.0	2.50	3	Black (BK)
308-12403	HIS-A-24/8	24.0	8.0	2.50	3	Transparent (CL)

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Storage Rack for HIS-Boxes

• HIS-Service Station

This sturdy Service Station contains up to 5 dispensers. It can be put on a bench or mounted to a wall. A special cutter is included and makes it easy to cut the tubing length as desired

Technical Table

Article-No.	Description
365-30100	HIS-Service Station incl. cutter, contents: 5 dispensers HIS-3 (shrink ratio: 3:1), black, sizes are as follows: HIS-3/1, HIS-6/2, HIS-12/4 (2 pcs.), HIS-24/8
365-20000	HIS-Service Station incl. cutter, contents: 5 dispensers HIS-Pack (shrink ratio: 2:1), black, sizes are as follows: HIS-1/8, HIS-3/16, HIS-1/4, HIS-3/8, HIS 1/2 and one RiteOn Starter Pack
300-30000	HIS-Service Station incl. cutter, empty



HIS-Service Station contains 5 dispensers and a special cutter.

• HIS-PACK

Features and Benefits

- E-beam Crosslinked Polyolefin, thin-wall and flexible
- Shrink ratio 2:1
- Available in colours: black, red, blue, transparent and yellow/green.
- 10 sizes from 1.2mm to 25.4mm
- Handy dispenser box including table with full range of applications

Application

- General purpose electrical insulation
- Protection against corrosion and mechanical abrasion



HIS-A.

Material Data

Material	Polyolefin, cross-linked (POX)
Shrink Ratio	2:1
Longitudinal change after shrinkage	+/- 5%
Minimum Shrink Temperature	+100 °C
Operating Temperature	-55 °C to +125 °C
Insulation Class	E (VDE 0530)
Dielectric Strength	20kV/mm according to ASTM D2671
Flammability	UL224 VW-1 (except clear)



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 2:1 on a Reel

• HIS-PACK

Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT)	Pack Cont. (m)	Colour
300-30120	HIS-PACK-1.2/0.6	1.2	0.6	0.40	10	Black (BK)
300-30122	HIS-PACK-1.2/0.6	1.2	0.6	0.40	10	Red (RD)
300-30123	HIS-PACK-1.2/0.6	1.2	0.6	0.40	10	Transparent (CL)
300-30126	HIS-PACK-1.2/0.6	1.2	0.6	0.40	10	Blue (BU)
300-30160	HIS-PACK-1.6/0.8	1.6	0.8	0.40	10	Black (BK)
300-30162	HIS-PACK-1.6/0.8	1.6	0.8	0.40	10	Red (RD)
300-30163	HIS-PACK-1.6/0.8	1.6	0.8	0.40	10	Transparent (CL)
300-30166	HIS-PACK-1.6/0.8	1.6	0.8	0.40	10	Blue (BU)
300-30240	HIS-PACK-2.4/1.2	2.4	1.2	0.50	10	Black (BK)
300-30242	HIS-PACK-2.4/1.2	2.4	1.2	0.50	10	Red (RD)
300-30243	HIS-PACK-2.4/1.2	2.4	1.2	0.50	10	Transparent (CL)
300-30246	HIS-PACK-2.4/1.2	2.4	1.2	0.50	10	Blue (BU)
300-30320	HIS-PACK-3.2/1.6	3.2	1.6	0.50	10	Black (BK)
300-30322	HIS-PACK-3.2/1.6	3.2	1.6	0.50	10	Red (RD)
300-30323	HIS-PACK-3.2/1.6	3.2	1.6	0.50	10	Transparent (CL)
300-30326	HIS-PACK-3.2/1.6	3.2	1.6	0.50	10	Blue (BU)
300-30327	HIS-PACK-3.2/1.6	3.2	1.6	0.50	10	Green-Yellow (GNYE)
300-30480	HIS-PACK-4.8/2.4	4.8	2.4	0.50	10	Black (BK)
300-30482	HIS-PACK-4.8/2.4	4.8	2.4	0.50	10	Red (RD)
300-30483	HIS-PACK-4.8/2.4	4.8	2.4	0.50	10	Transparent (CL)
300-30486	HIS-PACK-4.8/2.4	4.8	2.4	0.50	10	Blue (BU)
300-30487	HIS-PACK-4.8/2.4	4.8	2.4	0.50	10	Green-Yellow (GNYE)
300-30640	HIS-PACK-6.4/3.2	6.4	3.2	0.60	5	Black (BK)
300-30642	HIS-PACK-6.4/3.2	6.4	3.2	0.60	5	Red (RD)
300-30643	HIS-PACK-6.4/3.2	6.4	3.2	0.60	5	Transparent (CL)
300-30646	HIS-PACK-6.4/3.2	6.4	3.2	0.60	5	Blue (BU)
300-30647	HIS-PACK-6.4/3.2	6.4	3.2	0.60	5	Green-Yellow (GNYE)
300-30950	HIS-PACK-9.5/4.7	9.5	4.7	0.60	5	Black (BK)
300-30952	HIS-PACK-9.5/4.7	9.5	4.7	0.60	5	Red (RD)
300-30953	HIS-PACK-9.5/4.7	9.5	4.7	0.60	5	Transparent (CL)
300-30956	HIS-PACK-9.5/4.7	9.5	4.7	0.60	5	Blue (BU)
300-30957	HIS-PACK-9.5/4.7	9.5	4.7	0.60	5	Green-Yellow (GNYE)
300-31270	HIS-PACK-12.7/6.4	12.7	6.4	0.60	5	Black (BK)
300-31272	HIS-PACK-12.7/6.4	12.7	6.4	0.60	5	Red (RD)
300-31273	HIS-PACK-12.7/6.4	12.7	6.4	0.60	5	Transparent (CL)
300-31276	HIS-PACK-12.7/6.4	12.7	6.4	0.60	5	Blue (BU)
300-31277	HIS-PACK-12.7/6.4	12.7	6.4	0.60	5	Green-Yellow (GNYE)
300-31900	HIS-PACK-19.1/9.5	19.1	9.5	0.80	5	Black (BK)
300-31902	HIS-PACK-19.1/9.5	19.1	9.5	0.80	5	Red (RD)
300-31903	HIS-PACK-19.1/9.5	19.1	9.5	0.80	5	Transparent (CL)
300-31906	HIS-PACK-19.1/9.5	19.1	9.5	0.80	5	Blue (BU)
300-31907	HIS-PACK-19.1/9.5	19.1	9.5	0.80	5	Green-Yellow (GNYE)
300-32540	HIS-PACK-25.4/12.7	25.4	12.7	0.90	5	Black (BK)
300-32542	HIS-PACK-25.4/12.7	25.4	12.7	0.90	5	Red (RD)
300-32543	HIS-PACK-25.4/12.7	25.4	12.7	0.90	5	Transparent (CL)
300-32546	HIS-PACK-25.4/12.7	25.4	12.7	0.90	5	Blue (BU)
300-32547	HIS-PACK-25.4/12.7	25.4	12.7	0.90	5	Green-Yellow (GNYE)

All dimensions in mm. Subject to technical changes.



Point of Sale Display for TREDUX

• TREDUX-Display

Features and Benefits

With TREDUX HellermannTyton has set a new standard in heat shrink tubing:

TREDUX offers a complete range of thin, medium and thick wall tubing cut into 1m-length. Securely packed in display boxes, they can be removed individually for occasional use in smaller quantities.

The shrink ratio 3:1 conforms very well to highly variable substrate dimensions and replaces many differently sized tubing solutions by fitting almost any heat shrink task. This reduces stock cost, and saves space.

All tubing are labeled with an EAN barcode. This allows for a fast and error-free billing as well as the complete registration of the stock.

The carton can be opened easily at the pre-perforated top and provides a clear presentation of the heatshrink range.



The TREDUX display.



The TREDUX Mixpack.

Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT)	Pack Cont. (piece/1m)	Colour
Proposed content for a TREDUX display						
TREDUX thin wall						
319-00150	TREDUX-1.5/0.5	1.5	0.5	0.50	20	Black (BK)
319-00300	TREDUX-3/1	3.0	1.0	0.60	20	Black (BK)
319-00300	TREDUX-3/1	3.0	1.0	0.60	20	Black (BK)
319-00600	TREDUX-6/2	6.0	2.0	0.70	15	Black (BK)
319-00600	TREDUX-6/2	6.0	2.0	0.70	15	Black (BK)
319-01200	TREDUX-12/4	12.0	4.0	0.85	10	Black (BK)
319-01200	TREDUX-12/4	12.0	4.0	0.85	10	Black (BK)
319-01200	TREDUX-12/4	12.0	4.0	0.85	10	Black (BK)
319-01200	TREDUX-12/4	12.0	4.0	0.85	10	Black (BK)
319-02400	TREDUX-24/8	24.0	8.0	1.20	5	Black (BK)
319-00307	TREDUX-3/1-GNYE	3.0	1.0	0.60	20	Green-Yellow (GNYE)
319-00607	TREDUX-6/2-GNYE	6.0	2.0	0.70	15	Green-Yellow (GNYE)
319-01207	TREDUX-12/4-GNYE	12.0	4.0	0.85	10	Green-Yellow (GNYE)
TREDUX MA47, Medium wall adhesive lined						
323-50120	TREDUX-MA47-12/3	12.0	3.0	2.0	6	Black (BK)
323-50120	TREDUX-MA47-12/3	12.0	3.0	2.0	6	Black (BK)
323-50190	TREDUX-MA47-19/6	19.0	6.0	2.5	10	Black (BK)
323-50300	TREDUX-MA47-30/8	30.0	8.0	2.5	6	Black (BK)
323-50300	TREDUX-MA47-30/8	30.0	8.0	2.5	6	Black (BK)
323-50400	TREDUX-MA47-40/12	40.0	12.0	2.5	4	Black (BK)
TREDUX HA47, Thick wall adhesive lined						
321-50130	TREDUX-HA47-13/4	13.0	4.0	2.4	6	Black (BK)
321-50130	TREDUX-HA47-13/4	13.0	4.0	2.4	6	Black (BK)
321-50190	TREDUX-HA47-19/6	19.0	6.0	2.7	10	Black (BK)
321-50330	TREDUX-HA47-33/8	33.0	8.0	3.2	5	Black (BK)
321-50450	TREDUX-HA47-45/12	45.0	12.0	4.1	4	Black (BK)
319-30000	TREDUX-Display	–	–	–	1	Blue (BU)

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing up to 3:1 - 1 m lengths

• TREDUX thin wall

Features and Benefits

TREDUX is a thin wall, flexible tubing with a shrink ratio of 3:1 and is made from cross-linked polyolefin. Available in 1 m lengths, 9 sizes from 1.5 mm to 101.6 mm and colours black and yellow/green.

All 1 m lengths are delivered in a display carton.

Application

TREDUX thin wall heat shrink tubing is used for general electrical insulation and mechanical protection of cables and wires.



TREDUX shrinks a maximum of 3:1.

**More colours on request.
Please contact us!**

Material Data	
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1 from 1.5 / 0.5 mm to 24 / 8 mm, 2:1 from 38.1/19.1 mm to 101.6 / 50.8 mm
Minimum Shrink Temperature	+100 °C
Operating Temperature	-55 °C to +135 °C
Dielectric Strength	20 kV/mm according to ASTM D 150
Flammability	UL224 VW-1 (except clear)



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT)	Pack Cont. (piece/1m)	Colour	Shrink Ratio
319-00150	TREDUX-1.5/0.5	1.5	0.5	0.50	20	Black (BK)	3:1
319-00157	TREDUX-1.5/0.5-GNYE	1.5	0.5	0.50	20	Green-Yellow (GNYE)	3:1
319-00300	TREDUX-3/1	3.0	1.0	0.60	20	Black (BK)	3:1
319-00307	TREDUX-3/1-GNYE	3.0	1.0	0.60	20	Green-Yellow (GNYE)	3:1
319-00600	TREDUX-6/2	6.0	2.0	0.70	15	Black (BK)	3:1
319-00607	TREDUX-6/2-GNYE	6.0	2.0	0.70	15	Green-Yellow (GNYE)	3:1
319-01200	TREDUX-12/4	12.0	4.0	0.85	10	Black (BK)	3:1
319-01207	TREDUX-12/4-GNYE	12.0	4.0	0.85	10	Green-Yellow (GNYE)	3:1
319-02400	TREDUX-24/8	24.0	8.0	1.20	5	Black (BK)	3:1
319-02407	TREDUX-24/8-GNYE	24.0	8.0	1.20	5	Green-Yellow (GNYE)	3:1
319-03800	TREDUX-38.1/19.1	38.1	19.1	1.02	6	Black (BK)	2:1
319-03807	TREDUX-38.1/19.1-GNYE	38.1	19.1	1.02	6	Green-Yellow (GNYE)	2:1
319-05100	TREDUX-50.8/25.4	50.8	25.4	1.14	6	Black (BK)	2:1
319-07600	TREDUX-76.2/38.1	76.2	38.1	1.27	3	Black (BK)	2:1
319-10200	TREDUX-101.6/50.8	101.6	50.8	1.40	2	Black (BK)	2:1

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval.
For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing up to 4:1 - 1 m lengths

- **TREDUX MA47 medium wall - with adhesive liner**

Features and Benefits

TREDUX MA47 medium wall heat shrink tubing with a shrink ratio of 4:1 is resistant to solvents, acids and alkaline solutions and offers especially good mechanical strength. The thermoplastic adhesive liner provides good moisture sealing and weathering protection.

TREDUX tubing are cut to lengths of 1 meter. Securely packed in display boxes, they can be removed individually for occasional use in smaller quantities.

Application

Suitable for insulation and protection of low voltage cable joints and terminations.



Medium wall tubing MA47 with shrink ratio 4:1 and adhesive liner.

Material Data

Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	up to 4:1
Minimum Shrink Temperature	+120 °C
Operating Temperature	-55 °C to +110 °C
Softening Point Adhesive	+85 °C
Dielectric Strength	20 kV/mm
Longitudinal change after shrinkage	-10% max



Detailed Information about Heatguns please refer to page 574.

Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT)	Pack Cont. (piece/1m)
323-50120	TREDUX-MA47-12/3	12.0	3.0	2.0	6
323-50190	TREDUX-MA47-19/6	19.0	6.0	2.5	10
323-50300	TREDUX-MA47-30/8	30.0	8.0	2.5	6
323-50400	TREDUX-MA47-40/12	40.0	12.0	2.5	4
323-50500	TREDUX-MA47-50/16	50.0	16.0	2.7	2
323-50630	TREDUX-MA47-63/19	63.0	19.0	2.8	2
323-50750	TREDUX-MA47-75/22	75.0	22.0	3.0	2
323-50950	TREDUX-MA47-95/30	95.0	30.0	3.0	1

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing up to 3,5:1 - 1 m lengths

- TREDUX HA47 thick wall - with adhesive liner

Features and Benefits

TREDUX HA47 is a thick walled polyolefin adhesive lined tubing for low and medium voltage power applications. HA47 is supplied in standard 1 meter lengths. Securely packed in a display carton, they can be removed individually for occasional use in smaller quantities.

Application

The toughness and the weatherability of TREDUX thick wall tubing makes it suitable for exposed applications and underground cable joints.



TREDUX HA47 - application below ground.

Material Data

Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	up to 3.5:1
Minimum Shrink Temperature	+120 °C
Operating Temperature	-55 °C to +110 °C
Softening Point	+85 °C
Adhesive	
Dielectric Strength	20 kV/mm
Longitudinal change after shrinkage	-10% max



Detailed Information about Heatguns please refer to page 574.

Technical Table

Article-No.	Type,	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Pack Cont. (piece/1m)
321-50130	TREDUX-HA47-13/4	13.0	4.0	2.4	6
321-50190	TREDUX-HA47-19/6	19.0	6.0	2.7	10
321-50330	TREDUX-HA47-33/8	33.0	8.0	3.2	5
321-50450	TREDUX-HA47-45/12	45.0	12.0	4.1	4
321-50510	TREDUX-HA47-51/16	51.0	16.0	4.1	2
321-50680	TREDUX-HA47-68/22	68.0	22.0	4.1	1
321-50850	TREDUX-HA47-85/25	85.0	25.0	4.3	1

All dimensions in mm. Subject to technical changes.



Hot Melt Tape for heat shrinkable tubing and shapes

• HMT200A

Features and Benefits

The hot melt tape flows when heated and provides permanent air and water tight seals.

Application

Designed for use with heat shrink sleeving and mouldings.

Application Method

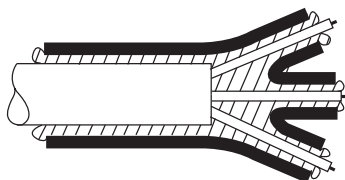
1. Clean and preheat the part to be protected.
2. Wrap the tape around the part and overlap.
3. Put the tubing or heat shrinkable shape over the tape and shrink down.



HMT200A-tape.



Adhesive tape HMT200A for sealing against humidity.



HMT200A

Material Data	
Material	Ethylenevinylacetate (EVA)
Colour	Transparent (CL)
Operating Temperature	-50 °C to +105 °C
Melting Point	Starting from +95 °C



Technical Table				
Article-No.	Type	Thickness (T)	Width (W)	Reel Length (m)
354-02259	HMT200A	0.25	25.0	50

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 2:1 out of PVC

- LVR - self extinguishing

Features and Benefits

LVR is a self extinguishing PVC heat shrink tubing. It has good dielectric strength, good chemical resistance and provides mechanical protection.

Application

LVR can be used for cable joints, low voltage bus bars and batteries.



LVR used for mechanical protection.



Material Data

Material	Flexible Polyvinyl Chloride, cadmium free (PVC)
Colour	Black (BK)
Shrink Ratio	2:1
Longitudinal change after shrinkage	+/-10% max
Minimum Shrink Temperature	+135 °C
Operating Temperature	-30 °C to +105 °C
Dielectric Strength	15 kV/mm according to IEC 243
Stocking Temperature	+25 °C max.
Shelf life	12 Months max.
Flammability	ASTM D2671
Specification	UL224 105 °C 600V



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
344-00120	LVR-1.2/0.6	1.2	0.6	0.40	250
344-00160	LVR-1.6/0.8	1.6	0.8	0.40	250
344-00240	LVR-2.4/1.2	2.4	1.2	0.40	250
344-00320	LVR-3.2/1.6	3.2	1.6	0.40	250
344-00480	LVR-4.8/2.4	4.8	2.4	0.50	250
344-00640	LVR-6.4/3.2	6.4	3.2	0.60	250
344-00950	LVR-9.5/4.8	9.5	4.8	0.60	125
344-01270	LVR-12.7/6.4	12.7	6.4	0.70	75
344-01900	LVR-19.1/9.5	19.0	9.5	0.80	100
344-02540	LVR-25.4/12.7	25.4	12.7	1.00	100

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval.
For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 2:1 flexible and coloured

- HFT-A - self extinguishing

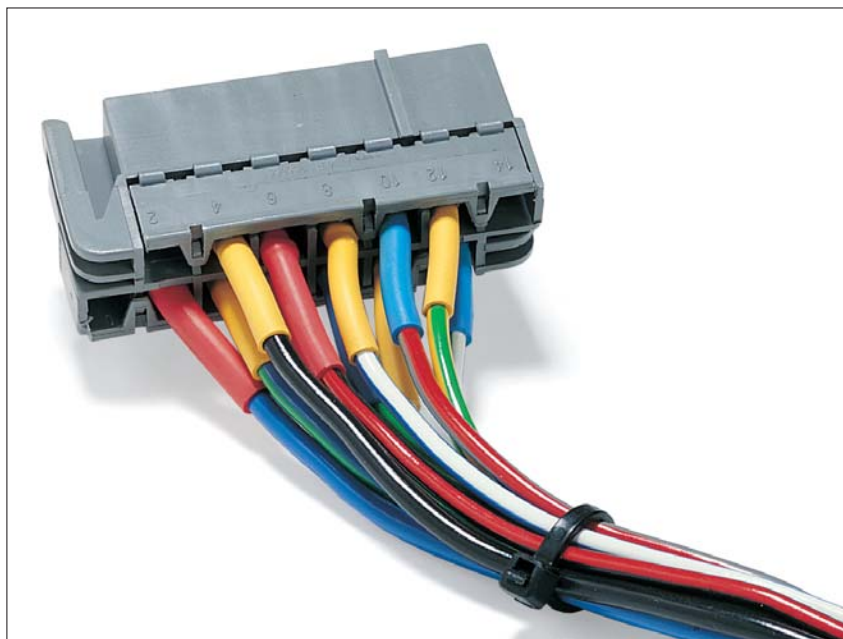
Features and Benefits

This flexible heat shrink tubing has many excellent properties including fast shrinking, easy handling, good mechanical strength and resistance against chemicals and solvents. It is UL and CSA approved, easy to print on and available in a wide range of colours and internal diameters up to 4 inches (101.6mm).

Application

This high performance thin wall tubing is used extensively for electrical and mechanical protection. It is also well proven for sleeve marking to identify wiring circuits. It shrinks uniformly to form a permanent insulation covering.

The transparent version is used for bundling and cable protection where visual inspection is required. It is often used as a see through protective sleeve over cable markers.



HFT-A conforms to major standards used in all Defence industries.



Standards available in colours black, red, blue, yellow and white.

Material Data

Material	Polyolefin, cross-linked (POX)
Shrink Ratio	2:1
Longitudinal change after shrinkage	-5% max.
Minimum Shrink Temperature	+100 °C
Operating Temperature	-55 °C to +135 °C
Insulation Class	B (VDE 0530)
Dielectric Strength	20 kV/mm according to IEC 60684 P2
Flammability	Self extinguishing
Specification	UL224 125 °C 600V, CSA, VG 95343, DEF STAN 59-97/3, SAE - AMS - DTL-23053 / 5C, MIL-DTL-23053/5C, NFF 00-608, Det Norske Veritas



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 2:1 flexible and coloured

• HFT-A - self extinguishing

Technical Table

Article-No.	Type	Designation as per VG-Norm	Supplied Ø D	Recov. Ø d	Wall (WT)	Colour	Reel Length (m)
305-01200	HFT-A-1.2/0.6	VG 95343 T05 A 001A	1.2	0.6	0.40	Black (BK)	400
305-01202	HFT-A-1.2/0.6	VG 95343 T05 A 001 C	1.2	0.6	0.40	Red (RD)	100
305-01204	HFT-A-1.2/0.6	VG 95343 T05 A 001 E	1.2	0.6	0.40	Yellow (YE)	100
305-01206	HFT-A-1.2/0.6	VG 95343 T05 A 001 G	1.2	0.6	0.40	Blue (BU)	100
305-01209	HFT-A-1.2/0.6	VG 95343 T05 A 001 L	1.2	0.6	0.40	White (WH)	100
305-01600	HFT-A-1.6/0.8	VG 95343 T05 A 002 A	1.6	0.8	0.40	Black (BK)	400
305-01602	HFT-A-1.6/0.8	VG 95343 T05 A 002 C	1.6	0.8	0.40	Red (RD)	100
305-01604	HFT-A-1.6/0.8	VG 95343 T05 A 002 E	1.6	0.8	0.40	Yellow (YE)	100
305-01606	HFT-A-1.6/0.8	VG 95343 T05 A 002 G	1.6	0.8	0.40	Blue (BU)	100
305-01609	HFT-A-1.6/0.8	VG 95343 T05 A 002 L	1.6	0.8	0.40	White (WH)	100
305-02400	HFT-A-2.4/1.2	VG 95343 T05 A 003 A	2.4	1.2	0.50	Black (BK)	400
305-02402	HFT-A-2.4/1.2	VG 95343 T05 A 003 C	2.4	1.2	0.50	Red (RD)	100
305-02404	HFT-A-2.4/1.2	VG 95343 T05 A 003 E	2.4	1.2	0.50	Yellow (YE)	100
305-02406	HFT-A-2.4/1.2	VG 95343 T05 A 003 G	2.4	1.2	0.50	Blue (BU)	100
305-02409	HFT-A-2.4/1.2	VG 95343 T05 A 003 L	2.4	1.2	0.50	White (WH)	100
305-03200	HFT-A-3.2/1.6	VG 95343 T05 A 004 A	3.2	1.6	0.50	Black (BK)	400
305-03202	HFT-A-3.2/1.6	VG 95343 T05 A 004 C	3.2	1.6	0.50	Red (RD)	100
305-03204	HFT-A-3.2/1.6	VG 95343 T05 A 004 E	3.2	1.6	0.50	Yellow (YE)	100
305-03206	HFT-A-3.2/1.6	VG 95343 T05 A 004 G	3.2	1.6	0.50	Blue (BU)	100
305-03209	HFT-A-3.2/1.6	VG 95343 T05 A 004 L	3.2	1.6	0.50	White (WH)	100
305-03245	HFT-A-3.2/1.6	VG 95343 T05 A 004 N	3.2	1.6	0.50	Green-Yellow (GNYE)	100
305-04800	HFT-A-4.8/2.4	VG 95343 T05 A 005 A	4.8	2.4	0.50	Black (BK)	300
305-04802	HFT-A-4.8/2.4	VG 95343 T05 A 005 C	4.8	2.4	0.50	Red (RD)	75
305-04804	HFT-A-4.8/2.4	VG 95343 T05 A 005 E	4.8	2.4	0.50	Yellow (YE)	75
305-04806	HFT-A-4.8/2.4	VG 95343 T05 A 005 G	4.8	2.4	0.50	Blue (BU)	75
305-04809	HFT-A-4.8/2.4	VG 95343 T05 A 005 L	4.8	2.4	0.50	White (WH)	75
305-04845	HFT-A-4.8/2.4	VG 95343 T05 A 005 N	4.8	2.4	0.50	Green-Yellow (GNYE)	75
305-06400	HFT-A-6.4/3.2	VG 95343 T05 A 006 A	6.4	3.2	0.60	Black (BK)	300
305-06402	HFT-A-6.4/3.2	VG 95343 T05 A 006 C	6.4	3.2	0.60	Red (RD)	75
305-06404	HFT-A-6.4/3.2	VG 95343 T05 A 006 E	6.4	3.2	0.60	Yellow (YE)	75
305-06406	HFT-A-6.4/3.2	VG 95343 T05 A 006 G	6.4	3.2	0.60	Blue (BU)	75
305-06409	HFT-A-6.4/3.2	VG 95343 T05 A 006 L	6.4	3.2	0.60	White (WH)	75
305-06445	HFT-A-6.4/3.2	VG 95343 T05 A 006 N	6.4	3.2	0.60	Green-Yellow (GNYE)	75
305-09500	HFT-A-9.5/4.8	VG 95343 T05 A007 A	9.5	4.8	0.60	Black (BK)	150
305-09502	HFT-A-9.5/4.8	VG 95343 T05 A007 C	9.5	4.8	0.60	Red (RD)	50
305-09504	HFT-A-9.5/4.8	VG 95343 T05 A007 E	9.5	4.8	0.60	Yellow (YE)	50
305-09506	HFT-A-9.5/4.8	VG 95343 T05 A007 G	9.5	4.8	0.60	Blue (BU)	50
305-09509	HFT-A-9.5/4.8	VG 95343 T05 A007 L	9.5	4.8	0.60	White (WH)	50
305-09545	HFT-A-9.5/4.8	VG 95343 T05 A007 N	9.5	4.8	0.60	Green-Yellow (GNYE)	50
305-12700	HFT-A-12.7/6.4	VG 95343 T05 A 008 A	12.7	6.4	0.60	Black (BK)	100
305-12702	HFT-A-12.7/6.4	VG 95343 T05 A 008 C	12.7	6.4	0.60	Red (RD)	50
305-12704	HFT-A-12.7/6.4	VG 95343 T05 A 008 E	12.7	6.4	0.60	Yellow (YE)	50
305-12706	HFT-A-12.7/6.4	VG 95343 T05 A 008 G	12.7	6.4	0.60	Blue (BU)	50
305-12709	HFT-A-12.7/6.4	VG 95343 T05 A 008 L	12.7	6.4	0.60	White (WH)	50
305-12745	HFT-A-12.7/6.4	VG 95343 T05 A 008 N	12.7	6.4	0.60	Green-Yellow (GNYE)	50

Standards available in colours black, red, blue, yellow and white.



Heat Shrinkable Tubing 2:1 flexible and coloured

- HFT-A - self extinguishing

Technical Table

Article-No.	Type	Designation as per VG-Norm	Supplied Ø D	Recov. Ø d	Wall (WT)	Colour	Reel Length (m)
305-19000	HFT-A-19.0/9.5	VG 95343 T05 A 009 A	19.0	9.5	0.80	Black (BK)	50
305-19002	HFT-A-19.0/9.5	VG 95343 T05 A 009 C	19.0	9.5	0.80	Red (RD)	25
305-19004	HFT-A-19.0/9.5	VG 95343 T05 A 009 E	19.0	9.5	0.80	Yellow (YE)	25
305-19006	HFT-A-19.0/9.5	VG 95343 T05 A 009 G	19.0	9.5	0.80	Blue (BU)	25
305-19009	HFT-A-19.0/9.5	VG 95343 T05 A 009 L	19.0	9.5	0.80	White (WH)	25
305-19045	HFT-A-19.0/9.5	VG 95343 T05 A 009 N	19.0	9.5	0.80	Green-Yellow (GNYE)	25
305-25400	HFT-A-25.4/12.7	VG 95343 T05 A 010 A	25.4	12.7	0.90	Black (BK)	25
305-25402	HFT-A-25.4/12.7	VG 95343 T05 A 010 C	25.4	12.7	0.90	Red (RD)	25
305-25404	HFT-A-25.4/12.7	VG 95343 T05 A 010 E	25.4	12.7	0.90	Yellow (YE)	25
305-25406	HFT-A-25.4/12.7	VG 95343 T05 A 010 G	25.4	12.7	0.90	Blue (BU)	25
305-25409	HFT-A-25.4/12.7	VG 95343 T05 A 010 L	25.4	12.7	0.90	White (WH)	25
305-25445	HFT-A-25.4/12.7	VG 95343 T05 A 010 N	25.4	12.7	0.90	Green-Yellow (GNYE)	25
305-38100	HFT-A-38.0/19.0	VG 95343 T05 A 011 A	38.0	19.0	1.00	Black (BK)	50
305-38102	HFT-A-38.0/19.0	VG 95343 T05 A 011 C	38.0	19.0	1.00	Red (RD)	50
305-38104	HFT-A-38.0/19.0	VG 95343 T05 A 011 E	38.0	19.0	1.00	Yellow (YE)	50
305-38106	HFT-A-38.0/19.0	VG 95343 T05 A 011 G	38.0	19.0	1.00	Blue (BU)	50
305-38109	HFT-A-38.0/19.0	VG 95343 T05 A 011 L	38.0	19.0	1.00	White (WH)	50
305-38145	HFT-A-38.0/19.0	VG 95343 T05 A 011 N	38.0	19.0	1.00	Green-Yellow (GNYE)	50
305-50800	HFT-A-50.8/25.4	VG 95343 T05 A 012 A	51.0	25.4	1.10	Black (BK)	35
305-50802	HFT-A-50.8/25.4	VG 95343 T05 A 012 C	51.0	25.4	1.10	Red (RD)	35
305-50804	HFT-A-50.8/25.4	VG 95343 T05 A 012 E	51.0	25.4	1.10	Yellow (YE)	35
305-50806	HFT-A-50.8/25.4	VG 95343 T05 A 012 G	51.0	25.4	1.10	Blue (BU)	35
305-50809	HFT-A-50.8/25.4	VG 95343 T05 A 012 L	51.0	25.4	1.10	White (WH)	35
305-76200	HFT-A-76.0/38.0	VG 95343 T05 A 013 A	76.0	38.0	1.30	Black (BK)	25
305-76202	HFT-A-76.0/38.0	VG 95343 T05 A 013 C	76.0	38.0	1.30	Red (RD)	25
305-76204	HFT-A-76.0/38.0	VG 95343 T05 A 013 E	76.0	38.0	1.30	Yellow (YE)	25
305-76206	HFT-A-76.0/38.0	VG 95343 T05 A 013 G	76.0	38.0	1.30	Blue (BU)	25
305-76209	HFT-A-76.0/38.0	VG 95343 T05 A 013 L	76.0	38.0	1.30	White (WH)	25
305-91600	HFT-A-101.6/50.8	VG 95343 T05 A 014 A	101.6	50.8	1.40	Black (BK)	25
305-91602	HFT-A-101.6/50.8	VG 95343 T05 A 014 C	101.6	50.8	1.40	Red (RD)	25
305-91604	HFT-A-101.6/50.8	VG 95343 T05 A 014 E	101.6	50.8	1.40	Yellow (YE)	25
305-91606	HFT-A-101.6/50.8	VG 95343 T05 A 014 G	101.6	50.8	1.40	Blue (BU)	25
305-91609	HFT-A-101.6/50.8	VG 95343 T05 A014 L	101.6	50.8	1.40	White (WH)	25



Low-Heat Shrinkable Tubing 2:1

• TCN20 - self extinguishing

Features and Benefits

TCN20 is a general purpose, flame-retardant polyolefin tubing with good resistance to common fluids and solvents. This flexible, 2:1 shrink ratio tubing has an excellent physical and electrical performance. The low shrink temperature and good mechanical strength means this tubing is widely used in the electrical, electronics and automotive industries.

Application

TCN20 is suitable for a wide range of applications such as electrical insulation, mechanical protection and cable bundling.



Heat shrink tubing TCN20.



TCN20

Material Data	
Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	2:1
Longitudinal change after shrinkage	+/- 5%
Minimum Shrink Temperature	+100 °C
Operating Temperature	-55 °C to +125 °C
Dielectric Strength	20kV/mm according to ASTM D2671
Flammability	Self extinguishing
Specification	UL224 125 °C 600V VW-1



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
300-73010	TCN20-1.2/0.6	1.2	0.6	0.30	300
300-73020	TCN20-1.6/0.8	1.6	0.8	0.35	300
300-73030	TCN20-2.4/1.2	2.4	1.2	0.45	300
300-73040	TCN20-3.2/1.6	3.2	1.6	0.45	300
300-73050	TCN20-4.8/2.4	4.8	2.4	0.50	300
300-73060	TCN20-6.4/3.2	6.4	3.2	0.55	300
300-73070	TCN20-9.5/4.8	9.5	4.8	0.55	100
300-73080	TCN20-12.7/6.4	12.7	6.4	0.65	100
300-73090	TCN20-19.1/9.5	19.1	9.5	0.80	60
300-73100	TCN20-25.4/12.7	25.4	12.7	0.90	60
300-73110	TCN20-38.1/19.1	38.1	19.1	1.02	30
300-73120	TCN20-50.8/25.4	50.8	25.4	1.15	30

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval.
For product specific approvals please refer to the Appendix.



Low-Heat Shrinkable Tubing 3:1

• TCN20 overexpanded - self extinguishing

Features and Benefits

This extremely fast shrinking, thin wall tubing with its high shrink ratio of approx. 3:1 is flexible, and self-extinguishing. Its mechanical strength and resistance against chemicals and solvents make it suitable for a wide range of applications.

Application

Mechanical, electrical and corrosion protection applications for parts with high diameter variances. This fast shrinking tubing makes it suitable for high volume production.



Battery cables safely insulated with TCN20 overexpanded shrinkable tubing



Due to its thin wall TCN20 overexpanded is suitable for insulation of antennas.

Material Data

Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	3:1
Longitudinal change after shrinkage	+/- 5%
Minimum Shrink	+100 °C
Operating Temperature	-55 °C to +125 °C
Dielectric Strength	20 kV/mm
Flammability	Self extinguishing
Specification	UL224



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
300-73130	TCN20-2.4/0.8	2.4	0.8	0.50	300
300-73140	TCN20-3.2/1.2	3.2	1.2	0.50	300
300-73150	TCN20-4.8/1.6	4.8	1.6	0.50	300
300-73160	TCN20-6.6/2.4	6.6	2.4	0.55	300
300-73170	TCN20-9.5/3.2	9.5	3.2	0.65	100
300-73180	TCN20-12.7/4.8	12.7	4.8	0.75	100
300-73190	TCN20-19.0/6.4	19.0	6.4	0.75	60
300-73200	TCN20-25.4/9.5	25.4	9.5	0.79	60
300-73210	TCN20-38.0/12.7	38.0	12.7	0.95	30

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval.

For product specific approvals please refer to the Appendix.



Low-Heat Shrinkable Tubing 2:1

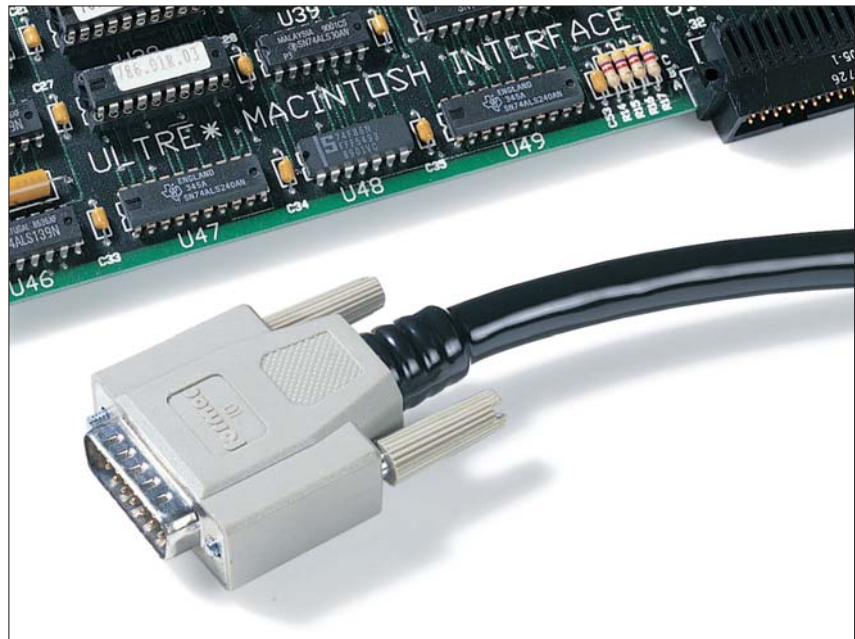
• TL27 - halogen free

Features and Benefits

TL27 is halogen free, very flexible, light-weight polyolefin tubing. TL27 has been designed for automotive applications like covering pipes in cars and trucks.

Application

The product has a low shrink temperature which offers very fast recovery. Application fields include covering of heat sensitive parts, mechanical protection and cosmetic covering.



TL27 – a very flexible tubing for automotive or applications where halogens cannot be accepted.



Material Data	
Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	2:1
Operating Temperature	-55 °C to +135 °C
Minimum Shrink Temperature	+90 °C
Flammability	FMVSS 302
Longitudinal change after shrinkage	+5%/-15%



Technical Table					
Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
302-20120	TL27-1.2/0.6	1.2	0.6	0.31	500
302-20160	TL27-1.6/0.8	1.6	0.8	0.33	500
302-30240	TL27-2.4/1.2	2.4	1.2	0.36	300
302-30320	TL27-3.2/1.6	3.2	1.6	0.39	300
302-30480	TL27-4.8/2.4	4.8	2.4	0.42	150
302-30640	TL27-6.4/3.2	6.4	3.2	0.45	100
302-30950	TL27-9.5/4.8	9.5	4.8	0.48	100
302-21270	TL27-12.7/6.4	12.7	6.4	0.52	100
302-31900	TL27-19.1/9.5	19.1	9.5	0.58	100
302-32540	TL27-25.4/12.7	25.4	12.7	0.67	100
302-23810	TL27-38.1/19.1	38.1	19.1	0.76	100
302-25080	TL27-50.8/25.4	50.8	25.4	0.85	100

All dimensions in mm. Subject to technical changes.

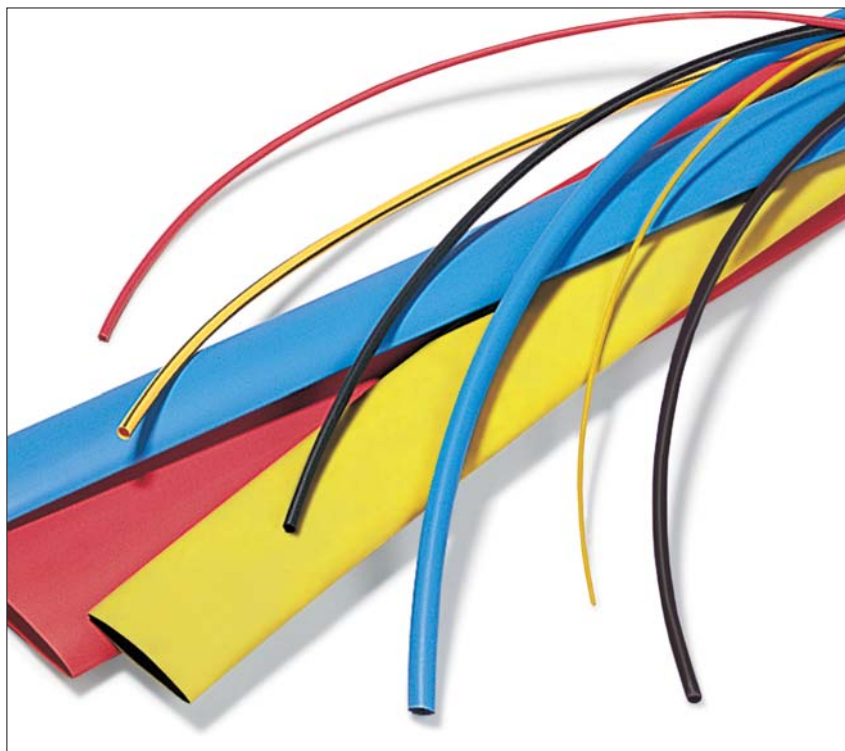


Heat Shrinkable Tubing 2:1 flexible and coloured

• TF21

Features and Benefits

Quick and easy shrinking TF21 tubing is widely used for insulating, mechanical protection, strain relief, marking, and bundling. The excellent balance of electrical, mechanical and chemical properties meet and exceed industrial standards. TF21 is UL-224 listed and available in a wide range of sizes and colours. A 3:1 shrink ratio version is also available as TF31.



TF21 – available in a wide range of colours and sizes.



Material Data	
Material	Polyolefin, cross-linked (POX)
Shrink Ratio	2:1
Operating Temperature	-55 °C to +135 °C
Minimum Shrink Temperature	+90 °C
Flammability	ASTM D876
Longitudinal change after shrinkage	+/- 5%
Dielectric Strength	37 kV/mm
Specification	UL224 125 °C 600V VW-1, CSA, SAE - AMS - DTL-23053/5 Class 1, NFF 00-608, JAR/FAR 25.853



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 2:1 flexible and coloured

• TF21

Technical Table

Article-No.	Type	Supplied Ø D (m)	Recov. Ø d (m)	Wall (WT)	Colour	Reel Length (m)
309-10120	TF21-1.2/0.6	1.2	0.6	0.41	Black (BK)	300
309-20129	TF21-1.2/0.6	1.2	0.6	0.41	White (WH)	100
309-20122	TF21-1.2/0.6	1.2	0.6	0.41	Red (RD)	100
309-20124	TF21-1.2/0.6	1.2	0.6	0.41	Yellow (YE)	100
309-20126	TF21-1.2/0.6	1.2	0.6	0.41	Blue (BU)	100
309-10160	TF21-1.6/0.8	1.6	0.8	0.43	Black (BK)	300
309-20169	TF21-1.6/0.8	1.6	0.8	0.43	White (WH)	100
309-20162	TF21-1.6/0.8	1.6	0.8	0.43	Red (RD)	100
309-20164	TF21-1.6/0.8	1.6	0.8	0.43	Yellow (YE)	100
309-20166	TF21-1.6/0.8	1.6	0.8	0.43	Blue (BU)	100
309-10240	TF21-2.4/1.2	2.4	1.2	0.51	Black (BK)	300
309-20249	TF21-2.4/1.2	2.4	1.2	0.51	White (WH)	100
309-20242	TF21-2.4/1.2	2.4	1.2	0.51	Red (RD)	100
309-20244	TF21-2.4/1.2	2.4	1.2	0.51	Yellow (YE)	100
309-20246	TF21-2.4/1.2	2.4	1.2	0.51	Blue (BU)	100
309-40247	TF21-2.4/1.2	2.4	1.2	0.51	Green-Yellow (GNYE)	100
309-10320	TF21-3.2/1.6	3.2	1.6	0.51	Black (BK)	300
309-20329	TF21-3.2/1.6	3.2	1.6	0.51	White (WH)	100
309-20322	TF21-3.2/1.6	3.2	1.6	0.51	Red (RD)	100
309-20324	TF21-3.2/1.6	3.2	1.6	0.51	Yellow (YE)	100
309-20326	TF21-3.2/1.6	3.2	1.6	0.51	Blue (BU)	100
309-40327	TF21-3.2/1.6	3.2	1.6	0.51	Green-Yellow (GNYE)	100
309-10480	TF21-4.8/2.4	4.8	2.4	0.51	Black (BK)	300
309-50489	TF21-4.8/2.4	4.8	2.4	0.51	White (WH)	60
309-50482	TF21-4.8/2.4	4.8	2.4	0.51	Red (RD)	60
309-50484	TF21-4.8/2.4	4.8	2.4	0.51	Yellow (YE)	60
309-50486	TF21-4.8/2.4	4.8	2.4	0.51	Blue (BU)	60
309-50487	TF21-4.8/2.4	4.8	2.4	0.51	Green-Yellow (GNYE)	60
309-10640	TF21-6.4/3.2	6.4	3.2	0.64	Black (BK)	300
309-50649	TF21-6.4/3.2	6.4	3.2	0.64	White (WH)	60
309-50642	TF21-6.4/3.2	6.4	3.2	0.64	Red (RD)	60
309-50644	TF21-6.4/3.2	6.4	3.2	0.64	Yellow (YE)	60
309-50646	TF21-6.4/3.2	6.4	3.2	0.64	Blue (BU)	60
309-50647	TF21-6.4/3.2	6.4	3.2	0.64	Green-Yellow (GNYE)	60
309-10950	TF21-9.5/4.8	9.5	4.8	0.64	Black (BK)	150
309-20959	TF21-9.5/4.8	9.5	4.8	0.64	White (WH)	50
309-20952	TF21-9.5/4.8	9.5	4.8	0.64	Red (RD)	50
309-20954	TF21-9.5/4.8	9.5	4.8	0.64	Yellow (YE)	50
309-20956	TF21-9.5/4.8	9.5	4.8	0.64	Blue (BU)	50
309-50957	TF21-9.5/4.8	9.5	4.8	0.64	Green-Yellow (GNYE)	50



**Detailed Information
about Heatguns please
refer to page 573.**



Heat Shrinkable Tubing 2:1 flexible and coloured

• TF21

Technical Table

Article-No.	Type	Supplied Ø D (m)	Recov. Ø d (m)	Wall (WT)	Colour	Reel Length (m)
309-11270	TF21-12.7/6.4	12.7	6.4	0.64	Black (BK)	100
309-21279	TF21-12.7/6.4	12.7	6.4	0.64	White (WH)	50
309-21272	TF21-12.7/6.4	12.7	6.4	0.64	Red (RD)	50
309-21274	TF21-12.7/6.4	12.7	6.4	0.64	Yellow (YE)	50
309-21276	TF21-12.7/6.4	12.7	6.4	0.64	Blue (BU)	50
309-41277	TF21-12.7/6.4	12.7	6.4	0.64	Green-Yellow (GNYE)	50
309-11900	TF21-19.0/9.5	19.1	9.5	0.76	Black (BK)	50
309-11909	TF21-19.0/9.5	19.1	9.5	0.76	White (WH)	50
309-11902	TF21-19.0/9.5	19.1	9.5	0.76	Red (RD)	50
309-11904	TF21-19.0/9.5	19.1	9.5	0.76	Yellow (YE)	50
309-11906	TF21-19.0/9.5	19.1	9.5	0.76	Blue (BU)	50
309-11907	TF21-19.0/9.5	19.1	9.5	0.76	Green-Yellow (GNYE)	50
309-12540	TF21-25.4/12.7	25.4	12.7	0.89	Black (BK)	50
309-12549	TF21-25.4/12.7	25.4	12.7	0.89	White (WH)	50
309-12542	TF21-25.4/12.7	25.4	12.7	0.89	Red (RD)	50
309-12544	TF21-25.4/12.7	25.4	12.7	0.89	Yellow (YE)	50
309-12546	TF21-25.4/12.7	25.4	12.7	0.89	Blue (BU)	50
309-12547	TF21-25.4/12.7	25.4	12.7	0.89	Green-Yellow (GNYE)	50
309-13810	TF21-38.0/19.0	38.1	19.1	1.02	Black (BK)	60
309-13819	TF21-38.0/19.0	38.1	19.1	1.02	White (WH)	60
309-13812	TF21-38.0/19.0	38.1	19.1	1.02	Red (RD)	60
309-13814	TF21-38.0/19.0	38.1	19.1	1.02	Yellow (YE)	60
309-13816	TF21-38.0/19.0	38.1	19.1	1.02	Blue (BU)	60
309-13817	TF21-38.0/19.0	38.1	19.1	1.02	Green-Yellow (GNYE)	60
309-15080	TF21-50.8/25.4	50.8	25.4	1.14	Black (BK)	60
309-15089	TF21-50.8/25.4	50.8	25.4	1.14	White (WH)	60
309-15082	TF21-50.8/25.4	50.8	25.4	1.14	Red (RD)	60
309-15084	TF21-50.8/25.4	50.8	25.4	1.14	Yellow (YE)	60
309-15086	TF21-50.8/25.4	50.8	25.4	1.14	Blue (BU)	60
309-15087	TF21-50.8/25.4	50.8	25.4	1.14	Green-Yellow (GNYE)	60
309-17600	TF21-76.0/38.0	76.2	38.1	1.27	Black (BK)	30
309-17609	TF21-76.0/38.0	76.2	38.1	1.27	White (WH)	30
309-17602	TF21-76.0/38.0	76.2	38.1	1.27	Red (RD)	30
309-17604	TF21-76.0/38.0	76.2	38.1	1.27	Yellow (YE)	30
309-17606	TF21-76.0/38.0	76.2	38.1	1.27	Blue (BU)	30
309-11020	TF21-101.6/50.8	101.6	50.8	1.40	Black (BK)	15
309-11029	TF21-101.6/50.8	101.6	50.8	1.40	White (WH)	15
309-11022	TF21-101.6/50.8	101.6	50.8	1.40	Red (RD)	15
309-11024	TF21-101.6/50.8	101.6	50.8	1.40	Yellow (YE)	15
309-11026	TF21-101.6/50.8	101.6	50.8	1.40	Blue (BU)	15

Cut lengths available on request. Please contact us!



Heat Shrinkable Tubing 2:1 flexible and transparent

• TF24

Features and Benefits

TF24 transparent tubing is ideal to protect wire and cable markers. The transparency allows for the inspectability of the substrate covered. TF24 is halogen free.



TF24 – ideal to protect cable markers.

**Cut lengths available on
request. Please contact us!**



Material Data

Material	Polyolefin, cross-linked (POX)
Shrink Ratio	2:1
Operating Temperature	-55 °C to +135 °C
Minimum Shrink Temperature	+110 °C
Longitudinal change after shrinkage	+/-5% max.
Dielectric Strength	46 kV/mm
Specification	VG 95343, SAE - AMS - DTL-23053/5 Class 2, DEF STAN 59-97 Type 2B



Technical Table

Article-No.	Type	Designation as per VG-Norm	Wall (WT) nom.	Supplied Ø D	Recov. Ø d	Colour	Reel Length (m)
309-40123	TF24-1.2/0.6	VG95343T05B001M	0.41	1.2	0.6	Transparent (CL)	100
309-40163	TF24-1.6/0.8	VG95343T05B002M	0.43	1.6	0.8	Transparent (CL)	100
309-40243	TF24-2.4/1.2	VG95343T05B003M	1.51	2.4	1.2	Transparent (CL)	100
309-40323	TF24-3.2/1.6	VG95343T05B004M	0.51	3.2	1.6	Transparent (CL)	100
309-50483	TF24-4.8/2.4	VG95343T05B005M	0.51	4.8	2.4	Transparent (CL)	60
309-50643	TF24-6.4/3.2	VG95343T05B006M	0.64	6.4	3.2	Transparent (CL)	60
309-40953	TF24-9.5/4.8	VG95343T05B007M	0.64	9.5	4.8	Transparent (CL)	50
309-41273	TF24-12.7/6.4	VG95343T05B008M	0.64	12.7	6.4	Transparent (CL)	50
309-31903	TF24-19.1/9.5	VG95343T05B009M	0.76	19.1	9.5	Transparent (CL)	50
309-32543	TF24-25.4/12.7	VG95343T05B010M	0.89	25.4	25.4	Transparent (CL)	50
309-33813	TF24-38.1/19.1	VG95343T05B011M	1.02	38.1	19.1	Transparent (CL)	60
309-35083	TF24-50.8/25.4	VG95343T05B012M	1.14	50.8	25.4	Transparent (CL)	60
309-37603	TF24-76.2/38.1	VG95343T05B013M	1.27	76.2	38.1	Transparent (CL)	30
309-31023	TF24-101.6/50.8	VG95343T05B014M	1.40	101.6	50.8	Transparent (CL)	15

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



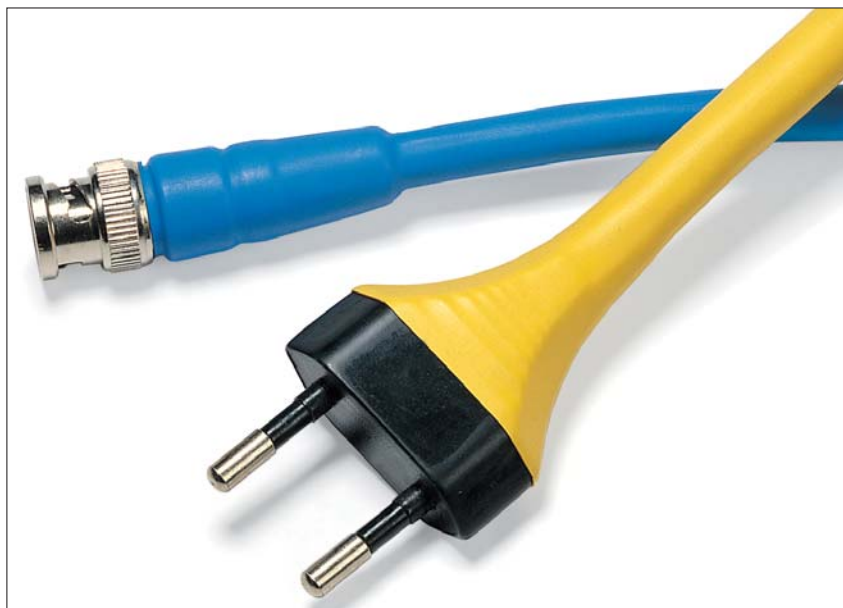
Heat Shrinkable Tubing 3:1 flexible and coloured

• TF31

Features and Benefits

TF31 is a highly flame retardant polyolefin heat shrink that meets UL224VW-1. With its high shrink ratio TF31 can be used easily with varying substrates. Typical applications are for example; insulation and identification of wires, cables and light duty harnesses. It is available in a wide range of colours and sizes.

Inventory can be reduced significantly as only a few sizes cover a wide range of diameters.



TF31 with 3:1 shrink ratio allowing for a wider range of application.

Cut lengths available on request. Please contact us!

Detailed Information about Heatguns please refer to page 573.

Material Data

Material	Polyolefin, cross-linked (POX)
Shrink Ratio	3:1
Operating Temperature	-55 °C to +135 °C
Minimum Shrink Temperature	+90 °C
Flammability	ASTM D876
Longitudinal change after shrinkage	-10% max
Dielectric Strength	37 kV/mm
Specification	UL224 125 °C 600V VW-1, CSA



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d (m)	Wall (WT)	Colour	Reel Length (m)
333-20150	TF31-1.5/0.5	1.5	0.5	0.50	Black (BK)	300
333-40300	TF31-3/1	3.0	1.0	0.60	Black (BK)	150
333-40600	TF31-6/2	6.0	2.0	0.70	Black (BK)	150
333-20900	TF31-9/3	9.0	3.0	0.80	Black (BK)	150
333-21200	TF31-12/4	12.0	4.0	0.85	Black (BK)	100
333-41800	TF31-18/6	18.0	6.0	1.00	Black (BK)	60
333-42400	TF31-24/8	24.0	8.0	1.20	Black (BK)	60
333-24000	TF31-40/13	40.0	13.0	1.25	Black (BK)	60



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 3:1 flexible and coloured

Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT)	Colour	Reel Length (m)
333-30150	TF31-1.5/0.5	1.5	0.5	0.50	Black (BK)	30
333-30156	TF31-1.5/0.5	1.5	0.5	0.50	Blue (BU)	30
333-30155	TF31-1.5/0.5	1.5	0.5	0.50	Green (GN)	30
333-30157	TF31-1.5/0.5	1.5	0.5	0.50	Green-Yellow (GNYE)	30
333-30152	TF31-1.5/0.5	1.5	0.5	0.50	Red (RD)	30
333-30159	TF31-1.5/0.5	1.5	0.5	0.50	White (WH)	30
333-30154	TF31-1.5/0.5	1.5	0.5	0.50	Yellow (YE)	30
333-30306	TF31-3/1	3.0	1.0	0.60	Blue (BU)	30
333-30300	TF31-3/1	3.0	1.0	0.60	Black (BK)	30
333-30305	TF31-3/1	3.0	1.0	0.60	Green (GN)	30
333-30307	TF31-3/1	3.0	1.0	0.60	Green-Yellow (GNYE)	30
333-30302	TF31-3/1	3.0	1.0	0.60	Red (RD)	30
333-30309	TF31-3/1	3.0	1.0	0.60	White (WH)	30
333-30304	TF31-3/1	3.0	1.0	0.60	Yellow (YE)	30
333-30606	TF31-6/2	6.0	2.0	0.70	Blue (BU)	30
333-30600	TF31-6/2	6.0	2.0	0.70	Black (BK)	30
333-30605	TF31-6/2	6.0	2.0	0.70	Green (GN)	30
333-30607	TF31-6/2	6.0	2.0	0.70	Green-Yellow (GNYE)	30
333-30602	TF31-6/2	6.0	2.0	0.70	Red (RD)	30
333-30609	TF31-6/2	6.0	2.0	0.70	White (WH)	30
333-30604	TF31-6/2	6.0	2.0	0.70	Yellow (YE)	30
333-30906	TF31-9/3	9.0	3.0	0.80	Blue (BU)	30
333-30900	TF31-9/3	9.0	3.0	0.80	Black (BK)	30
333-30905	TF31-9/3	9.0	3.0	0.80	Green (GN)	30
333-30907	TF31-9/3	9.0	3.0	0.80	Green-Yellow (GNYE)	30
333-30902	TF31-9/3	9.0	3.0	0.80	Red (RD)	30
333-30909	TF31-9/3	9.0	3.0	0.80	White (WH)	30
333-30904	TF31-9/3	9.0	3.0	0.80	Yellow (YE)	30
333-31206	TF31-12/4	12.0	4.0	0.85	Blue (BU)	30
333-31200	TF31-12/4	12.0	4.0	0.85	Black (BK)	30
333-31205	TF31-12/4	12.0	4.0	0.85	Green (GN)	30
333-31207	TF31-12/4	12.0	4.0	0.85	Green-Yellow (GNYE)	30
333-31202	TF31-12/4	12.0	4.0	0.85	Red (RD)	30
333-31209	TF31-12/4	12.0	4.0	0.85	White (WH)	30
333-31204	TF31-12/4	12.0	4.0	0.85	Yellow (YE)	30
333-31806	TF31-18/6	18.0	6.0	1.00	Blue (BU)	30
333-31800	TF31-18/6	18.0	6.0	1.00	Black (BK)	30
333-31805	TF31-18/6	18.0	6.0	1.00	Green (GN)	30
333-31807	TF31-18/6	18.0	6.0	1.00	Green-Yellow (GNYE)	30
333-31802	TF31-18/6	18.0	6.0	1.00	Red (RD)	30
333-31809	TF31-18/6	18.0	6.0	1.00	White (WH)	30
333-31804	TF31-18/6	18.0	6.0	1.00	Yellow (YE)	30
333-32406	TF31-24/8	24.0	8.0	1.20	Blue (BU)	30
333-32400	TF31-24/8	24.0	8.0	1.20	Black (BK)	30
333-32405	TF31-24/8	24.0	8.0	1.20	Green (GN)	30
333-32407	TF31-24/8	24.0	8.0	1.20	Green-Yellow (GNYE)	30
333-32402	TF31-24/8	24.0	8.0	1.20	Red (RD)	30
333-32409	TF31-24/8	24.0	8.0	1.20	White (WH)	30
333-32404	TF31-24/8	24.0	8.0	1.20	Yellow (YE)	30
333-34006	TF31-40/13	40.0	13.0	1.25	Blue (BU)	30
333-34000	TF31-40/13	40.0	13.0	1.25	Black (BK)	30
333-34005	TF31-40/13	40.0	13.0	1.25	Green (GN)	30
333-34007	TF31-40/13	40.0	13.0	1.25	Green-Yellow (GNYE)	30
333-34002	TF31-40/13	40.0	13.0	1.25	Red (RD)	30
333-34009	TF31-40/13	40.0	13.0	1.25	White (WH)	30
333-34004	TF31-40/13	40.0	13.0	1.25	Yellow (YE)	30



Heat Shrinkable Tubing 3:1 flexible and transparent

• TF34

Features and Benefits

This flexible, halogen free tubing provides good insulation, while the clear colour allows excellent visibility of the substrate below. For general purpose applications, bundling and jacketing of cables where visual inspection is required.



TF34 transparent tubing with 3:1 shrink ratio allowing for a wider range of application.

Cut lengths available on request. Please contact us!

Material Data

Material	Polyolefin, cross-linked (POX)
Colour	Transparent (CL)
Shrink Ratio	3:1
Operating Temperature	-55 °C to +135 °C
Minimum Shrink Temperature	+110 °C
Longitudinal change after shrinkage	-5% max.
Dielectric Strength	46 kV/mm



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
333-30153	TF34-1.5/0.5	1.5	0.5	0.50	30
333-30303	TF34-3/1	3.0	1.0	0.50	30
333-30603	TF34-6/2	6.0	2.0	0.70	30
333-30903	TF34-9/3	9.0	3.0	0.80	30
333-31203	TF34-12/4	12.0	4.0	0.85	30
333-31803	TF34-18/6	18.0	6.0	1.00	30
333-32403	TF34-24/8	24.0	8.0	1.20	30
333-34003	TF34-40/13	40.0	13.0	1.25	30

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing adhesive lined

- EPS-300 3:1
- EPS-400 4:1

Features and Benefits

EPS is a flexible and thin walled heat shrink tubing with a co-extruded hot melt adhesive inner wall. The adhesive flows easily to provide an environmental sealing of complex parts and protects against moisture.

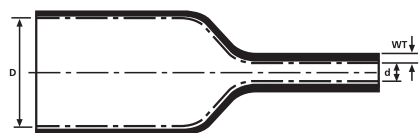
Application

EPS seals and protect a wide variety of electrical applications like back end connector sealing, connector-to-cable transitions and splices.



EPS-300 and EPS-400 offer high shrink ratios and protection against humidity.

**Cut lengths available on
request. Please contact us!**



EPS-300, EPS-400

Material Data

Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	3:1, 4:1
Longitudinal change after shrinkage	-10% max.
Minimum Shrink Temperature	+120 °C
Operating Temperature	-55 °C to +110 °C
Softening Point Adhesive	+90 °C
Dielectric Strength	15 kV/mm according to IEC 60684 P2
Flammability	ASTM D2671 (outer layer only)
Specification	SAE - AMS - DTL-23053 / 4



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
EPS-300					
340-03010	EPS-300-3/1	3.0	1.0	1.00	400
340-06020	EPS-300-6/2	6.0	2.0	1.00	300
340-09030	EPS-300-9/3	9.0	3.0	1.40	150
340-12040	EPS-300-12/4	12.0	4.0	1.80	100
340-19060	EPS-300-19/6	19.0	6.0	2.20	50
340-24080	EPS-300-24/8	24.0	8.0	2.50	25
340-40130	EPS-300-40/13	40.0	13.0	2.50	25
EPS-400					
341-04010	EPS-400-4/1	4.0	1.0	1.00	300
341-08020	EPS-400-8/2	8.0	2.0	1.00	150
341-12030	EPS-400-12/3	12.0	3.0	1.40	100
341-16040	EPS-400-16/4	16.0	4.0	1.80	100
341-24060	EPS-400-24/6	24.0	6.0	2.20	50
341-32080	EPS-400-32/8	32.0	8.0	2.50	25

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval.
For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing adhesive lined - 1 m lengths

- TA32 3:1
- TA42 4:1

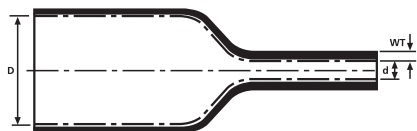
Features and Benefits

TA32 and TA42 are thin walled adhesive lined heat shrink tubings. Both TA32 and TA42 have an outer wall that is highly flame retardant and are UL224 approved. They have high shrink ratios making them ideal for variable substrates. The adhesive lining ensures that a good environmental seal can be maintained.



TA32 and TA42 are UL224 listed adhesive lined tubing. Available in 3:1 and 4:1 shrink ratio.

**Other colours and cut lengths
available on request. Please
contact us!**



TA32, TA42

Material Data

Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	3:1, 4:1
Operating Temperature	-55 °C to +125 °C
Minimum Shrink Temperature	+110 °C
Melting Point	+110 °C
Flammability	UL224
Longitudinal change after shrinkage	-15% max.
Dielectric Strength	15 kV/mm according to IEC 60684 P2
Specification	UL224 125 °C 600V, CSA, SAE - AMS - DTL-23053/4 Class 3



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Length (L) (m)
TA32					
318-30300	TA32-3/1	3.2	0.6	0.95	1.2
318-30450	TA32 4.5/1.5	4.5	1.5	1.10	1.2
318-30600	TA32-6/2	6.0	2.0	1.20	1.2
318-30900	TA32-9/3	9.0	3.0	1.30	1.2
318-31200	TA32-12/4	12.0	4.0	1.40	1.2
318-31900	TA32-19/6	19.0	6.0	1.80	1.2
318-32400	TA32-24/8	24.0	8.0	2.50	1.2
318-34000	TA32-40/13	40.0	13.0	2.50	1.2
TA42					
318-40400	TA42-4/1	4.0	1.0	1.00	1.2
318-40800	TA42-8/2	8.0	2.0	1.20	1.2
318-41200	TA42-12/3	12.0	3.0	1.40	1.2
318-41600	TA42-16/4	16.0	4.0	1.80	1.2
318-42400	TA42-24/6	24.0	6.0	2.25	1.2
318-43200	TA42-32/8	32.0	8.0	2.55	1.2
318-45200	TA42-52/13	52.0	13.0	2.55	1.2

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing up to 4:1 - 1 m lengths

- MA47 - medium wall adhesive lined
- MU47 - medium wall unlined

Features and Benefits

MA47 has been designed to protect cable joints and terminations in low voltage applications. The adhesive lining makes it especially suitable for above and underground cable applications.

This medium wall tubing is flexible yet has robust insulation characteristics.

MA47 tubing is coated with a thermoplastic adhesive on the inside, which protects against humidity and other kinds of environmental impacts after shrinking.

Application

Insulation and Protection of low voltage cable joints and terminations above and below ground.

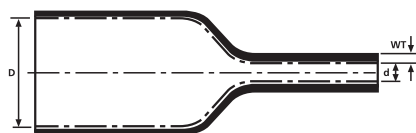


MA47 and MU47 medium wall tubing - lined and unlined.

Material Data	
Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	up to 4:1
Operating Temperature	MA47-55 °C to +110 °C MU47-55 °C to +110 °C
Minimum Shrink Temperature	+120 °C
Softening Point Adhesive	+85 °C
Longitudinal change after shrinkage	-10% max.
Dielectric Strength	20 kV/mm



Cut lengths available on request. Please contact us!



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Length (L) (m)
MA47 - medium wall adhesive lined					
323-20120	MA47-12/3	12.0	3.0	2.0	1.0
323-20190	MA47-19/6	19.0	6.0	2.5	1.0
323-20300	MA47-30/8	30.0	8.0	2.5	1.0
323-20400	MA47-40/12	40.0	12.0	2.5	1.0
323-20500	MA47-50/16	50.0	16.0	2.7	1.0
323-20630	MA47-63/19	63.0	19.0	2.8	1.0
323-20750	TREDUX-MA47-75/22	75.0	22.0	3.0	1.0
323-20950	MA47-95/30	95.0	30.0	3.0	1.0
323-21150	MA47-115/34	115.0	34.0	3.0	1.0
323-21400	MA47-140/42	140.0	42.0	3.0	1.0
MU47 - medium wall unlined					
323-10120	MU47-12/3	12.0	3.0	2.0	1.0
323-10190	MU47-19/6	19.0	6.0	2.2	1.0
323-10300	MU47-30/8	30.0	8.0	2.5	1.0
323-10400	MU47-40/12	40.0	12.0	2.5	1.0
323-10500	MU47-50/16	50.0	16.0	2.7	1.0
323-10630	MU47-63/19	63.0	19.0	2.8	1.0
323-10750	MU47-75/22	75.0	22.0	3.0	1.0
323-10950	MU47-95/30	95.0	30.0	3.0	1.0
323-11150	MU47 115/34	115.0	34.0	3.0	1.0
323-11400	MU47-140/42	140.0	42.0	3.0	1.0

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing up to 3,5:1 - 1 m lengths

- HA47 - thick wall adhesive lined
- HU47 - thick wall unlined

Features and Benefits

HA47 is a thick walled polyolefin adhesive lined sleeving used for low voltage power applications. The thermoplastic adhesive provides good moisture sealing and weathering protection.

Application

The toughness and wheatherability makes it well suited for exposed applications and underground cable joints and cable terminations.



HA47 – Heavy wall adhesive lined tubing.

Material Data	
Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	up to 3.5:1
Operating Temperature	HA47 -55 °C to +110 °C HU47 -55 °C to +110 °C
Minimum Shrink Temperature	+120 °C
Softening Point Adhesive	+85 °C
Longitudinal change after shrinkage	-10% max.
Dielectric Strength	20 kV/mm



Cut lengths available on request. Please contact us!

Technical Table					
Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Length (L) (m)
HA47 - thick wall adhesive lined					
321-20090	HA47-9/3	9.0	3.0	1.8	1.0
321-20130	HA47-13/4	13.0	4.0	2.4	1.0
321-20180	HA47-19/6	19.0	6.0	2.7	1.0
321-20280	HA47-33/8	33.0	8.0	3.2	1.0
321-20450	HA47-45/12	45.0	12.0	4.1	1.0
321-20510	HA47-51/16	51.0	16.0	4.1	1.0
321-20680	HA47-68/22	68.0	22.0	4.1	1.0
321-20850	HA47-85/25	85.0	25.0	4.3	1.0
321-20900	HA47-105/30	105.0	30.0	4.3	1.0
321-21300	HA47-130/36	130.0	36.0	4.3	1.0
321-21600	HA47-160/50	160.0	50.0	4.3	1.0
321-21850	HA47-180/50	180.0	50.0	4.3	1.0
HU47 - thick wall unlined					
321-10090	HU47-9/3	9.0	3.0	1.8	1.0
321-10130	HU47-13/4	13.0	4.0	2.4	1.0
321-10180	HU47-19/6	19.0	6.0	2.7	1.0
321-10280	HU47-33/8	33.0	8.0	3.2	1.0
321-10450	HU47-45/12	45.0	12.0	4.1	1.0
321-10510	HU47-51/16	51.0	16.0	4.1	1.0
321-10680	HU47-68/22	68.0	22.0	4.1	1.0
321-10850	HU47-85/25	85.0	25.0	4.3	1.0
321-10900	HU47-105/30	105.0	30.0	4.3	1.0
321-11300	HU47-130/36	130.0	36.0	4.3	1.0
321-11600	HU47-160/50	160.0	50.0	4.3	1.0
321-11850	HU47-180/50	180.0	50.0	4.3	1.0

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 6:1, adhesive lined in 1 m cuts

• HA67

Features and Benefits

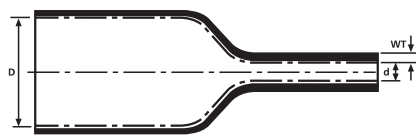
High shrink-ratio heavy-duty heat shrinkable tubing designed to pass over large size connectors and shrink down onto much smaller cable jackets. The thermoplastic adhesive lined tubing provides environmental sealing, excellent insulation and resistance to impact and abrasion. The 6:1 shrink-ratio conforms well to highly variable substrate dimensions and simplifies cable repair.

Application

Insulates, seals and protects large size differences between connectors and cables.



Due to the high shrink ratio HA67 is suitable for complex shapes and dimensions.



HA67

Material Data	
Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	6:1
Longitudinal change after shrinkage	-10% max.
Minimum Shrink Temperature	+120 °C
Operating Temperature	-55 °C to +110 °C
Softening Point	+85 °C
Adhesive	
Dielectric Strength	20kV/mm according to ASTM D2671



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Length (L)
321-30000	HA67-19.0/3.2	19.0	3.2	3.2	1220
321-30100	HA67-33.0/5.5	33.0	5.5	3.4	1220
321-30200	HA67-44.4/7.4	44.4	7.4	3.6	1220
321-30300	HA67-50.8/8.3	50.8	8.3	4.8	1220
321-30400	HA67-69.8/11.7	69.8	11.7	4.8	1220
321-30500	HA67-88.9/17.1	88.9	17.1	4.8	1220
321-30600	HA67-119.4/22.9	119.4	22.9	4.8	1220
321-30700	HA67-235.0/40.0	235.0	40.0	4.8	1220

All dimensions in mm. Subject to technical changes.



Heat Shrinkable Tubing 2:1 - Elastomer

• PST-H

Features and Benefits

PST-H is a flexible, high performance elastomeric tubing. This tubing is used in aerospace, defence, railway and automotive applications. PST-H is resistant to diesel, aviation and hydraulic fluids. It provides a reliable protection against abrasion and mechanical damage and is suitable for protecting cables and wire harnesses.

Application

PST-H is used for long-term protection of cables and wire harnesses in military equipment, motor sports, and aviation.



PST-H tubing with a break out boot.

Cut lengths available on request. Please contact us!



PST-H

Material Data

Material	Elastomer, cross-linked (POA)
Colour	Black (BK)
Shrink Ratio	2:1
Longitudinal change after shrinkage	-10% max.
Minimum Shrink Temperature	+135 °C
Operating Temperature	-75 °C to +150 °C
Dielectric Strength	20 kV/mm according to IEC 60684 P2
Flammability	Self extinguishing
Specification	DEF STAN 59-97/3, VG 95343, NFF 00-608



Technical Table

Article-No.	Type	Designation as per VG-Norm	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
342-20320	PST-H-3.2/1.6	VG 95343 T 05 D 001 A	3.2	1.6	0.70	400
342-20480	PST-H-4.8/2.4	VG 95343 T 05 D 002 A	4.8	2.4	0.80	300
342-20640	PST-H-6.4/3.2	VG 95343 T 05 D 003 A	6.4	3.2	0.90	300
342-20950	PST-H-9.5/4.8	VG 95343 T 05 D 004 A	9.5	4.8	1.00	150
342-21270	PST-H-12.7/6.4	VG 95343 T 05 D 005 A	12.7	6.4	1.20	100
342-21900	PST-H-19.0/9.5	VG 95343 T 05 D 006 A	19.0	9.5	1.40	50
342-22540	PST-H-25.4/12.7	VG 95343 T 05 D 007 A	25.4	12.7	1.80	50
342-23810	PST-H-38.0-19.0	VG 95343 T 05 D 008 A	38.0	19.0	2.40	30
342-25080	PST-H-51.0/25.4	VG 95343 T 05 D 009 A	51.0	25.4	2.80	20
342-27620	PST-H-76.0-38.0	VG 95343 T 05 D 010 A	76.0	38.0	3.20	15
342-29160	PST-H-102.0/51.0	VG 95343 T 05 D 011 A	102.0	51.0	3.50	15

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 2:1 - Elastomer

• PST-HT - light weight

Features and Benefits

The benefit of the thin walled and very flexible PST-HT tubing is in its lighter weight. It is used in areas where weight is a key factor, for example in aerospace applications or motorsport.

Application

PST-HT is used for long-term protection of cables and wire harnesses in military equipment, motorsport and aviation.



Thin wall PST-HT tubing with a boot.

Cut lengths available on request. Please contact us!



PST-HT

Material Data

Material	Elastomer, cross-linked (POA)
Colour	Black (BK)
Shrink Ratio	2:1
Longitudinal change after shrinkage	-10% max.
Minimum Shrink Temperature	+135 °C
Operating Temperature	-75 °C to +150 °C
Dielectric Strength	20 kV/mm according to IEC 60684 P2
Flammability	Self extinguishing
Specification	DEF STAN 59-97/3, VG 95343, NFF 00-608



Technical Table

Article-No.	Type	Designation as per VG-Norm	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
342-30320	PST-HT-3.2/1.6	VG 95343 T 05 D 013 A	3.2	1.6	0.50	400
342-30480	PST-HT-4.8/2.4	VG 95343 T 05 D 014 A	4.8	2.4	0.50	300
342-30640	PST-HT-6.4/3.2	VG 95343 T 05 D 015 A	6.4	3.2	0.60	300
342-30950	PST-HT-9.5/4.8	VG 95343 T 05 D 016 A	9.5	4.8	0.60	150
342-31270	PST-HT-12.7/6.4	VG 95343 T 05 D 017 A	12.7	6.4	0.60	100
342-31900	PST-HT-19.0/9.5	VG 95343 T 05 D 018 A	19.0	9.5	0.80	50
342-32540	PST-HT-25.4/12.7	VG 95343 T 05 D 019 A	25.4	12.7	0.90	50
342-33810	PST-HT-38.0/19.0	VG 95343 T 05 D 020 A	38.0	19.0	1.00	30
342-35080	PST-HT-51.0/25.4	VG 95343 T 05 D 022 A	51.0	25.4	1.20	20

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 2:1 - Fluoroelastomer

• Viton®-E

Features and Benefits

Viton®-E is a fluoroelastomeric heat shrink tubing. It remains flexible even at very low temperatures. It has extremely high resistance to chemicals and maintains its excellent mechanical strength and flexibility even after long term exposure to high temperatures. Viton-E tubing is approved to VG 95343/5E.

Application

Viton®-E is used for reliable protection against aggressive chemicals in high temperature environments like engine compartments and turbines. It is also used when protective tubings are required to remain flexible at low temperatures.



Viton®-E for flexibility and protection against aggressive chemicals.



**Detailed Information
about Heatguns please
refer to page 573.**



Viton®-E

Material Data

Material	Fluoropolymer cross-linked (FPMX)
Colour	Black (BK)
Shrink Ratio	2:1
Longitudinal change after shrinkage	-10% max.
Minimum Shrink Temperature	+175 °C
Operating Temperature	-55 °C to +200 °C
Insulation Class	C (VDE 0530)
Dielectric Strength	15 kV/mm according to IEC 60684 P2
Flammability	VG 95343
Specification	VG 95343



**Cut lengths available on
request. Please contact us!**

Technical Table

Article-No.	Type	Designation as per VG-Norm	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
330-00320	VITON®-E-3.2/1.6	VG 95343 T 05 E 001 A	3.2	1.6	0.70	50
330-00480	VITON®-E-4.8/2.4	VG 95343 T 05 E 002 A	4.8	2.4	0.80	50
330-00640	VITON®-E-6.4/3.2	VG 95343 T 05 E 003 A	6.4	3.2	0.90	50
330-00950	VITON®-E-9.5/4.8	VG 95343 T 05 E 004 A	9.5	4.8	1.00	50
330-01270	VITON®-E-12.7/6.4	VG 95343 T 05 E 005 A	12.7	6.4	1.20	25
330-01900	VITON®-E-19.0/9.5	VG 95343 T 05 E 006 A	19.0	9.5	1.40	25
330-02540	VITON®-E-25.4/12.7	VG 95343 T 05 E 007 A	25.4	12.7	1.80	25
330-03810	VITON®-E-38.0/19.0	VG 95343 T 05 E 008 A	38.0	19.0	2.40	15
330-05080	VITON®-E-50.8/25.4	VG 95343 T 05 E 009 A	50.8	25.4	2.80	15

All dimensions in mm. Subject to technical changes.

Viton® is a registered trademark of DuPont.



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing 2:1 - PVDF

• TK20

Features and Benefits

This tough, very thin walled, and semi-rigid tubing has excellent electrical properties while offering good resistance to chemicals. TK20 is highly flame retardant and UL 224 VW-1 approved.



This thin walled, translucent heat shrink tubing is often used for chemical applications.



**Detailed Information
about Heatguns please
refer to page 573.**



TK20

Material Data

Material	Polyvinylidene Fluoride (PVDF)
Colour	Transparent (CL)
Shrink Ratio	2:1
Operating Temperature	-55 °C to +175 °C
Minimum Shrink Temperature	+175 °C
Flammability	UL224 VW-1
Longitudinal change after shrinkage	+/-10% max
Dielectric Strength	≥ 30kV/mm min. according to ASTM D2171
Specification	SAE - AMS - DTL-23053 / 8, UL224 150 °C 600V VW-1, VG 95343



Technical Table

Article-No.	Type	Designation as per VG-Norm	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Length (L) (m)
311-00129	TK20-1.2/0.6	—	1.2	0.6	0.25	1.20
311-00169	TK20-1.6/0.8	VG95343T05F002M	1.6	0.8	0.25	1.20
311-00249	TK20-2.4/1.2	VG95343T05F003M	2.4	1.2	0.25	1.20
311-00329	TK20-3.2/1.6	VG95343T05F004M	3.2	1.6	0.25	1.20
311-00489	TK20-4.8/2.4	VG95343T05F005M	4.8	2.4	0.25	1.20
311-00649	TK20-6.4/3.2	VG95343T05F006M	6.4	3.2	0.30	1.20
311-00959	TK20-9.5/4.8	VG95343T05F007M	9.5	4.8	0.30	1.20
311-01279	TK20-12.7/6.4	VG95343T05F008M	12.7	6.4	0.30	1.20
311-01909	TK20-19.1/9.5	VG95343T05F009M	19.1	9.5	0.43	1.20
311-02549	TK20-25.4/12.7	VG95343T05F010M	25.4	12.7	0.48	1.20
311-03819	TK20-38.1/19.1	—	38.1	19.1	0.51	1.20
311-05089	TK20-50.8/25.4	—	50.8	25.4	0.51	1.20

All dimensions in mm. Subject to technical changes.



Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix.



Heat Shrinkable Tubing - PTFE

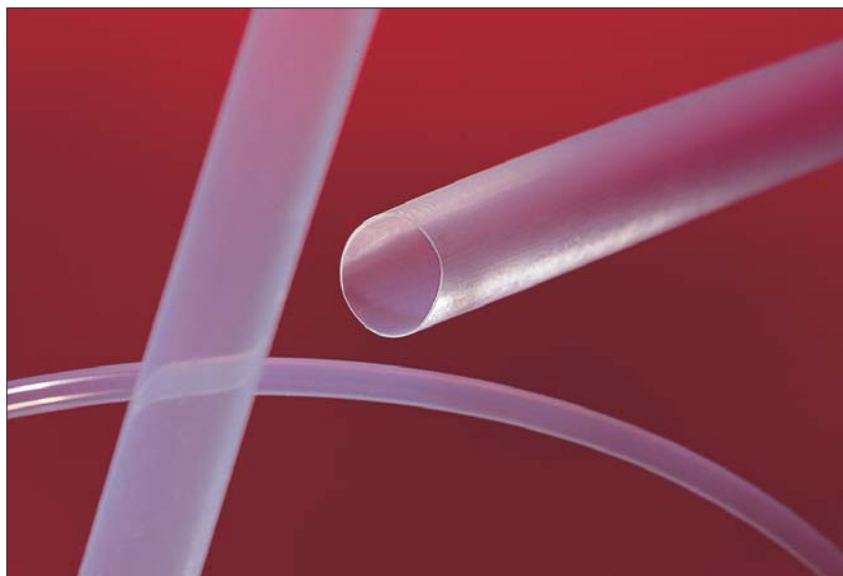
- TFE2 2:1
- TFE4 4:1

Features and Benefits

TFE heat shrink tubing is specified predominantly because of its very high temperature resistance. It is an extra thin walled transparent tubing that has both high abrasion resistance and good resistance against aggressive chemicals. TFE is available in either 2:1 (TFE2) or 4:1 (TFE4) shrink ratios.

Application

TFE is ideal for high temperature applications, where resistance to aggressive fluids is required or a very thin walled tubing is needed, for example in pH-measuring instruments. TFE tubing is also used to reduce movement due to friction, covering cylinders for example.



TFE is available in either 2:1 or 4:1 shrink ratios.

Material Data	
Material	Polytetrafluoroethylene (PTFE)
Colour	Transparent (CL)
Shrink Ratio	2:1, 4:1
Operating Temperature	-70 °C to +260 °C
Minimum Shrink Temperature	+330 °C
Flammability	Non burning
Longitudinal change after shrinkage	-20% max.
Dielectric Strength	40 kV/mm according to DIN 53481



TFE2, TFE4

Cut lengths available on request. Please contact us!



Heat Shrinkable Tubing - PTFE

• TFE2 2:1

• TFE4 4:1

Technical Table

Article-No.	Type	Wire Size (AWG)	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Length (L) (m)
TFE2						
336-00079	TFE2-30	30	0.86	0.38	0.23	1.22
336-00099	TFE2-28	28	0.96	0.46	0.23	1.22
336-00109	TFE2-26	26	1.17	0.56	0.23	1.22
336-00139	TFE2-24	24	1.27	0.69	0.25	1.22
336-00149	TFE2-22	22	1.39	0.82	0.25	1.22
336-00159	TFE2-20	20	1.52	0.99	0.30	1.22
336-00199	TFE2-18	18	1.93	1.25	0.30	1.22
336-00249	TFE2-16	16	2.36	1.55	0.30	1.22
336-00319	TFE2-14	14	3.05	1.83	0.30	1.22
336-00399	TFE2-12	12	3.81	2.26	0.30	1.22
336-00489	TFE2-10	10	4.85	2.85	0.30	1.22
336-00619	TFE2-8	8	6.10	3.58	0.38	1.22
336-00779	TFE2-6	6	7.67	4.52	0.38	1.22
336-00949	TFE2-4	4	9.40	5.69	0.38	1.22
336-01109	TFE2-2	2	10.92	7.06	0.38	1.22
336-01209	TFE2-0	0	11.94	8.81	0.38	1.22
TFE4						
		Size/Inch				
339-00209	TFE4-5/64	5/64	1.98	0.64	0.22	1.22
339-00329	TFE4-1/8	1/8	3.17	0.94	0.25	1.22
339-00340	TFE4-3/16	3/16	4.75	1.27	0.30	1.22
339-00649	TFE4-1/4	1/4	6.35	1.60	0.30	1.22
339-00959	TFE4-3/8	3/8	9.52	2.44	0.30	1.22
339-01279	TFE4-1/2	1/2	12.7	3.66	0.38	1.22
339-01599	TFE4-5/8	5/8	15.87	4.52	0.38	1.22
339-01909	TFE4-3/4	3/4	19.05	5.69	0.38	1.22
339-02549	TFE4-1	1	25.4	7.06	0.38	1.22
339-03189	TFE4-1 1/4	1 1/4	31.75	8.82	0.38	1.22

All dimensions in mm. Subject to technical changes.

AWG American Wire Gauge



TFE2, TFE4



Heat Shrinkable Tubing 2:1 - Flame retardant

• TR27

Features and Benefits

TR27 is a thin wall, halogen free tubing and is self-extinguishing with flame retardant properties. This tubing is also available in an adhesive lined version.

SR27 is a medium wall type. All these tubings have a low smoke index and excellent flame retardant properties.

Application

TR27 is used in applications where toxic emissions evolved in a fire must be minimised, e.g. heavily populated buildings or safety sensitive areas like tunnels, hospitals, schools, theatres, mass transit vehicles and computer centres.



TR27 is ideal for safety sensitive areas.



**Detailed Information
about Heatguns please
refer to page 573.**

Material Data

Material	Polyolefin, cross-linked (POX)
Colour	Black (BK)
Shrink Ratio	2:1
Operating Temperature	-40 °C to +105 °C
Minimum Shrink Temperature	+115 °C
Flammability	Limited Fire Hazard, Halogen free, Low generation of toxic gases and corrosive acid, Low smoke generation
Longitudinal change after shrinkage	+5%/-10% max.
Dielectric Strength	15 kV/mm according to IEC 60684 P2
Specification	DEF STAN 59-97 Type 8, UL Engineering Standard E1042:A6



Technical Table

Article-No.	Type	Supplied Ø D	Recov. Ø d	Wall (WT) nom.	Reel Length (m)
315-50320	TR27-3.2/1.6	3.2	1.6	0.51	150.0
315-50480	TR27-4.8/2.4	4.8	2.4	0.51	60.0
315-50640	TR27-6.4/3.2	6.4	3.2	0.64	60.0
315-50950	TR27-9.5/4.8	9.5	4.8	0.64	60.0
315-51270	TR27-12.7/6.4	12.7	6.4	0.64	60.0
315-51900	TR27-19.1/9.5	19.1	9.5	0.76	60.0
315-52540	TR27-25.4/12.7	25.4	12.7	0.89	60.0
315-53810	TR27-38.1/19.1	38.1	19.1	1.02	60.0
315-55100	TR27-50.8/25.4	50.8	25.4	1.14	60.0

All dimensions in mm. Subject to technical changes.



DEF STAN

Please note! Not all products listed on this page may have this approval.
For product specific approvals please refer to the Appendix.