

- suitable
 - of limited suitability
 - ++ very good
 - + good
 - o limited
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Type	Page	Material	Operating Temperature [°C]	Shrink Ratio	Longitudinal change after complete shrinkage [%]
Heatshrink Tubing Kits					
ShrinKit 321 Universal	180	POX	-55 °C to +135 °C	3:1	+/-5% max.
ShrinKit 321-A	181	POX	-55 °C to +110 °C	3:1	+1%/-15% max.
ShrinKit 321 Basic	182	POX	-55 °C to +135 °C	3:1	+/-5% max.
HIS-Pack	185	POX	-55 °C to +135 °C	2:1	-5% max.
HIS-3	183	POX	-55 °C to +125 °C	3:1	-10% max.
HIS-A	183	POX	-55 °C to +110 °C	3:1	-10% max.
TREDUX	187	POX	-55 °C to +125 °C	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	+/-5% max.
Heatshrink Tubing PVC					
LVR	192	PVC	-30 °C to +105 °C	2:1	+/-10% max
Heatshrink Tubing, Thin Wall					
HFT-A	193	POX	-55 °C to +135 °C	2:1	-5% max.
HFT-B	196	POX	-55 °C to +135 °C	2:1	-5% max.
TC30	198	POX	-55 °C to +125 °C	3:1	-15% max.
TCN20	197	POX	-55 °C to +125 °C	2:1	+/- 5%
TL27	199	POX	-55 °C to +135 °C	2:1	+5%/-15%
TF21	200	POX	-55 °C to +135 °C	2:1	+/- 5%
TF24	203	POX	-55 °C to +135 °C	2:1	+/-5% max.
TF31	204	POX	-55 °C to +135 °C	3:1	-10% max
Heatshrink Tubing, Thin Dual Wall					
EPS-300	207	POX	-55 °C to +110 °C	3:1	-10% max.
EPS-400	207	POX	-55 °C to +110 °C	4:1	-10% max.
TA32	208	POX	-55 °C to +125 °C	3:1	-15% max.
TA42	208	POX	-55 °C to +125 °C	4:1	-15% max.
Heatshrink Tubing, Medium Wall					
MU47	209	POX	-55 °C to +110 °C	up to 4:1	-10% max
Heatshrink Tubing, Medium Dual Wall					
TREDUX MA47	189	POX	-55 °C to +80 °C	up to 4:1	-10% max
MA47	209	POX	-55 °C to +80 °C	up to 4:1	-10% max.

Technical data					Resistant properties				Possible applications								Applications						
Dielectric strength [kV/mm]	Self-extinguishing	Silicone-free	Copper compatibility (non-corrosive)	Printable	UV light*	Solvents	Fuels	Acids and bases	Harnessmaker	Electronics	Automotive industry	Motor sport	Rail-borne vehicles	Military	Aviation	Ship building	Repair of underground cables	Energy supply	Electrical insulation	Colour marking	Strain relief	Anti-kinking protection	Protection against moisture
20 kV/mm according to ASTM D 2671	Yes	Yes	Yes		+	+	o	+	■	■									■	■		■	
15 kV/mm according to IEC 60684 P2	Yes**	Yes	Yes		+	+	o	+	■	■									■	■		■	■
20 kV/mm according to ASTM D 2671	Yes	Yes	Yes		+	+	o	+	■	■									■	■		■	
25 kV/mm according to IEC 60684 P2	Yes	Yes	Yes		+	+	o	+	■										■	■	■		
25 kV according to ASTM D 876	Yes	Yes	Yes		+	+	o	+	■										■	■	■		
15 kV/mm according to IEC 60684 P2	Yes**	Yes			+	+	o	+	■										■				■
20 kV/mm	Yes	Yes	Yes		+	+	o	+	■										■		■		
15 kV/mm according to IEC 243	Yes	Yes	Yes		+	o	o	o	■										■		■	■	
20 kV/mm according to IEC 60684 P2	Yes	Yes	Yes	Yes	+	+	+	+	■				■	■	■				■	■	■		
20 kV/mm according to IEC 60684 P2		Yes	Yes	Yes	+	+	+	+	■					■	■				■	■	■		
19.7 kV/mm	Yes	Yes	Yes	Yes	+	+	o	+	■		■								■	■	■		
20kV/mm according to ASTM D2671	Yes	Yes	Yes	Yes	+	+	o	+	■		■								■	■	■		
22 kV/mm according to IEC 60684 P2	Yes	Yes	Yes		+	+	o	+	■	■	■								■	■	■		
37 kV/mm	Yes	Yes	Yes		+	+	+	+	■					■	■				■	■	■		
46 kV/mm	Yes	Yes	Yes	Yes	+	+	+	+	■					■	■				■	■	■		
37 kV/mm	Yes	Yes	Yes	Yes	+	+	+	+	■					■	■				■	■	■		
15 kV/mm according to IEC 60684 P2	Yes**				+	+	o	+	■		■			■	■				■		■	■	
15 kV/mm according to IEC 60684 P2	Yes**	Yes	Yes		+	+	o	+	■	■									■	■		■	■
15 kV/mm according to IEC 60684 P2	Yes**	Yes	Yes		+	+	o	+	■	■									■	■		■	■
15 kV/mm according to IEC 60684 P2	Yes**	Yes	Yes		+	+	o	+	■	■									■	■		■	■
20 kV/mm	Yes	Yes	Yes		+	o	o	+									■	■	■		■	■	■
20 kV/mm		Yes	Yes		+	o	o	+									■	■	■		■	■	■
20 kV/mm	Yes	Yes			+	o	o	+									■	■	■		■	■	■

* Only valid for Central European climate.
 ** only outer sleeve

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Heatshrink Tubing, Heavy Wall					
HU47	210	POX	-55 °C to +110 °C	up to 3.5:1	-10% max
Heatshrink Tubing, Heavy Dual Wall					
TREDUX HA47	190	POX	-55 °C to +80 °C	up to 3.5:1	-10% max
HA47	210	POX	-55 °C to +80 °C	up to 3.5:1	-10% max.
Heatshrink Tubing for Special Purposes					
PST-H	211	PES	-75 °C to +150 °C	2:1	-10% max.
PST-HT	212	PES	-75 °C to +150 °C	2:1	-10% max.
Viton-E	213	FPMX	-55 °C to +200 °C	2:1	-10% max.
Kynar	214	PVDFX	-55 °C to +175 °C	2:1	-5% max.
TFE2	215	PTFE	-70 °C to +260 °C	2:1	-20% max.
TR27	216	POX	-40 °C to +105 °C	2:1	+5%/-10% max.

Type	Page	Material	Operating Temperature [°C]	Shrink Ratio
Shapes				
Series 100-1300-G	218	POX	-75 °C to 150 °C	up to 3:1
Series 100-1300-GW24	218	PEEX	-75 °C to 150 °C	up to 3:1
Series 100-1300-HW21	218	POX	-55 °C to 105 °C	up to 3:1
Blowmoulded -9	226	POX	-55 °C to 120 °C	up to 3:1
HEK End Caps	231	POX	-55 °C to 70 °C	up to 3:1
HEV Cable Breakout Boots	232	POX	-55 °C to 70 °C	up to 3:1
Adhesive				
Helashrink HMT200A	191	EVA	-55 °C to +105 °C	–
Two-Part Epoxy Adhesive V9500	230	EP	-75 °C to +150 °C	–

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Type	Page	Material	Operating Temperature [°C]
PVC Tubing and Sleeving			
Helvin P	234	PVC	-65 °C to +105 °C, Intermittent +135 °C
Helvin XY	235	PVC	-65 °C to +105 °C, Intermittent +135 °C
Helvin PVCB	236	PVC	-65 °C to +105 °C, Intermittent +135 °C
LFH Tubing and Sleeving			
LFH-tubing LFPT	237	PO	-40 °C to +90 °C, Intermittent +120 °C
Rubber Tubing and Sleeving			
Helsyn rubber tubing H	238	CR	-65 °C to +95 °C, Intermittent 120 °C
Helsyn HS, HT rubber tubing	239	CR	-25 °C to +100 °C
Helsyn PVC-Nitrile rubber tubing NT	240	PVC/NR	-65 °C to +120 °C, Intermittent 150 °C
Helsyn Silicone rubber tubing SLP	241	SI	-65 °C to +180 °C, Intermittent 250 °C
PTFE Tubing and Sleeving			
PTFE tubing FE	242	PTFE	-65 °C to +250 °C, Intermittent +350 °C



Overview of applications for heatshrink tubing

When selecting the correct heatshrink tubing size, it is important to bear in mind the 80:20 rule. The heatshrink 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 heatshrink tube for every cable diameter. The 80:20 rule has of course been taken into account in the table.

Heatshrink tubing with a shrink ratio of 2:1

HIS-Pack; LVR; HFT-A; HFT-B; TL27; TF21; TF24; PST-H; PST-HT; VITON-E®; Kynar®; 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
		3.8 mm
6.4/3.2	4.8/2.4	4.3 mm
		5.7 mm
		5.8 mm
12.7/6.4	9.5/4.7	7.7 mm
		8.6 mm
		11.4 mm
		15.2 mm
25.4/12.7	19.1/9.5	17.2 mm
		22.9 mm
		30.5 mm
50.8/25.4	38.1/19.1	34.3 mm
		45.7 mm
		61.0 mm
101.6/50.8	76.2/38.1	68.6 mm
		91.4 mm

Heatshrink 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 heatshrink tubes: HIS-3; HIS-A; TREDUX; TF31; TF34; TC30; EPS300; TA32; ShrinKit 321 Universal; ShrinKit 321 Basic; ShrinKit 321-A

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
		5.6 mm
18/6	12/4	8.4 mm
		10.4 mm
		11.2 mm
40/13	24/8	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

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KYNAR® is a registered trademark of Arkema.

The right heatshrink tube

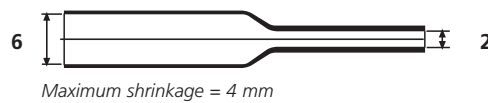
The **80:20 rule** means that a heatshrink tube should shrink by a **maximum of 80%** and a **minimum of 20%**.

For example:

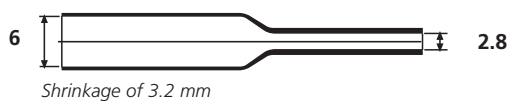
A cable with a diameter of 5 mm is to be wrapped in heatshrink tubing. In theory both sizes 6/2 and 12/4 would be suitable, since the required diameter of 5 mm lies within the shrink range of both tube sizes.

Size 6/2

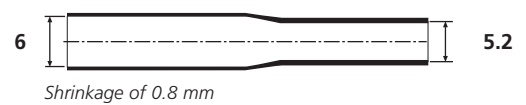
Maximum shrink (100%)



Optimum shrinkage max. (80%)



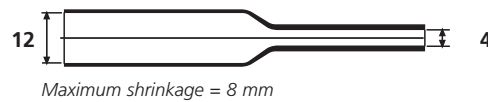
Optimum shrinkage min. (20%)



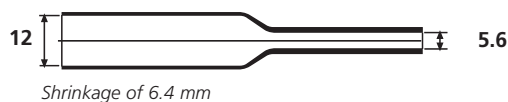
Size 6/2 has a range of application of between 2.8 mm and 5.2 mm and is therefore suitable for the cable diameter of 5 mm.

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.