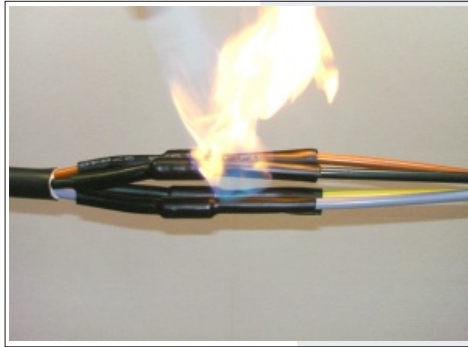


Heat-shrink connection joints till 0,6/1(1,2) kV

different sizes



Application:

- underground
- above ground
- for connection of 4-core plastic insulated cables

Characteristics:

- compact dimensions
- good resistance against UV and chemicals
- high shrink ratio
- fast shrinking
- high tensile strength
- excellent adhesion to all plastic insulated cables and metal components
- light weight
- installation instructions with drawings
- approved DIN VDE 0278-623: 1997-01 (HD 623 S1:1996-02)

Specifications:

- continuous temperature limit -55°C till + 125°C
- dielectric strength $\geq 20\text{kV/mm}$ (ASTM D 149-97a)
- volume resistivity $> 1 \times 10^{12}$ ohm cm (ASTM D 257-98)
- heatshock (225°C): no damage (ASTM D 2671-98)
- brittleness temperature: $\leq -55^\circ\text{C}$ (ASTM D 746-98)
- tensile strength heatshrink material: ≥ 12 Mpa (ASTM D 638-98)
- waterabsorbtion: $\leq 0,1\%$ (ISO 62-86)
- cadmium free
- color: black
- set content:
 - 4 pcs heavy wall inner tubes, 1 pce heavy wall outer tube, installation instructions

Art.nr.	Range cable diameters	Connector type
8002210	6 - 16 mm ²	Press connector
8002230	16 - 50 mm ²	Press connector
8002250	70 - 150 mm ²	Press connector
8002270	95 - 300 mm ²	Press connector
8002290	6 - 16 mm ²	Screw type connector
8002310	10 - 50 mm ²	Screw type connector
8002330	25 - 95 mm ²	Screw type connector
8002350	50 - 150 mm ²	Screw type connector
8002370	95 - 185 mm ²	Screw type connector
8002390	95 - 240 mm ²	Screw type connector

Heath-shrink technology

FILOform

Live end seals for polymeric cables max. 1kV



Description	4 x 1,5-6mm ²	4 x 10-35mm ²	4 x 50-150mm ²	4 x 150-310mm ²
Filoform articlenumber	800220	80022010	80022020	80022030

Outer cap (1 pce. with lightning symbols)

Diameter before shrink	25	40	55	75
Diameter after shrink*	7,5	15	25	35
Length after shrink	70	100	150	160
Wall thickness after shrink*	2,3	3,3	3,8	3,8

Inner caps (4 pcs.)

Diameter before shrink	6	12	20	40
Diameter after shrink*	2	4	7,5	15
Length after shrink	25	36	50	50
Wall thickness after shrink*	2,0	2,3	2,3	3,3

All dimensions in mm.

* after free recovery

Properties	Test description	Value	Test Method
Mechanical properties	Tensile strength	12 MPA	ASTM D638
	Ultimate elongation	350%	ASTM D638
	Density	1.2 gm/cm ³	ASTM D792
	Hardness	45 shore D	ASTM D2240
Thermal properties	Accelerated aging	120°C - 500u.	ASTM D2671
	Tensile strength	11 MPA	ASTM D638
	Ultimate elongation	300%	ASTM D638
	Heath shock Test (250°C - 30 min.)	No crack or dip on flow	ESI - 09-11
	Low temperature flexibility (-40°C - 4u.)	No cracking	ASTM D2671
	Shrink temperature	125°C	IEC 216
	Continuous temperature limit	-40 - to 100°C	IEC 216
Electrical properties	Dielectric strength	12 kv/mm.	ASTM D149
	Volume resistivity	1 x 10 ¹² Ohm cm. (Min.)	ASTM D257
	Dielectric constant	5 (max.)	ASTM D150
Chemical properties	Water absorption	0.2 %	ASTM D570
	Resistance for fluids		ASTM D543
	Resistance for fungi	Less than 1	ASTM G21
	Corrosion	No corrosion	ASTM D2671
	UV resistant	350u @ 700C (unchanged)	Xenon method
	Smoke density	UL 94 V0 rating – Halogen free	ASTM – E662

Subject to change without notice

Cable joints • Sealing systems • Customer specific solutions

Cable end caps

For a 100% sealing of cable ends, tubes and piping.

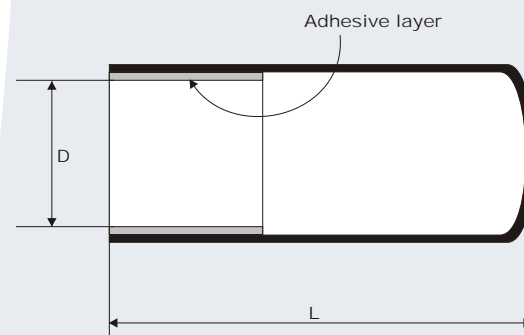
Application:

- ❖ Inside
 - ❖ Above ground
 - ❖ Underground
- Excellent UV-resistance and resistance against chemicals
 - High shrink-ratio
 - Halogen-free
 - Interior with hot-melt adhesive
 - Quick shrinking
 - No shelf-life
 - Excellent adhesion on all plastic insulated cables and metal components

Product	Art.nr.	Unitpack	Before shrink		After shrink	Application
			L	D	D	
		Pcs/bag				Cable diameter
Endcap type 1	800201	100 pcs	38	12	4	4,0 – 8,0
Endcap type 2	800202	50 pcs	75	20	7,5	8,0 – 18,0
Endcap type 3	800203	10 pcs	90	40	15	15,0 – 38,0
Endcap type 4	800204	5 pcs	124	55	25	25,0 – 50,0
Endcap type 4B	8002045	5 pcs	140	75	35	35,0 – 70,0
Endcap type 5	800205	5 pcs	157	100	45	45,0 – 95,0
Endcap type 5B	8002055	2 pcs	200	120	45	45,0 – 115,0
Endcap type 6	800206	1 pcs	155	130	62	62,0 – 125,0



All sizes in mm



Subject to change without notice

Break-out caps 2-, 3- and 4 way

Heat shrinkable black cable break-out caps are manufactured from a high quality cross linked polymer compound which offers an exceptional insulation and long term reliability. They provide an excellent environmental seal. The break-out caps are supplied with a hot melt coating inside, providing 100% water proofing to the system.

Application

- underground
- above ground
- in water

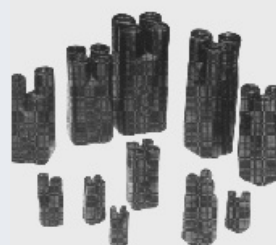
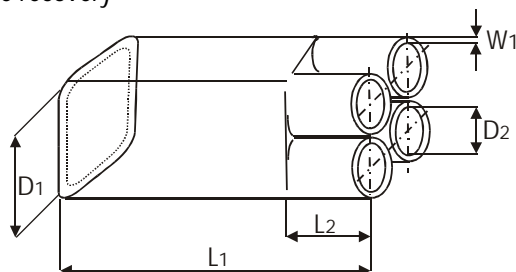
Characteristics

- quick and easy to install
- continuous operating temperature - 40°C till + 125°C
- good chemical and solvent resistance
- excellent corrosion resistance
- excellent weather and UV resistance
- colour: black
- unlimited shelf life

Type	D1	D1*	D2	D2*	L1	L1*	L2	L2*	W1*
	mm	mm	mm	mm	mm	mm	mm	mm	mm
2 – way									
KK 2 1,5 – 25	32	11	13	4,5	70	86	15	20	2,0
3 – way									
KK 3 4 – 35	37	15	14	4	75	100	15	21	2,0
KK 3 35 – 120	55	21	22	8	160	188	53	62	2,8
KK 3 95 – 150	78	34	35	12	180	218	60	70	3,2
KK 3 120 – 300	110	49	50	18	205	235	70	90	3,8
4 – way									
KK 4 6 – 35	41	16,5	13	4	84	96	15	23	1,7
KK 4 16 – 70	57	28	20	7,0	140	173	32	50	2,5
KK 4 25 – 150	69	29	25	8,5	158	194	34	48	2,5
KK 4 95 – 240	89	43,5	34	13	175	210	38	53	2,6
KK 4 150 – 300*	108	43	40	14	175	210	40	53	2,6

* available on request

* after free recovery



Subject to change without notice

Cable joints and accessories • Sealing systems • Customer specific solutions

Break-out caps 2-, 3-, 4-way

CHARACTERISTICS	UNIT	VALUE	STANDARD
Physical characteristics			
Shrink temperature	°C	>125	
Density	G / cm ³	>1,01	DIN 53479/ISO 1183
Tensile strength	N / mm ²	12	IEC-540
Elasticity	N / mm ²	70	ISO 527
Elongation at break	%	300	IEC-540
Hardness	Shore D	42	DIN 53505/ISO 868
Flexibility at low temperatures			ASTM D 2671
Thermal characteristics			
Altering (168h/150°C)			ISO 188
Continuous temperature limit	°C	-40 tot +100	DIN 53 446
Electrical characteristics			
Dielectric strength	kV / mm	>10	IEC-243
Volume resistivity	Ohm x cm	>1 x 10 ¹²	IEC-93/ASTM D-257
Chemical characteristics			
Corrosion		geen	ASTM D 2671
Waterabsorption	%	<0,05	DIN 53 495/1L
Chemical resistance during 24 h op +23°C in Trafo-oil, Petroleum ISO 1817		Schaal 1	ISO 846
Adhesive			
Waterabsorption	%	< 0,15	DIN 53 495
Dielectric strength	kV / mm	>12	VDE 0303
Adhesion	N / cm		DIN 30672
to PE		>350	
to PVC		>150	
to PU		>200	
Zn, Cu, and steel		>300	

Subject to change without notice

Heath-shrink technology

FILOform

Medium wall heat shrink tube with adhesive, shrink ratio 3:1 - 4 : 1

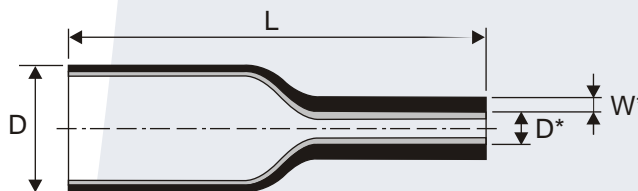
For electrical insulation, sealing and mechanical reinforcement of cables and tubes till 1kV.

- ❖ Suitable for cable joints and cable terminations
- ❖ Polyolefine crosslinked
- ❖ Fast recovery

- continuous temperature range from - 55°C till +100°C
- excellent resistance against UV, chemicals
- corrosion resistant
- dielectric strength: ≥ 20 kV/mm (ASTM D 2671-98)
- volume resistivity: $>1 \times 10^{13}$ ohm cm (ASTM D 257-98)
- heatshock (4 hrs / 200 °C): no damage (ASTM D 2671-98)
- brittleness temperature: $\leq -55^\circ\text{C}$ (ASTM D 746-98)
- tensile strength: ≥ 12 Mpa (ASTM D 2671-98)
- elongation at break: $\geq 350\%$ (ASTM D 638-98)
- longitudinal change: ≤ 15 (ASTM D 2671-98)
- waterabsorbtion: $\leq 0,5\%$ (ASTM D 570)
- flexible
- cadmium free, halogen free
- colour: black

Art.nr.	D Ø D* mm	W* mm	Type
8413005	9 - 3	1,6	9/3 -1200
8413015	16 - 5	2,0	16/5 -1200
8413020	25 - 8	2,3	25/8 -1200
8413030	33 - 9	2,4	33/9 -1200
8413040	40 - 12	2,4	40/12 -1200
8413050	55 - 16	2,7	55/16 -1200
8413060	65 - 19	2,6	65/19 -1200
8413070	75 - 22	2,7	75/22 -1200
8413080	100 - 25	3,2	100/25 -1200
8413090	115 - 34	3,2	115/34 -1200
8413100	140 - 42	3,4	140/42 - 1200

* after free recovery



Subject to change without notice

Cable joints • Sealing systems • Customer specific solutions

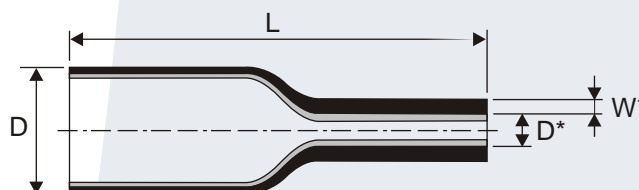
Heavy wall heat shrink tube with adhesive, shrink ratio 3:1 - 4 : 1

For electrical insulation, sealing and mechanical reinforcement of cables and tubes till 1kV.

- ❖ Suitable for cable joints and cable terminations
 - ❖ Polyolefine crosslinked
 - ❖ Fast recovery
- continuous temperature range from - 55°C till +100°C
 - excellent resistance against UV, chemicals
 - corrosion resistant
 - dielectric strength: ≥ 15 kV/mm (ASTM D 2671-98)
 - volume resistivity: $>1 \times 10^{12}$ ohm cm (ASTM D 257-98)
 - heatshock (30 min. / 200 °C): no damage (ASTM D 2671-98)
 - brittleness temperature: $\leq -55^\circ\text{C}$ (ASTM D 746-98)
 - tensile strength: ≥ 12 Mpa (ASTM D 638-98)
 - elongation at break: $\geq 400\%$ (ASTM D 638-98)
 - longitudinal change: ≤ 15 (ASTM D 2671-98)
 - waterabsorbtion: $\leq 0,5\%$ (ISO 62-86)
 - flexible
 - cadmium free, halogen free
 - colour: black

Art.nr.	D Ø D*	W*	Type
	mm	mm	
8414010	9 - 3	2,2	9/3 -1200
8414020	13 - 4	2,5	13/4 -1200
8414030	19 - 6	2,5	19/6 -1200
8414040	33 - 10	3,3	33/10 -1200
8414050	40 - 12	4,3	40/12 -1200
8414060	55 - 16	4,4	55/16 -1200
8414070	65 - 21	4,4	65/21 -1200
8414080	85 - 25	4,3	85/25 -1200
8414090	100 - 30	4,4	100/30 -1200
8414100	125 - 40	4,3	125/40 -1200
8414110	160 - 50	4,3	160/50 -1200

* after free recovery



Subject to change without notice

Cable joints • Sealing systems • Customer specific solutions

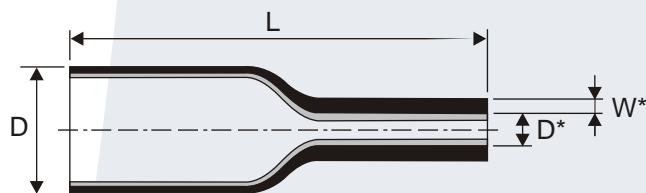
Wrap around sleeve for PILC and polymeric cables max. 1 kV

- ❖ For sealing and repair of cable sheets
- ❖ Polyofine cross linked
- ❖ Fast recovery

- continous temperature range from - 40°C to +125°C
- excellent resistance against UV, chemicals
- corrosion resistant
- dielectric strength: ≥ 22 kV/mm (ASTM D 149-97a)
- volume resistivity: $>1 \times 10^{14}$ ohm cm (ASTM D 257-98)
- heatshock (225 °C): geen beschadiging (ASTM D 2671-98)
- tensile strength: ≥ 18 Mpa (ASTM D 638-98)
- elongation at break: $\geq 500\%$ (ASTM D 638-98)
- waterabsorbtion: $\leq 0,1\%$ (ISO 62-86)
- mould resistance: no growth (ASTM G21-96, ASTM D 638-98)
- oil resistance: excellent (ISO 175-99)
- non hologen and cadmium free
- colour: black

D	Ø	D*	W*	Standard length	Type
mm		mm	mm	mm	
43	-	8	2,0	500	43/8-500
93	-	25	2,0	600	93/25-600
50	-	15	2,0	500 - 1500	WAC 50/15
75	-	22	2,0	500 - 1500	WAC 75/22
105	-	30	2,0	500 - 1500	WAC 105/30
146	-	38	2,0	500 - 1500	WAC 146/38
188	-	55	2,0	500 - 1500	WAC 188/55

* after free recovery



Subject to change without notice

Cable joints • Sealing systems • Customer specific solutions