

1. ELECTRICAL CONNECTION- AND INSTALLATION TECHNIQUE

1.15 Neoprene sleeves, insulation and shrinking tubes as well as copper paste and cleaning sprays

Often it is necessary to insulate electrical connections during or after the manufacturing process. Therefore druseidt offers additionally to the products of electrical connection technology, insulating material, too. Shrinking-, PVC- as well as silicone tubes delivered in rolls or on spools are standard.

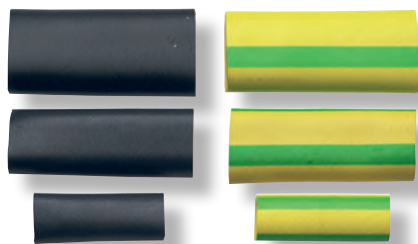
Also neoprene insulation sleeves for an afterwards insulating of cable lugs acc. to catalogue page 122 are interesting products. For cleaning operations as well as optimizing of the current transfer we recommend to use our different sprays or our copper paste.



Mounting of neoprene sleeves by rubber sleeve expanders

Neoprene sleeves

Temperature stability: -30° C up to + 130° C



Part-No.		dimensions mm			
black	yellow-green	for cable Ø	cut length	inside-Ø	wall thickness
10025	11025	1,25 - 2	20	1,25	0,5
10026	11026	1,75 - 3,5	20	1,75	0,5
10027	11027	2,4 - 4,5	20	2,4	0,5
10028	11028	3 - 6	25	3	0,6
10029	11029	5 - 9	25	5	0,7
10030	11030	7,5 - 12	30	7,5	0,8
10031	11031	10 - 15	35	10	0,9
10032	11032	12 - 20	50	12	1,2
10033	11033	14 - 23	50	14	1,3
10034	11034	17 - 28	50	17	1,3

Additionally to the standardized colours in white, blue, green, yellow, orange, brown, red, violet, grey or pink colour deliverable.

Silicone sleeves

Nature colour, free of halogen

Temperature stability: - 80° C up to + 200° C,
Reach/RoHS compliant



Part-No.	for cable Ø	dimensions mm		wall thickness
		cut length	inside-Ø	
10045	1,25 - 1,8	20	1,25	0,5
10046	1,75 - 2,5	20	1,75	0,5
10047	2,5 - 3	20	2,5	0,6
10048	3 - 4	25	3	0,6
10049	5 - 7	25	5	0,7
10050	7,5 - 9	30	7,5	0,8
10051	10 - 13	35	10	1,0
10052	12 - 16	50	12	1,2
10053	14 - 19	50	14	1,3
10054	17 - 25	50	17	1,3

Lubricant for neoprene and silicone sleeves

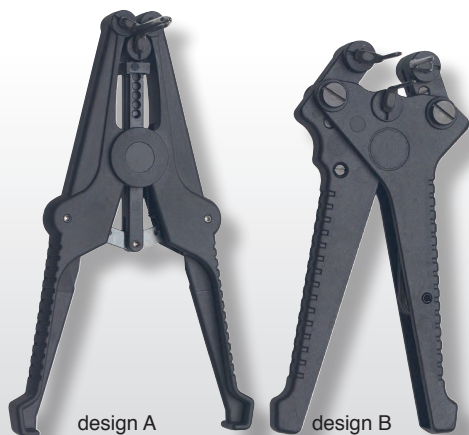


Part-No. 10065 2,5 dl can with brush

For easier application of rubber sleeves. Special product which does not affect caoutchouc or elastomers and is kind to one's skin.

Rubber sleeve expanders

Ultra light weight in Plio-Carbox design



Part-No.		for max. cable-Ø	dimensions mm			
design A	design B		design A		design B	
			length	width	length	width
10061	10071	4,5	195	115	140	130
10062	10072	9	195	115	140	125
10063	10073	15	195	115	140	125
10064	10074	28	195	115	150	145

Heat shrinkable tubing

Material: irradiated cross-linked polyolefin
Colour: black

**Construction and application**

Extremely flexible thin walled heat shrinkable tubing. Flame retardant and self-extinguishing. Well suited as insulation material for cables, leadings or cable connectors. All tubing are marked with printed UL- and CSA-numbers and therefore well suited for export-orders which require a certificate about the UL/CSA-registration.

Part-No.	Technical data					specification
	before shrinking inside-Ø		after complete shrinking		cut length	
	inch	mm	inside-Ø max. mm	thickness		
30061	3/64	1,2	0,6	0,40	300 m	Shrink-ratio: 2:1
30062	1/16	1,6	0,8	0,43	300 m	Temperature resistance: -55° C up to +125° C
30063	3/32	2,4	1,2	0,51	150 m	Shrink temperature: +90° C
30064	1/8	3,2	1,6	0,51	150 m	Self-extinguishing
30065	3/16	4,8	2,4	0,51	60 m	Dielectric strength: 25 kV/mm
30066	1/4	6,4	3,2	0,64	60 m	Tensile strength: 10,3 MPa
30067	3/8	9,5	4,8	0,64	60 m	Breaking elasticity: 200 %
30068	1/2	12,7	6,4	0,64	60 m	Specification: UL und CSA
30069	3/4	19,1	9,5	0,76	60 m	Standard colour: black, other colours on request
30070	1	25,4	12,7	0,89	60 m	
30072	1 1/2	38,1	19,1	1,02	60 m	
30073	2	50,8	25,4	1,14	60 m	

Heat shrinkable tubing

Material: irradiated cross-linked polyolefin
Colour: transparent

**Construction and application**

Flexible thin walled heat shrinkable tubing with a good mechanical and chemical stability. Don't tear also when shrinking the material about objects with sharp edges. The material offer so multifarious possibilities for application in the industry as well as military field. Suitable for the insulation of busbars, cables, connectors or other power leading parts.

Part-No.	Technical data					specification
	before shrinking inside-Ø		after complete shrinking		cut length	
	inch	mm	inside-Ø max. mm	thickness		
30080	3/64	1,2	0,6	0,40	300 m	Shrink-ratio: 2:1
30081	1/16	1,6	0,8	0,43	300 m	Temperature resistance: -55° C up to +135° C
30082	3/32	2,4	1,2	0,51	150 m	Shrink temperature: +115° C
30083	1/8	3,2	1,6	0,51	150 m	Not self-extinguishing
30084	3/16	4,8	2,4	0,51	60 m	Dielectric strength: 20 kV/mm
30085	1/4	6,4	3,2	0,64	60 m	Tensile strength: 10,3 MPa
30086	3/8	9,5	4,8	0,64	60 m	Breaking elasticity: 200 %
30087	1/2	12,7	6,4	0,64	60 m	Specification: MIL und VG
30088	3/4	19,1	9,5	0,76	60 m	Standard colour: transparent
30089	1	25,4	12,7	0,89	60 m	
30090	1 1/2	38,1	19,1	1,02	60 m	
30091	2	50,8	25,4	1,14	60 m	
30092	3	76,2	38,1	1,27	60 m	
30093	4	101,6	50,8	1,40	30 m	

Heat shrinkable tubing

Material: irradiated cross-linked polyolefin
Colour: black

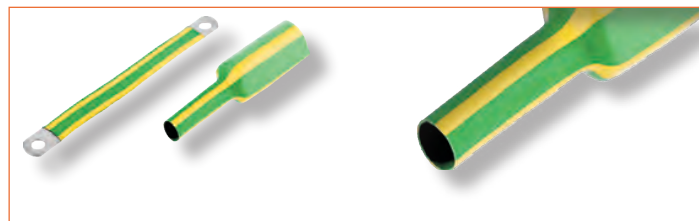
**Construction and application**

Flexible thin walled heat shrinkable tubing with a good mechanical and chemical stability. Don't tear also when shrinking the material about objects with sharp edges. Easy to mark by printing the outside of the tubing. Therefore multifarious applications are given e.g. insulation of busbars, cables, connectors etc.

Part-No.	Technical data					specification
	before shrinking inside-Ø		after complete shrinking		cut length	
	inch	mm	inside-Ø max. mm	thickness		
30100	3/64	1,2	0,6	0,40	300 m	Shrink-ratio: 2:1
30101	1/16	1,6	0,8	0,43	300 m	Temperature resistance: -55° C bis +135° C
30102	3/32	2,4	1,2	0,51	150 m	Shrink temperature: +90° C
30103	1/8	3,2	1,6	0,51	150 m	Self-extinguishing
30104	3/16	4,8	2,4	0,51	60 m	Dielectric strength: 20 kV/mm
30105	1/4	6,4	3,2	0,64	60 m	Tensile strength: 10,3 MPa
30106	3/8	9,5	4,8	0,64	60 m	Breaking elasticity: 200 %
30107	1/2	12,7	6,4	0,64	60 m	Specification: MIL und UL
30108	3/4	19,1	9,5	0,76	60 m	Standard colour: black, andere colourn auf Anfrage
30109	1	25,4	12,7	0,89	60 m	
30110	1 1/2	38,1	19,1	1,02	60 m	
30111	2	50,8	25,4	1,14	60 m	
30112	3	76,2	38,1	1,27	60 m	
30113	4	101,6	50,8	1,40	30 m	

Heat shrinkable tubing for earthing applications

Material: irradiated cross-linked polyolefin
Colour: yellow/green

**Construction and application**

Flexible thin walled heat shrinkable tubing, flame retardant and self-extinguishing. Well suited for a marking of earthing connections. Caused by the special production process (dual-colour-extrusion) it is guaranteed that the material either doesn't fade nor it is possible to rub off the colour.

Part-No.	Technical data					specification
	before shrinking inside-Ø		after complete shrinking		cut length	
	inch	mm	inside-Ø max. mm	thickness		
30182	3/64	1,2	0,6	0,41	300 m	Shrink-ratio: 2:1
30183	1/16	1,6	0,8	0,43	300 m	Temperature resistance: -55° C bis +135° C
30184	3/32	2,4	1,2	0,51	150 m	Shrink temperature: +90° C
30185	1/8	3,2	1,6	0,69	150 m	Self-extinguishing
30186	3/16	4,8	2,4	0,84	60 m	Dielectric strength: 20 kV/mm
30187	1/4	6,4	3,2	0,90	60 m	Tensile strength: 10,3 MPa
30188	3/8	9,5	4,8	1,00	60 m	Breaking elasticity: 100 %
30189	1/2	12,7	6,4	1,20	60 m	Specification: MIL und UL
30190	3/4	19,1	9,5	1,40	60 m	Standard colour: yellow/green
30191	1	25,4	12,7	1,80	60 m	
30192	1 1/2	38,1	19,1	2,40	60 m	
30193	2	50,8	25,4	2,40	60 m	

Heat shrinkable tubing

Material: irradiated cross-linked polyolefin
colour: black



Construction and application

Flexible thin walled heat shrinkable tubing with high shrink-ratio (4:1) and less longitudinal change (max. 5 %). Well suited for repair works, because only 5 dimensions are needed to cover a wide diameter range. Delivery in cut length of 0,9/1,2 m.

Part-No.	Technical data					specification
	before shrinking inside-Ø		after complete shrinking		cut length	
	inch	mm	inside-Ø max. mm	thickness		
13060	1	25,4	6,6	1,52	1,2 m	Shrink-ratio: 4:1
13061	1 1/2	38,1	9,5	1,52	1,2 m	Temperature resistance: -55° C bis +135° C
13062	2	50,8	12,7	1,52	1,2 m	Shrink temperature: +90° C
13063	3	76,2	19,1	1,52	0,9 m	Not self-extinguishing
13064	4	101,6	25,4	1,52	0,9 m	Dielectric strength: 20 kV/mm
						Tensile strength: 10,3 MPa
						Breaking elasticity: 200 %
						Specification: UL und MIL
						Standard colour: black

Heat shrinkable tubing

Material: irradiated cross-linked polyolefin
with and without adhesive
colour: black



Construction and application

Flexible medium walled heat shrinkable tubing as desired with or without adhesive. Well suited for protecting and insulating of components inside of low voltage or outdoor applications. The adhesive melts when shrinking the tube, so that the components are protected against moisture.

Delivery in cut length of 1,2 m.

Type A: without glue inside, **Type B:** with glue inside

Part-No.		Technical data					specification
		before shrinking inside-Ø		after complete shrinking		cut length	
		type A	type B	mm	inside-Ø max. mm		
13066	13068		10,2	3,8	1,5	1,2 m	Shrink-ratio: ca. 3:1
30122	15821		19,0	5,6	2,0	1,2 m	Temperature resistance: -55° C bis +125° C
15803	15823		28,0	9,5	2,0	1,2 m	Shrink temperature: +120° C
15804	13069		33,0	10,2	2,0	1,2 m	Not self-extinguishing
30128	15824		38,1	12,7	2,3	1,2 m	Dielectric strength: 20 kV/mm
30129	15825		44,0	14,0	2,3	1,2 m	Tensile strength: 14 MPa
15806	15826		52,1	18,2	2,3	1,2 m	Breaking elasticity: 300 %
15808	15828		70,0	25,5	2,3	1,2 m	Specification: -
15809	15829		90,0	30,0	2,5	1,2 m	Standard colour: black

Dual wall heat shrinkable tubing with adhesive

Colour: black

**Construction and application**

Flexible dual wall heat shrinkable tubing. Material of the outer wall polyolefin and polyamide for the inner wall. The adhesive melts when shrinking the tube, so that components are protected against moisture. Delivery in cut length of 1,2 m.

Part-No.	Technical data				specification
	before shrinking	after complete shrinking		cut length	
	inside-Ø mm	inside-Ø max. mm	wall thickness mm		
30195	3	1,0	1,00	1,2 m	Shrink-ratio: 3:1
30196	4,5	1,5	1,00	1,2 m	Temperature resistance: -55° C bis +110° C
30197	6	2,0	1,00	1,2 m	Shrink temperature: +120° C
30198	9	3,0	1,40	1,2 m	Self-extinguishing
30199	12	4,0	1,75	1,2 m	Dielectric strength: 20 kV/mm
30200	19	6,0	2,25	1,2 m	Tensile strength: 16 MPa
30201	24	8,0	2,50	1,2 m	Breaking elasticity: 450 %
					Specification: UL und MIL
					Standard colour: black

PVC insulating tubing

Colour: grey

Temperature resistance: -20° C up to +90° C

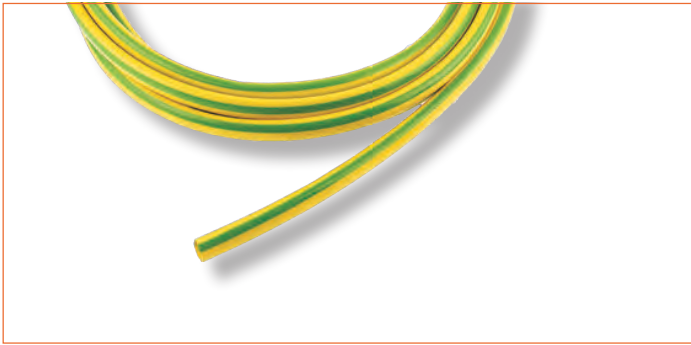


Part-No.	Technical data		
	inside-Ø	wall thickness	
		ca. mm	quantity per spool
54140	5	0,6	200 m
54142	6	0,6	200 m
54144	7	0,7	200 m
54146	8	0,7	200 m
54148	9	0,7	200 m
54150	10	0,7	100 m
54154	12	0,8	100 m
54158	14	1,0	100 m
54162	16	1,0	100 m
54164	18	1,0	100 m
54166	22	1,2	50 m
54172	24	1,2	50 m
54176	26	1,2	50 m
54178	28	1,2	50 m
54182	30	1,0	25 m
54190	35	1,0	25 m
54192	40	1,0	25 m
54194	45	1,0	25 m
54195	50	1,0	25 m
54196	55	1,0	25 m
54198	60	1,0	25 m
54199	65	1,0	25 m
54200	70	1,0	25 m
54202	75	1,0	25 m
54204	80	1,0	25 m
54206	85	1,0	25 m
54208	90	1,0	25 m
54210	95	1,0	25 m
54211	100	1,0	25 m

PVC insulating tubing

Colour: yellow/green

Temperature resistance: -20° C up to -90° C



Part-No.	Technical data		
	inside-Ø	wall thickness ca. mm	quantity per spool
13095	2	0,4	50 m
13096	4	0,5	50 m
13097	6	0,6	25 m
13098	8	0,6	25 m
13099	10	0,7	25 m
13100	12	0,8	25 m
13101	14	0,8	25 m
13118	16	0,8	25 m
13119	20	0,8	25 m

Silicone insulating tubing

Colour: nature

Temperature resistance: -50° C up to +180° C



Part-No.	Technical data		
	inside-Ø	wall thickness ca. mm	quantity per spool
15890	2	0,4	100 m
15891	3	0,4	100 m
15892	4	0,5	100 m
15893	5	0,6	100 m
15894	6	0,6	100 m
15895	7	0,7	100 m
15896	8	0,7	50 m
15897	10	0,7	50 m
15898	12	0,8	50 m
13102	14	0,8	25 m
13103	18	1,0	25 m
13104	20	1,0	25 m
13105	22	1,0	25 m
13106	24	1,0	25 m
13107	26	1,0	25 m
13108	28	1,0	25 m
13109	30	1,0	25 m
13110	35	1,0	25 m
13111	40	1,0	25 m
13112	45	1,0	25 m
13113	50	1,0	25 m
13114	55	1,0	25 m
13115	60	1,0	25 m
13116	65	1,0	25 m
13117	70	1,0	25 m

High temperature copper mounting paste as well as protective, maintenance and cleaning sprays



Part-No.	Product name	Content	Description
Cleaners			
02776 11260	Spray Contaclean	200 ml 400 ml	Eliminates oxide and sulphide build up on metal contact surfaces of all types and builds a long lasting lubrication and corrosion protection.
02778 11262	Spray Wäsche	200 ml 400 ml	Removes contamination and grease as well as oxide layers produced by Contaclean. Good wash and flow properties allow contamination to be simply rinsed away. A quick and sure way of removing grease and oil, wax and other contamination.
02787 11264	Spray Entfetter	200 ml 400 ml	Guaranteed water and humidity displacement. Protective and lubricating sprays for ensuring the functionality of cable joins, adapters and is especially suitable for precious metals.
Protectors and Lubricants			
02788 11266	Spray Top-PIN	200 ml 400 ml	It offers good lubrication and protection against corrosion because of its synthetic properties. The film that spray leaves has very good gliding qualities and withstands heat up to +300° C.
02779 11266	Spray Silikon	200 ml 400 ml	High quality, thick insulating oil with a dielectric strength of 12 kV/mm. It will not dry out, is water repellent and is therefore suitable for use as a humidity buffer. It withstands temperatures from 50° C up to +200° C. The material is not poisonous and is a good allround lubricant.
11268	Spray Sprühflon	200 ml	Fat free lubricating and parting compound based PTFE. It offers a low friction coefficient, is anti-adhesive with adhesive materials and can be used on all materials. It is stable when used with chemicals and is electrically insulated. Can be in temperatures from -100° C up to + 260° C.
11261	Spray Antikorr	400 ml	Penetrates dampness, displaces water and protects from corrosion even under the toughest environmental conditions. This material infiltrates the finest pores and cracks. The film left behind is practically invisible and normally must never be removed (painting is the exception).
Coatings			
11265	Spray Plastik	400 ml	High quality acrylic resin transparent lacquer for insulating and sealing. This covers surfaces with a glossy surface which resists acid, lye, alcohol, humidity and environmentally harmful elements. This material bonds to metal, plastic, wood, paper, glass, etc. It can be used under temperatures between -70° C and +120° C.
02774	Spray Isotemp	200 ml	Especially heat-, humidity and weather resistant silicone isolation lacquer. It is functional even in temperatures up to +500° C. This material is hard to burn (UL 94), has good bonding properties and is resilient. It links well at room temperature and is quick functioning.
Copper mounting-paste			
02770	copper paste	1 kg	Smooth, semi-synthetic mounting-paste with fine powder of pure copper. Not dropping, temperature range -30° C up to +1100° C. Suitable for connections and connection bolts which are exposed to and high temperatures and corrosion.