



enC

expertise meets cable

CATALOG 2025/26

CABLE MANAGEMENT & CABLE PROTECTION – SOLUTIONS FOR INDUSTRY & VEHICLE MANUFACTURING

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WHY EMC – WHAT SETS US APART

At EMC, we combine the flexibility of a family-owned medium-sized enterprise with the professionalism of a certified industrial partner.

Our greatest strength is our people – they listen, act quickly, and find practical, tailor-made solutions. Many of our customers particularly appreciate the direct contact with their personal account managers – this closeness makes the difference.

Our promise:

To support our customers quickly, reliably, and precisely – with standard products or bespoke developments together with our long-term partners. This is how we create value and ensure smooth processes every day.



COMPREHENSIVE PRODUCT RANGE & STRONG DELIVERY PERFORMANCE

Deep and complete assortments in our core categories – available from stock in all key sizes and variants.



SPEED & RELIABILITY

Short response times, fast order handling, and dependable delivery dates are standard for us.



PERSONAL SUPPORT

Direct access to dedicated contacts who listen, understand, and solve problems pragmatically.



TECHNICAL EXPERTISE & CONSULTING

Our specialists know the applications and develop the right solution – including custom parts made to order.



QUALITY & TRUST

ISO-certified for over 15 years, working only with audited and certified suppliers worldwide.



FAIR PRICING & ECONOMIC VALUE

Transparent prices, clear terms, and fair volume conditions – always focused on customer benefit.



FOR US, PEOPLE COUNT – IN THE TEAM AND WITH OUR CUSTOMERS.

Our greatest strength is the people at EMC.

They advise, listen, react quickly and find pragmatic solutions.

Many customers particularly value personal contact with dedicated contacts – and it is precisely this proximity that makes the difference in our collaboration.

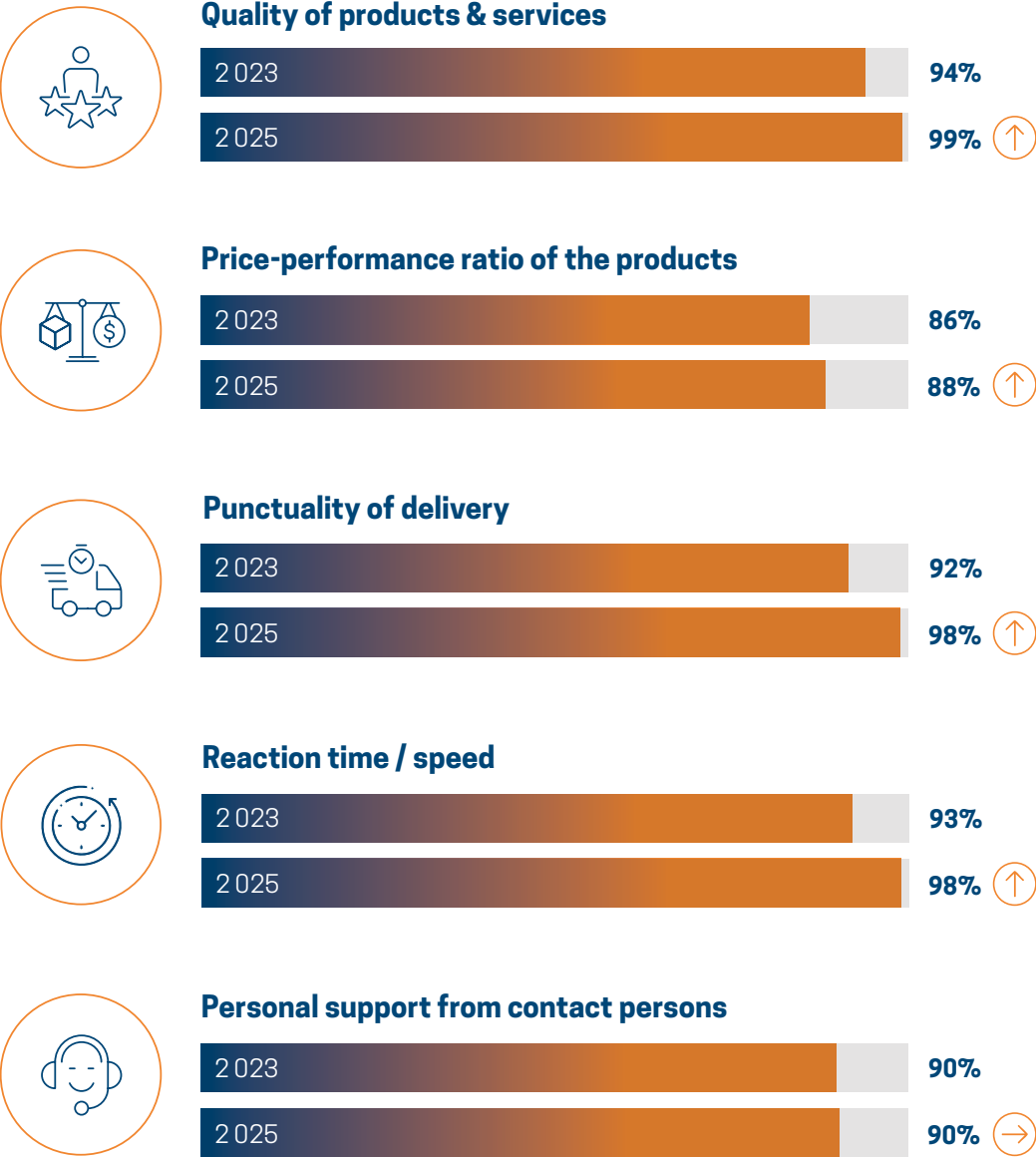


CUSTOMER SATISFACTION 2025

GOOD IS NOT GOOD ENOUGH

Our customers define our success. That's why we regularly conduct detailed satisfaction surveys – most recently in summer 2025 with 142 participants. The results speak for themselves: **an overwhelming majority of our customers are very satisfied with EMC's performance and would actively recommend us.**

-  On average, participants took 6:15 minutes to give us honest feedback – invaluable to us.
-  The measured Net Promoter Score (NPS) of 69 confirms that EMC is among the preferred partners for cable management, cable protection, and connection technology.



 Satisfied to very satisfied  Dissatisfied to very dissatisfied

VOICES OF OUR CUSTOMERS

"Excellent and professional support, outstanding value for money, profound tool expertise, and friendly service."
Hendrikus Salemink, 4e gruenstromen GmbH

"EMC values its customers and provides friendly, reliable service."
Jenny Lange, Wilke Fahrzeugbau GmbH

"Reliable partner, straightforward order processing, and excellent customer care."
Jochen Olbort, Sobek Motorsporttechnik GmbH & Co. KG

"Very friendly and responsive contact – quick replies to all inquiries."
Oliver Köll, Krause Special Machines GmbH

...and many more voices confirm our commitment: high product quality, fast delivery, fair pricing, and genuine appreciation for every customer.



Sustainability means responsibility:
For us, it means acting responsibly –
with durable products, fair partnerships,
and active commitment to people
and the environment.

AS A COMPANY

We continuously work to reduce emissions and contribute to a functioning circular economy. Since 2010, our photovoltaic system has supported our energy supply – we rely on renewable power for a sustainable future. We collaborate only with suppliers who meet high environmental standards.

PRODUCTS & SERVICES

Our product portfolio supports the expansion of renewable energy and includes an increasing share of recyclable and bio-based materials. Developing sustainable material alternatives is one of our key future priorities.



RESPONSIBLE CORPORATE MANAGEMENT

As a participant in the UN Global Compact, we are part of an international network committed to ethical, sustainable business practices and transparency across the entire supply chain. Values such as trust, integrity, and long-term reliability guide how we work – with customers, suppliers, and one another.



SOCIAL ENGAGEMENT

We are committed to social causes, especially supporting children and young people from disadvantaged backgrounds. For many years, EMC has actively supported regional foundations and initiatives that improve access to education, leisure, and opportunity.



EMPLOYEE DEVELOPMENT

Balancing family and career is part of our social responsibility. We promote flexible work models and offer continuous professional and personal development – fostering a culture of trust and partnership.



OUR CORE PRODUCT RANGES & SERVICES

DEEP, DELIVERABLE ASSORTMENTS

In our core product groups – cable ties, fastening clips, corrugated conduits, textile sleeves, shrink tubing, connection technology, and tools – we offer an industrial-grade range with high stock availability. This saves search time, accelerates your processes, and makes procurement predictable.



CABLE TIES



FASTENING CLIPS



SHRINK TUBING



CORRUGATED PIPE



TEXTILE HOSE



PROTECTIVE HOSE



CONNECTION TECHNOLOGY



TOOL



INSULATING, ADHESIVE & SEALING TAPES



WE ARE HAPPY TO ADVISE YOU ON OUR PRODUCTS +49 (0)2369 - 98469-15
The telephone consultation is free of charge and, of course, non-binding.

MORE THAN PRODUCTS – EMC SERVICES

We support industry and vehicle manufacturing with services that simplify procurement, ensure quality, and accelerate processes.



PERSONAL SUPPORT

Dedicated contact, fast, reliable, solution-oriented.



CERTIFICATION & COMPLIANCE

ISO 9001 >15 years, IATF-certified suppliers, UL/DNV/MIL product approvals, IMDS & origin certificates.



PLANNING & DELIVERY RELIABILITY

98 % on-time delivery, call-off orders, and stable long-term pricing.



TECHNICAL COMPETENCE

Application support, testing samples, and on-site consulting.



QUALITY & TRUST

Audited, certified suppliers and hand-selected partners worldwide.



PACKAGING & LOGISTICS SOLUTIONS

custom quantities, labels, and packaging formats tailored to your needs.

OUR HIGHLIGHTS

FIRE-PROTECTION CORRUGATED CONDUITS

Designed for commercial-vehicle and machinery applications, offering outstanding fire resistance and heat stability. Available slitted, unslitted, or two-piece sealable. Benefit from fixed prices for up to 18 months and precise call-off deliveries as required.



Designed for long-term use



Excellent fire and heat resistance



Good dynamic properties



CABLE TIES

The high-performance cable tie for demanding and safety-critical applications – inspired by nature, as strong as a raptor's claw. Its innovative four-tooth head design provides up to 70 % more tensile strength and stability, ideal for vibration-intense environments and temporary use at temperatures up to +110 °C. Also available as a 15-year UV-stable variant for long-term outdoor exposure.



Innovative 4-tooth head design



Operating temperature up to +110°C

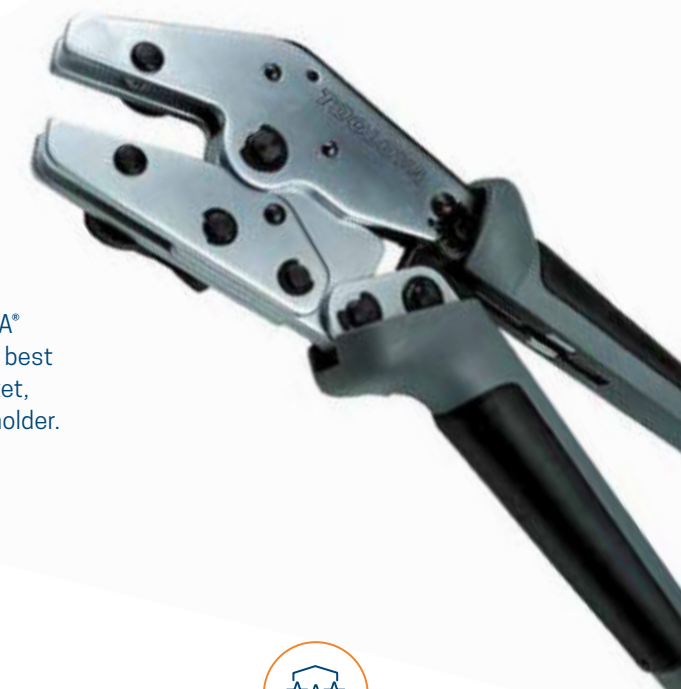


70% more traction and stability



TOOL PROGRAM

We proudly present our partner TOOLOVA® – a specialist manufacturer of premium hand tools for electrical engineering. Once you pick up a TOOLOVA® tool, you'll never want to use another. Discover the *Crimptool TF Plus* – the best interchangeable-die crimping tool with quick-lock mechanism on the market, also available as a dedicated vehicle-construction set with four dies and holder.



Price-performance winner



Unmistakable design



Zero-risk guarantee



CABLE TIES

As a major importer, we work with a network of hand-picked suppliers world-wide and can offer you almost every common cable tie at attractive prices. We produce special products, including mold construction, through our own manufacturing partner in Germany. With the popular HPER® series you can purchase cable ties in market-leading quality from us, which characterized by longevity and an excellent price-performance ratio.

CABLE TIES PA 6.6



- » High-quality cable ties for industrial and automotive construction
- » UV-stabilized for indoor and outdoor use
- » Quick assembly by hand or tools



BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	24	80	100 pcs.	22002
	140	35	80	100 pcs.	22004
	200	55	80	100 pcs.	22006
3.6	140	36	180	100 pcs.	22008
	200	52.5	180	100 pcs.	22010
	250	70	180	100 pcs.	22012
	290	82	180	100 pcs.	22014
	360	103	180	100 pcs.	22016
4.8	200	49.5	220	100 pcs.	22021
	290	82	220	100 pcs.	22025
	360	100	220	100 pcs.	22027
	385	110	220	100 pcs.	22046
	430	122.5	220	100 pcs.	22031
7.8	180	50.9	530	100 pcs.	22033
	280	82.8	530	100 pcs.	22035
	360	103	530	100 pcs.	22037
	385	110	530	100 pcs.	22041
	450	130.5	530	100 pcs.	22039
	540	159	530	100 pcs.	22043
	750	226	530	100 pcs.	22045
9	550	163.5	800	100 pcs.	22049
	780	235	800	100 pcs.	22050
	920	280	800	100 pcs.	22053
	1220	375	800	100 pcs.	22054
12.5	500	140	1150	100 pcs.	20061
	720	216	1150	100 pcs.	22063
	1000	315	1150	100 pcs.	22065

Material:

- PA 6.6 (premium polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)
- Installation temperature -10 °C to +60 °C

Characteristics :

- Internally toothed
- Halogen-free
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

NATURE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	24	80	100 pcs.	22001
	140	35	80	100 pcs.	22003
	200	55	80	100 pcs.	22005
3.6	140	36	180	100 pcs.	22007
	200	52.5	180	100 pcs.	22009
	250	70	180	100 pcs.	22011
	290	82	180	100 pcs.	22013
	360	103	180	100 pcs.	22015
4.8	200	49.5	220	100 pcs.	22020
	290	82	220	100 pcs.	22024
	360	100	220	100 pcs.	22026
	385	110	220	100 pcs.	22047
	390	111	220	100 pcs.	22029
7.8	430	122.5	220	100 pcs.	22030
	180	50.9	530	100 pcs.	22032
	280	82.8	530	100 pcs.	22034
	360	103	530	100 pcs.	22036
	385	110	530	100 pcs.	22040
	450	130.5	530	100 pcs.	22038
	540	159	530	100 pcs.	22042
9	750	226	530	100 pcs.	22044
	550	163.5	800	100 pcs.	22048
	780	235	800	100 pcs.	22051
	920	280	800	100 pcs.	22052
12.5	1220	375	800	100 pcs.	22055
	500	140	1150	100 pcs.	20060
	720	216	1150	100 pcs.	22062
	1000	315	1150	100 pcs.	22064



CABLE TIES PA 6.6

COLORED

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Color	Contents	Item no.
2.5	100	22	80	blue	100 pcs.	22072
				green	100 pcs.	22073
				red	100 pcs.	22074
				yellow	100 pcs.	22075
3.6	140	36	180	blue	100 pcs.	22076
				green	100 pcs.	22077
				red	100 pcs.	22078
				yellow	100 pcs.	22079
3.6	200	52	180	blue	100 pcs.	22110
				red	100 pcs.	22111
				green	100 pcs.	22112
				yellow	100 pcs.	22113
				orange	100 pcs.	22114
				brown	100 pcs.	22115
4.8	200	55	220	blue	100 pcs.	22081
				green	100 pcs.	22082
				red	100 pcs.	22083
				yellow	100 pcs.	22084
				orange	100 pcs.	22092
4.8	290	82	220	blue	100 pcs.	22086
				green	100 pcs.	22087
				red	100 pcs.	22088
				yellow	100 pcs.	22089
				brown	100 pcs.	22116
				orange	100 pcs.	22117

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Color	Contents	Item no.
4.8	360	103	220	red	100 pcs.	22094
				blue	100 pcs.	22095
				green	100 pcs.	22096
				yellow	100 pcs.	22097
				orange	100 pcs.	22098
				brown	100 pcs.	22118
7.6	360	103	530	blue	100 pcs.	22120
				red	100 pcs.	22121
				green	100 pcs.	22122
				yellow	100 pcs.	22123
				orange	100 pcs.	22124
				brown	100 pcs.	22125
7.6	540	160	530	blue	100 pcs.	22130
				red	100 pcs.	22131
				green	100 pcs.	22132
				yellow	100 pcs.	22133
				orange	100 pcs.	22134
				brown	100 pcs.	22135
9	550	163	800	blue	100 pcs.	22140
				red	100 pcs.	22141
				green	100 pcs.	22142
				yellow	100 pcs.	22143
				orange	100 pcs.	22144
				brown	100 pcs.	22145

HPER® CABLE TIES PA6.6



- » High-performance cable ties with particularly high tensile strength
- » UV-stabilized for indoor and outdoor use
- » Vibration-resistant and long-term resistant under high load
- » Depending on the design, 50-70% higher tensile strength than standard specifications



BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	24	80	100 pcs.	22002-H
	140	33	80	100 pcs.	22004-H
	200	52	80	100 pcs.	22006-H
3.5	140	36	180	100 pcs.	22008-H
	200	85	180	100 pcs.	22010-H
	290	82	180	100 pcs.	22014-H
4.6	200	54	220	100 pcs.	22021-H
	290	82	220	100 pcs.	22025-H
	360	106	220	100 pcs.	22027-H
	430	125	220	100 pcs.	22031-H
7.8	180	54	530	100 pcs.	22033-H
	280	77	530	100 pcs.	22035-H
	360	101	530	100 pcs.	22037-H
	450	130	530	100 pcs.	22039-H
	540	160	530	100 pcs.	22043-H
	750	222	530	100 pcs.	22045-H
9	550	160	800	100 pcs.	22049-H
	780	226	800	100 pcs.	22050-H
	920	280	800	100 pcs.	22053-H
	1220	375	800	100 pcs.	22054-H
12.5	500	150	1150	100 pcs.	22061-H
	720	216	1150	100 pcs.	22063-H
	1000	300	1150	100 pcs.	22065-H



- Material:**
- PA 6.6 (premium polyamide 6.6)
- Operating temperature:**
- 40 °C to +85 °C (briefly +110 °C)
 - Installation temperature approx. -10 °C to +60 °C

- Characteristics :**
- Internally toothed
 - Very good fire protection properties: self-extinguishing according to UL94 V-2
 - Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
 - UV-weather-resistant in black design

NATURE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	24	80	100 pcs.	22001-H
	140	33	80	100 pcs.	22003-H
	200	52	80	100 pcs.	22005-H
3.5	140	34	180	100 pcs.	22007-H
	200	52	180	100 pcs.	22009-H
	290	82	180	100 pcs.	22013-H
4.6	200	54	220	100 pcs.	22020-H
	290	82	220	100 pcs.	22024-H
	360	106	220	100 pcs.	22026-H
	390	110	220	100 pcs.	22029-H
	430	125	220	100 pcs.	22030-H
7.8	180	54	530	100 pcs.	22032-H
	280	77	530	100 pcs.	22034-H
	360	101	530	100 pcs.	22036-H
	450	130	530	100 pcs.	22038-H
	540	160	530	100 pcs.	22042-H
	750	222	530	100 pcs.	22044-H
	550	160	800	100 pcs.	22048-H
9	780	226	800	100 pcs.	22051-H
	920	280	800	100 pcs.	22052-H
	1220	375	800	100 pcs.	22055-H
	500	150	1150	100 pcs.	22060-H
12.5	720	216	1150	100 pcs.	22062-H
	1000	300	1150	100 pcs.	22064-H

HPER® CABLE TIES
15 YEARS UV WEATHER RESISTANT



- » High-performance cable ties with particularly high tensile strength
- » UV-stable with guaranteed durability for over 15 years outdoors
- » High cold resistance and excellent weather stability
- » Depending on the design, 50-70% higher tensile strength than standard specifications

Material:

- PA 6.6 (premium polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly +110 °C)
- Installation temperature approx. -10 °C to +60 °C

Characteristics :

- UV-weather resistant for 15 years
- Internally toothed
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	100	21	80	100 pcs.	26030-H
	200	52	80	100 pcs.	26039-H
3.6	140	34	180	100 pcs.	26031-H
	200	52	180	100 pcs.	26032-H
4.8	200	54	220	100 pcs.	26033-H
	290	81	220	100 pcs.	26034-H
	360	106	220	100 pcs.	26041-H
7.5	365	106	530	100 pcs.	26035-H
	540	160	530	100 pcs.	26036-H
	750	222	530	100 pcs.	26042-H
8.7	920	278	800	100 pcs.	26037-H



CABLE TIES PA 12



- » UV and weather-resistant for at least 20 years – resistant to sun, rain, heat, snow and extreme cold.
- » High chemical resistance – insensitive to oils, fuels and corrosive liquids, reliable even in harsh industrial environments.
- » Developed for extreme operating conditions – ideal for solar parks, offshore facilities, Vehicle Manufacturing and industrial applications with demanding environmental influences.
- » Extended service life – reduces maintenance and lowers overall costs.

Material:

- PA 12 (Premium Polyamide 12)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)
- Installation temperature from -30 °C

Characteristics :

- Internally toothed
- UV-weather resistant for 20 years
- Very good fire protection properties: heat-resistant and self-extinguishing according to UL94 HB
- Excellent chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohols, esters and ketones, as well as a wide range of salt solutions and alkalis; limited resistance to organic acids.
- Very low water absorption (less than 1%)

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	20.5	80	100	26201
	150	36	180	100	26202
3.6	200	52.5	180	100	26203
	200	49.5	230	100	26204
	300	81	230	100	26205
4.8	370	103.5	230	100	26206
	370	103.5	540	100	26207
7.6	610	181.5	540	100	26208



HEAT-RESISTANT
CABLE TIES UP TO 125°C



BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	100	24.0	80	100 pcs.	26302
	150	36.5	80	100 pcs.	26304
	200	55.0	80	100 pcs.	26306
	380	110.0	80	100 pcs.	26308
3.6	150	36.5	180	100 pcs.	26310
	200	55.0	180	100 pcs.	26312
	300	84.0	180	100 pcs.	26314
4.8	200	55.0	220	100 pcs.	26316
	300	84.0	220	100 pcs.	26318
	370	103.5	220	100 pcs.	26320
	450	129.0	220	100 pcs.	26322
7.8	300	84.0	530	100 pcs.	26324
	370	103.5	530	100 pcs.	26326
	550	162.5	530	100 pcs.	26328
	750	205.0	530	100 pcs.	26330
9	550	162.5	800	100 pcs.	26332
	780	235.5	800	100 pcs.	26334
	920	280.0	800	100 pcs.	26336
	1220	295.0	800	100 pcs.	26338

- » Made from heat-stabilized PA66HS for use at temperatures up to 125 °C – ideal for use on aggregates, fans and in the edge area of the engine compartment
- » Increased fire safety
- » Internal toothing for secure hold – ideal for tight installation situations in high-temperature areas

Material:

- PA 6.6 (premium polyamide 6.6)

Operating temperature:

- -40 °C to +125 °C (briefly up to +150 °C)
- Installation temperature approx. -5 °C to +60 °C

Characteristics:

- Internally toothed
- Excellent fire protection properties: highly heat-resistant (meets the highest fire protection standards / self-extinguishing according to UL94 V-2)
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.

NATURE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	24.0	80	100 pcs.	26301
	150	36.5	80	100 pcs.	26303
	200	55.0	80	100 pcs.	26305
	380	110.0	80	100 pcs.	26307
3.6	150	36.5	180	100 pcs.	26309
	200	55.0	180	100 pcs.	26311
	300	84.0	180	100 pcs.	26313
4.8	200	55.0	220	100 pcs.	26315
	300	84.0	220	100 pcs.	26317
	370	103.5	220	100 pcs.	26319
	450	129.0	220	100 pcs.	26321
7.8	300	84.0	530	100 pcs.	26323
	370	103.5	530	100 pcs.	26325
	550	162.5	530	100 pcs.	26327
	750	205.0	530	100 pcs.	26329
9	550	162.5	800	100 pcs.	26331
	780	235.5	800	100 pcs.	26333
	920	280.0	800	100 pcs.	26335
	1220	295.0	800	100 pcs.	26337



HEAT-RESISTANT
CABLE TIES UP TO 150°C



- » Made of high-temperature-resistant PA 46, suitable for maximum temperatures up to 150 °C – perfect for use near heating elements and exhaust systems
- » Developed for demanding automotive and railway applications; remains dimensionally stable even under heat
- » Internal toothing for secure hold – ideal for tight installation situations in high-temperature areas

Material:

- PA 46 (Premium Polyamide 46)

Operating temperature:

- -40 °C to +150 °C
- Installation temperature -10 °C to +60 °C

Characteristics:

- Internally toothed
- Very good fire protection properties: highly heat-resistant (meets the highest fire protection standards / self-extinguishing according to UL94 V-2)
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.

NATURE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	20.5	80	100 pcs.	26401
	150	36	180	100 pcs.	26402
3.6	200	52.5	180	100 pcs.	26403
	200	49.5	220	100 pcs.	26404
4.8	300	81	220	100 pcs.	26405
	370	103.5	220	100 pcs.	26406
7.6	370	103.5	530	100 pcs.	26407



FLAME-RESISTANT
CABLE TIES V0



- » Made of flame-retardant PA66 according to UL94 V0 – for the highest fire protection requirements
- » Suitable for applications in rail vehicles, buildings and electrical installations
- » Robust construction for secure hold even at elevated temperatures

Material:

- PA 6.6 (premium polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)
- Installation temperature -10 °C to +60 °C

Characteristics :

- Internally toothed
- Excellent fire protection properties: flame-resistant (meets the highest fire protection standards / self-extinguishing according to UL94 V-0)
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.

WHITE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	100	20.5	80	100 pcs.	26501
	150	36	180	100 pcs.	26502
3.6	200	52	180	100 pcs.	26503
	200	49.5	220	100 pcs.	26504
4.8	300	81	220	100 pcs.	26505
	370	102	220	100 pcs.	26506
7.6	365	103	530	100 pcs.	26507



CABLE TIES
FOR INCREASED COLD AND IMPACT
RESISTANCE



- » Made from impact-modified PA66HI – remains flexible and break-resistant even at -40 °C
- » High impact resistance – withstands mechanical stress and shocks for permanently secure hold
- » UV-stabilized and durable for outdoor use – for a long service life under demanding conditions

Material:

- PA 6.6 (premium polyamide 6.6 / extra cold and impact resistant)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)
- Installation temperature from -40 °C

Characteristics :

- Internally toothed
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	100	20.5	80	100 pcs.	26601
	150	36	180	100 pcs.	26602
3.6	200	52.5	180	100 pcs.	26603
	200	49.5	220	100 pcs.	26604
4.8	300	81	220	100 pcs.	26605
	370	103.5	220	100 pcs.	26606
	370	103.5	530	100 pcs.	26607



ACID-RESISTANT
CABLE TIES PP



- » Made of polypropylene for high resistance to acids and chemical influences
- » Lightweight and flexible design for gentle cable bundling
- » Ideal for chemical industry, laboratory and outdoor applications

Material:

- PP (polypropylene)

Operating temperature:

- -50 °C to +90 °C
- Installation temperature from -10 °C

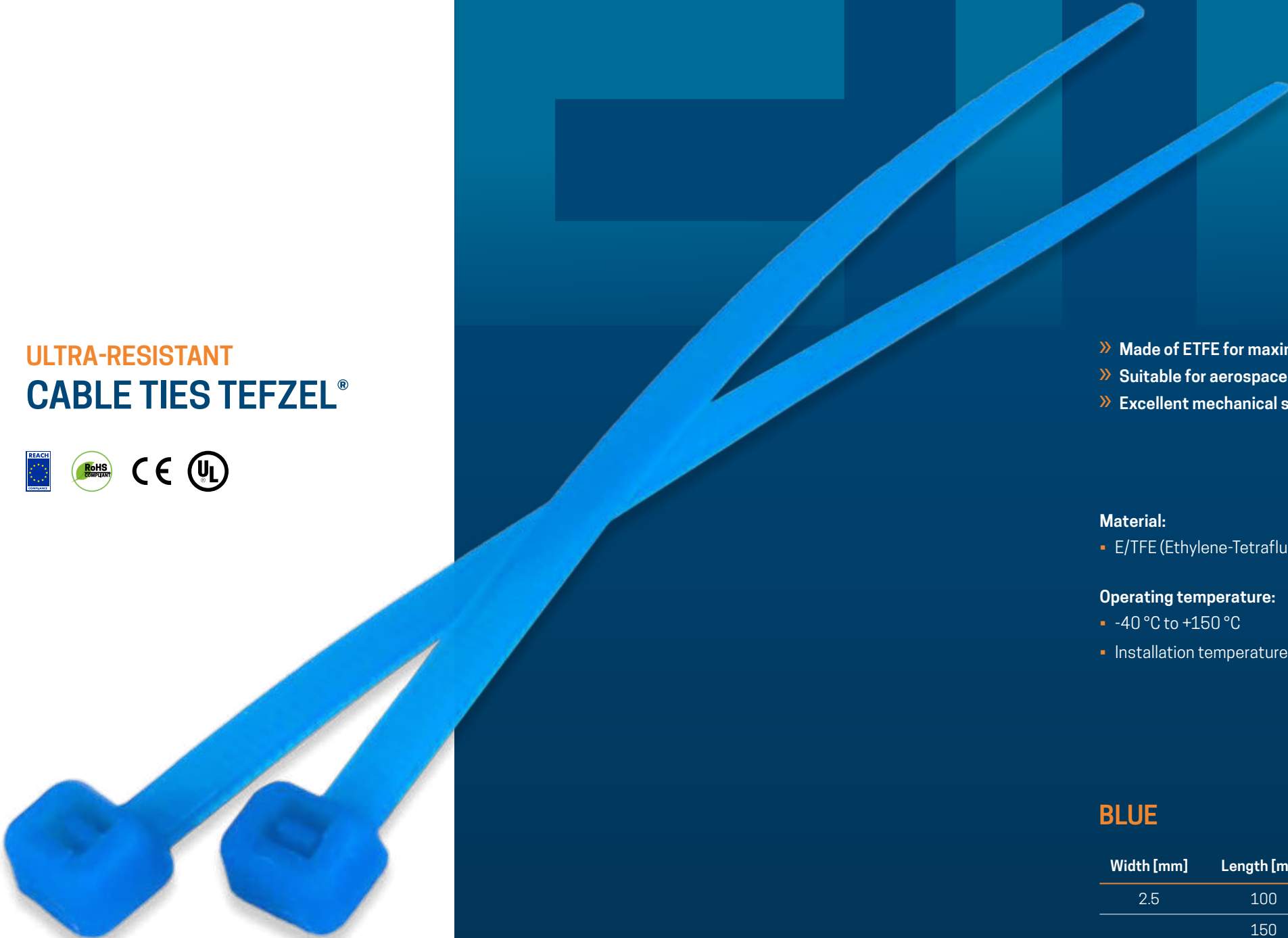
Characteristics:

- Internally toothed
- Very good fire protection properties: self-extinguishing according to UL 94 HB
- Very good chemical resistance: resistant to acids and alkalis, good resistance to many chemicals; suitable for applications with chemical exposure.
- The resin meets FDA requirements in the Code of Federal Regulations in 21 CFR 177.1520 for food contact.
- Excellent resistance to brittleness at low temperatures.

NATURE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
2.5	100	20.5	50	100 pcs.	26701
3.6	140	63	80	100 pcs.	26703
	200	49.5	130	100 pcs.	26707
	300	81	130	100 pcs.	26709
4.8	370	103.5	130	100 pcs.	26711
	370	103.5	220	100 pcs.	26717

ULTRA-RESISTANT
CABLE TIES TEFZEL®



- » Made of ETFE for maximum resistance to chemicals, radiation and extreme temperatures
- » Suitable for aerospace, chemical plants and nuclear applications
- » Excellent mechanical strength and durability under extreme conditions

Material:

- E/TFE (Ethylene-Tetrafluoroethylene / halogen-free)

Operating temperature:

- -40 °C to +150 °C
- Installation temperature from -10 °C

Characteristics :

- Internally toothed
- Excellent fire protection properties: self-extinguishing according to UL94 V-0
- Excellent chemical resistance: resistant to aggressive chemicals, UV and elevated temperatures; additionally radiation-resistant

BLUE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	100	22	80	100 pcs.	26801
	150	36	180	100 pcs.	26802
3.6	200	53	180	100 pcs.	26803
	200	53	220	100 pcs.	26804
4.8	300	76	220	100 pcs.	26805
	370	102	220	100 pcs.	26807
7.6	300	76	530	100 pcs.	26806
	370	102	530	100 pcs.	26808

REMOVABLE
 CABLE TIES



- » Reusable cable ties
- » Easy to open thanks to extended locking tongue
- » In black, UV-stable for outdoor use
- » With an extra-wide thumb rest for cable ties from 7.5 mm wide

Material:

- PA 6.6 (premium polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)
- Installation temperature approx. -10 °C to +60 °C

Characteristics:

- Internally toothed
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
3.6	100	22.6	180	100	25302
	160	41.9	220	100	25304
	200	54.8	220	100	25306
	250	65	220	100	25308
	300	88.1	220	100	25310
	380	111	220	100	25312
4.8	150	36	530	100	25314
	200	50	530	100	25316
	250	66.8	530	100	25318
	300	82.8	530	100	25320
	370	103	530	100	25322
	540	160	531	100	25324

NATURE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
3.6	100	22.6	180	100	25301
	160	41.9	220	100	25303
	200	54.8	220	100	25305
	250	65	220	100	25307
	300	88.1	220	100	25309
	380	111	220	100	25311
4.8	150	36	530	100	25313
	200	50	530	100	25315
	250	66.8	530	100	25317
	300	82.8	530	100	25319
	370	103	530	100	25321
	540	160	531	100	25323



REMOVABLE
SOFTBINDER TPU



- » Made of flexible TPU – especially gentle on sensitive cables and surfaces
- » Reusable thanks to integrated release mechanism
- » Ideal for temporary bundling, maintenance and prototyping

Material:

- TPU (thermoplastic polyurethane)

Operating temperature:

- -40 °C to +85 °C

Characteristics :

- Elongation at break: 400%
- Very good fire protection properties: self-extinguishing according to UL94 HB/ except green (self-extinguishing)
- Good chemical resistance: resistant to oils/greases and common cleaning agents; not recommended for strong acids/alkalis.
- UV-weather resistant: both versions / the green version has been specially modified for outdoor applications.

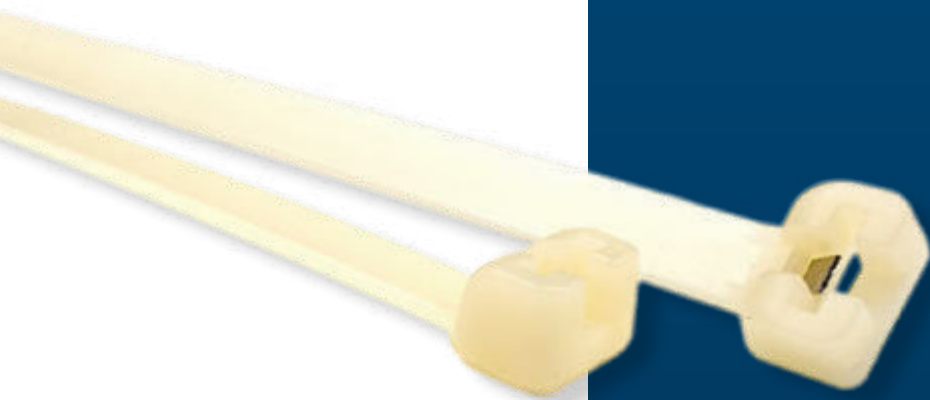
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Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
7	180	45	57	50 pcs.	25002
	260	70	57	50 pcs.	25006
11	260	65	240	50 pcs.	25004
	340	90	240	50 pcs.	25008
28	580	150	360	50 pcs.	25011
	880	250	360	50 pcs.	25013

GREEN

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
7	180	45	57	50 pcs.	25001
	260	70	57	50 pcs.	25005
11	260	65	240	50 pcs.	25003
	340	90	240	50 pcs.	25007
28	420	100	360	50 pcs.	25009
	580	150	360	50 pcs.	25010
	880	250	360	50 pcs.	25012

CABLE TIES
WITH STAINLESS
STEEL TONGUE SIMPLE



Material:

- PA 6.6 (premium polyamide 6.6)

Operating temperature:

- -60 °C to +85 °C (briefly up to +110 °C)
- Installation temperature approx. -10 °C to +60 °C

Characteristics :

- Stainless steel retaining tooth with a cutting angle of 60° (inclination 45°)
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

- » Stainless steel tongue for permanently secure hold even under vibration and stress
- » High tensile strength for demanding industrial and automotive applications
- » Continuously adjustable for precise and low-tension bundling
- » UV-stabilized black version for outdoor use

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	100	24	180	100 pcs.	23002
	200	55	180	100 pcs.	23004
3.6	140	36	275	100 pcs.	23006
	200	55	275	100 pcs.	23008
	290	82	275	100 pcs.	23010
4.8	200	55	390	100 pcs.	23011
	290	82	390	100 pcs.	23014
	360	101	390	100 pcs.	23016
7.8	360	101	785	100 pcs.	23018
	760	225	785	100 pcs.	23022

NATURE

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	100	24	180	100 pcs.	23001
	200	55	180	100 pcs.	23003
3.6	140	36	275	100 pcs.	23005
	200	55	275	100 pcs.	23007
	290	82	275	100 pcs.	23009
4.8	200	55	390	100 pcs.	23012
	290	82	390	100 pcs.	23013
	360	101	390	100 pcs.	23015
7.8	360	101	785	100 pcs.	23017
	760	225	785	100 pcs.	23025

STAINLESS STEEL CABLE TIES
WITHOUT COATING



- » Made of stainless steel for maximum strength and corrosion resistance
- » Resistant to high temperatures and aggressive environments
- » Ideal for industry, shipbuilding, offshore and chemical plants

Material:

- stainless steel

Operating temperature:

- Resistant to ambient temperatures from -60 °C to +300 °C (briefly from approx. - 80 °C to max. +538 °C)
- Installation temperature from -60 °C

Characteristics :

- UV-weather-resistant
- Secure hold thanks to ball-lock closure
- Excellent fire protection properties: non-flammable
- Excellent chemical resistance: not vulnerable to conventional media / corrosion-protected
- No water absorption
- TÜV-certified

STAINLESS STEEL

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min [N]	Contents	Item no.
4.6	200	61.9	890	100 pcs.	24060
	300	90.6	890	100 pcs.	24005
	360	112	890	100 pcs.	24062
	600	200	890	100 pcs.	24008
	800	265.7	890	100 pcs.	24011
	1000	300	890	100 pcs.	24012
	1200	320	890	100 pcs.	24010
7.9	200	61.9	1600	100 pcs.	24065
	300	90.6	1600	100 pcs.	24013
	360	112	1600	100 pcs.	24004
	450	152	1600	100 pcs.	24015
	500	160	1600	100 pcs.	24069
	600	214.8	1600	100 pcs.	24017
	800	265.7	1600	100 pcs.	24018
	1000	318	1600	100 pcs.	24071
	1200	350	1600	100 pcs.	24077
12	680	214.8	2300	100 pcs.	24022

STAINLESS STEEL CABLE TIES
WITH COATING



- » Extreme temperature and weather resistance
- » Insensitive to UV radiation and corrosion
- » Particularly suitable for use in photovoltaic applications, in the chemical industry, or in shipbuilding

Material:

- Stainless steel with polyester coating

Operating temperature:

- -80 °C to +150 °C
- Installation temperature from -60 °C

Characteristics :

- UV-weather-resistant
- Secure hold thanks to ball-lock closure
- Excellent fire protection properties: non-flammable / self-extinguishing coating
- Excellent chemical resistance: not vulnerable to conventional media / corrosion-protected
- No water absorption
- TÜV-certified

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
4.6	200	61.9	890	100 pcs.	24030
	300	90.6	890	100 pcs.	24061
	360	112.8	890	100 pcs.	24031
	520	163.8	890	100 pcs.	24032
	600	214.8	890	100 pcs.	24035
	800	265.7	890	100 pcs.	24036
	1200	320	890	100 pcs.	24064
7.9	200	61.9	1600	100 pcs.	24066
	300	90.6	1600	100 pcs.	24067
	360	112	1600	100 pcs.	24068
	500	160	1600	100 pcs.	24070
	600	214.8	1600	100 pcs.	24072
	800	265.7	1600	100 pcs.	24073
	1000	318	1600	100 pcs.	24074
	1200	350	1600	100 pcs.	24076
12	680	214.8	2300	100 pcs.	24075

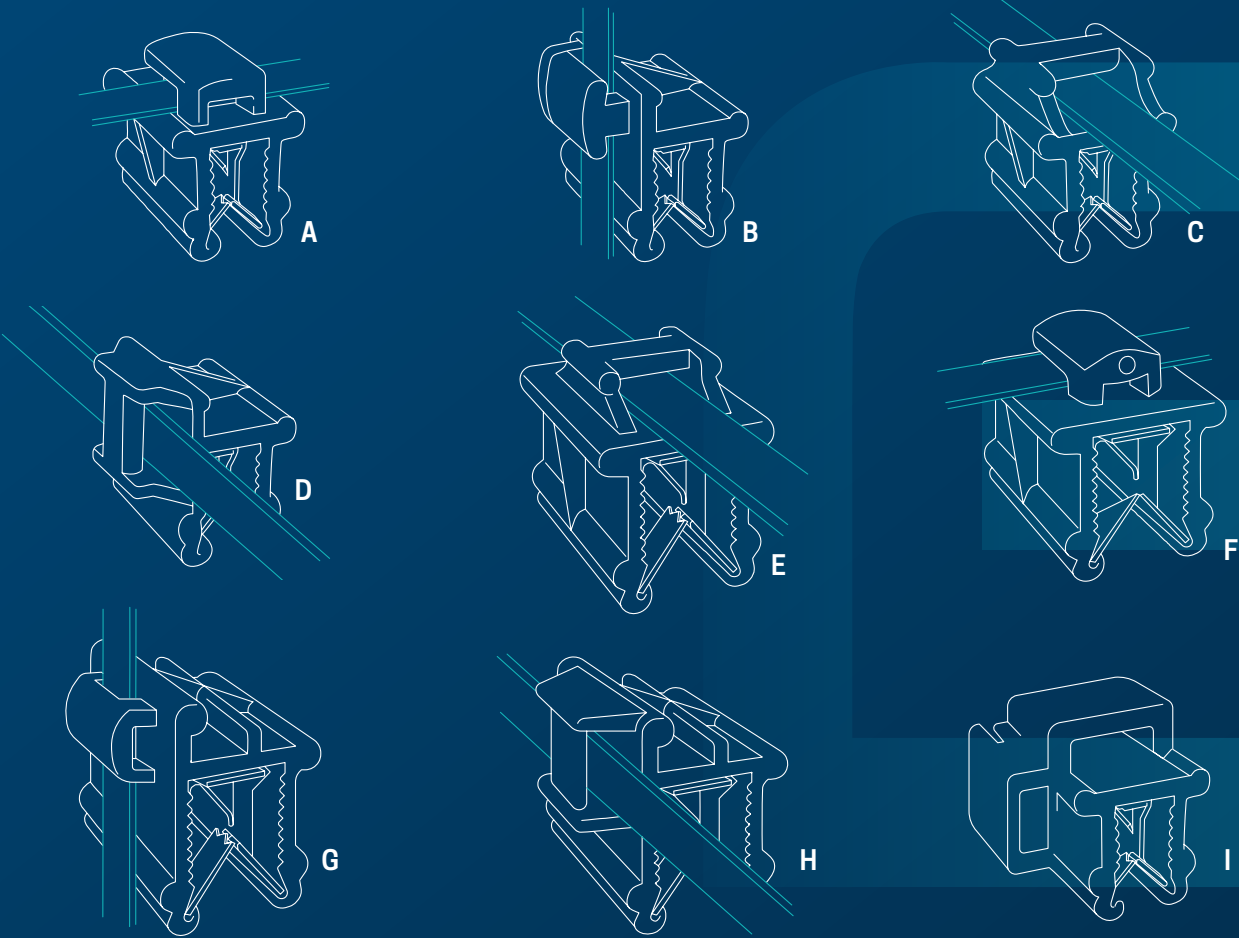


FASTENING CLIPS

Our fastening clips enable the secure and precise assembly of cables, wires, hoses, and corrugated pipes – in automotive engineering as well as in industrial applications and renewable energy projects. With robust plastic and metal versions, we offer durable solutions that function reliably even under demanding conditions. In addition, we develop custom parts and offer reverse engineering services to optimally tailor fastening solutions to individual requirements.

EDGE CLIPS FOR CABLE TIES

2-PART, WITH CABLE TIES, MADE OF PLASTIC



- » Edge clips for attaching cable ties – 2-part with pre-inserted, internally toothed cable tie
- » Tool-free mounting on sheet metal edges, securely fixed by spring steel clamp
- » Cable routing, depending on the type, lengthwise or perpendicular, above or to the side of the profile
- » For cable harnesses, hoses or pipes up to Ø 50 mm – proven solution in industry and Vehicle Manufacturing



- Material:**

 - PA 6.6 HS (polyamide 6.6 / heat-stabilized)
 - Metal clamp made of spring steel, with special, corrosion-protected surface

Operating temperature:

 - -40 °C to +125 °C
- Characteristics :**

 - Impact-resistant and heat-stabilized
 - Cable ties with internal teeth
 - Very good fire protection properties: self-extinguishing according to UL94 V-2
 - Good chemical resistance: excellent against conventional liquids/ solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
 - The spring steel meets the highest corrosion protection requirements
 - UV-weather-resistant for 5 to 10 years
 - The cable ties for types EC4A, EC5A, EC4B and EC5B are interchangeable, but are pre-inserted as shown in the table.

BLACK

Dimensions of cable ties [mm]	Bundling max. [mm]	Profile thickness [mm]	Cable tie holder	sketch	Direction of cable to profile	type	Contents	Item no.
200 x 4.8	50	0.7 - 3.0	Above	A	Longitudinal to the profile	EC4A	100	29000
			Page	B	Longitudinal to the profile	EC5A	100	29001
			Above	C	Perpendicular to the profile	EC4B	100	29002
			Page	D	Perpendicular to the profile	EC5B	100	29003
200 x 4.8	50	3.0 - 6.0	Above	E	Perpendicular to the profile	EC19	100	29005
			Above	F	Longitudinal to the profile	EC20	100	29006
			Page	G	Longitudinal to the profile	EC23	100	29007
			Page	H	Perpendicular to the profile	EC24	100	29008



EDGE CLIPS FOR CABLE TIES
 1-PIECE, MULTIDIRECTIONAL WITHOUT
 CABLE TIES, MADE OF PLASTIC



- » Edge clips for attaching cable ties – flexible use with cable ties of your choice
- » Multidirectional cable routing: Insertion at the top or side, lengthwise or at right angles to the profile
- » Fast, tool-free installation on sheet metal edges using spring steel clamps
- » Versatile fastening solution for cable harnesses, hoses and pipes in industry and Vehicle Manufacturing

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)
- Metal clamp made of spring steel, with special, corrosion-protected surface

Operating temperature:

- -40 °C to +120 °C

Characteristics :

- Impact-resistant and heat-stabilized
- The cable tie can be inserted either on top of the clip or on the side so that the cables are routed lengthwise or at a right angle to the profile.
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/ solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- The spring steel meets the highest corrosion protection requirements
- UV-weather-resistant for 5 to 10 years

BLACK

Profile thickness [mm]	Direction of cable to profile	Cable tie holder	sketch	type	Contents	Item no.
0.7 - 3.0	Multidirectional	Top and side	I	KC15	500	29004
3.0 - 6.0	Multidirectional	Top and side	I	KC107	500	29009



EDGE CLIPS FOR CABLE TIES
 1-PIECE, MULTIDIRECTIONAL WITHOUT
 CABLE TIES, MADE OF STEEL



- » Edge clips made of coated spring steel – especially for attaching stainless steel cable ties
- » Multidirectional cable routing: Cable ties can be inserted at the top or side, lengthwise or at right angles to the profile
- » Secure, tool-free installation on sheet metal edges from 0.8-3.0 mm without drilling or screwing
- » Optimal solution for industry and Vehicle Manufacturing with the highest demands on strength, corrosion protection and service life

Material:

- Steel (C67S)

Operating temperature:

- underlying material temperature-resistant from approx. -100 °C to +200 °C (briefly up to approx. +300 °C)

Characteristics :

- Very good fire protection properties
- Very good chemical resistance
- Excellent corrosion protection: No red rust after 720 hours of neutral salt spray according to EN ISO 9227:2012
- We recommend using this clip in conjunction with stainless steel cable ties or PA12 cable ties.
- UV-weather-resistant

STEEL

Profile thickness [mm]	Cable tie width up to [mm]	Cable sock LxWxH [mm]	Direction of cable to profile	Cable tie holder	Contents	Item no.
0.8 - 3.0	5	14.2x14.2x1.6	multidirectional	Top and side	100	91301

EDGE CLIPS FOR
CORRUGATED PIPES
MADE OF PLASTIC



- » Edge clips for secure fastening of corrugated pipes without drilling or screwing
- » Can be attached to sheet edges without tools – secure hold thanks to spring steel clamp
- » Depending on the type for nominal diameters 4.5-17 mm and single or double pipe routing
- » Flexible mounting lengthwise or perpendicular, above or sideways to the profile
- » Proven solution for clean and stable corrugated pipe installation in industry and Vehicle Manufacturing

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)
- Metal clamp made of spring steel, with special, corrosion-protected surface
- Operating temperature:
- -40 °C to +125 °C

Characteristics:

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Profile thickness [mm]	Nominal diameter	Direction of pipe to profile	Recording the pipe	type	Contents	Item no.
0.7 - 3.0	4.5	along	above	KC24	100	38900
	7.5	along	above	KC21	100	38901
	17	along	above	KC32	100	38902
3.0-6.0	4.5	along	above	KC30	100	38903
	13	along	above	KC12	100	38904
0.7 - 3.0	4.5	right-angled	above	KC23	100	38905
	10.5	right-angled	above	KC22	100	38906
	13	right-angled	above	KC31	100	38907
	2 x 10	along	laterally	KC35	100	38908
	4.5	along	laterally	KC25	100	38909
	10	along	laterally	KC26	100	38910
	13	along	laterally	KC36	100	38911
3.0-6.0	1.5	along	laterally	KC28	100	38912
	7.5	along	laterally	KC29	100	38913
	14	along	laterally	KC27	100	38914



EDGE CLIPS FOR 2 x 6 mm CABLE
MADE OF PLASTIC



- » Edge clips for secure routing of two cables (Ø 6 mm) without additional cable ties
- » Can be attached to sheet edges without tools – secure hold thanks to spring steel clamp
- » Variants for parallel or right-angled cable routing as well as mounting on the side, on the head or below
- » UV and weather-resistant solution for photovoltaics, industry and Vehicle Manufacturing

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)
- Metal clamp made of spring steel, with special, corrosion-protected surface

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: underlying material self-extinguishing
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Profile thickness [mm]	for cables	Direction of cable to profile	Cable holder	type	Contents	Item no.
0.7-3.0	2 x 6 mm	parallel	laterally	SKC1	100	29012
		below	90°	SKC2	100	29022
		parallel	on the head	SKC4	100	29032



CHASSIS CABLE TIES



- » Cable ties with integrated fastening button, for secure single-hole mounting in vehicle and machine frames
- » Made of heat-stabilized PA 6.6 – robust, UV-resistant and durable
- » Can be looped in on both sides – flexible fastening of cable and pipe bundles
- » Quick, tool-free installation – simply insert through the existing hole and fix

Material:

- PA 6.6 HS (polyamide 6.6)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
7.6	200	5.8-50	540	100	29450
	200	5.8-82.8	540	100	29451
	370	5.8-103	540	100	29452



FASTENING TIES

1-PIECE, WITH SLATTED BASE,
WITH PLATE



- » Fixing ties with integrated slatted base – quick fixation directly in drilled holes or threaded holes
- » Made of heat-stabilized PA 6.6 – impact-resistant, UV- and weather-resistant
- » Firm hold without tools: slatted base locks securely and protects against the ingress of dirt or splash water
- » Support plate stabilizes the cable bundle and prevents damage
- » Flexible for different sheet thicknesses – versatile in control cabinet, vehicle and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Hole diameter [mm]	Width [mm]	Length [mm]	Plate diameter [mm]	Sheet thickness [mm]	Bundling [mm]	Tensile strength min. [N]	Con- tents	Item no.
4.9-5.1	2.5	110	13	3.0-4.0	20	80	100	92211
6.3-7.0	4.6	160	16	0.6-4.2	35	180	100	92212
	4.7	161	16	0.7-3.0	35	150	100	92213
8.0-8.5	4.6	163	16	0.6-6.0	35	225	100	92214
6.3-7.0	4.6	165	16	0.7-7.0	35	180	100	92215
	4.9	165	22	6.3-7.0	31	200	100	92216
6.1-6.9	4.6	167	16	0.6-8.3	35	222	100	92217
6.3-7.1	5	170	22	3.0-7.0	31	135	100	92218
6.8-7.2	5.3	170	16	0.7-4.5	30	147	100	92219
6.35	5.3	170	16	0.7-5.0	30	200	100	92220
7.6-8.4	5.1	230	19	0.6-6.7	50	222	100	92221
6.8-7.2	4.7	232	16	0.8-5.0	40	225	100	92222
6.1-6.9	5.1	234	16.6	0.6-6.0	50	220	100	92223

FASTENING TIES
2-PIECE, WITH SLATTED BASE, WITH PLATE



- » Two-part fastening tie with slatted base – cable tie and base can be flexibly combined
- » Made from heat-stabilized PA 6.6 – durable, UV- and weather-resistant
- » Simple, tool-free installation by inserting into bores or threaded holes
- » Plate ensures stable support and protects cable bundles from damage
- » Flexible for different sheet thicknesses and hole diameters
- » Proven fastening solution for cable and pipe installations in control cabinet, vehicle and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Hole diameter [mm]	Width [mm]	Length [mm]	Plate diameter [mm]	Sheet thickness [mm]	Bundling [mm]	Tensile strength min. [N]	Contents	Item no.
4.5-5	2.5	100	16	0.7-3.0	20	80	100	92231
	3.5	150	16	0.7-3.0	34	135	100	92232
	4.6	150	16	0.7-3.0	35	225	100	92233
	4.6	200	16	0.7-3.0	45	225	100	92234
6.25 - 7.0	2.5	100	16	0.8-3.0	20	80	100	92235
6.4-7.1	3.5	150	16	0.8-3.0	34	135	100	92236
	3.5	150	16	0.8-6.0	35	133	100	92237
6.5-7	4.6	160	16	0.6-6.0	30	225	100	92238
6.4-7.1	4.6	200	16	0.8-3.0	45	225	100	92239
6.5-7	4.6	200	16	0.8-7.0	44	225	100	92240
6.25-6.75	4.6	202	16	0.7-5.0	45	225	100	92241
6.4-7.1	4.6	202	16	0.8-3.0	45	225	100	92242
	4.6	202	16	0.8-6.0	44	225	100	92243
	4.7	210	16	0.8-3.0	19	180	100	92244
	4.6	300	16	0.8-6.0	81	356	100	92245
6.5-7	4.6	300	16	0.8-7.0	81	225	100	92246
6.4-7.1	5	390	16	0.8-3.0	108	335	100	92247
9:7-10	3.3	150	18	0.8-5.0	35	115	100	92248
8-8.5	4	180	16	1.5-4.0	40	180	100	92249
9:7-10	4.6	200	18	0.8-5.0	45	225	100	92250
7:7-8	4.6	200	16	0.8-6.0	49	225	100	92251
8-8.5	4.6	202	16	1.5-4.0	45	225	100	92252
6.5-7	4.6	300	16	0.8-7.0	81	225	100	92253
9-10.6	7.6	300	20	5.0-11.0	80	535	100	92254

SLATTED FOOT
CABLE TIE CLIPS
WITHOUT CABLE TIES



- » Cable tie clips with slatted base – secure fastening in holes without screws or tools
- » Made of heat-stabilized PA 6.6 – impact-resistant, UV- and weather-resistant
- » For cable ties up to Ø 45 mm – flexible for different bundle sizes
- » Ideal for cable and pipe fastening in control cabinet, vehicle and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Hole diameter [mm]	Sheet thickness [mm]	Cable diameter [mm]	type	Contents	Item no.
6.3-7.0	0.5-6.0	1.0-45.0	LFC 1	100	92261
	0.5-3.0	1.0-45.0	LFC 2	100	92262

SLATTED FOOT
CABLE TIE CLIPS
WITH CABLE TIES



- » Slatted foot clip with integrated cable tie – quick complete solution for fastening in holes
- » Made of heat-stabilized PA 6.6 – robust, UV- and weather-resistant
- » Easy insertion of the clip without tools – secure hold thanks to the slatted base, even against dirt and splash water
- » For cable and pipe bundles up to Ø 45 mm – proven solution in control cabinet, vehicle and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter [mm]	Sheet thickness [mm]	Cable diameter [mm]	type	Contents	Item no.
4.8	200	6.3-7.0	0.5-6.0	1.0-45.0	LFC 1	100	92271
			0.5-3.0	1.0-45.0	LFC 2	100	92272

SLATTED BASE
CABLE CLIPS
FOR 1 CABLE



- » Slatted base cable clip for direct fastening of individual cables in holes
- » Made of heat-stabilized PA 6.6 – robust, UV- and weather-resistant
- » Easy insertion without tools – secure hold even with thin sheet thicknesses (0.6–1.2 mm)
- » For cable diameters of 4.5–6 mm – ideal for control cabinet, vehicle and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +120 °C (briefly up to +140 °C)

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Hole diameter [mm]	Sheet thickness [mm]	Cable diameter [mm]	type	Contents	Item no.
6:3-7	0.6 - 1.2	4.5-6	LFC 6	100	92281

FASTENING TIES
1-PIECE, WITH EXPANSION ANCHOR



- » One-piece fastening tie with integrated expansion anchor – ready for immediate use without additional parts
- » Made of PA 6.6 – UV and weather resistant for long-lasting applications
- » Quick installation without tools: expansion anchor locks reliably in the hole
- » Space-saving solution for cable bundles in electrical, automotive and mechanical engineering

Material:

- PA 6.6 (polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)

Characteristics:

- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter [mm]	Bundling [mm]	Tensile strength min. [N]	Sheet thickness [mm]	Contents [pcs.]	Item no.
3.6	150	4.5	3.5-37.9	180	2.5	100	92311
	150	4.5	3.5-37.9	180	2.5	100	92312
4.8	200	5.9	3.5-50.8	230	3.5	100	92313
	200	5.9	3.5-50.8	230	3.5	100	92314
	225	4.8	6-58	230	2.2	100	92315

FASTENING TIES
1-PIECE, WITH EXPANSION ANCHOR, WITH WINGS, FOR THIN SHEET THICKNESSES



- » One-piece fastening tie with expansion anchor and wings – flexible for different bores and sheet thicknesses
- » Made of heat-stabilized PA 6.6 – robust, UV- and weather-resistant
- » Wings rest on the surface and stabilize the anchor
- » Fast, tool-free installation in holes – ready for immediate use without additional parts
- » Versatile fastening solution for cable bundles in automotive, electrical and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Sheet thickness [mm]	Width [mm]	Length [mm]	Hole diameter [mm]	Bundling [mm]	Tensile strength min. [N]	Contents	Item no.
0.7-1.3	4.6	156	4.8-5.2	35	180	100	92331
	4.6	156	5.2-5.6	35	180	100	92332
	4.6	156	6.3-6.7	35	180	100	92333
0.7-1.5	4.6	170	6.1-6.5	31	225	100	92336
0.6-1.8	5	160	6.3-7.5	31	225	100	92337
0.8-2.0	5	225	6.8-7.2	59	225	100	92338
0.3-2.2	7.5	150	6.3-6.7	5-31	530	100	92347
1.7-2.3	4.6	158	1.7-2.3	35	225	100	92334
1.9-2.5	4.6	159	4.5-5	30	200	100	92335
3	2.5	100	4-5	3-21	80	100	92339
	4.8	100	4-4.5	3.5-21	230	100	92343
	2.5	110	4.2-4.5	3-24.5	80	100	92340
	3	110	6.2-6.5	3-21	80	100	92341
	4.8	130	6.2-6.5	3.5-30.2	230	100	92344
	3.6	150	6.2-6.5	3.5-36.9	180	100	92342
	4.8	167	6.2-6.5	3.5-37	230	100	92345
	4.8	200	6.2-6.5	3.5-49.6	230	100	92346
0.3-3	8	220	7.1-9	3-42	530	100	92348

EXPANSION ANCHOR
CABLE TIE CLIPS
WITHOUT CABLE TIES



- » Cable tie clips with expansion anchor – quick fastening in holes without drilling or screwing
- » Made of heat-stabilized PA 6.6 – robust, UV- and weather-resistant
- » For cable ties up to Ø 45 mm – flexible for different bundle sizes
- » Expansion anchor locks securely in the hole and enables stable cable or pipe routing
- » Versatile in automotive, electrical and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +120 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/fat derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Hole diameter [mm]	Sheet thickness [mm]	Cable diameter [mm]	type	Contents	Item no.
6.5	0.7-2	1-45	LC1	100	92361
	2-3.5	1-45	LC2	100	92362
6.5-7	1.8-2.8	1-45	LC3	100	92363

FASTENING TIES
2-PART FOR PARALLEL GUIDANCE,
ROTATABLE BY 90°



- » Two-part cable tie with coupler – for parallel routing of two cable or pipe bundles
- » Rotatable up to 90° – enables flexible alignment and optimal bundle position
- » Made of heat-stabilized PA 6.6 – robust, UV- and weather-resistant
- » Also suitable for subsequent installation on pre-assembled cable harnesses
- » Proven fastening solution in vehicle and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

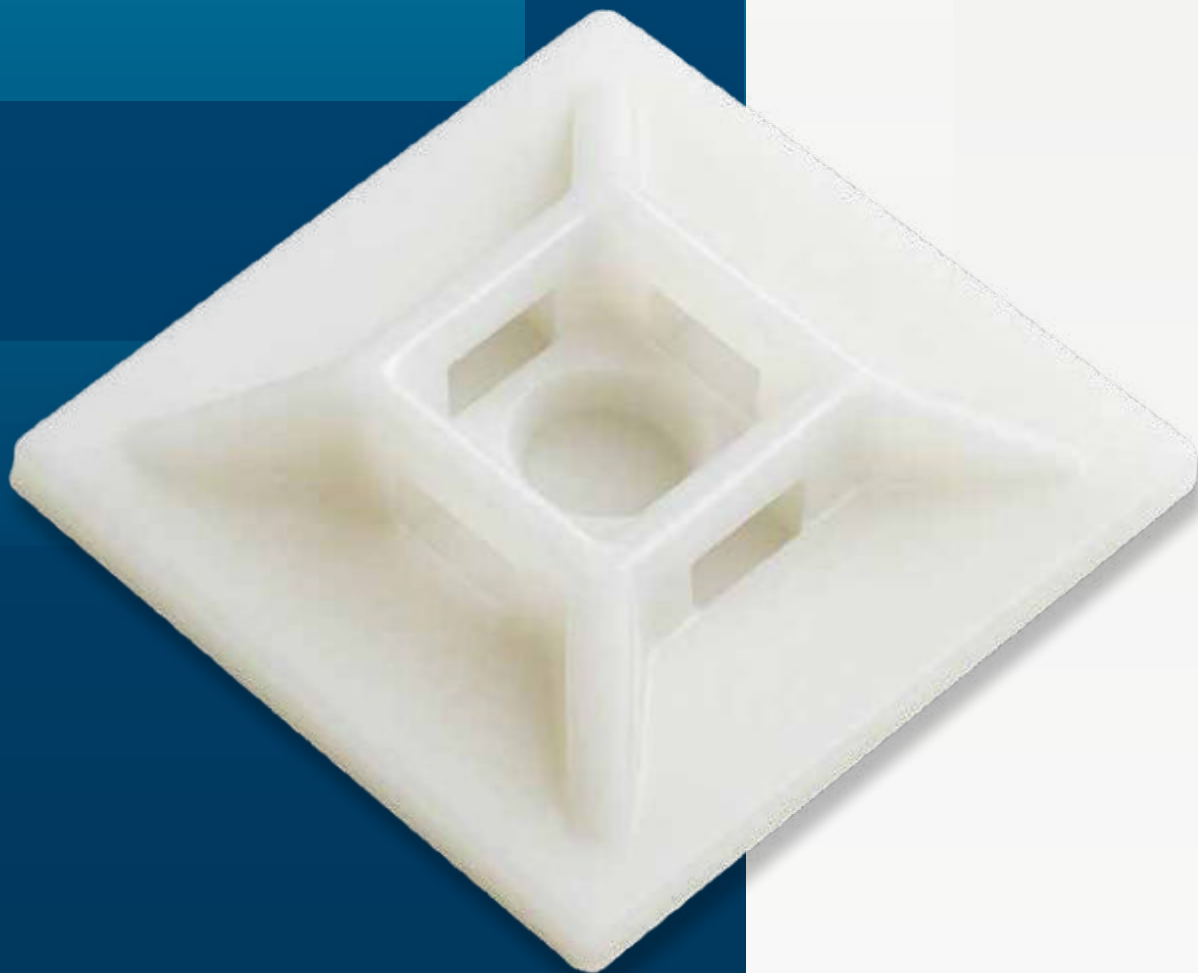
- -40 °C to +125 °C

Characteristics :

- Impact-resistant and heat-stabilized
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/fat derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item number
4.6	200	47	225	100	96101
7.6	390	105	535	100	96102



MOUNTING BASE
FOR CABLE TIES
SQUARE, ADHESIVE
(3 M -HIGH-PERFORMANCE ADHESIVE),
MADE OF PLASTIC



- » Square mounting bases for cable ties – alternative to screw mounting on smooth surfaces
- » With 3M high-performance adhesive (acrylate) for reliable adhesion, optionally also screwable
- » Made of PA 6.6 – robust, UV- and weather-resistant (in black version)
- » For cable tie widths up to 9.0 mm – available in sizes from 12.5 × 12.5 mm to 40 × 40 mm
- » Fast and flexible cable routing in electrical, control cabinet and Vehicle Manufacturing

Material:

- PA 6.6 (polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)

Characteristics :

- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

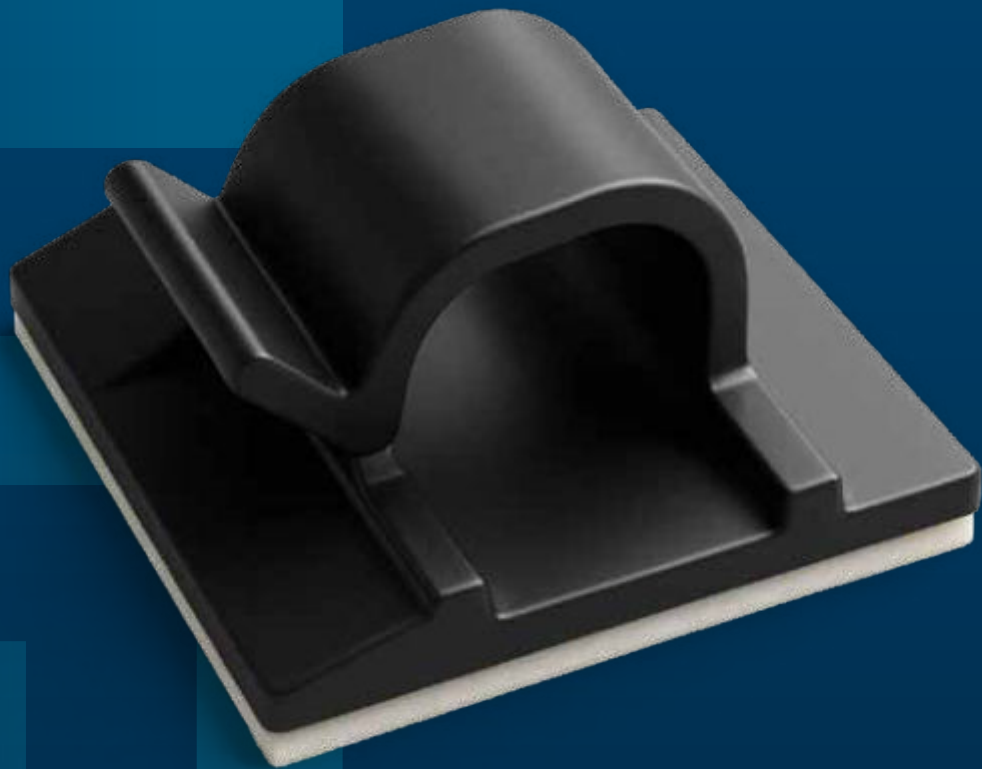
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Dimensions LxW [mm]	Cable tie width up to [mm]	Contents	Item no.
12.5x12.5	3.6	100	95102
19x19	3.6	100	95104
26x26	7.6	100	95106
28x28	4.8	100	95108
40x40	9	100	95110

NATURE

Dimensions LxW [mm]	Cable tie width up to [mm]	Contents	Item no.
12.5x12.5	3.6	100	95101
19x19	3.6	100	95103
26x26	7.6	100	95105
28x28	4.8	100	95107
40x40	9	100	95109

MOUNTING BASE
WITH CABLE HOLDER
ADHESIVE (3M HIGH-PERFORMANCE ADHESIVE),
MADE OF PLASTIC



- » Mounting base with integrated cable holder – quick alternative to mounting with cable ties
- » Can be used with 3M high-performance adhesive (acrylate) or screw fastening
- » Made of PA 6.6 – robust, UV- and weather-resistant (in black version)
- » Available in various sizes for cable diameters up to 16 mm
- » Ideal when cables need to be fixed quickly, cleanly and in a space-saving manner – e.g. in vehicle or control cabinet construction

Material:

- PA 6.6 (polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)

Characteristics:

- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

BLACK

Width clamping range [mm]	Length clamping range [mm]	Height clamping range [mm]	Base WxL [mm]	Bundling max. [mm]	Contents	Item no.
9.5	6	7.8	18.5x18.5	5	100	95202
12	11.9	11.5	26x26	8	100	95204
15.4	18.1	17.1	26x26	16	100	95206

NATURE

Width clamping range [mm]	Length clamping range [mm]	Height clamping range [mm]	Base WxL [mm]	Bundling max. [mm]	Contents	Item no.
9.5	6	7.8	18.5x18.5	5	100	95201
12	11.9	11.5	26x26	8	100	95203
15.4	18.1	17.1	26x26	16	100	95205

MOUNTING BASE FOR CABLE TIES

FOR ANGLED SURFACES, ADHESIVE
(3M HIGH-PERFORMANCE ADHESIVE),
MADE OF PLASTIC



- » Angled mounting bases for cable ties ideal for sloping, rounded or uneven surfaces
- » With 3M high-performance adhesive (acrylate) for strong adhesion, optionally also screwable
- » Made of heat-stabilized PA 6.6 – robust, impact-resistant, UV- and weather-resistant
- » Suitable for cable tie widths up to 5.4 mm
- » Practical solution when standard bases cannot be used on flat surfaces – e.g. in vehicle and mechanical engineering

Material: PA 6.6 HS (polyamide 6.6 / heat-stabilized)	Characteristics : - Heat stabilized - Very good fire protection properties: self-extinguishing according to UL94 V-2 - Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids. - UV-weather-resistant
Operating temperature: -40 °C to +125 °C	

BLACK

Dimensions WxL [mm]	Height [mm]	Cable tie width up to [mm]	Contents	Item no.
28x28	6.3	5.4	100	95302

NATURE

Dimensions WxL [mm]	Height [mm]	Cable tie width up to [mm]	Contents	Item no.
28x28	6.3	5.4	100	95301

MOUNTING BASE FOR CABLE TIES

FOR UNEVEN SURFACES,
FOR LIQUID OR PASTE ADHESIVES,
MADE OF PLASTIC



- » Mounting base for cable ties – alternative when drilling or standard bases are not possible
- » For bonding with liquid or paste adhesives – geometry ensures secure form fit with the adhesive
- » Made of heat-stabilized PA 6.6 – robust, impact-resistant, UV- and weather-resistant
- » Suitable for cable tie widths up to 4.8 mm
- » Particularly suitable for uneven or rough surfaces – e.g. in railway, energy, vehicle and control cabinet construction

Material: PA 6.6 HS (polyamide 6.6 / heat-stabilized)	Characteristics : - Heat-stabilized and impact-resistant - Very good fire protection properties: self-extinguishing according to UL94 V-2 - Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids. - UV-weather-resistant
Operating temperature: -40 °C to +125 °C	

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Dimensions WxL [mm]	Height [mm]	Cable tie width up to [mm]	Contents	Item number
36x36	10.7	4.8	100	95401

FASTENING TIES
WITH WELDING STUD HOLDER
1-PIECE, FOR CABLE ROUTING ABOVE THE BOLT



- » Fastening ties with welding stud holder – for secure cable routing directly above the stud
- » Tool-free assembly – head snaps into place on the bolt
- » Cable routing directly above the welding stud, space-saving and stable
- » Made of heat-stabilized PA 6.6 – robust, impact-resistant, UV- and weather-resistant
- » Ideal for applications in automotive and mechanical engineering

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics:

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
4.0	160	M5	35	200	100	94101
4.6	160	M6	35	200	100	94102

FASTENING TIES
WITH WELDING STUD HOLDER
1-PIECE, FOR CABLE ROUTING NEXT TO THE BOLT



- » Fastening ties with welding stud holder – for cable routing next to the stud
- » Space-saving installation parallel to the bolt – ideal for tight installation conditions
- » Fast, tool-free assembly
- » Made of heat-stabilized PA 6.6 – robust, impact-resistant, UV- and weather-resistant
- » Frequently used in automotive and commercial vehicles

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- 40 °C to +125 °C

Characteristics :

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
4.7	160	M5	35	225	100	94201
5.7	175	M8	30	150	100	94202
		M10	30	150	100	94203

FASTENING TIES WITH WELDING STUD HOLDER 1-PIECE, HEAVY DUTY, FOR THREADED BOLTS



- » Heavy-duty fastening ties with welding stud holder for high loads
- » Suitable for mounting on threaded bolts (e.g. M8)
- » High tensile strength and vibration resistance for demanding applications
- » Made of heat-stabilized PA 6.6 – particularly robust, UV- and weather-resistant
- » Especially for automotive, commercial vehicles and mechanical engineering under harsh conditions



Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
12.7	246	M8	57.1	534	100	94301
	323	M8	82.5	534	100	94302



FASTENING TIES WITH
WELDING STUD HOLDER
1-PIECE, WITH TOLERANCE COMPENSATION



- » Fastening ties with welding stud holder and integrated tolerance compensation
- » Flexible fit even with varying bolt diameters (e.g. 5–6 mm)
- » Fast, tool-free installation for variable installation situations
- » Made of heat-stabilized PA 6.6 – robust, UV- and weather-resistant
- » Ideal in Vehicle Manufacturing, where different sheet thicknesses and bolt tolerances occur

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics:

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
4.6	160	M5-M6	35	170	100	94401
	163	M5	35	225	100	94501
5.0	169	M5-M6	35	170	100	94402



FASTENING TIES WITH
WELDING STUD HOLDER
1-PIECE, FOR PARALLEL GUIDANCE, HEAVY DUTY



- » Heavy-duty fastening ties with welding stud holder – for parallel cable routing along the stud
- » For high tensile strength and secure fastening even under vibration and load
- » Tool-free mounting on weld studs or threaded studs (e.g. M6)
- » Made of heat-stabilized PA 6.6 – robust, UV- and weather-resistant
- » Ideal for commercial vehicles, mechanical engineering and other heavy-duty applications

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
12.7	510.5	M8	58.4	445	100	94601
	488	M6	58	667	100	94602

FASTENING TIES WITH WELDING STUD HOLDER

2-PART, FOR CABLE ROUTING ABOVE THE BOLT



- » 2-part fastening tie with welding stud holder – for flexible cable routing over the stud
- » Separate clip and cable ties allow easy pre-assembly and subsequent adjustments
- » Tool-free mounting on welding studs, secure hold even with vibration
- » Made of heat-stabilized PA 6.6 – robust, impact-resistant, UV- and weather-resistant
- » Particularly suitable for Vehicle Manufacturing and industrial applications with variable cable layers

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Width [mm]	Length [mm]	Hole diameter	Bundling max. [mm]	Tensile strength min. [N]	Contents	Item no.
3.6	150	M5	35	135	100	94701
	150	M5	35	220	100	94702
4.6	200	M5	45	220	100	94703

FASTENING TIES

1-PIECE WITH SCREW EYELET



- » Cable ties with integrated screw eyelet – for secure screwing on panels or components
- » Easy and quick installation with standard screws (M2.5–M6 depending on the version)
- » Firm hold even under vibrations and dynamic loads
- » Made of PA 6.6 – robust, impact-resistant, UV-resistant (in black version)
- » Frequently used in automotive, electrical installation and mechanical engineering

Material:

- PA 6.6 (polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly +110 °C)

Characteristics:

- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-stable in the black version

BLACK

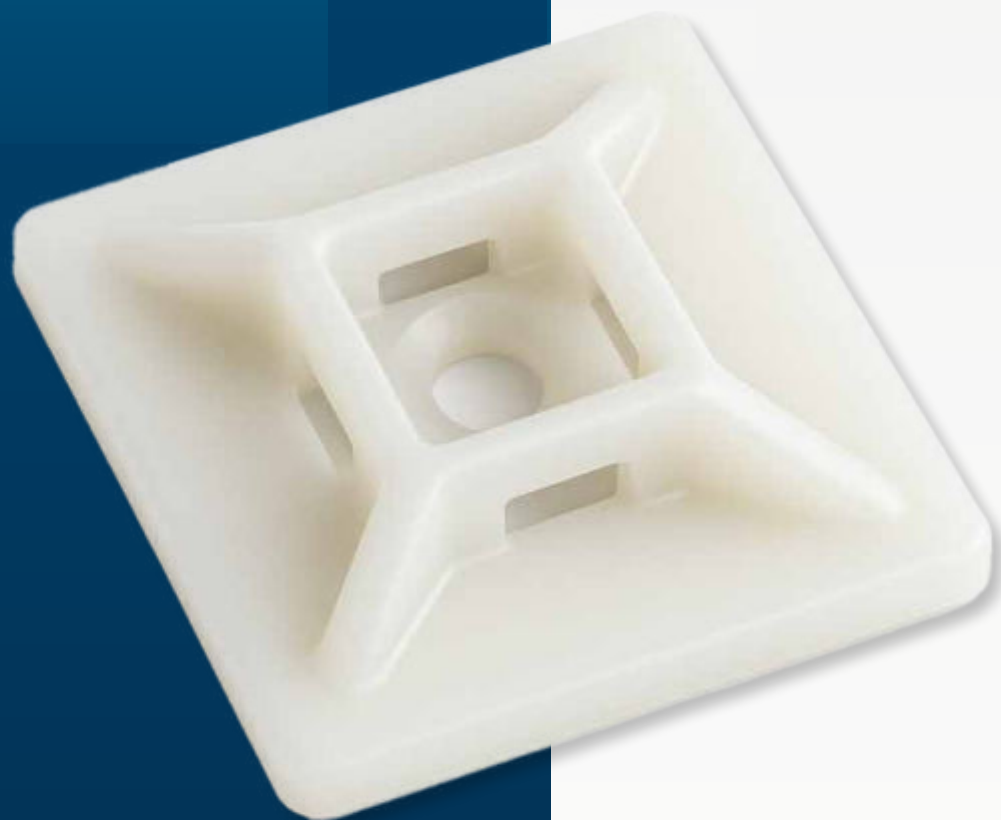
Width [mm]	Length [mm]	Hole diameter	Bundling [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	110	M2.5	3-19	80	100	93102
3.6	150	M4	3.5-39.5	180	100	93104
	200	M5	3.5-36.8	222	100	93106
4.8	300	M5	3.5-82.2	222	100	93108
	370	M5	3.5-103.8	222	100	93110
7.6	300	M6	8.5-78.7	540	100	93112
	400	M6	8.5-109.2	540	100	93114

NATURE

Width [mm]	Length [mm]	Hole diameter	Bundling [mm]	Tensile strength min. [N]	Contents	Item no.
2.5	110	M2.5	3-19	80	100	93101
3.6	150	M4	3.5-39.5	180	100	93103
	200	M5	3.5-36.8	222	100	93105
4.8	300	M5	3.5-82.2	222	100	93107
	370	M5	3.5-103.8	222	100	93109
7.6	300	M6	8.5-78.7	540	100	93111
	400	M6	8.5-109.2	540	100	93113

MOUNTING BASE FOR CABLE TIES

SQUARE, SCREWABLE, MADE OF PLASTIC



- » Screw base for cable ties – square design for easy, stable fastening
- » Suitable for cable tie widths from 3.6 to 9 mm (depending on size)
- » Secure installation by screws, even on rough or uneven surfaces
- » Made of PA 6.6 – robust, durable, UV-stable in black
- » Versatile in control cabinet construction, mechanical engineering and Vehicle Manufacturing

Material:

- PA 6.6 (polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly +110 °C)

Characteristics :

- Very good fire protection properties: material self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

BLACK

Dimensions WxL [mm]	Cable tie width up to [mm]	Contents	Item no.
12.5x12.5	3.6	100	93302
19x19	3.6	100	93304
26x26	7.6	100	93306
28x28	4.8	100	93308
40x40	9.0	100	93310

NATURE

Dimensions WxL [mm]	Cable tie width up to [mm]	Contents	Item no.
12.5x12.5	3.6	100	93301
19x19	3.6	100	93303
26x26	7.6	100	93305
28x28	4.8	100	93307
40x40	9.0	100	93309

MOUNTING BASE FOR
CABLE TIES
SPECIAL SHAPES, SCREWABLE,
MADE OF PLASTIC



- » Screw bases in special shapes – for special mounting requirements and confined spaces
- » Different geometries (e.g. raised, angled, compact) for flexible cable routing
- » Secure fastening with screws (M3–M5)
- » Made of PA 6.6 – robust, chemical-resistant, UV-stable in black
- » Ideal for special applications in control cabinet and Vehicle Manufacturing

Material:

- PA 6.6 (polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly +110 °C)

Characteristics :

- Very good fire protection properties: material self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against common liquid solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

BLACK

Dimensions WxLxH [mm]	Cable tie width up to [mm]	Hole diameter [mm]	Color	Contents	Item no.
16 x 11 x 7	3.6	M3	black	100	93402
18 x 13 x 8	4.8	M3	black	100	93404
21 x 15 x 11	7.6	M4	black	100	93406
22 x 10 x 11	7.6	M5	black	100	93408
21 x 15 x 11	7.6	M5	black	100	93410
26 x 10 x 12	9.0	M5	black	100	93412
23 x 14 x 18	9.0	M5	black	100	93414

NATURE

Dimensions WxLxH [mm]	Cable tie width up to [mm]	Hole diameter [mm]	Color	Contents	Item no.
16 x 11 x 7	3.6	M3	nature	100	93401
18 x 13 x 8	4.8	M3	nature	100	93403
21 x 15 x 11	7.6	M4	nature	100	93405
22 x 10 x 11	7.6	M5	nature	100	93407
21 x 15 x 11	7.6	M5	nature	100	93409
26 x 10 x 12	9.0	M5	nature	100	93411
23 x 14 x 18	9.0	M5	nature	100	93413

MOUNTING BASE FOR CABLE TIES

HEAVY-DUTY, FOR SCREWS OR
THREADED BOLTS, MADE OF PLASTIC



- » Heavy-duty screw base for cable ties up to 12.7 mm wide
- » Designed for screw or bolt assembly with different torque classes (standard, medium, high)
- » High extraction and holding forces, even under heavy loads
- » Made of heat-stabilized PA 6.6 – impact-resistant, UV- and weather-resistant
- » Especially for applications in automotive and mechanical engineering with high requirements

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Dimensions WxLxH [mm]	Cable tie width up to [mm]	Hole diameter [mm]	torque	Contents	Item no.
19.3x36.3x16.7	12.7	4.8	standard	100	93501
		6.2	standard	100	93502
		7.8	standard	100	93503
24x46x20.7	12.7	8.31	Medium	100	93504
		10.29	Medium	100	93505
		12.7	Medium	100	93506
25x47x20.7	12.7	8.31	High	100	93507
		10.29	High	100	93508
		12.95	High	100	93509

FASTENING TIES

2-PART WITH SCREW EYE,
HEAVY-DUTY



- » 2-part heavy-duty binder with screw eyelet – for particularly high mechanical loads
- » Screw fastening (M6/M8) ensures secure hold even under strong vibrations
- » Two parts allow flexible pre-assembly and subsequent adjustment
- » Made from heat-stabilized PA 6.6 – UV-stable, impact-resistant and durable
- » Ideal for automotive, commercial vehicles and mechanical engineering with high requirements

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Cable tie dimensions WxL [mm]	Dimensions bracket WxL [mm]	Height[mm]	Hole diameter [mm]	Bundling [mm]	Contents	Item no.
4.6x200	20x37.5	16	M6	50	100	93201
			M8	50	100	93202
7.6x390	20x37.5	16	M6	105	100	93203
			M8	105	100	93204

MOUNTING BASE FOR CABLE TIES
FOR PARALLEL GUIDANCE, HEAVY-DUTY, FOR SCREWS
AND BOLTS, MADE OF PLASTIC



- » Heavy-duty screw base for parallel cable routing with two cable ties up to 12.7 mm
- » Secure screw or bolt mounting (e.g. Ø 6 mm)
- » Particularly suitable for fastening and guiding parallel cable harnesses or hoses
- » Made of heat-stabilized PA 6.6 – robust, impact-resistant, UV-stable
- » Use in automotive, mechanical engineering and energy supply

Material:

- PA 6.6 HS (polyamide 6.6 / heat-stabilized)

Operating temperature:

- -40 °C to +125 °C

Characteristics :

- Heat-stabilized and impact-resistant
- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant

BLACK

Dimensions WxLxH [mm]	Cable tie width up to [mm]	Hole diameter [mm]	Contents	Item no.
30x45x23	12.7	6.0-6.35	100	93601

MOUNTING BASE FOR CABLE TIES
SCREWABLE,
MADE OF STAINLESS STEEL



- » Stainless steel screw base – for extreme environmental conditions and maximum durability
- » Temperature resistant from -60 °C to +538 °C
- » Absolutely corrosion-proof, non-flammable, no water absorption
- » Suitable for cable ties up to 10 mm wide
- » Use in offshore, railway, energy plants, chemical industry and heavy industry

Material:

- stainless steel

Operating temperature:

- Resistant to ambient temperatures from -60 °C to +300 °C (briefly from -80 °C to max. +538 °C)

Characteristics:

- Excellent fire protection properties: non-flammable
- Excellent chemical resistance: not vulnerable to conventional media / corrosion-protected
- UV-weather-resistant
- No water absorption

STAINLESS STEEL

Width [mm]	Length [mm]	Height [mm]	Hole diameter [mm]	Cable tie width up to [mm]	Contents	Item no.
15	29.2	5.2	4.2	10	100	93801
			6.2	10	100	93802



P-CLAMPS
MADE OF PLASTIC



- » Fastening solution for secure fixing of individual cables or small cable bundles
- » Screw mounting allows easy and quick installation without special tools
- » Available in various sizes for cable diameters from approx. 3 mm to 33 mm
- » Made of impact-resistant, heat-stabilized polyamide 6.6 for high resilience and durability
- » Black versions are also UV-stable and suitable for outdoor use
- » Typical applications in electrical installation, control cabinet construction, vehicle and mechanical engineering

Material:

- PA 6.6 (polyamide 6.6)

Operating temperature:

- -40 °C to +85 °C (briefly up to +110 °C)

Characteristics :

- Very good fire protection properties: self-extinguishing according to UL94 V-2
- Good chemical resistance: excellent against conventional liquids/solvents/oils/greases/derivatives; good against bases, gasoline, soaps, alcohol; limited resistance to acids.
- UV-weather-resistant in black design

BLACK

Width [mm]	Length [mm]	Clamping foot length [mm]	Hole diameter [mm]	Bundling max. [mm]	Color	Contents	Item no.
9.6	16.9	8	4	3	black	100	93902
	18.5	9.2	4	5.3	black	100	93904
10.1	20	10.4	4	6.8	black	100	93906
10	22.6	11.2	4	8.4	black	100	93908
12.3	26.6	12.5	5	10.8	black	100	93910
12.1	30.3	14.8	5	13.8	black	100	93912
12.4	32.6	15.8	5	17.4	black	100	93914
11.8	37.3	18	5	19.9	black	100	93916
12	40.4	19.5	5	23.6	black	100	93918
	43.4	21	5	27.2	black	100	93920
	52.3	26	5	33.8	black	100	93922
12.5	58.3	27.8	5	41.9	black	100	93924

NATURE

Width [mm]	Length [mm]	Clamping foot length [mm]	Hole diameter [mm]	Bundling max. [mm]	Color	Contents	Item no.
9.6	16.9	8	4	3	nature	100	93901
	18.5	9.2	4	5.3	nature	100	93903
10.1	20	10.4	4	6.8	nature	100	93905
10	22.6	11.2	4	8.4	nature	100	93907
12.3	26.6	12.5	5	10.8	nature	100	93909
12.1	30.3	14.8	5	13.8	nature	100	93911
12.4	32.6	15.8	5	17.4	nature	100	93913
11.8	37.3	18	5	19.9	nature	100	93915
12	40.4	19.5	5	23.6	nature	100	93917
	43.4	21	5	27.2	nature	100	93919
	52.3	26	5	33.8	nature	100	93921
12.5	58.3	27.8	5	41.9	nature	100	93923



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We offer you a cost-effective solution: re-engineering of special parts. Based on existing samples, we manufacture functionally equivalent alternatives – precisely fitting, reliable in quality, and significantly more cost-effective.

YOUR BENEFITS AT A GLANCE



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Significant savings compared to OEM or drawing parts



PRECISION FIT

Functionally identical parts, compatible with the original insert



SECURE AVAILABILITY

Even for hard-to-obtain special parts



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Reliable materials, dimensional accuracy and tested production



INTEGRATION INTO C-PARTS MANAGEMENT

Special parts can be seamlessly integrated into your procurement system



HEAT SHRINK TUBING

As an ISO-certified company, we offer you heat-shrink tubing and other shrink-wrap products of the highest quality at fair and transparent prices. Our heat-shrinkable products are 100% certified and also available in German or European production. You need individual packaging shapes, cuts or printed Sections? We're happy to take on such orders and implement them to your satisfaction.

2:1 POLYOLEFIN
SHRINK TUBING THIN-WALLED
WITHOUT INNER ADHESIVE, IN SMALL CARDBOARD BOX



- » The premium shrink tubing for all applications
- » Ideal for processing with a hot air gun or shrink tunnel
- » Highly flexible
- » In the practical dispenser box

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °

Shrinkage temperature:

- +110 °C min.

Characteristics:

- Very good fire protection properties: flame-resistant and self-extinguishing (according to UL224 on request)
- Good chemical resistance: resistant to all common liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 15 MPa [=N/mm²]



BLACK

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
1.2	0.6	0.4	3/64	20 m	12139
1.6	0.8	0.4	1/16	17 m	12140
2.4	1.2	0.5	3/32	15 m	12141
3.2	1.6	0.5	1/8	15 m	12142
4.8	2.4	0.5	3/16	12 m	12143
6.4	3.2	0.6	1/4	12 m	12144
9.5	4.8	0.6	3/8	8 m	12145
12.7	6.4	0.6	1/2	8 m	12146
19	9.5	0.6	3/4	5 m	12148
25.4	12.7	0.9	1	5 m	12149

GREEN-YELLOW

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
3.2	1.6	0.5	1/8	15 m	12235
4.8	2.4	0.5	3/16	12 m	12236
6.4	3.2	0.6	1/4	12 m	12237
9.5	4.8	0.6	3/8	8 m	12238
12.7	6.4	0.6	1/2	8 m	12239
19	9.5	0.8	3/4	5 m	12240
25.4	12.7	0.9	1	5 m	12241

2:1 POLYOLEFIN

THIN-WALLED SHRINK TUBING

WITHOUT INNER ADHESIVE, IN SMALL CARDBOARD BOX, BLUE







- The premium shrink tubing for all Applications
- Ideal to process with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible
- In the practical dispenser box

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +110 °C min.

Characteristics:

- Good fire protection properties: flame-resistant and self-extinguishing according to UL224, meets common OEM specifications
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.2	0.6	0.4	3/64	 blue	20 m	12181
1.6	0.8	0.4	1/16	 blue	17 m	12182
2.4	1.2	0.5	3/32	 blue	15 m	12183
3.2	1.6	0.5	1/8	 blue	15 m	12184
4.8	2.4	0.5	3/16	 blue	12 m	12185
6.4	3.2	0.6	1/4	 blue	12 m	12186
9.5	4.8	0.6	3/8	 blue	8 m	12187
12.7	6.4	0.6	1/2	 blue	8 m	12188
19	9.5	0.8	3/4	 blue	5 m	12190
25.4	12.7	0.9	1	 blue	5 m	12191

2:1 POLYOLEFIN

THIN-WALLED SHRINK TUBING

WITHOUT INNER ADHESIVE, IN SMALL CARDBOARD BOX, OTHER COLORS







- The premium shrink tubing for all Applications
- Ideal to process with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible
- In the practical dispenser box

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +110 °C min.

Characteristics:

- Good fire protection properties: flame-resistant and self-extinguishing according to UL224 (except transparent / meets FMVSS 302 instead), meets common OEM specifications
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.2	0.6	0.4	3/64	 red	20 m	12153
1.6	0.8	0.5	1/16	 red	17 m	12154
2.4	1.2	0.5	3/32	 red	15 m	12155
3.2	1.6	0.5	1/8	 red	15 m	12156
4.8	2.4	0.5	3/16	 red	12 m	12157
6.4	3.2	0.6	1/4	 red	12 m	12158
9.5	4.8	0.6	3/8	 red	8 m	12159
12.7	6.4	0.6	1/2	 red	8 m	12160
19	9.5	0.8	3/4	 red	5 m	12162
25.4	12.7	0.9	1	 red	5 m	12163
3.2	1.6	0.5	1/8	 brown	15 m	12325
4.8	2.4	0.5	3/16	 brown	12 m	12326

2:1 POLYOLEFIN
 THIN-WALLED SHRINK TUBING
 WITHOUT INNER ADHESIVE, IN SMALL CARDBOARD BOX, OTHER COLORS

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
6.4	3.2	0.6	1/4	 brown	12 m	12327
9.5	4.8	0.6	3/8	 brown	8 m	12328
12.7	6.4	0.6	1/2	 brown	8 m	12329
19	9.5	0.5	3/4	 brown	5 m	12330
25.4	12.7	0.9	1	 brown	5 m	12206
1.6	0.8	0.5	1/16	 yellow	17 m	12168
2.4	1.2	0.5	3/32	 yellow	15 m	12169
3.2	1.6	0.5	1/8	 yellow	15 m	12170
4.8	2.4	0.5	3/16	 yellow	12 m	12171
6.4	3.2	0.6	1/4	 yellow	12 m	12172
9.5	4.8	0.6	3/8	 yellow	8 m	12173
12.7	6.4	0.6	1/2	 yellow	8 m	12174
19	9.5	0.8	3/4	 yellow	5 m	12176
25.4	12.7	0.9	1	 yellow	5 m	12177
1.2	0.6	0.4	3/64	 green	20 m	12209
1.6	0.8	0.4	1/16	 green	17 m	12210
2.4	1.2	0.5	3/32	 green	15 m	12211
3.2	1.6	0.5	1/8	 green	15 m	12212
4.8	2.4	0.5	3/16	 green	12 m	12213
6.4	3.2	0.6	1/4	 green	12 m	12214
9.5	4.8	0.6	3/8	 green	8 m	12215
12.7	6.4	0.6	1/2	 green	8 m	12216
19	9.5	0.8	3/4	 green	5 m	12218
25.4	12.7	0.9	1	 green	5 m	12242
1.2	0.6	0.4	3/64	 transparent	20 m	12223
1.6	0.8	0.4	1/16	 transparent	17 m	12224
2.4	1.2	0.5	3/32	 transparent	15 m	12225
3.2	1.6	0.5	1/8	 transparent	15 m	12226

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
4.8	2.4	0.5	3/16	 transparent	12 m	12227
6.4	3.2	0.6	1/4	 transparent	12 m	12228
9.5	4.8	0.6	3/8	 transparent	8 m	12229
12.7	6.4	0.6	1/2	 transparent	8 m	12230
19	9.5	0.8	3/4	 transparent	5 m	12232
25.4	12.7	0.9	1	 transparent	5 m	12233
1.2	0.6	0.4	3/64	 white	20 m	12195
1.6	0.8	0.4	1/16	 white	17 m	12196
2.4	1.2	0.5	3/32	 white	15 m	12197
3.2	1.6	0.5	1/8	 white	15 m	12198
4.8	2.4	0.5	3/16	 white	12 m	12199
6.4	3.2	0.6	1/4	 white	12 m	12200
9.5	4.8	0.6	3/8	 white	8 m	12201
12.7	6.4	0.6	1/2	 white	8 m	12202
19	9.5	0.8	3/4	 white	5 m	12204
25.4	12.7	0.9	1	 white	5 m	12205

2:1 POLYOLEFIN
 SHRINK TUBING THIN-WALLED
 WITHOUT INNER ADHESIVE, ON A ROLL, BLACK



- The premium shrink tubing for all Applications
 - Ideal to process with a hot air gun or using a shrink tunnel
 - UL certified
 - Highly flexible
- Material:**
- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)
- Operating temperature:**
- from approx. -55 °C to +135 °C
- Shrinkage temperature:**
- +110 °C min.
- Characteristics:**
- Good fire protection properties: flame-resistant and self-extinguishing according to UL224, meets common OEM specifications
 - Good chemical resistance: resistant to all conventional liquids and solvents
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 10% max.
 - Dielectric strength: approx. 24 kV/mm
 - Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.2	0.6	0.4	3/64	black	150 m	12033
1.6	0.8	0.4	1/16	black	150 m	12034
2.4	1.2	0.5	3/32	black	150 m	12035
3.2	1.6	0.5	1/8	black	150 m	12036
4.8	2.4	0.5	3/16	black	75 m	12037
6.4	3.2	0.6	1/4	black	75 m	12038
9.5	4.8	0.6	3/8	black	75 m	12039
12.7	6.4	0.6	1/2	black	50 m	12040
16	8	1.0	1	black	50 m	12298
19	9.5	0.8	3/4	black	50 m	12042
25.4	12.7	0.9	1	black	30 m	12043
31.8	15.9	1.0	1 1/14	black	30 m	12044
51	25.4	1.1	2	black	30 m	12046
76	38	1.3	3	black	15 m	12275
101.26	51	1.4	4	black	15 m	12276

2:1 POLYOLEFIN
 SHRINK TUBING THIN-WALLED
 WITHOUT INNER ADHESIVE, ON A ROLL, BLUE



- The premium shrink tubing for all Applications
 - Ideal to process with a hot air gun or using a shrink tunnel
 - UL certified
 - Highly flexible
- Material:**
- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)
- Operating temperature:**
- from approx. -55 °C to +135 °C
- Shrinkage temperature:**
- +110 °C min.
- Characteristics:**
- Good fire protection properties: flame-resistant and self-extinguishing according to UL224, meets common OEM specifications
 - Good chemical resistance: resistant to all conventional liquids and solvents
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 10% max.
 - Dielectric strength: approx. 24 kV/mm
 - Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.2	0.6	0.4	3/64	blue	150 m	12075
1.6	0.8	0.4	1/16	blue	150 m	12076
2.4	1.2	0.5	3/32	blue	150 m	12556
3.2	1.6	0.5	1/8	blue	150 m	12078
4.8	2.4	0.5	3/16	blue	75 m	12079
6.4	3.2	0.6	1/4	blue	75 m	12080
9.5	4.8	0.6	3/8	blue	75 m	12081
12.7	6.4	0.6	1/2	blue	50 m	12082
19	9.5	0.8	3/4	blue	30 m	12084
25.4	12.7	0.9	1	blue	30 m	12085
31.8	15.9	0.9	1 1/14	blue	30 m	12403
38	19	1.0	1 1/2	blue	30 m	12087
51	25.4	1.1	2	blue	30 m	12088
76	38	1.3	3	blue	15 m	12277
101.6	50.8	1.4	4	blue	15 m	12278

2:1 POLYOLEFIN

SHRINK TUBING THIN-WALLED

WITHOUT INNER ADHESIVE, ON A ROLL, GREEN-YELLOW



- The premium shrink tubing for all Applications
- Ideal for processing with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible

- Material:**
- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)
- Operating temperature:**
- from approx. -55 °C to +135 °C
- Shrinkage temperature:**
- +110 °C min.
- Characteristics:**
- Good fire protection properties: flame-resistant and self-extinguishing according to UL224, meets common OEM specifications
 - Good chemical resistance: resistant to all conventional liquids and solvents
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 10% max.
 - Dielectric strength: approx. 24 kV/mm
 - Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
3.2	1.6	0.5	1/8	 green-yellow	150 m	12260
4.8	2.4	0.5	3/16	 green-yellow	75 m	12261
6.4	3.2	0.6	1/4	 green-yellow	75 m	12262
9.5	4.8	0.6	3/8	 green-yellow	75 m	12263
12.7	6.4	0.6	1/2	 green-yellow	50 m	12264
19	9.5	0.8	3/4	 green-yellow	30 m	12265
25.4	12.7	0.9	1	 green-yellow	30 m	12266
38	19	1.0	1 1/2	 green-yellow	30 m	12267
50.8	25.4	1.1	2	 green-yellow	30 m	12268

2:1 POLYOLEFIN
 SHRINK TUBING THIN-WALLED
 WITHOUT INNER ADHESIVE, ON A ROLL, OTHER COLOURS









- The premium shrink tubing for all Applications
- Ideal for processing with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +110 °C min.

Characteristics:

- Good fire protection properties: flame-resistant and self-extinguishing according to UL224 (except transparent / meets FMVSS 302 instead), meets common OEM specifications
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.2	0.6	0.4	3/64	 red	150 m	12047
1.6	0.8	0.4	1/16	 red	150 m	12048
2.4	1.2	0.5	3/32	 red	150 m	12049
3.2	1.6	0.5	1/8	 red	150 m	12050
4.8	2.4	0.5	3/16	 red	75 m	12051
6.4	3.2	0.6	1/4	 red	75 m	12052
9.5	4.8	0.6	3/8	 red	75 m	12053
12.7	6.4	0.6	1/2	 red	50 m	12054
19	9.5	0.8	3/4	 red	30 m	12056
25.4	12.7	0.9	1	 red	30 m	12057
31.8	15.9	0.9	1 1/14	 red	30 m	12400
38	19	1.0	1 1/2	 red	30 m	12059

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
51	25.4	1.1	2	 red	30 m	12060
76	38	1.3	3	 red	15 m	12297
101.6	50.8	1.4	4	 red	15 m	12280
1.6	0.8	0.4	1/16	 brown	150 m	12103
3.2	1.6	0.5	1/8	 brown	150 m	12255
4.8	2.4	0.5	3/16	 brown	75 m	12270
6.4	3.2	0.6	1/4	 brown	75 m	12272
9.5	4.8	0.6	3/8	 brown	75 m	12290
12.7	6.4	0.6	1/2	 brown	50 m	12055
19	9.5	0.8	3/4	 brown	30 m	12554
25.4	12.7	0.9	1	 brown	30 m	12292
38	19	1.0	1 1/2	 brown	30 m	12294
51	25.4	1.1	2	 brown	30 m	12600
1.2	0.6	0.4	3/64	 yellow	150 m	12061
1.6	0.8	0.4	1/16	 yellow	150 m	12062
2.4	1.2	0.5	3/32	 yellow	150 m	12063
3.2	1.6	0.5	1/8	 yellow	150 m	12064
4.8	2.4	0.5	3/16	 yellow	75 m	12065
6.4	3.2	0.6	1/4	 yellow	75 m	12066
9.5	4.8	0.6	3/8	 yellow	75 m	12067
12.7	6.4	0.6	1/2	 yellow	50 m	12068
19	9.5	0.8	3/4	 yellow	30 m	12070
25.4	12.7	0.9	1	 yellow	30 m	12071
31.8	15.9	0.9	1 1/14	 yellow	30 m	12402
38	19	1.0	1 1/2	 yellow	30 m	12073
51	25.4	1.1	2	 yellow	30 m	12074
76	38	1.3	3	 yellow	15 m	12281
101.6	50.8	1.4	4	 yellow	15 m	12282

2:1 POLYOLEFIN
 SHRINK TUBING THIN-WALLED
 WITHOUT INNER ADHESIVE, ON A ROLL, OTHER COLOURS

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.2	0.6	0.6	3/64	 gray	150 m	12553
3.2	1.6	0.5	1/8	 gray	150 m	12256
4.8	2.4	0.5	3/16	 gray	75 m	12271
6.4	3.2	0.6	1/4	 gray	75 m	12273
9.5	4.8	0.6	3/8	 gray	75 m	12291
12.7	6.4	0.6	1/2	 gray	50 m	12551
19	9.5	0.8	3/4	 gray	30 m	12555
25.4	12.7	0.9	1	 gray	30 m	12293
38	19	1.0	1 1/2	 gray	30 m	12295
1.6	0.8	0.4	1/16	 green	150 m	12104
2.4	1.2	0.5	3/32	 green	150 m	12105
3.2	1.6	0.5	1/8	 green	150 m	12106
4.8	2.4	0.5	3/16	 green	75 m	12107
6.4	3.2	0.6	1/4	 green	75 m	12108
9.5	4.8	0.6	3/8	 green	75 m	12109
12.7	6.4	0.6	1/2	 green	50 m	12110
19	9.5	0.8	3/4	 green	30 m	12112
31.8	15.9	0.9	1 1/4	 green	30 m	12401
38	19	1.0	1 1/2	 green	30 m	12115
51	25.4	1.1	2	 green	30 m	12116
76	38	1.3	3	 green	15 m	12296
1.2	0.6	0.4	3/64	 transparent	150 m	12117
1.6	0.8	0.4	1/16	 transparent	150 m	12118
2.4	1.2	0.5	3/32	 transparent	150 m	12119
3.2	1.6	0.5	1/8	 transparent	150 m	12120
4.8	2.4	0.5	3/16	 transparent	75 m	12121
6.4	3.2	0.6	1/4	 transparent	75 m	12122
9.5	4.8	0.6	3/8	 transparent	75 m	12123
12.7	6.4	0.6	1/2	 transparent	50 m	12124

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
19	9.5	0.8	3/4	 transparent	30 m	12126
25.4	12.7	0.9	1	 transparent	30 m	12127
31.8	15.9	0.9	1 1/4	 transparent	30 m	12128
38	19	1.0	1 1/2	 transparent	30 m	12129
51	25.4	1.1	2	 transparent	30 m	12130
76	38	1.3	3	 transparent	15 m	12283
101.6	50.8	1.4	4	 transparent	15 m	12284
1.2	0.6	0.4	3/64	 white	150 m	12089
1.6	0.8	0.4	1/16	 white	150 m	12090
2.4	1.2	0.5	3/32	 white	150 m	12091
3.2	1.6	0.5	1/8	 white	150 m	12092
4.8	2.4	0.5	3/16	 white	75 m	12093
6.4	3.2	0.6	1/4	 white	75 m	12094
9.5	4.8	0.6	3/8	 white	75 m	12095
12.7	6.4	0.6	1/2	 white	50 m	12096
19	9.5	0.8	3/4	 white	30 m	12098
25.4	12.7	0.9	1	 white	30 m	12099
38	19	1.0	1 1/2	 white	30 m	12101
51	25.4	1.1	2	 white	30 m	12102
76	38	1.3	3	 white	15 m	12285
101.6	50.8	1.4	4	 white	15 m	12286

2:1 POLYOLEFIN

HIGH-TEMPERATURE SHRINK TUBING UP TO 150 °C

HALOGEN-FREE, WITHOUT INTERNAL ADHESIVE, BLACK





- For locations with extreme heat stress
- Possible operating temperatures from -55°C to +150 °C

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, halogen-free)

Operating temperature:

- from approx. -55 °C to +150 °C

Shrinkage temperature:

- +120 °C min.

Characteristics:

- Good fire protection properties: flame retardant according to UL224 (except transparent)
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 5% max.
- Dielectric strength: approx. 15 kV/mm
- Tensile strength: approx. 10.4 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
9.5	4.5	0.6	3/8	 black	75 m	12306
12.5	6.6	0.6	1/2	 black	50 m	12307
18.7	9	0.8	47/64	 black	30 m	12308
25.5	12.5	0.9	1	 black	30 m	12309
38.1	19.1	1.0	1 1/2	 black	30 m	12310
50.8	25.4	1.2	2	 black	30 m	12311

2:1 POLYOLEFIN

LOW-TEMPERATURE SHRINK TUBING FROM 65 °C

WITHOUT INNER ADHESIVE, BLACK





- For temperature-critical locations
- Low shrink temperature from +65 °C
- Possible operating temperatures from -55 °C to +125 °C
- Prevents damage to sensitive electronic components or other goods

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free)

Operating temperature:

- from approx. -55 °C to +125 °C

Shrinkage temperature:

- +65°C min. / fully at +95°C

Characteristics:

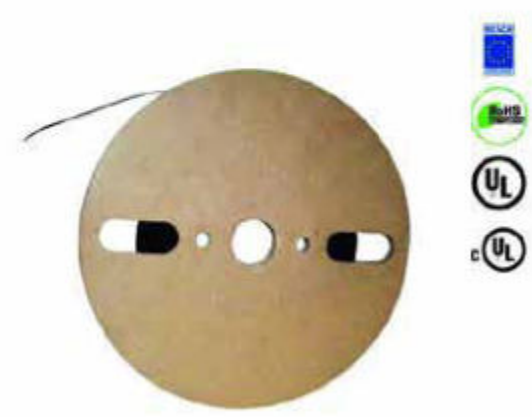
- Good fire protection properties: flame retardant according to UL224 (except transparent)
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 5% max.
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 10.4 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.2	0.6	0.4	3/64	 black	150 m	12041
1.6	0.8	0.4	1/16	 black	150 m	12058
2.4	1.2	0.5	3/32	 black	150 m	12069
3.2	1.6	0.4	1/8	 black	150 m	12025
4.8	2.4	0.5	3/16	 black	75 m	12026
6.4	3.2	0.6	1/4	 black	75 m	12027
9.5	4.75	0.6	3/8	 black	75 m	12028
12.7	6.4	0.6	1/2	 black	50 m	12029
19	9.5	0.8	3/4	 black	30 m	12031
25.4	12.7	0.9	1	 black	30 m	12032
38.1	19.1	0.6	1 1/2	 black	30 m	12072
50.8	25.4	1.1	2	 black	30 m	12077

2:1 POLYOLEFIN

ULTRA-THIN-WALLED,
HIGHLY FLEXIBLE HEAT SHRINK TUBING

HALOGEN-FREE, WITHOUT INTERNAL ADHESIVE, BLACK








- Flexible shrink tubing ultra-thin wall
- For applications with particularly high demands on the flexibility
- Halogen-free

Material:

- Particularly thin-walled, radiation-crosslinked Polyolefin (cadmium-free, lead-free, halogen-free)

Operating temperature:

- from approx. -55 °C to +125 °C

Shrinkage temperature:

- +125 °C min.

Characteristics:

- Very good fire protection properties: tested according to UL VW-1
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 5% max.
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 10.4 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
2.5	1	0.3	2 1/4	black	200 m	12243
4	1.71	0.3	5/32	black	200 m	12244
5.5	2.5	0.3	7/32	black	100 m	12245
7.7	3.5	0.4	19/64	black	100 m	12246
10.5	5.5	0.4	27/64	black	100 m	12247
13.5	6.5	0.4	17/32	black	100 m	12248
20.5	10	0.4	13/16	black	100 m	12249
25.7	12.5	0.4	1 1/64	black	50 m	12257

2:1 POLYOLEFIN

HALOGEN-FREE SHRINK TUBING

WITHOUT INNER ADHESIVE, ON A ROLL, BLACK






- Halogen-free alternative to normal shrink tubing
- For special fire protection requirements
- highly flexible

Material:

- Radiation-crosslinked polyolefin (halogen-free, cadmium-free, lead-free)

Operating temperature:

- from approx. -55 °C to +125 °C

Shrinkage temperature:

- approx. +110 °C

Characteristics:

- Very good fire protection properties: FMVSS 302 passed, the halogen-free material acts flame-retardant
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: approx. 6%
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 17 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.6	0.8	0.4	1/16	black	150 m	12002
2.4	1.2	0.5	3/32	black	150 m	12003
3.2	1.6	0.5	1/8	black	150 m	12004
9.5	4.8	0.6	3/8	black	150 m	12030
12.7	6.4	0.6	1/2	black	50 m	12008
19	9.5	0.8	3/4	black	30 m	12009
38	19	1	1 1/2	black	30 m	12011
51	25.4	1.1	2	black	30 m	12012

2:1 POLYOLEFIN
 ASSORTMENT BOXES
 BLACK








- Conveniently sorted
- 280 sections
- Common working lengths
- Quickly at hand

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +110 °C min.

Characteristics:

- Good fire protection properties: flame-resistant and self-extinguishing according to UL224 (except transparent / meets FMVSS 302 instead), meets common OEM specifications
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
of 1.2	up to 9.5	from 0.4 to 0.6	from 1/16 to 3/8	black	280 sections	12250
of 1.2	up to 9.5	from 0.4 to 0.6	from 1/16 to 3/8	red/black	280 sections	12251
of 1.2	up to 9.5	from 0.4 to 0.6	from 1/16 to 3/8	brown/blue/black/yellow/green	280 sections	12252

3:1 POLYOLEFIN
 SHRINK TUBING THIN-WALLED
 WITHOUT INNER ADHESIVE, IN SMALL CARDBOARD BOX, BLACK







- The premium shrink tubing for all Applications
- Ideal to process with a hot air gun or using a shrink tunnel
- UL certified
- In the practical dispenser box

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +90 °C min.

Characteristics:

- Good fire protection properties: self-extinguishing and flame-resistant according to UL224 (except transparent / meets FMVSS 302 instead), meets common OEM specifications.
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 17 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.6	0.5	0.5	1/16	black	17 m	13210
3	1	0.6	1/8	black	15 m	13211
4.8	1.5	0.6	3/16	black	13 m	13212
6.4	2	0.7	1/4	black	12 m	13213
9.5	3	0.8	3/8	black	8 m	13214
12.7	4	0.8	1/2	black	8 m	13215
19	6	0.9	3/4	black	5 m	13216
25.4	8	0.5	1	black	3 m	13217

3:1 POLYOLEFIN

SHRINK TUBING THIN-WALLED

WITHOUT INNER ADHESIVE, ON A ROLL, BLACK



- The premium shrink tubing for all Applications
 - Ideal to process with a hot air gun or using a shrink tunnel
 - UL certified
 - Highly flexible
- Material:**
- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)
- Operating temperature:**
- from approx. -55 °C to +135 °C
- Shrinkage temperature:**
- +90 °C min.
- Characteristics:**
- Good fire protection properties: flame-resistant and self-extinguishing according to UL224, meets common OEM specifications
 - Good chemical resistance: resistant to all conventional liquids and solvents
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 10% max.
 - Dielectric strength: approx. 24 kV/mm
 - Tensile strength: approx. 17 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.5	0.5	0.5	1/16	■ black	150 m	13001
3	1	0.6	1/8	■ black	150 m	13002
4.5	1.5	0.6	3/16	■ black	75 m	13003
6.4	2	0.7	1/4	■ black	75 m	13004
9.5	3	0.8	3/8	■ black	75 m	13005
12	4	0.8	15/32	■ black	50 m	13006
18	6	0.9	45/64	■ black	30 m	13007
24	8	1.0	15/16	■ black	30 m	13008
39	13	1.2	1 1/2	■ black	30 m	13009

3:1 POLYOLEFIN

SHRINK TUBING THIN-WALLED

WITHOUT INNER ADHESIVE, ON A ROLL, BLUE





- The premium shrink tubing for all Applications
- Ideal to process with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +90 °C min.

Characteristics:

- Good fire protection properties: flame-resistant and self-extinguishing according to UL224, meets common OEM specifications
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 17 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
4.5	1.5	0.6	3/16	 blue	300 m	13030
9	3	0.8	3/8	 blue	75 m	13032
12	4	0.8	15/32	 blue	30 m	13033
24	8	1.0	15/16	 blue	30 m	13035
39	13	1.2	1 1/2	 blue	30 m	13036

3:1 POLYOLEFIN

SHRINK TUBING THIN-WALLED

WITHOUT INNER ADHESIVE, ON A ROLL, GREEN-YELLOW





- The premium shrink tubing for all Applications
- Ideal to process with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +90 °C min.

Characteristics:

- Good fire protection properties: flame-resistant and self-extinguishing according to UL224, meets common OEM specifications
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 17 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
3	1	0.8	1/8	 green-yellow	75 m	13029
9	3	0.8	3/8	 green-yellow	75 m	13027
12	4	0.8	15/32	 green-yellow	50 m	13028
19	6	0.9	3/4	 green-yellow	30 m	13254

3:1 POLYOLEFIN
 SHRINK TUBING THIN-WALLED
 WITHOUT INNER ADHESIVE, ON A ROLL, OTHER COLOURS



- The premium shrink tubing for all Applications
- Ideal to process with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +90 °C min.

Characteristics:

- Good fire protection properties: self-extinguishing and flame-resistant according to UL224 (except transparent / meets FMVSS 302 instead), meets common OEM specifications.
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 17 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
3	1	0.6	1/8	red	150 m	13011
6	2	0.7	15/64	red	75 m	13259
6	2	0.7	15/64	red	300 m	13013
9.5	3	0.8	3/8	red	75 m	13014
12	4	0.8	15/32	red	50 m	13015
18	6	0.9	45/64	red	30 m	13016
25.4	8.4	1.0	1	red	30 m	13017
39	13	1.2	1 1/2	red	30 m	13018
3	1	0.6	1/8	yellow	300 m	13020
6	2	0.7	15/64	yellow	300 m	13022
9.5	3	0.8	3/8	yellow	150 m	13023
12.7	4	0.8	1/2	yellow	100 m	13024
19	6	0.9	3/4	yellow	30 m	13025
24	8	1.0	15/16	yellow	30 m	13026
39	13	1.2	1 1/2	green	30 m	13021
25.4	8.4	1.0	1	orange	50 m	13010
39	13	1.2	1 1/2	orange	30 m	13019
1.5	0.5	0.5	1/16	transparent	150 m	13250
3	1	0.6	1/8	transparent	150 m	13251
4.5	1.5	0.6	3/16	transparent	75 m	13252
9	3	0.8	3/8	transparent	100 m	13253
12	4	0.8	15/32	transparent	50 m	13255
18	6	0.9	45/64	transparent	30 m	13256
24	8	1.0	15/16	transparent	30 m	13257
39	13	1.2	1 1/2	transparent	30 m	13258
51	25.4	1.1	2	transparent	30 m	12130
18	6	0.9	45/64	violet	30 m	13012
3	1	0.7	1/8	white	150 m	13039
6	2	0.7	15/64	white	75 m	13040
9.5	3	0.8	3/8	white	75 m	13041
12	4	0.8	15/32	white	100 m	13042
18	6	0.9	45/64	white	30 m	13043
24	8	1.0	15/16	white	30 m	13044
39	13	1.2	1 1/2	white	30 m	13045

3:1 POLYOLEFIN

SHRINK TUBING THIN-WALLED

WITH INTERNAL ADHESIVE, ON A ROLL

REACH

RoHS

UL

meets common industrial and automotive specifications



Material:

- Radiation-crosslinked polyolefin

Operating temperature:

- from -55 °C to +125 °C

Shrinkage temperature:

- from +110 °C

Characteristics:

- Good fire protection properties: Sheath self-extinguishing (except transparent), burning behavior according to FMVSS 302, on request UL224 VW-1
- Good chemical resistance: resistant to all common liquids and solvents. Good resistance to water absorption.
- Meets common industrial and automotive specifications
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 10.4 MPa [=N/mm²]
- Elongation at break: 200% (after aging 100%)

- » The premium shrink tubing for all applications
- » Ideal for processing with a hot air gun or shrink tunnel
- » Highly flexible
- » Excellent oil resistance, particularly suitable for automotive applications (SW1 from website manufacturer)

BLACK

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
3	1	2.4	1/8	300 m	99110
	1	1	1/8	300 m	99110
6	2	0.85	1/4	300 m	99107
9	3	1.2	3/8	150 m	99108
12	4	1.7	1/2	100 m	99101
24	8	2.4	1	25 m	99103
40	13	2.4	1 1/2	30 m	99104

RED

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
19	6	2.1	3/4	50 m	99102

TRANSPARENT

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before Shrinkage [mm]	Contents	Item no.
24	8	1.4	1	50 m	99109
40	13	2.4	1 1/2	30 m	99105

3:1 POLYOLEFIN
 SHRINK TUBING THIN-WALLED
 WITH INTERNAL ADHESIVE, AS A ROD



Material:

- Radiation-crosslinked polyolefin

Operating temperature :

- from -55 °C to +125 °C

Shrinkage temperature:

- from +110 °C

Characteristics:

- Pole length: 1.22 m
- Good fire protection properties: Sheath self-extinguishing (except transparent), burning behavior according to FMVSS 302, on request UL224 VW-1
- Good chemical resistance: resistant to all common liquids and solvents. Good resistance to water absorption.
- Meets common industrial and automotive specifications
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 10.4 MPa [=N/mm²]
- Elongation at break: 200% (after aging 100%)

- » The premium shrink tubing for all applications
- » Ideal for processing with a hot air gun or shrink tunnel
- » Highly flexible
- » Excellent oil resistance, particularly suitable for automotive applications (SW1 from website manufacturer)

BLACK

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
3	1	1	1/8	10 pcs.	13053
4.5	1.5	1.1	3/16	10 pcs.	13054
6	2	1.2	1/4	10 pcs.	13055
9	3	1.4	3/8	10 pcs.	13056
12	4	1.7	1/2	5 pcs.	13057
19	6	2.1	3/4	10 pcs.	13058
24	8	1	1	5 pcs.	13059
40	13	2.4	1 1/2	5 pcs.	13060

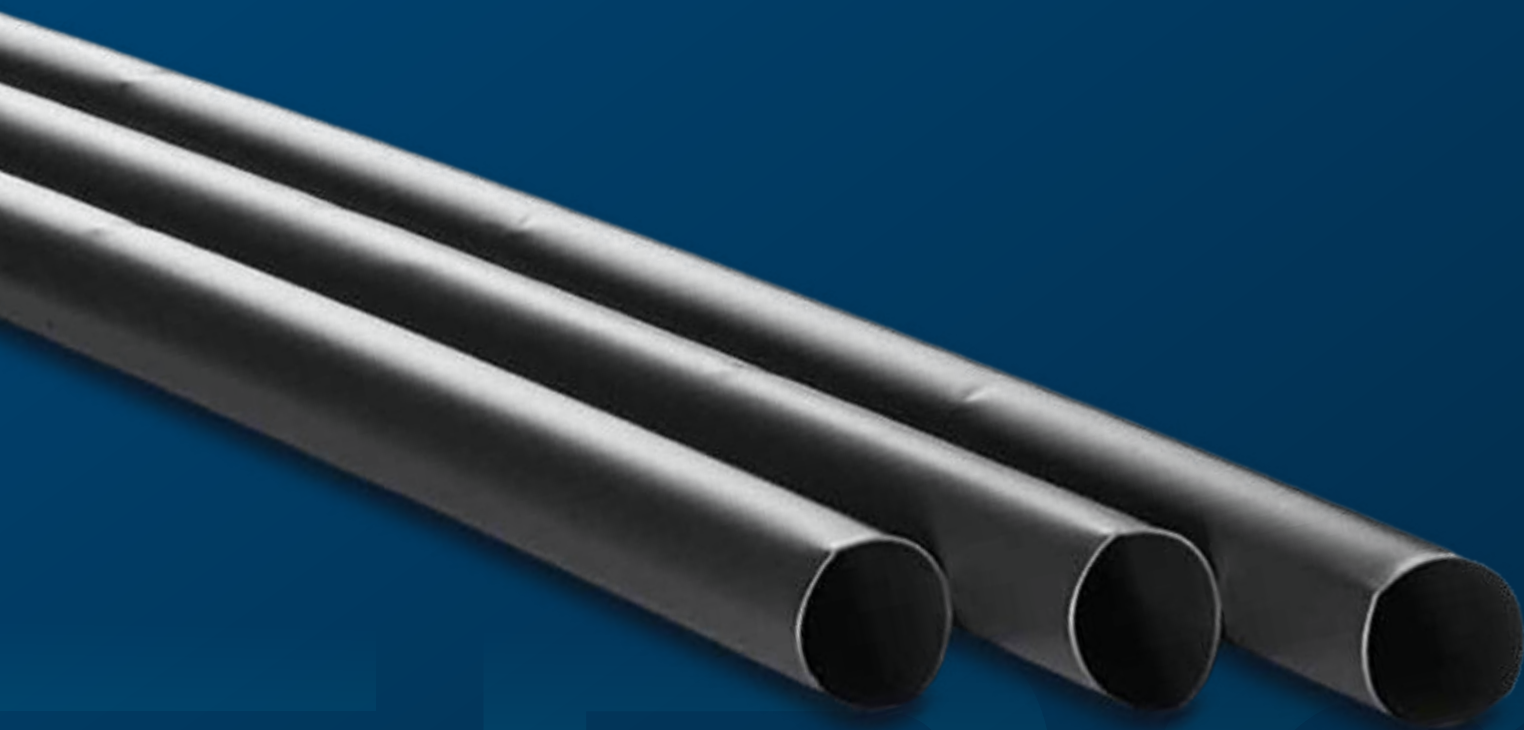
TRANSPARENT

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
3	1	1	1/8	10 pcs.	13061
4.5	1.5	1.1	3/16	10 pcs.	13062
6	2	1.2	1/4	10 pcs.	13063
9	3	1.4	3/8	10 pcs.	13064
12	4	1.7	1/2	5 pcs.	13065
19	6	2.1	3/4	5 pcs.	13066
24	8	1	1	5 pcs.	13067
40	13	2.4	1 1/2	5 pcs.	13068

3:1 POLYOLEFIN
SHRINK TUBING MIDDLE-WALLED
WITH INTERNAL ADHESIVE, AS A ROD, BLACK



- » The premium shrink tubing for all applications
- » For applications with higher mechanical loads
- » Internal adhesive adheres particularly well to plastic, rubber, neoprene, steel and polyethylene
- » Shrinkage closes watertight
- » Excellent oil resistance, particularly suitable for automotive applications (SW1 from website manufacturer)



Material:

- Radiation-crosslinked polyolefin

Operating temperature :

- from approx. -55 °C to +110 °C

Shrinkage temperature:

- from +110 °C

Characteristics:

- Good fire protection properties: no breaking or dripping under heat exposure up to approx. 225°C
- Good chemical resistance: resistant to all common liquids and solvents. Good resistance to water absorption.
- Meets common industrial and automotive specifications
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 14 MPa [=N/mm²]
- Elongation at break: 350% (after aging 200%)
- Rod length: 1 m

BLACK

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
10	3	1	25/64	1 pc.	13069
16	5	1	5/8	1 pc.	13070
28	6	2.5	1 7/64	1 pc.	13071
30	8	2.5	1 1/4	1 pc.	13076
35	12	2.6	1 3/8	1 pc.	13072
50	16	2	1 31/32	10 pcs.	13073
63	19	2.4	2 31/64	5 pcs.	13074
72	22	3	2 53/64	1 pc.	13075
85	25	2.8	3 11/32	10 pcs.	13097
92	35	3	3 5/8	1 pc.	13077
115	34	3.1	4 17/32	1 pc.	13078
140	42	3.1	5 33/64	1 pc.	13079
160	55	3.2	6 19/64	1 pc.	13080
180	60	3.2	7 3/32	1 pc.	13081
300	100	3.8	11 13/16	1 pc.	13096

3:1 POLYOLEFIN
 SHRINK TUBING MEDIUM-WALLED
 WITHOUT INNER ADHESIVE, AS A ROD, BLACK



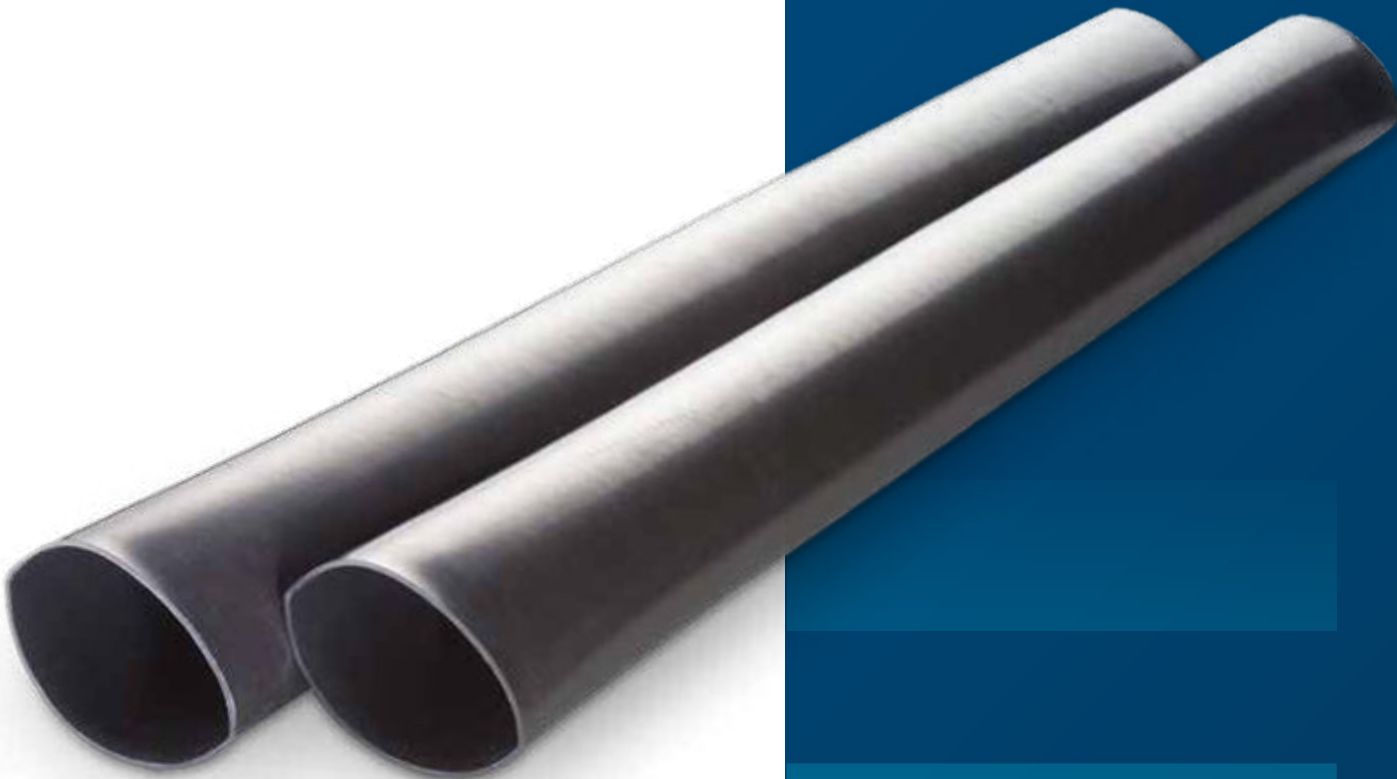
- The premium shrink tubing for all Applications
 - For applications with higher mechanical Burdens
 - Interior adhesive adheres particularly to plastic, Rubber, neoprene, steel and polyethylene
 - Shrinkage closes watertight
- Material:**
- Radiation-crosslinked polyolefin (cadmium-free, lead-free)
- Operating temperature:**
- from approx. -40 °C to +110 °C
- Shrinkage temperature:**
- +110 °C min.
- Characteristics:**
- Good fire protection properties: under Heat exposure up to approx. +225°C no breaking or drops
 - Good chemical resistance: resistant to all conventional liquids and water intake
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 10% max.
 - Pole length: 1.22 m
 - Dielectric strength: approx. 14 kV/mm
 - Tensile strength: approx. 12 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
22	6	2.0	55/64	 black	1 pc.	13100
28	6	2.0	1	 black	1 pc.	13101
35	12	2.4	1 1/2	 black	1 pc.	13102
50	16	2.4	2	 black	1 pc.	13103
63	19	2.7	2 1/2	 black	1 pc.	13104
72	22	2.7	2 3/4	 black	1 pc.	13105
92	29	3.0	3 3/4	 black	1 pc.	13107
115	34	3.1	4 1/2	 black	1 pc.	13108
140	42	3.1	5 33/64	 black	1 pc.	13109
160	55	3.1	6 19/64	 black	1 pc.	13110
180	60	3.2	7 3/32	 black	1 pc.	13111

3:1 POLYOLEFIN
 SHRINK TUBING
 THICK-WALLED
 WITH INTERNAL ADHESIVE, AS A ROD



- » Heavy Duty
- » For extreme applications on land, underground or offshore
- » Particularly suitable for objects with large diameter differences
- » Internal adhesive adheres particularly well to plastic, rubber, neoprene, steel and polyethylene
- » Shrinkage closes watertight



- Material:**

 - Radiation-crosslinked polyolefin
- Operating temperature:**

 - -55 °C to +110 °C
- Shrinkage temperature:**

 - from +110 °C
- Characteristics:**

 - Good fire protection properties: no breaking or dripping under heat exposure up to approx. 225°C
 - Good chemical resistance: resistant to all common liquids and solvents. Good resistance to water absorption.
 - Meets common industrial and automotive specifications
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 10% max.
 - Dielectric strength: approx. 14 kV/mm
 - Tensile strength: approx. 13 MPa [=N/mm²]
 - Elongation at break: 350% (after aging 200%)
 - Rod length: 1 m

BLACK

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
13	4	2.4	33/64	1 pc.	13084
19	6	2.4	3/4	20 pcs.	13085
30	8	3.2	1 1/14	1 pc.	13086
34	8	3.2	1 1/4	10 pcs.	13095
43	12	3.9	1 3/4	1 pc.	13087
51	16	4.3	2 1/64	1 pc.	13088
70	21	4.1	2 3/4	1 pc.	13089
85	28	4.3	3 1/4	1 pc.	13090
90	30	4.3	3 35/64	1 pc.	13082
100	33	4.3	4	5 pcs.	13106
120	39	4.1	4 3/4	1 pc.	13091
130	36	4.1	5 1/8	1 pc.	13092
160	50	4.1	6 19/64	1 pc.	13093
180	50	4.4	7 3/32	1 pc.	13094

3:1 POLYOLEFIN

THICK-WALLED SHRINK TUBING

WITHOUT INNER ADHESIVE, AS A ROD, BLACK







- Heavy Duty
- For the most extreme applications on land, under the Earth or offshore
- Particularly suitable for objects with large Diameter differences

Material:

- Radiation-crosslinked polyolefin (lead-free, cadmium-free)

Operating temperature:

- from approx. -40 °C to +120 °C

Shrinkage temperature:

- +110 °C min.

Characteristics:

- Good fire protection properties: flame-retardant, self-extinguishing sheath
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Rod length: 1 m
- Dielectric strength: approx. 10 kV/mm
- Tensile strength: approx. 12 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
12	4	2.7	1/2	 black	1 pc.	13180
43	12	3.7	1 1/4	 black	1 pc.	13183
92	26	4.1	3 1/2	 black	1 pc.	13186

3:1 POLYOLEFIN

SHRINK TUBING

WITH ANTI-CORROSIVE EVA HOTMELT ADHESIVE, AS A ROD, BLACK






- Provides high protection against impact and abrasion
- Using a special adhesive with high Corrosion protection
- Also ideal for civil engineering, e.g. Protection of ground anchors

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free) with anti-corrosive adhesive EVA hotmelt

Operating temperature:

- from approx. -55 °C to +110 °C

Shrinkage temperature:

- approx. +120 °C

Characteristics:

- Good fire protection properties: FMVSS 302 passed
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Pole length: 1.22 m
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 14.5 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
28	10	2.0	1 7/64	 black	1 pc.	13132
33	10.2	2.0	1 1/4	 black	1 pc.	13133
38.1	12.7	2.0	1 1/2	 black	1 pc.	13134
43.2	12.7	2.0	1 3/4	 black	1 pc.	13135
52.1	19.1	2.0	2 3/64	 black	1 pc.	13136
88.9	30	2.4	3 1/2	 black	1 pc.	13138
119.4	39.9	2.7	4 3/4	 black	1 pc.	13139
152	48	2.8	6	 black	1 pc.	13140
170.2	58.4	2.8	7	 black	1 pc.	13141
228.6	77	3.0	9	 black	1 pc.	13142

3:1 POLYOLEFIN
 SHRINK TUBING
 WITH SPECIAL CORROSION PROTECTION INTERIOR ADHESIVE
 BUTYL MASTIC, AS A ROD, BLACK



- Provides high protection against impact and abrasion
- Butylene mastic adhesive for excellent Corrosion protection
- UV-resistant
- Adheres excellently to metal and wood

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, halogen-free, UV-resistant) with Mastic resin coating

Operating temperature:

- from approx. -35 °C to +110 °C

Shrinkage temperature:

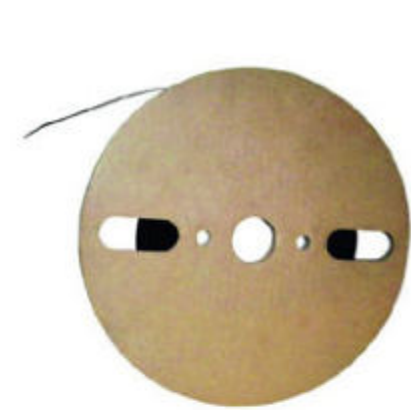
- approx. +120 °C

Characteristics:

- Good fire protection properties: tested according to ASTM D
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Excellent corrosion protection through special butyl mastic adhesive
- Longitudinal shrinkage: 10% max.
- Pole length: 1.22 m
- Dielectric strength: approx. 20 kV/mm
- Tensile strength: approx. 14.5 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
33	8	2.5	1 1/4	 black	1 pc.	13320
40	12	2.5	1 37/64	 black	1 pc.	13321
55	16	2.7	2 11/64	 black	1 pc.	13322
75	22	3.0	2 61/64	 black	1 pc.	13323
95	25	3.0	3 47/64	 black	1 pc.	13324
115	34	3.2	4 17/32	 black	1 pc.	13325
140	42	3.3	5 33/64	 black	1 pc.	13326
160	50	3.3	6 19/64	 black	1 pc.	13327
180	58	3.3	7 3/32	 black	1 pc.	13333
200	65	3.3	7 7/8	 black	1 pc.	13328
235	65	3.7	9 1/4	 black	1 pc.	13329
265	75	3.8	10 7/16	 black	1 pc.	13330
300	85	3.8	11 13/16	 black	1 pc.	13331
350	100	4.2	13 25/32	 black	1 pc.	13332

3:1 POLYOLEFIN
 FLAT-ROLLED SHRINK TUBING
 WITHOUT INNER ADHESIVE, ON A ROLL, BLACK



- The premium shrink tubing for all Applications
- Ideal to process with a hot air gun or using a shrink tunnel
- UL certified
- Highly flexible
- Flat design, ideal for printing

- Material:**
- Radiation-crosslinked polyolefin (cadmium-free, lead-free)
- Operating temperature:**
- from approx. -55 °C to +125 °C
- Shrinkage temperature:**
- +90 °C min.
- Characteristics:**
- Good fire protection properties: flame retardant
 - Good chemical resistance: resistant to all conventional liquids and solvents
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 5% max.
 - Dielectric strength: approx. 20 kV/mm
 - Tensile strength: approx. 10.4 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
3.2	1.7	0.6	1/8	 black	30 m	13143
4.8	1.6	0.6	3/16	 black	30 m	13144
6.4	2.11	0.6	1/4	 black	30 m	13145
9.5	3.17	0.8	3/8	 black	30 m	13146
12.7	4.22	0.8	1/2	 black	30 m	13147
19	6.4	0.9	3/4	 black	30 m	13148
25.4	8.47	1.0	1	 black	30 m	13149
3.2	1	0.6	1/8	 yellow	30 m	13157
4.8	1.6	0.6	3/16	 yellow	30 m	13158
6.4	2.11	0.7	1/4	 yellow	30 m	13159
9.5	3.17	0.8	3/8	 yellow	30 m	13160
12.7	4.22	0.8	1/2	 yellow	30 m	13161
19	6.4	0.9	3/4	 yellow	30 m	13162
25.4	8.47	1.0	1	 yellow	30 m	13163
3.2	1.07	0.6	1/8	 white	30 m	13150
4.8	1.6	0.6	3/16	 white	30 m	13151
6.4	2.11	0.7	1/4	 white	30 m	13152
9.5	3.17	0.8	3/8	 white	30 m	13153
12.7	4.22	0.8	1/2	 white	30 m	13154
19	6.4	0.9	3/4	 white	30 m	13155
25.4	8.47	1.0	1	 white	30 m	13156

4:1 POLYOLEFIN
SHRINK TUBING THIN-WALLED
 WITH INTERNAL ADHESIVE, ON A ROLL, BLACK



- » Particularly suitable for objects with large diameter differences
- » Internal adhesive adheres particularly well to plastic, rubber, neoprene, steel and polyethylene
- » Shrinkage closes watertight

Material:

- Radiation-crosslinked polyolefin

Operating temperature :

- -55 °C to +110 °C

Shrinkage temperature:

- from +110 °C

Characteristics:

- Good fire protection properties: Sheath self-extinguishing (except transparent), passed burning behavior according to FMVSS 302
- Good chemical resistance: resistant to all common liquids and solvents. Good resistance to water absorption.
- Meets common industrial and automotive specifications
- Non-corrosive, even with copper
- Longitudinal shrinkage: 18% max.
- Dielectric strength approx. 22 kV/mm
- Tensile strength: approx. 15 MPa [=N/mm²]
- Elongation at break: approx. 400%



BLACK

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
8	2	1.2	5/16	150 m	14033
12	3	1.4	15/32	100 m	99913
16	4	1.7	5/8	50 m	99914
24	6	2	15/16	25 m	99200
32	8	2.4	1 17/64	25 m	99112

4:1 POLYOLEFIN
SHRINK TUBING THIN-WALLED
WITH INTERNAL ADHESIVE, AS A ROD



meets common industrial and automotive specifications



- » Particularly suitable for objects with large diameter differences
- » Internal adhesive adheres particularly well to plastic, rubber, neoprene, steel and polyethylene
- » Shrinkage closes watertight

Material:

- Radiation-crosslinked polyolefin

Operating temperature :

- -55 °C to +110 °C

Shrinkage temperature:

- from +110 °C

Characteristics:

- Good fire protection properties: Sheath self-extinguishing (except transparent / meets FMVSS 302 instead)
- Good chemical resistance: resistant to all common liquids and solvents. Good resistance to water absorption.
- Meets common industrial and automotive specifications
- Non-corrosive, even with copper
- Longitudinal shrinkage: 18% max.
- Dielectric strength approx. 22 kV/mm
- Tensile strength: approx. 15 MPa [=N/mm²]
- Elongation at break: approx. 400%
- Pole length: 1.22 m

BLACK

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
4	1	1	5 3/2	10 pcs.	14001
8	2	1.2	21/64	10 pcs.	14002
12	3	1.4	1/2	5 pcs.	14003
16	4	1.7	5/8	5 pcs.	14004
24	6	2.1	1	5 pcs.	14005
32	8	2.4	1 1/4	5 pcs.	14006
52	13	2.4	2 3/64	5 pcs.	14007

TRANSPARENT

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrinkage [mm]	Contents	Item no.
4	1	1	5 3/2	10 pcs.	14008
8	2	1.2	21/64	10 pcs.	14009
12	3	1.4	1/2	5 pcs.	14010
16	4	1.7	5/8	5 pcs.	14011
24	6	2.1	1	5 pcs.	14012
32	8	2.4	1 1/4	5 pcs.	14013
52	13	2.4	2 3/64	5 pcs.	14014

4:1 POLYOLEFIN
THIN-WALLED SHRINK TUBING
WITHOUT INNER ADHESIVE, AS A ROD, BLACK



- Highly flexible
- UV-resistant
- self-extinguishing

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free, UV-stabilized)

Operating temperature:

- from approx. -55 °C to +135 °C

Shrinkage temperature:

- +100 °C

Characteristics:

- Good fire protection properties: flame retardant and self-extinguishing according to UL 224 VW-1
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Pole length: 1.22 m
- Dielectric strength: approx. 24 kV/mm
- Tensile strength: approx. 20 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
19.1	4.6	1.7	3/4	black	1 pc.	13304
25.4	7	1.7	1	black	1 pc.	13305
38.1	9.5	1.7	1 1/2	black	1 pc.	13306
50.8	14	1.7	2	black	1 pc.	13307
76.2	21.3	1.7	3	black	1 pc.	13308
102	26.7	1.7	4 1/64	black	1 pc.	13309

5:1 POLYOLEFIN
THICK-WALLED SHRINK TUBING
WITH INTERNAL ADHESIVE, ON A ROLL, TRANSPARENT



- Particularly suitable for objects with large Diameter differences
- Interior adhesive adheres particularly to plastic, Rubber, neoprene, steel and polyethylene
- Shrinkage closes watertight

Material:

- Radiation-crosslinked polyolefin (cadmium-free, lead-free)

Operating temperature:

- from approx. -55 °C to +125 °C

Shrinkage temperature:

- approx. +120 °C

Characteristics:

- Melting point of adhesive: approx. +92 °C
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Pole length (item 14034): 1.22 m
- Dielectric strength approx. 20 kV/mm
- Tensile strength: approx. 10.4 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
6.4	1.2	1.5	1/4	transparent	100 m	14030
8	1.5	2.1	5/16	transparent	100 m	14031
11.8	2.1	2.5	15/32	transparent	1 pc.	14034

6:1 POLYOLEFIN

THICK-WALLED SHRINK TUBING

WITH INTERNAL ADHESIVE, AS A ROD, BLACK



- For sealing, insulation and mechanical Protection of cables and wires
- Particularly suitable for objects with large Diameter differences
- Interior adhesive adheres particularly to plastic, Rubber, neoprene, steel and polyethylene
- Shrinkage seals watertight and serves the Filling gaps, for example in cable harnesses

- Material:**
- Radiation-crosslinked polyolefin (cadmium-free, lead-free, silicone-free)
- Operating temperature:**
- from approx. -55 °C to +110 °C
- Shrinkage temperature:**
- +120 °C min.
- Characteristics:**
- Very good fire protection properties: Coat self-extinguishing according to UL94 V-0 (except transparent / meets FMVSS 302 instead), meets common Industrial and automotive OEM specifications
 - Good chemical resistance: resistant to all conventional liquids and solvents
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 18% max.
 - Pole length: 1.22 m
 - Dielectric strength approx. 22 kV/mm
 - Tensile strength: approx. 15 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
19	3.2	3.2	3/4	■ black	1 pc.	14015
33	5.5	3.4	19/64	■ black	1 pc.	14023
44.4	7.4	3.6	1 3/4	■ black	1 pc.	14017
50.8	8.3	4.3	2	■ black	25 pcs.	14018
69.8	11.7	4.8	2 3/4	■ black	1 pc.	14019
88.9	17.1	4.3	3 1/2	■ black	1 pc.	14020
119.4	22.9	4.8	4 3/4	■ black	1 pc.	14021
235	40	4.7	9 1/4	■ black	1 pc.	14024

SPECIAL MATERIAL
VITRON TUBE
 2:1, ON A ROLL, BLACK



- Protective products with particularly high Abrasion properties, puncture-resistant
 - High thermal resilience
 - For extreme applications in military technology, shipbuilding, for renewable energies, in the Automotive and aerospace industries
- Material:**
- Cross-linked Viton (cadmium-free, lead-free)
- Operating temperature:**
- from approx. -55 °C to +220 °C
- Shrinkage temperature:**
- approx. +160 °C
- Characteristics:**
- Very good fire protection properties: flame-resistant and self-extinguishing according to ASTM
 - Very good chemical resistance: especially resistant to corrosive liquids at high temperatures, as well as against all conventional Liquids and solvents
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: 10% max.
 - Dielectric strength approx. 16 kV/mm
 - Tensile strength: approx. 18 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
3.2	1.6	0.8	1/8	 black	50 m	15031
4.8	2.4	0.9	3/16	 black	50 m	15032
6.4	3.2	0.9	1/4	 black	50 m	15033
9.5	4.8	1.0	3/8	 black	50 m	15034
12.7	6.4	1.2	1/2	 black	30 m	15035
19	9.5	1.4	3/4	 black	30 m	15036
25.4	12.7	1.8	1	 black	30 m	15037
38	19	2.4	1 1/2	 black	15 m	15038
50.8	25.4	2.8	2	 black	15 m	15039

SPECIAL MATERIAL
PTFE HOSE
 2:1, ON A ROLL, TRANSPARENT



- For particularly high ambient temperatures
 - High mechanical strength
 - High tracking resistance
- Material:**
- PTFE (polytetrafluoroethylene/ anti-adhesive)
- Operating temperature:**
- from approx. -65 °C to +260 °C
- Shrinkage temperature:**
- approx. +327 °C (Please note the special Requirements of PTFE shrink tubing for of processing.)
- Characteristics:**
- Excellent fire protection properties: non-combustible, approved according to UL224
 - Very good chemical resistance: resistant against all conventional liquids and solvent
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: approx. 5% max.
 - Dielectric strength approx. 40 kV/mm
 - Tensile strength: approx. 29 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
0.97	0.46	0.2	1/32	 transparent	100 m	15104

SPECIAL MATERIAL

PTFE HOSE

2:1, AS A ROD, TRANSPARENT



- For particularly high ambient temperatures
- High mechanical strength
- High tracking resistance

Material:

- PTFE (polytetrafluoroethylene/ anti-adhesive)

Operating temperature:

- from approx. -65 °C to +260 °C

Shrinkage temperature:

- approx. +327 °C (Please note the special Requirements of PTFE shrink tubing for of processing.)

- Characteristics:**
- Excellent fire protection properties: non-combustible, approved according to UL224
 - Very good chemical resistance: resistant against all conventional liquids and solvent
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: approx. 5% max.
 - Pole length: 1.22 m
 - Dielectric strength approx. 40 kV/mm
 - Tensile strength: approx. 29 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.27	0.64	0.3	1 1/4	transparent	10 pcs.	15054
7.67	4.4	0.4	19/64	transparent	1 pc.	15063
9.4	5.45	0.4	3/8	transparent	10 pcs.	15064

SPECIAL MATERIAL

PTFE HOSE

4:1, ON A ROLL, TRANSPARENT



- For particularly high ambient temperatures
- High mechanical strength
- High tracking resistance

Material:

- PTFE (polytetrafluoroethylene/ anti-adhesive)

Operating temperature:

- from approx. -65 °C to +260 °C

Shrinkage temperature:

- approx. +327 °C (Please note the special Requirements of PTFE shrink tubing for of processing.)

- Characteristics:**
- Excellent fire protection properties: non-combustible, approved according to UL224
 - Very good chemical resistance: resistant against all conventional liquids and solvent
 - Non-corrosive, even with copper
 - Longitudinal shrinkage: approx. 5% max.
 - Dielectric strength approx. 40 kV/mm
 - Tensile strength: approx. 29 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
2	0.5	0.2	5/64	transparent	250 m	15100
3.2	0.8	0.3	1/8	transparent	100 m	15101
9.5	2.4	0.3	3/8	transparent	50 m	15102
25.4	7	0.4	1	transparent	50 m	15105

SPECIAL MATERIAL
PTFE HOSE
 4:1, AS A ROD, TRANSPARENT



- For particularly high ambient temperatures
- High mechanical strength
- High tracking resistance

Material:

- PTFE (polytetrafluoroethylene/ anti-adhesive)

Operating temperature:

- from approx. -65 °C to +260 °C

Shrinkage temperature:

- approx. +327 °C (Please note the special Requirements of PTFE shrink tubing for of processing.)

Characteristics:

- Excellent fire protection properties: non-combustible, approved according to UL224
- Very good chemical resistance: resistant against all conventional liquids and solvent
- Non-corrosive, even with copper
- Longitudinal shrinkage: approx. 5% max.
- Pole length: 1.22 m
- Dielectric strength approx. 40 kV/mm
- Tensile strength: approx. 29 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.98	0.64	0.2	5/64	 transparent	1 pc.	15040
2.36	0.8	0.3	3/32	 transparent	25 pcs.	15041
3.18	0.94	0.3	1/8	 transparent	1 pc.	15042
4.76	1.27	0.3	3/16	 transparent	25 pcs.	15043
6.35	1.6	0.3	1/4	 transparent	1 pc.	15044
9.25	2.44	0.3	3/8	 transparent	1 pc.	15045
12.7	3.66	0.4	1/2	 transparent	1 pc.	15046
15.88	4.52	0.4	5/8	 transparent	1 pc.	15047
19	4.8	0.4	3/4	 transparent	10 pcs.	15048
25.4	7.06	0.4	1	 transparent	10 pcs.	15049
31.75	8.82	0.4	1 1/2	 transparent	1 pc.	15050

SPECIAL MATERIAL
KYNAR HOSE
 2:1, ON A ROLL, TRANSPARENT



- With particularly high abrasion properties, puncture-proof
- Special chemical resistance
- Extreme flame resistance
- Good resistance to aging

Material:

- Kynar (polyvinylidene fluoride PVDF / lead-free, cadmium-free, additive-free)

Operating temperature:

- from approx. -55 °C to +175 °C

Shrinkage temperature:

- +175 °C min.

Characteristics:

- Excellent fire protection properties: self-extinguishing, flame-retardant, low Smoke development according to UL224 VW-1
- Excellent chemical resistance: resistant against all conventional liquids, against Chemicals, solvents, acids, alcohols, chlorinated solvents, mineral bases and aromatic hydrocarbons. Even at high Temperatures remain the chemical properties stable.
- Non-corrosive, even with copper
- Longitudinal shrinkage: 6% max.
- Dielectric strength approx. 31.5 kV/mm
- Tensile strength: approx. 37 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
25.4	12.7	0.2	1	 transparent	50 m	15020

SPECIAL MATERIAL
KYNAR HOSE
 2:1, AS A ROD, TRANSPARENT



- With particularly high abrasion properties, puncture-proof
- Special chemical resistance
- Extreme flame resistance
- Good resistance to aging

Material:

- Kynar (polyvinylidene fluoride PVDF / lead-free, cadmium-free, additive-free)

Operating temperature:

- from approx. -55 °C to +175 °C

Shrinkage temperature:

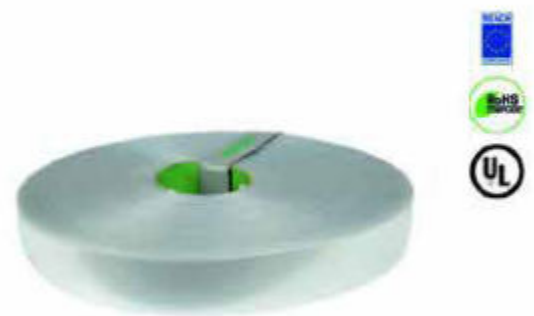
- +175 °C min.

Characteristics:

- Excellent fire protection properties: self-extinguishing, flame-retardant, low Smoke development according to UL224 VW-1
- Excellent chemical resistance: resistant against all conventional liquids, against Chemicals, solvents, acids, alcohols, chlorinated solvents, mineral bases and aromatic hydrocarbons. Even at high Temperatures remain the chemical properties stable.
- Non-corrosive, even with copper
- Longitudinal shrinkage: 6% max.
- Pole length: 1.22 m
- Dielectric strength approx. 31.5 kV/mm
- Tensile strength: approx. 37 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
1.6	0.8	0.2	1/16	 transparent	25 pcs.	15110
2.4	1.2	0.2	3/32	 transparent	25 pcs.	15111
3.2	1.6	0.2	1/8	 transparent	25 pcs.	15112
4.8	2.4	0.2	3/16	 transparent	25 pcs.	15115
6.4	3.2	0.2	1/4	 transparent	1 pc.	15116
9.5	4.8	0.2	3/8	 transparent	10 pcs.	15117
12.7	6.4	0.2	1/2	 transparent	10 pcs.	15118
19	9.5	0.2	3/4	 transparent	10 pcs.	15119
25.4	12.7	0.2	1	 transparent	10 pcs.	15120

SPECIAL MATERIAL
PET ULTRA-THIN
 2:1, ON A ROLL, TRANSPARENT & BLACK



- Extremely thin-walled
- Ideal as a wrapping/labeling for rechargeable batteries, batteries, coil windings, capacitors, etc.
- Shatter protection for fluorescent lamps in the Food processing / industry (transparent execution)

Material:

- PET (ultra-thin)

Operating temperature

- approx. -40 °C to +130 °C

- Melting point from +200 °C

Shrinkage temperature:

- approx. +100 °C

Characteristics:

- Very good fire protection properties: low Smoke development, no toxic gases
- Shrinkage rate: approx. 48% (2:1)
- Longitudinal shrinkage: approx. 8% max.
- Tensile strength: approx. 100 to 300 N/m
- Dielectric strength: approx. 10 kV/mm
- Surface resistance: >109 Ohm

Ø before shrinkage [mm]	Ø after shrinkage [mm]	Wall thickness according to Shrinkage [mm]	Color	Contents	Item number
10	5	0.1	 black	200 m	92132
18	9	0.1	 black	200 m	92133
30	15	0.1	 black	100 m	92134
10	5	0.1	 transparent	200 m	92135
18	9	0.1	 transparent	200 m	92136
30	15	0.1	 transparent	200 m	92137

SPECIAL MATERIAL

ULTRA-THIN RIGID PVC

2:1, HALOGEN-FREE, ON ROLL, BLACK



- Extremely thin-walled
- Ideal as a wrapping/labeling for rechargeable batteries, batteries, coil windings, capacitors, etc.
- Shatter protection for fluorescent lamps in the Food processing / industry (transparent execution)

- Material:**
- Hard PVC (halogen-free, particularly thin-walled)
- Operating temperature:**
- up to approx. +105 °C
- Shrinkage temperature:**
- approx. +100 °C
- Characteristics:**
- Good fire protection properties: flame retardant according to UL224, halogen-free
 - Very good chemical resistance: resistant against all common liquids and certain acids/corrosion-proof
 - Longitudinal shrinkage: approx. 5% max.
 - Dielectric strength: approx. kV/mm
 - Tensile strength: approx. 10.4 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
23	13	0.1	7/8	black	200 m	12503
40	20	0.1	1 3/4	black	50 m	12500
60	30	0.1	2 1/2	black	50 m	12501
76	38	0.1	3	black	50 m	12502

SPECIAL MATERIAL

ELASTOMER HOSE

2:1, ON A ROLL, BLACK



- High resistance to mechanical influences such as abrasion and puncture
- Long-term resistance to diesel, Hydraulic fluids and chemicals
- In the aerospace and defense sectors Applications very well usable

- Material:**
- Cross-linked elastomer (cadmium-free, lead-free)
- Operating temperature:**
- from approx. -75 °C to +150 °C
- Shrinkage temperature:**
- +150 °C max.
- Characteristics:**
- Very good fire protection properties: flame-resistant and self-extinguishing according to UL224
 - Very good chemical resistance: especially fuel-resistant/ resistant to diesel, hydraulic fluids and chemicals, as well as all conventional liquids and solvents
 - Longitudinal shrinkage: approx. 10% max.
 - Non-corrosive, even with copper
 - Dielectric strength approx. 22 kV/mm
 - Tensile strength: approx. 20 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
3.2	1.6	0.8	1/8	black	50 m	15021
4.8	2.4	0.9	3/16	black	50 m	15022
6.4	3.2	1.0	1/4	black	50 m	15023
9.5	4.8	1.1	3/8	black	50 m	15024
12.7	6.4	1.3	1/2	black	30 m	15025
19	9.5	1.5	3/4	black	30 m	15026
25.4	12.7	1.9	1	black	30 m	15027
38	19	1.9	1 1/2	black	15 m	15028
51	25.4	3.1	2	black	50 m	15029
76	38	3.3	3	black	25 m	15030

SHRINK-MOLDED PARTS

REPAIR CUFFS

WITH LOCKING RAIL 4:1, HALOGEN-FREE, WITH INTERNAL ADHESIVE



- Reliable sealing against moisture
- Simple, quick and clean installation
- The hose can be shortened
- Stainless steel channel provides a durable Locking system

Material:

- Cross-linked, thick-walled polyolefin with internal adhesive and stainless steel locking rail (cadmium-free, lead-free, halogen-free, UV-stabilized)

Operating temperature:

- from approx. -40 °C to +65 °C

Shrinkage temperature:

- +110 °C min.

Characteristics:

- Very good fire protection properties: the halogen-free material has a flame-retardant effect
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 12 kV/mm
- Tensile strength: approx. 15.5 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Length [mm]	Color	Contents	Item number
36	10	3.2	500	black	1 pc.	16266
36	10	3.2	1000	black	1 pc.	16267
55	13	3.4	500	black	1 pc.	16268
55	13	3.4	1000	black	1 pc.	16269
85	22	3.6	500	black	1 pc.	16270
85	22	3.6	1000	black	1 pc.	16271
108	27	4.7	500	black	1 pc.	16272
108	27	4.7	1000	black	1 pc.	16273
136	30	4.7	500	black	1 pc.	16274
136	30	4.7	1000	black	1 pc.	16275
180	50	4.7	500	black	1 pc.	16276
180	50	4.7	1000	black	1 pc.	16277

SHRINK-MOLDED PARTS

REPAIR CUFFS

WITH LOCKING RAIL 5:1, WITH INTERNAL ADHESIVE



- Reliable sealing against moisture
- Simple, quick and clean installation
- The hose can be shortened
- Stainless steel channel provides a durable Locking system

Material:

- Polyolefin with internal adhesive and stainless steel locking rail (cadmium-free, lead-free)

Operating temperature:

- from approx. -35 °C to +100 °C

Shrinkage temperature:

- +120 °C min.

Characteristics:

- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Longitudinal shrinkage: 10% max.
- Dielectric strength: approx. 12 kV/mm
- Tensile strength: approx. 15.5 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Length [mm]	Color	Contents	Item number
43	8	2.3	1000	black	1 pc.	16250
75	15	2.3	1000	black	1 pc.	16251
137	34	2.3	1000	black	1 pc.	16253
160	48	2.3	1000	black	1 pc.	16254
198	55	2.3	750	black	1 pc.	16258
200	48	2.3	1000	black	1 pc.	16255
240	65	2.9	1000	black	1 pc.	16256

SHRINK-MOLDED PARTS

END CAPS

HALOGEN-FREE



- Reliable sealing against moisture
- UV-stabilized material
- Excellent mechanical strength
- Excellent impact and vibration resistance
- Also for poles and pipes made of wood, plastic or Suitable for metal

Material:

- Radiation-crosslinked, thick-walled polyolefin (cadmium-free, lead-free, silicone-free, halogen-free, UV-stabilized)

Operating temperature:

- from approx. -30 °C to +85 °C

Shrinkage temperature:

- approx. +120 °C

Characteristics:

- Very good fire protection properties: the halogen-free material has a flame-retardant effect
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Dielectric strength: approx. 10 kV/mm
- Tensile strength: approx. 14 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
12	4	2.3	15/32	 black	100 pcs.	16025
15	4.5	2.0	19/32	 black	1 pc.	16026
21.55	7	3.2	27/32	 black	100 pcs.	16020
25	9	2.7	63/64	 black	100 pcs.	16027
36	15	2.8	1 27/64	 black	100 pcs.	16021
55	25	3.4	2 11/64	 black	50 pcs.	16022
75	32	3.2	2 61/64	 black	25 pcs.	16023
100	45	3.6	4	 black	10 pcs.	16024

SHRINK-MOLDED PARTS

DIVIDER CAPS 2 FINGERS

HALOGEN-FREE



- Reliable sealing against moisture
- UV-stabilized material
- Excellent mechanical strength
- Quick and easy to install

Material:

- Radiation-crosslinked, medium-walled polyolefin (cadmium-free, lead-free, silicone-free, halogen-free, UV-stabilized)

Operating temperature:

- from approx. -30 °C to +85 °C

Shrinkage temperature:

- +120 °C

Characteristics:

- Very good fire protection properties: the halogen-free material has a flame-retardant effect
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Dielectric strength: approx. 10 kV/mm
- Tensile strength: approx. 10.5 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
28	9.2	4.1	1 7/64	 black	20 pcs.	16146

SHRINK-MOLDED PARTS

DIVIDER CAPS 3 FINGERS

HALOGEN-FREE



- Reliable sealing against moisture
- UV-stabilized material
- Excellent mechanical strength
- Quick and easy to install

Material:

- Radiation-crosslinked, medium-walled polyolefin (cadmium-free, lead-free, silicone-free, halogen-free, UV-stabilized)

Operating temperature:

- from approx. -30 °C to +85 °C

Shrinkage temperature:

- +120 °C

Characteristics:

- Very good fire protection properties: the halogen-free material has a flame-retardant effect
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Dielectric strength: approx. 10 kV/mm
- Tensile strength: approx. 10.5 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
63	22	3.5	2 1/2	■ black	5 pcs.	16148
100	28	3.5	4	■ black	5 pcs.	16149
115	45	2.5	4 1/2	■ black	5 pcs.	16147

SHRINK-MOLDED PARTS

4-FINGER DIVIDING CAPS

HALOGEN-FREE



- Reliable sealing against moisture
- UV-stabilized material
- Excellent mechanical strength
- Quick and easy to install
- Also available with 5 and 6 fingers on request

Material:

- Radiation-crosslinked, medium-walled polyolefin (cadmium-free, lead-free, silicone-free, halogen-free, UV-stabilized)

Operating temperature:

- from approx. -30 °C to +85 °C

Shrinkage temperature:

- +120 °C

Characteristics:

- Very good fire protection properties: the halogen-free material has a flame-retardant effect
- Good chemical resistance: resistant to all conventional liquids and solvents
- Non-corrosive, even with copper
- Dielectric strength: approx. 10 kV/mm
- Tensile strength: approx. 10.5 MPa [=N/mm²]

Ø before shrinkage [mm]	Ø after Shrinkage [mm]	Wall thickness after shrinkage [mm]	Ø in inches before shrink	Color	Contents	Item number
80	25	2.0	3 5/32	■ black	5 pcs.	16152
100	31	2.5	4	■ black	5 pcs.	16150



CORRUGATED PIPE

With our wide range of standard and specialty corrugated conduits for industrial cable protection and photovoltaics, we offer solutions for virtually every application. We work closely with long-standing partners while remaining manufacturer-independent. Thanks to our warehousing and retrieval service, you benefit from high availability and predictable supply – even in dynamic market phases.



CORRUGATED PIPE INDUSTRY STANDARD

MADE OF PA 6

- » The standard corrugated pipe in the technical sector
- » Excellent heat resistance and cold impact resistance at extreme sub-zero temperatures
- » High abrasion protection and very good dynamic load capacity
- » Halogen-free, therefore flame-retardant and non-flame-spreading

Material:

- PA 6 (polyamide 6)

Operating temperature:

- -45 °C to +120 °C (briefly up to +150 °C)
- Melting temperature: from approx. +220 °C

Characteristics:

- Very good fire protection properties: self-extinguishing according to UL 94 V-2 / FMVSS 302
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis
- Tensile strength (E-modulus): 1200 - 2000 N/mm²
- Elongation at break: approx. 200%

CORRUGATED PIPE INDUSTRY STANDARD

SLIT, BLACK



Nominal diameter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius [mm]	Contents	Item no.
4.5	4.5	7.1	0.1	7	100 m	31133
6	6.1	8.7	0.1	11	50 m	31135
7.5	6.6	10	0.1	11	50 m	31136
8.5	8.4	11.5	0.2	13	50 m	31137
10	9.8	12.8	0.2	15	50 m	31138
11	10.5	13.6	0.2	15	50 m	31140
13	12.7	16	0.3	20	50 m	31141
16	14.5	18.9	0.2	15	50 m	31143
17	16.6	21.1	0.3	30	50 m	31144
19	19.2	24.2	0.3	33	50 m	31145
22	21.2	25.5	0.3	35	50 m	31146
23	23.1	28.4	0.3	40	50 m	31147
26	25.7	31.2	0.3	45	50 m	31148
29	28.9	34.5	0.3	50	25 m	31149
37	34	42.2	0.4	65	25 m	31151
50	45.6	53.8	0.4	90	25 m	31152
75	76.7	85.2	0.4	150	25 m	31154

CORRUGATED PIPE INDUSTRY STANDARD

UNSLIT, BLACK



Nominal diameter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius [mm]	Contents	Item no.
4.5	4.5	7.1	0.1	7	100 m	31109
6	6.1	8.7	0.1	10	50 m	31111
7.5	6.6	10	0.1	11	50 m	31112
8.5	8.4	11.5	0.2	13	50 m	31113
10	9.8	12.8	0.2	15	50 m	31114
12	12.3	15.7	0.3	20	50 m	31116
13	12.7	16	0.3	20	50 m	31117
14	14.2	18.5	0.3	25	50 m	31118
17	16.6	21.1	0.3	30	50 m	31120
19	19.2	24.2	0.3	33	50 m	31121
22	21.2	25.5	0.3	35	50 m	31122
23	23.1	28.4	0.3	40	50 m	31123
26	25.7	31.2	0.3	45	50 m	31124
29	28.9	34.5	0.3	50	25 m	31125
37	43	42.2	0.4	65	25 m	31127
50	45.6	53.8	0.4	90	25 m	31128
65	62.7	73.5	0.4	150	25 m	31129
75	76.7	85.2	0.4	150	25 m	31130



CORRUGATED PIPE
 INDUSTRY STANDARD
 MADE OF PA 6, SPLIT IN TWO



- » The standard corrugated pipe in the technical sector
- » Excellent heat resistance and cold impact resistance at extreme sub-zero temperatures
- » High abrasion protection and very good dynamic load capacity
- » Halogen-free, therefore flame-retardant and non-flame-spreading
- » Resealable

Material:

- PA 6 (polyamide 6)

Operating temperature:

- -45 °C to +120 °C (briefly up to +150 °C)
- Melting temperature: from approx. +220 °C

Characteristics:

- Very good fire protection properties: self-extinguishing according to UL 94 V-2 / FMVSS 302
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis
- Tensile strength (E-modulus): 1200 - 2000 N/mm²
- Elongation at break: approx. 200%

BLACK

Nominal diameter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius	Contents	Item no.
6	6.3	10	0.1	30	50 m	31097
10	8.8	13.5	0.1	55	50 m	31098
11	11	16.1	0.1	60	50 m	31099
14	13.2	18.7	0.2	75	50 m	31100
16	16	21.5	0.2	90	50 m	31101
20	20.2	25.7	0.3	105	50 m	31102
23	23.9	31.3	0.3	125	50 m	31103
29	27.3	35.5	0.3	140	25 m	31104
37	32.5	43.2	0.3	170	25 m	31105
45	43.1	54.2	0.35	170	25 m	31106
70	67	79.8	0.35	200	10 m	31107
100	87.5	102.5	0.35	200	10 m	31431



FIRE PROTECTION PIPE

MADE OF PP

- » Excellent fire protection properties
- » Extremely temperature resistant
- » Optimally suited for use in the electrical industry, automotive or industrial applications

Material:

- PP (polypropylene fire-protection modified)

Operating temperature:

- -40 °C to +135 °C (briefly up to +150 °C)
- Melting temperature: 160 °C to +170 °C

Characteristics:

- Excellent fire protection properties: self-extinguishing according to FMVSS 302 / UL 94 V-2
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis
- Elongation at break: 300%
- Tensile strength (E-modulus): 1200 N/mm²
- UV-resistant for approx. 5 years

FIRE PROTECTION PIPE

SLIT, BLACK



Nominal diameter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius [mm]	Contents	Item no.
4.5	4.8	7.1	0.15	10	100 m	33075
6	6	8.6	0.15	8	100 m	33028
7.5	6.9	9.9	0.15	10	50 m	33029
8.5	8.5	11.4	0.15	15	50 m	33030
10	10.1	12.6	0.15	15	50 m	33031
12	12	15.6	0.15	20	50 m	33033
13	12.9	15.8	0.15	20	50 m	33034
14	14.5	18.4	0.15	25	50 m	33035
17	16.8	21	0.2	30	50 m	33037
19	19.4	24	0.2	30	50 m	33038
23	23.7	28	0.2	45	50 m	33040
50	45.7	53.2	0.3	120	25 m	33046
37	33.8	41.6	0.2	50	25 m	32090
50	45.7	53.2	0.3	120	25 m	32093
65	63	73.9	0.3	120	25 m	32078
75	76.7	84.8	0.3	120	25 m	32080
100	101	110	0.3	120	25 m	32081

FIRE PROTECTION PIPE

UNSLIT, BLACK



Nominal diameter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius [mm]	Contents	Item no.
4.5	4.8	7.1	0.15	10	100 m	33004
7.5	6.9	9.9	0.15	10	50 m	33005
8.5	8.5	11.4	0.15	15	50 m	33006
10	10.1	12.6	0.15	15	50 m	33007
12	12	15.6	0.15	20	50 m	33009
13	12.9	15.8	0.15	20	50 m	33010
17	16.8	21	0.2	30	50 m	33013
23	23.7	28	0.2	45	50 m	33016
26	26.1	31	0.2	50	50 m	33017
29	29.3	33.9	0.3	55	25 m	33018
33	33.1	38.2	0.3	60	25 m	33019
37	33.8	41.6	0.3	50	25 m	33020
50	45.7	53.2	0.3	120	25 m	33021
65	63	73.9	0.4	150	25 m	33022

FIRE PROTECTION PIPE

MADE OF PP, DIVIDED INTO TWO PARTS



- » Resealable
- » Primarily suitable for subsequent mechanical protection of cables
- » Can be used in the electrical industry, switchgear, apparatus and shipbuilding



Material:

- PP (polypropylene / fire-protection modified, halogen-free)

Operating temperature:

- -40 °C to +135 °C (briefly up to +150 °C)
- Melting temperature: 160 °C to +170 °C

Characteristics:

- Excellent fire protection properties: self-extinguishing according to FMVSS 302 / UL 94 V-2
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis
- Elongation at break: 300%
- Tensile strength (E-modulus): 1200 N/mm²
- UV-resistant for approx. 5 years

BLACK

Nominal dia- meter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius	Contents	Item no.
6	6.3	10	0.1	40	50 m	33049
10	8.4	13.4	0.3	70	50 m	33050
11	11	16.1	0.1	80	50 m	33051
14	12.5	18.5	0.3	95	50 m	33052
16	16	21.5	0.15	100	50 m	33053
20	19.2	25.3	0.3	130	50 m	33054
23	23.4	30.8	0.35	155	50 m	33055
29	27.3	35.5	0.25	160	25 m	33056
37	31	41.4	0.4	205	25 m	33057
45	42.7	54	0.3	210	25 m	33058
70	67.5	79.8	0.25	220	10 m	33059
100	87.5	102.5	0.25	220	10 m	33190



UV-STABLE PIPE FROM PP

- » Lightweight and flexible conduit for all outdoor applications
- » UV-weather resistant for at least 20 years
- » Halogen-free, self-extinguishing, with very good chemical resistance
- » Very flexible, specially developed for outdoor applications

Material:

- PP (polypropylene UV-stabilized / cadmium-free, halogen-free)

Operating temperature:

- -40 °C to +105 °C (briefly up to +120 °C)

Characteristics:

- UV-weather-resistant
- Very good fire protection properties: self-extinguishing according to FMVSS 302 / UL 94 HB
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis, as well as most common solvents / limited resistance to alkalis
- Elongation at break: 300%
- Tensile strength (E-modulus): 1200 – 2000 N/mm²

UV-STABLE PIPE SLIT, BLACK



Nominal diameter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius [mm]	Contents	Item no.
4.5	4.8	7.1	0.15	10	100 m	32092
7.5	6.9	9.9	0.15	10	50 m	32077
8.5	8.7	11.4	0.15	10	100 m	32094
10	10.1	12.6	0.15	15	50 m	32079
13	12.9	15.8	0.15	15	50 m	32082
14	14.5	18.4	0.15	25	50 m	32083
17	16.8	21	0.2	30	50 m	32085
19	19.4	24	0.2	35	50 m	32086
22	21.8	25.5	0.2	45	50 m	32087
23	23.7	28	0.2	45	50 m	32088
26	26.1	31	0.2	50	50 m	32089
29	29.2	34	0.2	50	25 m	32091
37	33.8	41.6	0.2	50	25 m	32090
50	45.7	53.2	0.3	120	25 m	32093
65	63	73.9	0.3	120	25 m	32078
75	76.7	84.8	0.3	120	25 m	32080
100	101	110	0.3	120	25 m	32081

UV-STABLE PIPE UNSLIT, BLACK



Nominal diameter	Ø inside [mm]	Ø outside [mm]	Wall thickness [mm]	Bending radius [mm]	Contents	Item no.
4.5	4.8	7.1	0.15	10	100 m	32053
7.5	6.9	9.9	0.15	10	50 m	32054
8.5	8.7	11.4	0.15	10	100 m	32072
10	10.1	12.6	0.15	15	50 m	32055
13	12.9	15.8	0.15	20	50 m	32058
14	14.5	18.4	0.15	25	50 m	32059
17	16.8	21	0.2	30	50 m	32061
19	19.4	24	0.2	35	50 m	32056
22	21.8	25.5	0.2	45	50 m	32057
23	32.7	28	0.2	45	50 m	32064
26	26.1	31	0.2	50	50 m	32065
29	29.2	34	0.2	50	25 m	32066
37	33.8	41.6	0.2	50	25 m	32067
50	45.7	53.2	0.3	120	25 m	32068
65	63	73.9	0.3	120	25 m	32069
75	76.7	84.8	0.3	120	25 m	32070
100	101	110	0.3	120	25 m	32071

UV-STABLE PIPE
FROM PP, DIVIDED INTO TWO



- » Lightweight and flexible conduit for all outdoor applications
- » UV-weather resistant for at least 20 years
- » Halogen-free, self-extinguishing, with very good chemical resistance
- » Very flexible, specially developed for outdoor applications

Material:

- PP (polypropylene UV-stabilized / cadmium-free, halogen-free)

Operating temperature:

- -40 °C to +105 °C (briefly up to +120 °C)

Characteristics:

- UV-weather-resistant
- Very good fire protection properties: self-extinguishing according to FMVSS 302 / UL 94 HB
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis, as well as most common solvents / limited resistance to alkalis
- Elongation at break: 300%
- Tensile strength (E-modulus): 1200 – 2000 N/mm²



BLACK

Nominal diameter	Ø inside [mm]	Ø outside [mm]	Bending radius	Contents	Item no.
7	6.3	10	20	50 m	32212
10	8.4	13.4	25	50 m	32213
11	11	16	30	50 m	32214
14	12.5	18.5	35	50 m	32215
16	16	21.5	40	50 m	32216
20	19.2	25.3	45	50 m	32217
23	23.4	30.8	50	50 m	32218
29	27.3	35.5	90	25 m	32219
37	31	41.4	110	25 m	32220
45	42.7	54	130	25 m	32221
70	67.5	79.8	190	10 m	32210
100	87.5	102.5	210	10 m	32211

Special sizes and colors available on request.

T-CONNECTOR
FOR CORRUGATED PIPE



- » Reliable connection of corrugated pipes
- » 45° branch
- » Easy and secure installation thanks to snap fastener

Material:

- PA 6.6 (polyamide 6.6 / halogen-free, impact-resistant)

Operating temperature:

- -40 °C to + 120 °C (3000 h) / up to 140 °C (500 h)

Characteristics:

- Practical snap closure
- Good fire protection properties: self-extinguishing according to UL 94 HB
- Good chemical resistance: resistant to fuels, mineral oils, lubricating greases, alkalis and most common solvents
- UV-stable for approx. 5 years

BLACK

Nominal diameter	d1 [mm]	d2 [mm]	d3 [mm]	Contents	Item no.
4.5	4.5	4.5	4.5	1 pc.	38001
		4.5	4.5	1 pc.	38002
7.5	7.5	4.5	7.5	1 pc.	38003
		7.5	4.5	1 pc.	38004
		7.5	7.5	1 pc.	38005
8.5	8.5	8.5	8.5	1 pc.	38006
10	10	4.5	4.5	1 pc.	38007
		4.5	7.5	1 pc.	38008
		4.5	10	1 pc.	38009
		7.5	4.5	1 pc.	38010
		7.5	7.5	1 pc.	38011
		7.5	10	1 pc.	38012
		8.5	8.5	1 pc.	38013
		8.5	10	1 pc.	38014
		10	4.5	1 pc.	38015
		10	7.5	1 pc.	38016
13	13	10	8.5	1 pc.	38017
		10	10	1 pc.	38018
		13	10	1 pc.	38019
		7.5	10	1 pc.	38190
		4.5	7.5	1 pc.	38020
		4.5	10	1 pc.	38021
		4.5	13	1 pc.	38022
		7.5	7.5	1 pc.	38023
		7.5	10	1 pc.	38024
		7.5	13	1 pc.	38025
		8.5	8.5	1 pc.	38026
		8.5	10	1 pc.	38027
		8.5	13	1 pc.	38028
		10	4.5	1 pc.	38029

Nominal diameter	d1 [mm]	d2 [mm]	d3 [mm]	Contents	Item no.
13	13	10	7.5	1 pc.	38030
		10	10	1 pc.	38031
		10	13	1 pc.	38032
		13	10	1 pc.	38033
		13	13	1 pc.	38034
		7.5	13	1 pc.	38035
17	17	7.5	17	1 pc.	38036
		8.5	17	1 pc.	38037
		13	4.5	1 pc.	38038
		13	10	1 pc.	38039
		13	13	1 pc.	38040
		17	10	1 pc.	38041
		17	13	1 pc.	38042
		17	17	1 pc.	38043
		8.5	17	1 pc.	38191
19	19	19	19	1 pc.	38044
22	22	7.5	17	1 pc.	38045
		7.5	22	1 pc.	38046
		26	22	1 pc.	38047
		13	22	1 pc.	38087
		13	17	1 pc.	38088
		8.5	22	1 pc.	38089
		13	22	1 pc.	38098
		10	22	1 pc.	38099
		22	22	1 pc.	38189
		22	17	1 pc.	38192
26	26	10	26	1 pc.	38048
		13	26	1 pc.	38049
		26	26	1 pc.	38086

Y-CONNECTOR FOR CORRUGATED PIPE



- » Reliable connection of corrugated pipes
- » 45° branch
- » Easy and secure installation thanks to snap fastener

Material:

- PA 6.6 (polyamide 6.6 / halogen-free, impact-resistant)

Operating temperature:

- -40 °C to + 120 °C (3000 h) / up to 140 °C (500 h)

Characteristics:

- Practical snap closure
- Good fire protection properties: self-extinguishing according to UL 94 HB
- Good chemical resistance: resistant to fuels, mineral oils, lubricating greases, alkalis and most common solvents
- UV-resistant for approx. 5 years

BLACK

Nominal diameter	d1 [mm]	d2 [mm]	d3 [mm]	Contents	Item no.
4.5	4.5	4.5	4.5	1 pc.	38050
		4.5	4.5	1 pc.	38051
7.5	7.5	4.5	7.5	1 pc.	38052
		7.5	7.5	1 pc.	38053
8.5	8.5	8.5	8.5	1 pc.	38054
		8.5	8.5	1 pc.	38055
10	10	8.5	10	1 pc.	38056
		10	10	1 pc.	38057
		10	10	1 pc.	38058
13	13	7.5	10	1 pc.	38059
		8.5	10	1 pc.	38060
		10	13	1 pc.	38061
		13	13	1 pc.	38062
		10	13	1 pc.	38063
17	17	10	17	1 pc.	38064
		13	10	1 pc.	38065
		13	13	1 pc.	38066
		13	17	1 pc.	38067
		17	10	1 pc.	38068
		8.5	13	1 pc.	38069
		17	17	1 pc.	38070
		7.5	22	1 pc.	38071
		10	17	1 pc.	38072
		10	22	1 pc.	38073
22	22	13	17	1 pc.	38074
		13	22	1 pc.	38075
		17	17	1 pc.	38076
		22	22	1 pc.	38077
		22	17	1 pc.	38078
26	26	10	26	1 pc.	38079



TEXTILE HOSE

Our textile sleeving offers reliable protection for cables and wires against abrasion, heat, and mechanical stress. They are characterized by high flexibility, easy processing, and durable material quality. Whether in automotive engineering, industrial plants, or renewable energy applications – textile sleeving ensures clean cable routing and increases the service life of the installation. Upon request, we also develop customized solutions tailored to your specific requirements.



PET BRAIDED SLEEVING
MEDIUM ABRASION PROTECTION



- » Robust protection against abrasion and mechanical stress - protects cables and wires from damage even in the event of vibrations or moving components
- » Lightweight material & space-saving - reduces weight compared to metal sheathing, reduces installation space, facilitates assembly & handling
- » Resistant to oil, fuels and common vehicle fluids - for high operational reliability

Material:

- PET monofilament braid

Operating temperature:

- -40 °C to +150 °C

Characteristics:

- Design: Expandable hose
- Cut: Hot cut
- Very good temperature resistance
- Very good chemical resistance: Resistant to water, diluted acids, many oils, and aliphatic hydrocarbons; limited resistance to strong acids, alkalis, ketones, esters, and aromatic hydrocarbons.
- Tested according to EN 45 545-2 and ECE-R118



BLACK

Nominal diameter	Ø inside [mm]	VE [m]	Item no.
6	9	100	43101
7	11	150	43102
10	16	100	43103
12	18	100	43104
14	21	75	43105
16	25	75	43106
18	35	50	43107
20	30	50	43108
25	38	50	43109
30	45	25	43110
40	60	25	43111
50	70	25	43112
60	80	25	43113

ORANGE

Nominal diameter	Ø inside [mm]	VE [m]	Item no.
6	9	100	43130
7	11	150	43131
10	16	100	43132
12	18	100	43133
14	21	75	43134
16	25	75	43135
18	35	50	43136
20	30	50	43137
25	38	50	43138
30	45	25	43139

PET BRAIDED SLEEVING

TIGHT, HIGH ABRASION PROTECTION



- » Improved abrasion protection compared to standard PET braided sleeving - protects cables and wires from damage even in the event of vibrations or moving components
- » Lightweight material & space-saving - reduces weight compared to metal sheathing, reduces installation space, facilitates assembly & handling
- » Resistant to oil, fuels and common vehicle fluids - for high operational reliability

Material:

- PET monofilament braid

Operating temperature :

- -40 °C to +150 °C

Characteristics:

- Design: Expandable hose
- Cut: Hot cut
- Very good temperature resistance
- Very good chemical resistance: Resistant to water, diluted acids, many oils, and aliphatic hydrocarbons; limited resistance to strong acids, alkalis, ketones, esters, and aromatic hydrocarbons.
- Tested according to EN 45 545-2 and ECE-R118

BLACK

Nominal diameter [mm]	Max. Ø [mm]	VE [m]	Item no.
3	6	150	43201
4	8	200	43202
6	9	100	43203
8	13	150	43204
10	16	100	43205
14	21	50	43206
16	25	50	43207
18	35	50	43208
20	30	50	43209
22	33	50	43210
24	37	50	43211
27	40	50	43212
35	50	25	43213
40	60	25	43214
50	70	25	43215



PET BRAIDED SLEEVING

TIGHT, HIGH ABRASION PROTECTION, FLAME RETARDANT (V0)



- » UL94 V0 certified for fire protection - meets the highest requirements for flame retardancy and safety
- » Robust protection against abrasion and mechanical stress - protects cables and wires from damage even in the event of vibrations or moving components
- » Lightweight material & space-saving - reduces weight compared to metal sheathing, reduces installation space, facilitates assembly & handling
- » Resistant to oil, fuels and common vehicle fluids - for high operational reliability

Material:

- UL 94 V0 PET monofilament braid

Operating temperature :

- -40 °C to +150 °C

Characteristics:

- Design: Expandable hose
- Cut: Hot cut
- Very good temperature resistance
- Very good chemical resistance: Resistant to water, diluted acids, many oils, and aliphatic hydrocarbons; limited resistance to strong acids, alkalis, ketones, esters, and aromatic hydrocarbons.
- Tested according to EN 45 545-2

BLACK/WHITE TRACER

Nominal diameter [mm]	Max. Ø [mm]	VE [m]	Item no.
3	6	150	43301
5	8	150	43302
6	9	150	43303
8	13	100	43304
10	16	100	43305
12	18	100	43306
14	23	50	43307
16	28	75	43308
20	30	50	43309
25	38	50	43310
40	60	25	43311



PA BRAIDED SLEEVING

HIGH ABRASION PROTECTION



- » High abrasion protection - ideal for applications with high mechanical stress, such as in the engine compartment, chassis or underbody area
- » UV and weather resistant - for safe use even in exposed areas
- » High flexibility & easy handling - easily adapts to cable bundles and complex installation routes

Material:

- PA monofilament braid (polyamide)

Operating temperature:

- -40 °C to +125 °C

Characteristics:

- Design: Expandable hose
- Cut: Hot cut
- Very good temperature resistance
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis and hydrocarbons
- UV and weather resistant
- Tested according to ECE-R118

BLACK

Nominal diameter	Ø inside [mm]	VE [m]	Item no.
6	9	200	43401
7	11	100	43402
10	16	100	43403
12	18	100	43404
14	21	75	43405
16	25	75	43406
18	30	50	43407
25	38	50	43408
30	45	25	43409
40	60	25	43410
50	70	25	43411
60	80	25	43412



PA BRAIDED SLEEVING

HIGH-DENSITY, HEAVY-DUTY



- » UL94 V0 certified for fire protection - meets the highest requirements for flame retardancy and safety
- » Robust protection against abrasion and mechanical stress - protects cables and wires from damage even in the event of vibrations or moving components
- » Lightweight material & space-saving - reduces weight compared to metal sheathing, reduces installation space, facilitates assembly & handling
- » Resistant to oil, fuels and common vehicle fluids - for high operational reliability

Material:

- PA HD (Polyamide Heavy Duty)

Operating temperature :

- -40 °C to +125 °C

Characteristics:

- Design: Expandable hose
- Cut: Hot cut
- Very good temperature resistance
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis and hydrocarbons
- UV and weather resistant
- Tested according to ECE-R118

BLACK

Nominal diameter [mm]	Max. Ø [mm]	VE [m]	Item no.
4	8	200	43501
5	9	200	43502
8		150	43503
10	16	100	43504
12	18	100	43505
14	21	50	43506
16	25	50	43507
18	30	50	43508
25	38	50	43509
30	45	25	43510
40	60	25	43511
70	90	25	43512

PET BRAIDED SLEEVING

MEDIUM ABRASION PROTECTION, COLD CUTTABLE



- » Easy processing without hot cutter - does not fray
- » Robust protection against abrasion and mechanical stress - protects cables and wires from damage even in the event of vibrations or moving components
- » Lightweight material & space-saving - reduces weight compared to metal sheathing, reduces installation space, facilitates assembly & handling

Material:

- PET (halogen-free)

Operating temperature :

- Temperature range -55 to +150 °C

Characteristics:

- Design: Expandable hose
- Cut: cold cuttable
- Very good temperature resistance
- Very good chemical resistance: resistant to water, diluted acids, many oils, and aliphatic hydrocarbons; limited resistance to strong acids, alkalis, ketones, esters, and aromatic hydrocarbons.

BLACK

Nominal diameter [mm]	Max. Ø [mm]	VE [m]	Item no.
4	10	50	43601
6	10	50	43602
8	11	50	43603
10	14	50	43604
12	16	50	43605
14	20	50	43606
16	22	50	43607
20	25	50	43608
25	33	25	43609
30	44	25	43610
35	40	20	43611
40	42	20	43612
45	60	20	43613
50	60	20	43614

PA BRAIDED SLEEVING

HIGH ABRASION PROTECTION, COLD CUTTABLE



- » Easy processing without hot cutter - does not fray
- » UV and weather resistant - for safe use even in exposed areas
- » High flexibility & easy handling - easily adapts to cable bundles and complex installation routes

Material:

- PA monofilament braid (polyamide)

Operating temperature :

- -55 to +125 °C

Characteristics:

- Design: Expandable hose
- Cut: cold cuttable
- Very good temperature resistance
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis and hydrocarbons
- UV and weather resistant

BLACK/WHITE TRACER

Nominal diameter [mm]	Max. Ø [mm]	VE [m]	Item no.
3	6	150	43301
5	8	150	43302
6	9	150	43303
8	13	100	43304
10	16	100	43305
12	18	100	43306
14	23	50	43307
16	28	75	43308
20	30	50	43309
25	38	50	43310
40	60	25	43311

PET BRAIDED SLEEVING

HIGH ABRASION PROTECTION,
SELF-CLOSING (WRAP)



- » Self-closing PET braided hose - easy retrofitting without disassembly, saves assembly time
- » Very good abrasion protection and noise reduction
- » Resistant to oil, fuels and common vehicle fluids - for high operational reliability

Material:

- PET monofilament (knitted) and multifilament (textured)

Operating temperature:

- -40 to +150 °C

Characteristics:

- Design: Expandable hose / self-retracting
- Cutting: Hot cutting / Ultrasonic cutting
- Very good temperature resistance
- Very good chemical resistance: Resistant to water, diluted acids, many oils, and aliphatic hydrocarbons; limited resistance to strong acids, alkalis, ketones, esters, and aromatic hydrocarbons.

BLACK

Nominal diameter	Ø inside [mm]	VE [m]	Item no.
5	4-5	350	43701
8	6-8	200	43702
10	9-10	100	43703
13	11-13	100	43704
16	14-16	80	43705
19	17-19	50	43706
25	20-25	25	43707
29	26-29	25	43708
32	30-32	20	43709
38	33-38	20	43710
42	39-42	20	43711

ORANGE

Nominal diameter	Ø inside [mm]	VE [m]	Item no.
5	4-5	350	43730
8	6-8	200	43731
10	9-10	100	43732
13	11-13	100	43733
16	14-16	80	43734
19	17-19	50	43735
25	20-25	25	43736
29	26-29	25	43737
32	30-32	20	43738
38	33-38	20	43739
42	39-42	20	43740

PET BRAIDED SLEEVING

HIGH ABRASION PROTECTION, SELF-SEALING (WRAP),
FLAME-RETARDANT



- » Flame-retardant, self-closing PET braided sleeving
- » Resealable - Easy retrofitting without disassembly, saves assembly time
- » Very good abrasion protection and noise reduction
- » Resistant to oil, fuels and common vehicle fluids - for high operational reliability

Material:

- Flame-retardant PET monofilament (knitted) and multifilament (textured)

Operating temperature :

- -55 °C to +150 °C

Characteristics:

- Design: Expandable hose / self-retracting
- Cutting: Hot cutting / Ultrasonic cutting
- Very good temperature resistance / Flame retardant and UL certified
- Very good chemical resistance: Resistant to water, diluted acids, many oils and aliphatic hydrocarbons; limited resistance to strong acids, alkalis, ketones, esters and aromatic hydrocarbons

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Nominal diameter [mm]	Max. Ø [mm]	VE [m]	Item no.
5	4-5	100	43750
8	6-8	75	43751
10	9-10	75	43752
13	11-13	75	43753
16	14-16	50	43754
19	17-19	50	43755
25	20-25	20	43756
29	26-29	15	43757
32	30-32	15	43758
38	33-38	15	43759
42	39-42	15	43760

PA BRAIDED SLEEVING

HEAVY DUTY,
LOCKABLE (VELCRO/ZIP SYSTEM)



- » High-performance protection for cables and wires - reliably protects against abrasion, vibration and mechanical stress
- » Open winding structure for easy installation and quick retrofitting - cables can also be bundled and protected later
- » Resistant to oil, fuels and common vehicle fluids - for high operational reliability

Material:

- PA multifilament fabric (polyamide)

Operating temperature :

- -40 °C to +125 °C

Characteristics:

- Design: Expandable hose / high-performance hose
- Cut: Hot cut
- Very good temperature resistance
- Very good chemical resistance: resistant to fuels, mineral oil, greases, alkalis and most common solvents / limited resistance to alkalis and hydrocarbons
- UV and weather resistant

BLACK

Nominal diameter [mm]	VE [m]	Item no.
13	45	43801
	0.25m	43802
	0.50m	43803
16	46	43804
	0.25m	43805
	0.50m	43806
19	46	43807
	0.25m	43808
	0.50m	43809
25	46	43810
32	46	43811
38	46	43812
45	46	43813
51	46	43814

SHRINKABLE BRAIDED SLEEVING

2:1, TEMPERATURE RESISTANT



- » Easy to use - shrinks quickly and evenly
- » Reliable cable protection - shrinks tightly around cable harnesses and prevents abrasion, vibration and moisture ingress
- » Safe insulation - reliably protects electrical connections

Material:

- PE monofilament & PET multifilament

Operating temperature :

- -40 °C to +125 °C

Characteristics:

- Design: Heat shrink tubing
- Cut: cold cut
- Very good temperature resistance
- Very good chemical resistance: Resistant to water, diluted acids, many oils and aliphatic hydrocarbons; limited resistance to strong acids, alkalis, ketones, esters and aromatic hydrocarbons

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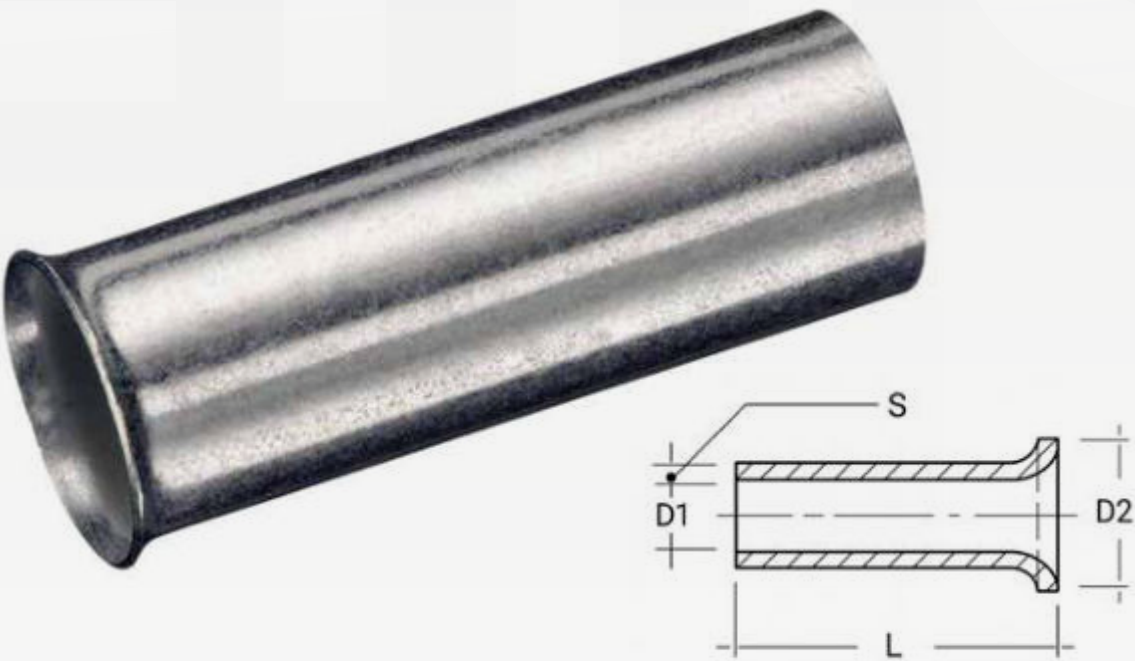
Ø before shrinkage	Ø after shrinkage min.	Ø after shrinkage max.	VE [m]	Item no.
12	6	8	150	43901
20	10	13	90	43902
25	12	16	80	43903
30	15	19	80	43904
34	17	22	70	43905
40	20	26	70	43906
50	25	32	70	43907
60	30	39	60	43908
70	35	45	60	43909
80	40	52	60	43910
90	45	58	60	43911
100	50	65	60	43912
110	55	71	60	43913



CONNECTION TECHNOLOGY

Our connection technology covers the entire spectrum for reliable electrical cable connections: from wire end ferrules and compression cable lugs to butt and crimp connectors. This ensures safe, durable, and standard-compliant connections in automotive and industrial applications.

Our expertise in pressing tools offers particular added value: We provide you with practical advice on selecting the right combination of fastener and tool to ensure the highest quality and process reliability in your application.



NON-INSULATED WIRE END FERRULES
 ACCORDING TO DIN 46228, PART 1 AND SPECIAL DIMENSIONS



- » **Highly conductive:** Made of pure copper (Cu-ETP) for optimal electrical conductivity
- » **Standard-compliant:** Complies with DIN EN 13600 - guarantees tested quality and safety
- » **Reliable connection:** Ensures permanently secure and stable conductor connections

Material:

- Material: Cu-ETP according to DIN EN 13600

Operating temperature:

- -35 °C to +105 °C

Characteristics:

- Type: Uninsulated
- Surface: Galvanically tinned
- Tolerances according to DIN 46228 Part 44

Cross-section [mm²]	Length L [mm]	D1 [mm]	D2 [mm]	S [mm]	Contents	Item no.
0.25	5	0.8	1.7	0.15	1000	52400
	7	0.8	1.7	0.15	1000	52113
0.34	5	0.9	1.8	0.15	1000	52110
	7	0.9	1.8	0.15	1000	52111
0.5	6	1	2.1	0.15	1000	52402
	8	1	2.1	0.15	1000	52403
	10	1	2.1	0.15	1000	52114
	12	1	2.1	0.15	1000	52115
0.75	6	1.2	2.3	0.15	1000	52116
	8	1.2	2.3	0.15	1000	52404
	10	1.2	2.3	0.15	1000	52117
	12	1.2	2.3	0.15	1000	52118
	15	1.2	2.3	0.15	1000	52119
1	6	1.4	2.5	0.15	1000	52405
	7	1.4	2.5	0.15	1000	52121
	8	1.4	2.5	0.15	1000	52406
	10	1.4	2.5	0.15	1000	52123
	12	1.4	2.5	0.15	1000	52124
	15	1.4	2.5	0.15	1000	52125
1.5	6	1.7	2.8	0.15	1000	52408
	7	1.7	2.8	0.15	1000	52127
	8	1.7	2.8	0.15	1000	52409
	10	1.7	2.8	0.15	1000	52407
	12	1.7	2.8	0.15	1000	52130
	15	1.7	2.8	0.15	1000	52131
	18	1.7	2.8	0.15	1000	52132
	20	1.7	2.8	0.15	1000	52133
2.5	7	2.2	3.4	0.15	1000	52411
	8	2.2	3.4	0.15	1000	52135
	10	2.2	3.4	0.15	1000	52410
	12	2.2	3.4	0.15	1000	52137
	15	2.2	3.4	0.15	1000	52138
	18	2.2	3.4	0.15	1000	52139
4	20	2.2	3.4	0.15	1000	52140
	9	2.8	4	0.2	1000	52412
	10	2.8	4	0.2	1000	52142
	12	2.8	4	0.2	1000	52143
	15	2.8	4	0.2	250	52144

Cross-section [mm²]	Length L [mm]	D1 [mm]	D2 [mm]	S [mm]	Contents	Item no.
4	18	2.8	4	0.2	250	52145
	20	2.8	4	0.2	250	52146
6	10	3.5	4.7	0.2	250	52413
	12	3.5	4.7	0.2	250	52148
	15	3.5	4.7	0.2	250	52414
	18	3.5	4.7	0.2	250	52150
10	20	3.5	4.7	0.2	250	52151
	12	4.5	5.8	0.2	250	52152
	15	4.5	5.8	0.2	250	52153
	18	4.5	5.8	0.2	250	52154
16	20	4.5	5.8	0.2	250	52155
	25	4.5	5.8	0.2	250	52156
	12	5.8	7.5	0.2	250	52157
	15	5.8	7.5	0.2	250	52158
25	18	5.8	7.5	0.2	250	52159
	20	5.8	7.5	0.2	250	52160
	25	5.8	7.5	0.2	250	52161
	32	5.8	7.5	0.2	250	52162
35	12	7.3	9.5	0.22	100	52163
	15	7.3	9.5	0.22	100	52164
	18	7.3	9.5	0.22	100	52165
	25	7.3	9.5	0.22	100	52166
50	32	7.3	9.5	0.22	100	52167
	15	8.3	11	0.22	100	52168
	18	8.3	11	0.22	100	52169
	20	8.3	11	0.22	100	52170
70	22	8.3	11	0.22	100	52171
	25	8.3	11	0.22	100	52172
	32	8.3	11	0.22	100	52173
	18	10.3	13	0.3	100	52174
95	22	10.3	13	0.3	100	52175
	25	10.3	13	0.3	100	52176
	32	10.3	13	0.3	100	52177
	25	12.5	15	0.4	100	52178
120	32	12.5	15	0.4	100	52179
	25	14.5	17	0.4	100	52180
	30	14.5	17	0.4	25	52181
	32	14.5	17	0.4	25	52182

Cross-section [mm²]	Length L [mm]	D1 [mm]	D2 [mm]	S [mm]	Contents	Item no.
120	32	16.5	19	0.5	25	52183
150	32	18.5	21	0.5	25	52184
	38	18.5	21	0.5	25	52185
185	32	20	23.5	0.6	25	52186
	40	20	23.5	0.6	25	52187
240	40	22.8	25.8	0.6	25	52188



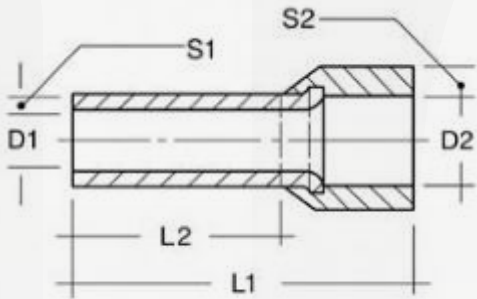
INSULATED WIRE END FERRULES
 COLOR SERIES ACCORDING TO DIN 46228, PART 4



- » For effortless attachment to fine-stranded conductors, prevents damage and splicing
- » Secure connection - ensures a permanently firm and reliable hold
- » High quality workmanship - durable, robust and reliable in daily use

- Material:**
- Material: Cu-ETP according to DIN EN 13600
 - Insulation: Polypropylene
- Operating temperature:**
- -35 °C to +105 °C
- Characteristics:**
- Type: Insulated
 - Surface: Galvanically tinned
 - Polyamide insulation tested according to UL94 V2
 - Dimensional tolerances according to DIN 46228 Part 4

Cross-section [mm²]	L2 [mm]	L1 [mm]	D1 [mm]	S1 [mm]	S2 [mm]	D2 [mm]	Insulation paint	Unit [pcs.]	Item no.
0.5	6	12	1	0.15	0.25	2.6	white	100	52001
	8	14	1	0.15	0.25	2.6	white	100	52002
	10	16	1	0.15	0.25	2.6	white	100	52003
0.75	6	12	1.2	0.15	0.25	2.8	gray	100	52201
	8	14	1.2	0.15	0.25	2.8	gray	100	52202
	10	16	1.2	0.15	0.25	2.8	gray	100	52203
	12	18	1.2	0.15	0.25	2.8	gray	100	52204
1	6	12	1.4	0.15	0.25	3	red	100	52015
	8	14	1.4	0.15	0.25	3	red	100	52016
	10	16	1.4	0.15	0.25	3	red	100	52017
	12	18	1.4	0.15	0.25	3	red	100	52018



Cross-section [mm²]	L2 [mm]	L1 [mm]	D1 [mm]	S1 [mm]	S2 [mm]	D2 [mm]	Insulation paint	Unit [pcs.]	Item no.
1.5	6	12	1.7	0.15	0.25	3.5	black	100	52023
	8	14	1.7	0.15	0.25	3.5	black	100	52024
	10	16	1.7	0.15	0.25	3.5	black	100	52025
	12	18	1.7	0.15	0.25	3.5	black	100	52026
	18	24	1.7	0.15	0.25	3.5	black	100	52027
2.5	8	15	2.2	0.15	0.25	4.2	blue	100	52033
	10	17	2.2	0.15	0.25	4.2	blue	100	52034
	12	18	2.2	0.15	0.25	4.2	blue	100	52035
	18	25	2.2	0.15	0.25	4.2	blue	100	52036
4	10	17	2.8	0.2	0.3	4.8	gray	100	52198
	12	20	2.8	0.2	0.3	4.8	gray	100	52199
	18	26	2.8	0.2	0.3	4.8	gray	100	52200
6	12	20	3.5	0.2	0.3	6.3	yellow	100	52040
	18	26	3.5	0.2	0.3	6.3	yellow	100	52041
10	12	22	4.5	0.2	0.4	7.6	red	100	52046
	18	28	4.5	0.2	0.4	7.6	red	100	52047
16	12	24	5.8	0.2	0.4	8.8	blue	100	52050
	18	28	5.8	0.2	0.4	8.8	blue	100	52051
25	16	30	7.3	0.2	0.4	11.2	yellow	50	52056
	22	36	7.3	0.2	0.4	11.2	yellow	50	52057
	16	30	8.3	0.2	0.4	12.7	red	50	52064
35	18	32	8.3	0.2	0.4	12.7	red	50	52065
	25	39	8.3	0.2	0.4	12.7	red	50	52066
50	20	36	10.3	0.3	0.5	15	blue	50	52070
	25	40	10.3	0.3	0.5	15	blue	50	52071
70	21	37	13.5	0.4	0.6	16	yellow	25	52074
95	25	44	14.7	0.4	0.6	18	red	25	52075
120	27	48	16.7	0.45	0.7	20	blue	25	52076
150	32	58	19	0.5	1	23	yellow	25	52077

INSULATED WIRE END FERRULES
 FOR SHORT-CIRCUIT AND EARTH-FAULT PROOF CABLES
 (NSGAFÖU), COLOR SERIES ACCORDING TO DIN 46228, PART 4



- » For effortless attachment to fine-stranded conductors, prevents damage and splicing
- » Secure connection - ensures a permanently firm and reliable hold
- » High quality workmanship - durable, robust and reliable in daily use

Material:

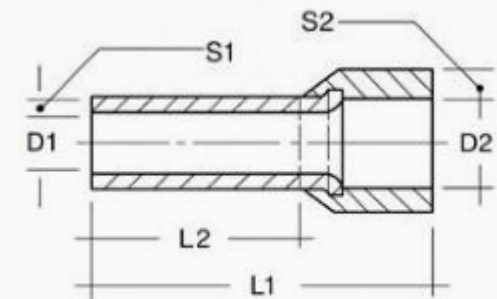
- Material: Cu-ETP according to DIN EN 13600
- Insulation: Polypropylene

Operating temperature:

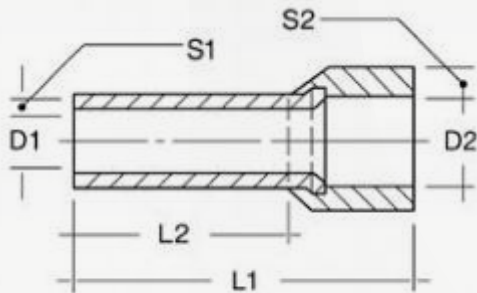
- -35 °C to +105 °C

Characteristics:

- Type: Insulated
- Surface: Galvanically tinned
- Enlarged insulation collar
- Suitable for all common short-circuit and earth-fault proof cables up to 3 kV



Cross-section [mm²]	L2 [mm]	L1 [mm]	D1 [mm]	S1 [mm]	S2 [mm]	D2 [mm]	Insulation paint	Unit [pcs.]	Item no.
1.5	8	17.5	1.8	0.15	0.25	7	black	100	52562
	10	19.5	1.8	0.15	0.25	7	black	100	52564
	10	19.5	1.8	0.15	0.25	7	red	100	52563
2.5	8	17.5	2.3	0.15	0.25	7.9	blue	100	52566
	8	17.5	2.3	0.15	0.25	7.9	gray	100	52565
	12	21.5	2.3	0.15	0.25	7.9	blue	100	52568
	12	21.5	2.3	0.15	0.25	7.9	gray	100	52567
4	10	19.5	2.9	0.2	0.3	7.9	gray	100	52569
	10	19.5	2.9	0.2	0.3	7.9	orange	100	52570
6	12	23	3.6	0.2	0.3	8.7	yellow	100	52572
	12	23	3.6	0.2	0.3	8.7	black	100	52571
10	12	24	4.6	0.2	0.3	10.2	red	100	52573
	12	24	4.6	0.2	0.3	10.2	ivory	100	52574
16	12	25.5	6	0.2	0.3	12.5	blue	100	52575
	12	25.5	6	0.2	0.3	12.5	ivory	100	52576
	12	25.5	6	0.2	0.3	12.5	green	100	52577



INSULATED TWIN WIRE END FERRULES
 COLOR SERIES ACCORDING TO DIN 46228, PART 4



- » For effortless processing of 2 fine-stranded conductors, prevents damage and splicing
- » Secure connection - ensures a permanently firm and reliable hold
- » High quality workmanship - durable, robust and reliable in daily use

- Material:**
- Material: Cu-ETP according to DIN EN 13600
 - Insulation: Polypropylene
- Operating temperature:**
- -35 °C to +105 °C
- Characteristics:**
- Type: Insulated / Twin
 - Surface: Galvanically tinned

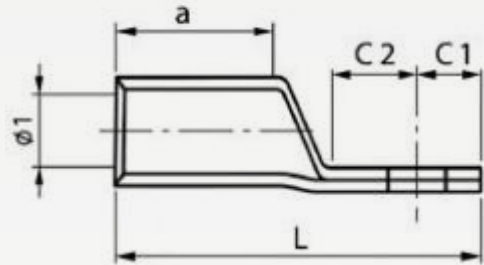
Cross-section [mm²]	L2 [mm]	L1 [mm]	D1 [mm]	S1 [mm]	S2 [mm]	D2 [mm]	Insulation paint	Unit [pcs.]	Item no.
2 x 0.5	8	15	1.5	0.15	0.25	2.5	white	100	52081
2 x 0.75	8	15	1.8	0.15	0.25	2.8	gray	100	52192
	10	17	1.8	0.15	0.25	2.8	gray	100	52193
2 x 1	8	15	2	0.15	0.25	3.4	red	100	52087
	10	17	2	0.15	0.25	3.4	red	100	52088
	12	19	2	0.15	0.25	3.4	red	100	52089
	18	25	2	0.15	0.25	3.4	red	100	52090
2 x 1.5	8	16	2.3	0.15	0.25	3.6	black	100	52095
	12	20	2.3	0.15	0.25	3.6	black	100	52096
	18	26	2.3	0.15	0.25	3.6	black	100	52097
2 x 2.5	10	18.5	2.9	0.2	0.25	4.2	blue	100	52101
	13	21.5	2.9	0.2	0.25	4.2	blue	100	52102
2 x 4	12	23	3.8	0.2	0.3	4.9	gray	100	52191
2 x 6	14	26	4.9	0.2	0.3	5.9	yellow	100	52103
2 x 10	14	26	6.5	0.2	0.4	7.2	red	100	52205
2 x 16	14	30	8.3	0.2	0.4	9.6	blue	100	52108

TUBULAR CABLE LUGS CU
 STANDARD VERSION



- » **Secure connection:** Optimal power transmission through precisely manufactured pressing areas
- » **Reliable & compliant:** Manufactured according to DIN EN 13600 and common industry standards
- » **Easy installation:** Suitable for all common conductor cross-sections and crimping tools
- » **Versatile:** From control cabinet construction to photovoltaics and industrial plants

- Material:**
- Material: Cu-ETP according to DIN EN 13600
- Operating temperature:**
- -35 °C to +105 °C
- Characteristics:**
- Surface: Galvanized tin, other surfaces on request
 - Also available with viewing hole
 - Also suitable for fine-stranded conductors according to IEC 228 Tubular cable lugs Cu, standard design
 - Annealed to copper hardness F 20
 - Note: Sector-shaped conductors must be rounded off with special dies



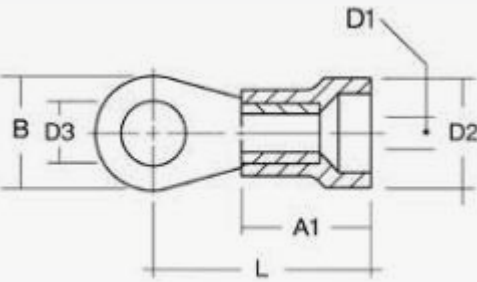
Cross-section [mm²]	Bolt [mm]	W [mm]	d [mm]	C1 [mm]	C2 [mm]	B [mm]	D [mm]	L [mm]	Unit [pcs.]	Item no.
0.75	3	4.8	1.4	3.2	2.3	4.8	6.9	16	100	51020
	4	8	1.4	3.2	4.1	6.6	6.9	19.6	100	51021
	5	8	1.4	3.2	4.1	6.6	6.9	19.6	100	51022
1.5	4	6.5	1.9	3.3	3.5	5	6	17	100	51023
	5	7.5	1.9	3.3	3.5	5	6	18	100	51024
	6	9	1.9	3.3	4.5	5.5	6	18.5	100	51025
2.5	4	8	2.3	3.9	3.8	6.1	6.9	20.1	100	51026
	5	8	2.3	3.9	3.8	6.1	6.9	20.1	100	51027
	6	10.7	2.3	3.9	6.1	8.1	6.9	25.2	100	51028
	8	12	2.3	3.9	6.1	8.1	6.9	25.2	100	51029
4	4	9	2.7	5	6.2	7.4	9	26	100	55010
	5	9	2.7	5	6.2	7.4	9	26	100	55011
	6	12	2.7	5	6.2	7.4	9	26	100	55012
6	8	12	2.7	5	6.2	7.4	9	26	100	55013
	5	10	3.5	6.5	6.8	6.5	9	26.5	100	55015
	6	10	3.5	6.5	6.8	6.5	9	26.5	100	55016
	8	12	3.5	6.5	6.8	6.5	9	26.5	100	55017
10	10	15	3.5	6.5	9.8	9.5	9	32.5	100	55018
	5	12	4.5	7	6.8	6.5	10	28	100	55020
	6	12	4.5	7	6.8	6.5	10	28	100	55021
	8	15	4.5	7	9.8	9.5	10	34	100	55022
	10	17	4.5	7	11.8	11.5	10	38	100	55023
	12	19	4.5	7	13	12.5	10	41	100	55024

Cross-section [mm²]	Bolt [mm]	W [mm]	d [mm]	C1 [mm]	C2 [mm]	B [mm]	D [mm]	L [mm]	Unit [pcs.]	Item no.
16	5	12	5.5	8.5	6.8	6.5	13	31.5	100	55025
	6	12	5.5	8.5	6.8	6.5	13	31.5	100	55026
	8	15	5.5	8.5	9.8	9.5	13	37.5	100	55027
	10	17	5.5	8.5	11.8	11.5	13	41.5	100	55028
	12	19	5.5	8.5	13	12.5	13	44	100	55029
25	5	14	7	10	7	7	15	35.5	50	55030
	6	14	7	10	7	7	15	35.5	50	55031
	8	16	7	10	9.5	9.5	15	40.5	50	55032
	10	18	7	10	11.5	11.5	15	44.5	50	55033
	12	19	7	10	13	13.5	15	48	50	55034
	14	21	7	10	14.5	14.5	15	52.5	50	55035
35	6	17	8.5	12	7	7	17	39	1	55037
	8	17	8.5	12	9.5	9.5	17	44	1	55038
	10	19	8.5	12	11.5	11.5	17	48	1	55039
	12	21	8.5	12	13	13.5	17	51.5	1	55040
	14	21	8.5	12	14	14.5	17	53.5	1	55041
	16	26	8.5	12	16	16	17	58	1	55042
50	6	20	10	14	9.5	9.5	19	47	1	55044
	8	20	10	14	9.5	9.5	19	47	1	55045
	10	20	10	14	11.5	11.5	19	51	1	55046
	12	23	10	14	13	13.5	19	54.5	1	55047
	14	23	10	14	14	14.5	19	56.5	1	55048
	16	28	10	14	16	16	19	62	1	55049

CRIMP CABLE LUG
 RING FORM CU, INSULATED,
 DIN 46237, FROM 0.5 6 mm²



- » Ring shape, insulated: secure hold and additional contact protection
- » Compliant with DIN 46237: tested quality and standard compatibility
- » Easy installation: reliable crimping and permanent securing
- » Corrosion-resistant: durable even under demanding conditions



Material:

- Material: Cu-ETP according to DIN EN 13600
- Insulation: PA (polyamide, nylon, halogen-free) or PVC or shrink insulation

Operating temperature:

- -60 °C to +105 °C

Characteristics:

- Surface: galvanically tinned
- For strain-relieved connections
- 600V max.
- Easy Entry allows easy and quick insertion of the conductor



Cross-section [mm²]	Bolt diameter (according to DIN)	Nominal size (according to DIN)	Insulation paint	D1 [mm]	D2 [mm]	D3 [mm]	A1 [mm]	B [mm]	L [mm]	Unit [pcs.]	Insulation PA Art.-No.	Insulation PVC Art.-No.	Shrink insulation item no.
0.5-1	3	3-1	red	1.6	4.1	3.2	11.5	6	16	100	54080	54001	
	3.5		red	1.6	4.1	3.7	11.5	6	16	100		54002	
	4	4-1	red	1.6	4.1	4.3	11.5	8	17	100	54081	54003	54050
	5	5-1	red	1.6	4.1	5.3	11.5	10	18	100	54042	54004	54051
	6		red	1.6	4.1	6.5	11.5	11	20	100	54043	54005	54052
	8		red	1.6	4.1	8.4	11.5	14	22	100	54082	54006	
	10		red	1.6	4.1	10.5	11.5	18	24	100	54083	54007	
1.5-2.5	3	3-2.5	blue	2.3	4.5	3.2	11.5	6	17	100	54084	54008	
	3.5		blue	2.3	4.5	3.7	11.5	6	17	100		54009	
	4	4-2.5	blue	2.3	4.5	4.3	11.5	8	18	100	54085	54010	54055
	5	5-2.5	blue	2.3	4.5	5.3	11.5	10	20	100	54044	54011	54056
	6	6-2.5	blue	2.3	4.5	6.5	11.5	11	22	100	54045	54012	54057
	8	8-2.5	blue	2.3	4.5	8.4	11.5	14	23	100	54046	54013	
	10		blue	2.3	4.5	10.5	11.5	18	25	100	54086	54014	
4-6	4	4-6	yellow	3.6	6.8	4.3	13	8	20	100	54087	54015	
	5	5-6	yellow	3.6	6.8	5.3	13	10	21	100	54088	54016	99120
	6	6-6	yellow	3.6	6.8	6.5	13	11	22	100	54047	54017	54062
	8	8-6	yellow	3.6	6.8	8.4	13	14	25	100	54048	54018	54063
	10	10-6	yellow	3.6	6.8	10.5	13	18	27	100	54089	54019	54064

CRIMP CABLE LUG
 FORK SHAPE CU, INSULATED,
 DIN 46237, FROM 0.5 6 mm²



- » Fork shape, insulated: quick and safe installation without completely loosening the screw
- » Compliant with DIN 46237: tested quality and standard compatibility
- » Easy installation: reliable crimping and permanent securing
- » Corrosion-resistant: durable even under demanding conditions

Material:

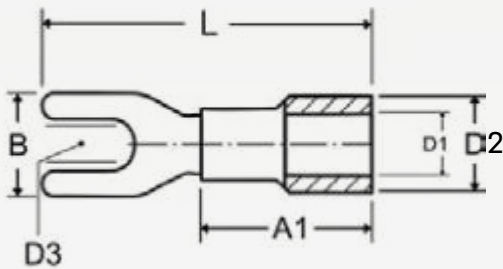
- Material: Cu-ETP according to DIN EN 13600
- Insulation PVC or shrink insulation

Operating temperature:

- -60 °C to +105 °C

Characteristics:

- Surface: galvanically tinned
- For strain-relieved connections
- 600V max.
- Easy Entry allows easy and quick insertion of the conductor



Cross-section [mm²]	Bolt diameter (according to DIN)	Nominal size (according to DIN)	Insulation paint	D1 [mm]	D2 [mm]	D3 [mm]	A1 [mm]	B [mm]	L [mm]	Unit [pcs.]	Insulation PVC Art.-No.	Shrink insulation item no.
0.5-1	3	3-1	red	1.6	4.1	3.2	11.5	5.8	16	100	54021	
	3.5		red	1.6	4.1	3.8	11.5	7	17	100	54022	
	4	4-1	red	1.6	4.1	4.3	11.5	7	17	100	54023	54066
	5	5-1	red	1.6	4.1	5.3	11.5	9.6	18	100	54025	54067
	6		red	1.6	4.1	6.5	11.5	11	20	100	54026	
1.5-2.5	3	3-2.5	blue	2.3	4.5	3.2	11.5	5.9	17	100	54027	
	4	4-2.5	blue	2.3	4.5	4.3	11.5	7	19	100	54028	54068
	5	5-2.5	blue	2.3	4.5	5.3	11.5	10	20	100	54029	54069
	6	6-2.5	blue	2.3	4.5	6.5	11.5	12	23	100	54030	
4-6	4	4-6	yellow	3.6	6.8	4.3	13	9	20	100	54031	54070
	5	5-6	yellow	3.6	6.8	5.3	13	9	21	100	54032	54071
	6	6-6	yellow	3.6	6.8	6.5	13	12.5	22	100	54033	
	8	8-6	yellow	3.6	6.8	8.4	13	15	25	100	54036	



CRIMP CABLE LUG
PIN-SHAPED CU, INSULATED,
DIN 46237, FROM 0.5 6 mm²



- » Pin-shaped, insulated: ideal for terminals and plug-in connections with a narrow design
- » Compliant with DIN 46237: tested quality and standard compatibility
- » Easy installation: reliable crimping and permanent securing
- » Corrosion-resistant: durable even under demanding conditions

Material:

- Material: Cu-ETP according to DIN EN 13600
- Insulation PA (polyamide, nylon, halogen-free)

Operating temperature:

- -60 °C to +105 °C

Characteristics:

- Surface: galvanized tin-plated; other surfaces on request
- For strain-relieved connections
- 600V max.
- Easy Entry allows easy and quick insertion of the conductor

Cross-section [mm²]	Pin length [mm]	Nominal size (according to DIN)	Insulation paint	L1 [mm]	L2 [mm]	D1 [mm]	B [mm]	Unit [pieces]	Item no.
0.5-1	10	1.9	red	22	10	1.6	1.9	100	51098
	12	1.9	red	22	12	1.6	1.9	100	51095
1.5-2.5	10	2.3	blue	22	10	2.3	1.9	100	51096
					12	2.3	1.9	100	51096
4-6	14	2.8	yellow	27	14	3.6	2.8	100	51097



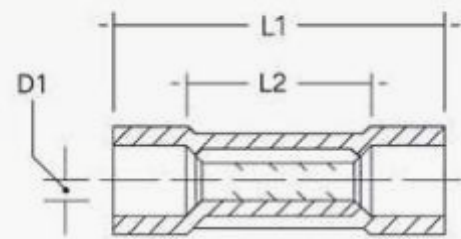
BUTT CONNECTORS
ISOLATED



- » Secure cable connections: permanently strong and reliable
- » Insulated design: additional protection against short circuits
- » Easy installation: quick and easy to process
- » High conductivity thanks to high-quality copper core
- » Reliable strain relief, stable even under vibrations

- Material:**
- Material: Cu-ETP according to DIN EN 13600
 - Insulation: PA (polyamide, nylon), halogen-free or PVC
- Operating temperature:**
- -60 °C to +105 °C

- Characteristics:**
- Surface: galvanically tinned
 - For strain-relieved connections
 - Voltage: max. 600 V
 - Easy Entry: makes it easier to insert the ladder
 - Note: Not suitable for solid ladders



Cross-section [mm²]	Insulation paint	L1 [mm]	L2 [mm]	D1 [mm]	Unit [pieces]	Isolation PA Item no.	Insulation PVC Art.-No.
0.5-1	red	25	15	1.6	100	51037	51101
1.5-2.5	blue	25	15	2.3	100	51038	51102
4-6	yellow	27	15	3.6	100	51039	51103



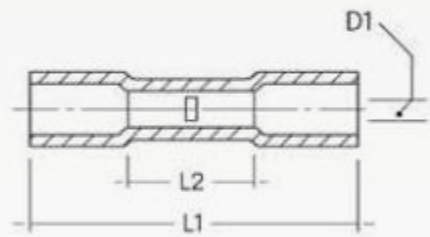
BUTT CONNECTORS
WITH SHRINK INSULATION



- » Shrink insulation with adhesive: protects against moisture and corrosion
- » High tensile strength: holds reliably even under heavy loads
- » Electrical safety: optimal insulation through shrink tubing
- » Easy processing

- Material:**
- Material: Cu-ETP according to DIN EN 13600
 - Insulation: Heat shrink tubing with integrated hot melt adhesive
- Operating temperature:**
- -25 °C to +105 °C

- Characteristics:**
- Surface: galvanically tinned
 - Shrinkage temperature: approx. +150 °C
 - For strain-relieved connections
 - Voltage: max. 600 V
 - Properties after shrinkage: insulating, abrasion-resistant, strain-relieved and waterproof connection
 - Note: Not suitable for solid ladders



Cross-section [mm²]	Insulation paint	L1 [mm]	L2 [mm]	D1 [mm]	Unit [pcs.]	Item no.
0.2-0.75	transparent	28	15	1.5	100	51118
0.5-1	red	37	15	1.6	100	51119
1.5-2.5	blue	37	15	2.3	100	51120
4-6	yellow	42	15	3.6	50	51121



TOOL

Our tool range covers all important applications related to cable management, connection technology, and cable protection: from crimping pliers and cable tie tools to stripping and dismantling tools and pipe and hose cutters. This enables safe, efficient, and durable processing of our materials.

Under the umbrella of our in-house tool forge, TOOLOVA*, we develop and manufacture electrotechnical hand tools that have proven themselves in practice tens of thousands of times. They combine precision, ergonomics, and an excellent price-performance ratio. With our expertise, we also support you in selecting the optimal tool solution for your application.



CRIMPING PLIERS TF

Item no.: 4030001

- » Easy handling thanks to 2-component handles
- » Highest precision thanks to adjustable pressing pressure
- » Forced lock with unlocking option guarantees complete crimping
- » Extremely durable thanks to robust construction

Execution:

- Crimping tool frame TF with knurled screw without crimping inserts

Material:

- Matt chrome-plated tool frame
- 2-component handles

Characteristics:

- Extensive crimping insert range
- Adjustable pressing pressure
- With knurled screw for changing the crimping inserts by hand



CRIMPING PLIERS TF-PLUS

Item no.: 4030100

- » All-in-one crimping tool
- » With "Easy Change" quick locking
- » One pliers for many crimping applications
- » Preset, optimal hand force
- » Precise workmanship in industrial quality
- » Safe and ergonomic handling

Execution:

- Crimping tool frame TF PLUS with quick locking without crimping dies

Material:

- Matt chrome-plated tool frame
- 2-component handles

Characteristics:

- Extensive crimping insert range
- Extremely robust and reliable
- Forced lock with unlocking option guarantees complete crimping
- Adjustable pressing pressure
- With "Easy Change" quick locking mechanism for easy changing of crimping inserts without the need for additional tools
- Length: 248 mm
- Weight: 550 g



- # CRIMPING INSERTS

FOR TF AND TF-PLUS

 - » High precision fit
 - » Stable and durable
 - » The right insert for different applications with the TF crimping pliers

Material:

- Micro-cast steel

Characteristics:

- Highest stability and resistance to wear with best handling
- The right insert for every application

Application	Cross-section [mm²]	mold	Item number
For wire end ferrules and twin wire end ferrules	0.5-6mm², 2x0.5-2x2.5mm²	Trapezoidal grouting	4070006
	0.5-16mm², 2x0.5-2x6mm²	Trapezoidal grouting	4070075
	16-35mm², 2x6-2x16mm²	Trapezoidal grouting	4070076
	0.25-16mm², 2x0.5-2x6mm²	Special trapezoidal grouting	4070054
	25-50mm², 2x10-2x16mm²	Special trapezoidal grouting	4070055
For insulated cable lugs and connectors	0.5–6 mm²	Oval pressing	4070014
For insulated connectors with shrink insulation	0.5–6 mm²	Oval pressing	4070056
For non-insulated cable lugs and connectors	0.5–10 mm²	Notch grouting	4070010
For non-insulated butt connectors	0.5–6 mm²	Hexagonal crimping	4070089
For non-insulated flat connectors	0.5–2.5 mm²	B-Crimp	4070052
For non-insulated flat connectors, plug width 4.8 and 6.3 mm	0.5–6 mm²	B-Crimp	4070058
For non-insulated, angled tab connectors in flag shape	0.5–2.5 mm²	B-Crimp	4070053
For non-insulated sub-D connectors	AWG 24-30, AWG 18-22 (0.05–0.75 mm²)	B-Crimp	4070050
	AWG 24-28, AWG 20-22 (0.08–0.5 mm²)	B-Crimp	4070051
For repair sleeves for fiberglass pull-in tapes 3 mm Ø			4070057
For PV connectors MC3	4–6 mm²		4070059
For PV connectors MC4	4–6 mm²		4070060

CRIMPING PLIERS SET TF PLUS VEHICLE MANUFACTURING WITH 4 INSERTS

Item no.: 4060112F



Crimping tool frame with quick locking mechanism in a set with four inserts in a practical case

- » Robust and reliable
- » Forced lock with unlocking option guarantees complete crimping
- » Adjustable pressing pressure

Material:

- Matt chrome-plated tool frame
- 2-component handles

Characteristics:

- Length: 248 mm
- Weight: 550 g

Included in the set are:

- 1 crimping tool TF PLUS (with quick locking mechanism)
- Transport case

+ 4 interchangeable crimping dies:

- for wire end ferrules with or without collar from 0.5 - 16.0 mm²
- for insulated cable lugs (red, blue, yellow) from 0.5 - 6.0 mm²
- for non-insulated crimp cable lugs from 0.5 - 10.0 mm² DIN 46234
- for flat plugs with open, pre-rolled crimp claws from 0.5 - 2.5 mm² (plug width 6.3 + 4.8 mm)

Additional press inserts available



CRIMPING PLIERS FOR WIRE END FERRULES

Item no.: 92146

- » Hexagonal crimping for compact connection dimensions
- » Ergonomic handles for fatigue-free working
- » High crimp quality thanks to unlockable locking mechanism

Execution:

- Self-adjusting crimping pliers for insulated and non-insulated wire end ferrules as well as twin wire end ferrules from 0.08 - 16 mm² / 2 x 0.5 - 2 x 6 mm²

Material:

- High-alloy tool steel

Characteristics:

- Length: 210 mm
- Weight: 400 g



CABLE TIE PLIERS FOR PLASTIC CABLE TIES 4.8 - 12 mm WIDTH

Item no.: 91652

- » Precise tension adjustment for consistent results
- » Cuts off the protruding cable tie flush
- » Ergonomic design for comfortable working
- » Robust construction for a long service life

Execution :

- for plastic cable ties

Material:

- plastic

Characteristics:

- For cable ties: 4.8 - 12 mm width / 2 mm thickness
- Length: 200 mm
- Weight: 360 g

CABLE TIE PLIERS



FOR PLASTIC CABLE TIES 2.4 - 6 mm / 1.5 MM THICKNESS

Item no.: 91651

- » Precise tension adjustment for consistent results
- » Cuts off the protruding cable tie flush
- » Ergonomic design for comfortable working
- » Robust construction for a long service life

Execution :

- Professional, robust cable tie pliers for plastic cable ties from 2.4 to 6 mm wide and 1.5 mm thick

Material:

- plastic

Characteristics:

- Length: 200 mm
- Weight: 310 g



FOR STAINLESS STEEL CABLE TIES UP TO 7.9 mm WIDTH

Item no.: 4040064

- » Ergonomic tool for tensioning and cutting stainless steel cable ties in one operation
- » Clean cut - flush cutting for safe, injury-free edges
- » The continuously adjustable clamping force is displayed on a scale in the handle area
- » Once the clamping force is reached, the excess material is automatically cut off flush

Execution:

- Professional, robust cable tie pliers for stainless steel cable ties up to 7.9 mm wide and up to 0.3 mm thick

Material:

- aluminum alloy

Characteristics:

- Length: 180 mm
- Weight: 555 g



MANUAL CABLE TIE RELEASE PLIERS

Item no.: 92161

- » Durable safety tool
- » Prevents damage to the conductor insulation when cutting cable ties
- » Optimally adapted cutting head with guide

Material:

- High-alloy tool steel

Characteristics:

- Length: 172 mm
- Weight: 142 g



CABLE TIE PLIERS
FOR STAINLESS STEEL CABLE TIES UP TO 12 mm WIDTH
Item no.: 91653

- » Robust professional tool - specially developed for stainless steel cable ties up to 12 mm wide
- » Ergonomic design - comfortable handle for safe and fatigue-free work
- » Exact tension - cable ties are tensioned reliably and evenly
- » Clean cut - integrated cutting function for flush cutting without sharp edges
- » Easy handling - fast, efficient application even with large quantities
- » Versatile

Execution:

- Professional, robust cable tie pliers for stainless steel cable ties up to 12 mm wide

Material:

- Frame metal / handles plastic

Characteristics:

- For cable ties 4.6 - 12 mm wide / up to 0.3 mm thick
- Length: 178 mm
- Weight: 680 g



CORRUGATED PIPE CUTTER
UP TO 45 mm
Item no.: 91661

- » High-quality corrugated pipe cutter with cross and longitudinal cutting function
- » Cross-cutting function with two four-edged blades
- » Longitudinal cut with robust single blade and integrated pipe support
- » Blades securely embedded in the housing - protects user and tool
- » Blade protected in the housing and adjustable to 4 positions by 90° - for a long service life
- » Precise pipe guidance system for perfect cutting position
- » Secure closure by spring pressure

Execution:

- Corrugated pipe cutter especially for plastic corrugated protection pipe 45 mm

Material:

- Magnesium housing AZ91D

Characteristics:

- Dimensions: approx. 133 mm x 81 mm x 22 mm
- For pipes up to 45 mm
- Weight: 155 g



REPLACEMENT BLADES (SET OF 3) FOR CORRUGATED PIPE CUTTERS

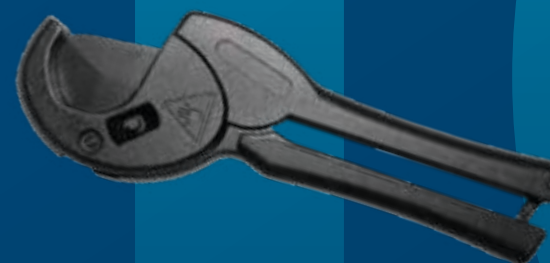
Item no.: 91667

- » Original replacement blades - perfect fit for the corrugated pipe cutter
- » Highest cutting quality and precision
- » Four-edged usable - up to 4 times the service life per blade
- » Quick and easy to change - minimal downtime
- » Safely embedded in the housing - optimal user protection

Execution:

- Replacement blades (set of 3) for corrugated pipe cutters especially for plastic corrugated pipes 45 mm

PIPE CUTTER



FOR PLASTIC PIPES UP TO 26 mm

Item no.: 91662

- » Light, fast & precise cut
- » Minimal effort through optimal power transmission
- » Tool-free blade change thanks to ICS quick-change system
- » More safety through automatic blade retraction

Execution :

- Pipe cutters

Material:

- INOX (stainless steel)
- PTFE non-stick coated cutting blade
- Magnesium die-cast housing

Characteristics:

- ICS blade quick-change system (tool-free)
- Blade retraction automatically
- Weight: 233 g



FOR PLASTIC PIPES UP TO 42 mm

Item no.: 91663

- » Light, fast and precise cutting for maximum efficiency
- » Minimal effort through optimal power transmission
- » Progressive, tooth-guided blade feed for clean cuts
- » Tool-free blade quick-change system for fast replacement
- » One-handed quick retraction of the blade for maximum safety
- » Protected cutting blade in the scissors body
- » 2-component handle for secure grip and comfortable working

Execution:

- Pipe cutters

Material:

- INOX (stainless steel)
- PTFE non-stick coated cutting blade
- Magnesium die-cast housing

Characteristics:

- ICS blade quick-change system (tool-free)
- One-handed quick retraction of the blade
- Cutting blade is protected in the scissor body
- Weight: 412 g



PIPE CUTTER FOR PLASTIC PIPES UP TO 63 mm

Item no.: 91664

- » Lighter, faster, more precise cut
- » Minimal effort thanks to optimal power transmission
- » Progressive, tooth-guided blade feed for maximum efficiency
- » Tool-free quick-change blade system
- » One-handed quick retraction of the blade
- » Protected cutting blade in the scissors body
- » 2-component handle for a secure, comfortable grip

Execution:

- Pipe cutters

Material:

- INOX (stainless steel)
- PTFE non-stick coated cutting blade
- Magnesium die-cast housing

Characteristics:

- ICS blade quick-change system (tool-free)
- One-handed quick retraction of the blade
- Cutting blade is protected in the scissor body
- Weight: 605 g

HOSE CUTTERS

- » Light, fast and precise cutting
- » Minimal effort through optimal power transmission
- » Robust and lightweight



HOSE CUTTERS UP TO 22 mm

Item no.: 91665

Execution :

- Pipe cutters

Material:

- INOX (stainless steel)
- PTFE non-stick coated cutting blade
- Magnesium die-cast housing

Characteristics:

- For hoses up to 22 mm
- Weight: 147 g



HOSE CUTTERS UP TO 28 mm

Item no.: 91666

Execution:

- Pipe cutters

Material:

- INOX (stainless steel)
- PTFE non-stick coated cutting blade
- Magnesium die-cast housing

Characteristics:

- For hoses up to 28 mm
- Weight: 216 g



MOVING-IN ASSISTANCE

FOR SLOTTED CORRUGATED PIPE / EMPTY PIPE

Item no.: 38292

- » Universally applicable - suitable for various pipe diameters and applications
- » Gentle cable protection - prevents damage to the cable sheath during pulling in
- » Simple cable entry - facilitates the insertion of cables into slotted corrugated and empty conduits
- » Time saving during installation - reduces assembly effort and increases productivity

Execution:

- Assembly aid for corrugated pipe small

Material:

- PA 6.6 (polyamide 6.6, halogen-free)

Characteristics:

- For nominal diameter 4.5 - 7



HOT CUTTING HANDHELD DEVICE

60 W

Item no.: 91671

- » Handheld device for short-term operation - ideal for small quantities
- » Versatile: for cutting and fusing the ends of synthetic cords, ropes, ribbons, belts and fabrics
- » Short heating time of the cutting edges: approx. 6-8 seconds
- » Easy heat regulation by manual switching on and off

Execution:

- Mobile handheld device for textile hoses and fabrics

Characteristics:

- Mains voltage: 230V-50Hz (110V- 60Hz)
- Input power: 60W
- Intermittent operation: 12sec./48sec.
- Protection class II - double insulated
- Power cable 2m long with Euro plug (optionally available with other plug types)
- Weight: 1000 g



CUTTING TIP FOR MOBILE HOT CUTTING HANDHELD DEVICE 60W

Item no.: 91674

- » Suitable for the mobile hot cutting device 60 W
- » Precise cutting of synthetic fabrics, ropes and ribbons
- » Clean, fused cut edges - prevents fraying
- » Easy assembly and quick tip change
- » High-quality workmanship

Execution :

- Higher performance cutting tip for cutting thicker fabrics, cords and ropes up to Ø 15mm



HOT CUTTING HANDHELD DEVICE 200 W

Item no.: 91672

- » Powerful, comfortable handset with microprocessor-controlled power level
- » Fast heating time thanks to boost function
- » Ideal for small and medium quantities
- » For cutting and fusing the ends of synthetic cords, ropes, ribbons and straps
- » Suitable for cutting and edge welding of fabrics and knitted fabrics

Execution :

- Mobile handheld device for textile hoses and fabrics with continuously adjustable working temperature

Characteristics:

- Mains voltage: 230V-50Hz (110V- 60Hz)
- Input power: Max. 200 W
- Intermittent operation: 12sec./48sec.
- Protection class II - double insulated
- Power cable: 3 m long, with contour central plug
- Weight: 580 g



CUTTING TIP F-2

FOR MOBILE HOT CUTTING HANDHELD DEVICE 200 W

Item no.: 91675

- » Suitable for the mobile hot cutting device 200 W
- » Precise cutting of synthetic fabrics, ropes and ribbons
- » Clean, fused cut edges - prevents fraying
- » Easy assembly and quick tip change
- » High-quality workmanship

Execution:

- Cutting tip for cutting ropes and straps



CUTTING TIP R-50

FOR MOBILE HOT CUTTING HANDHELD DEVICE 200 W

Item no.: 91676

- » Suitable for the mobile hot cutting device 200 W
- » Precise cutting of synthetic fabrics, ropes and ribbons
- » Clean, fused cut edges - prevents fraying
- » Easy assembly and quick tip change
- » High-quality workmanship

Execution :

- Higher performance cutting tip for cutting thicker fabrics, cords and ropes up to Ø 35mm



HOT CUTTING DEVICE FOR CONTINUOUS OPERATION 230 V

Item no.: 91673

- » Smallest device for continuous operation with fixed cutting edge
- » For quick and clean cutting of thin cords, ribbons and braided hoses
- » Suitable for welding thin cords and ribbons
- » Processing of cords up to 5 mm diameter into endless cords possible
- » Continuously adjustable working temperature via potentiometer

Execution :

- Stationary device for textile hoses and fabrics with continuously adjustable working temperature

Characteristics:

- Working area 70 mm
- Mains voltage: 230 V - 50 Hz
- Input power: max. 140 W
- Continuous operation 100% ED
- Power cable 2 m long with safety plug
- Power switch with signal lamp
- Protection class: I - protective earthing
- Dimensions: 155 x 235 x 130 (200) mm
- Weight: 4800 g

CUTTING BELT FOR STATIONARY HOT CUTTING DEVICE 230 V

Item no.: 91677

- » Suitable for the stationary hot cutting device
- » Precise cutting of synthetic fabrics, ropes and ribbons
- » Clean, fused cut edges - prevents fraying
- » Easy assembly and quick tip change
- » High-quality workmanship

Execution :

- Cutting band 88 x 4x 0.5 mm / Working area 70 mm



STRIPPING TOOL
FOR CABLES FROM Ø 25 mm
Item no.: 91551

- » Safety stripping tool
- » No risk of injury
- » No damage to the inner insulation layers due to offset special blades

Execution:

- Universal cable sheath cutter
- To remove all
- Insulation layers of cables from 25 mm diameter, e.g. lead sheath, rubber, PE, PVC

Characteristics:

- Cutting depth adjustable from 0.5 - 5 mm
- Suitable for longitudinal and circular cuts, replaceable blades
- Length: 15.6 mm
- Weight: 159 g



SELF-ADJUSTING WIRE STRIPPERS
Item no.: 92160

- » High-quality, robust wire stripping pliers
- » At least 10,000 stripping operations
- » Pliers body made of steel
- » V-shaped blades for optimal removal of even difficult insulation
- » Particularly suitable for PV cables

Execution:

- Automatic / self-adjusting

Material:

- Nylon / Steel

Characteristics:

- Cable cross section: 0.2 - 6.0 mm² (24 - 10 AWG)
- Cutting range: up to 4.0mm Ø
- Equipment: guide scale, stripper, length adjustment, cutting device, lock
- Length: 178 mm
- Weight: 147 g



PROFESSIONAL SAFETY KNIFE

INCL. 4 BLADES

Item no.: 91681

- » High-quality professional safety knife for precise, safe cutting in trade and industry
- » Automatic blade retraction: Minimizes the risk of injury while working
- » Ergonomic design with non-slip handle for comfortable, fatigue-free cutting
- » Robust housing made of durable plastic/metal for maximum stability in continuous use
- » Versatile: suitable for cardboard, film, strapping, leather, rubber and much more
- » Blade compartment in the handle
- » Tool-free blade change - quick, easy and safe
- » 4 sharp replacement blades included - always ready to hand and quickly changed

Execution:

- Safety knife including 4 blades

Material:

- cast aluminum

Characteristics:

- Length: 175 mm | Weight: 200 g

REPLACEMENT BLADES

- » Original replacement blades - optimally matched to the professional safety knives
- » Pack of 10 blades for long service life and fewer reorders
- » Extremely sharp and precisely ground for clean, effortless cuts
- » High-quality blade steel - break-proof, robust and durable
- » Safely packaged in a practical dispenser box for easy and safe removal
- » Tool-free blade change - quick and safe to use in the knife



HOOK, FOR PROFESSIONAL SAFETY KNIVES **10 PCS.**

Item no.: 91682

Execution :

- Replacement blades for safety knives / hook blades

Characteristics:

- Dimensions: 52x19x0.62 mm 2.85



TRAPEZOID, FOR PROFESSIONAL SAFETY KNIVES **10 PCS.**

Item no.: 9168

Execution:

- Replacement blades for safety knives / trapezoidal blades

Characteristics:

- Dimensions: 60x19x0.65 mm

MATERIAL TABLE CABLE TIES & FASTENING CLIPS

material	Material short name	Color	Operating temperature	Fire protection	UV-stable	Halogen-free	Material properties	Standards
Polyamide 6	PA6	black, natural	-40 °C to +85 °C (briefly up to +105 °C)	UL94 V-2	Yes		Self-extinguishing // Very good tensile strength // Very good chemical resistance	REACH, RoHS
Polyamide 6.6 heat-stabilized	PA 6.6 HS	nature	-40 °C to +125 °C (briefly up to +150 °C)	UL94 V-2		Yes	Self-extinguishing // Increased temperature resistance // Very good tensile strength // Very good chemical resistance	REACH, RoHS
Polyamide 6.6 UV-stable	PA 6.6 UV	black	-40 °C to +85 °C (briefly up to +105 °C)	UL94 V-2	yes / 10 / 15 years	Yes	Self-extinguishing // Very good tensile strength // Very good chemical resistance // UV-weather-resistant for 10 years	REACH, RoHS
Premium polyamide 6.6 (extra cold and impact resistant)	PA 6.6 HIR (S)	black	-40 °C to +85 °C (briefly up to +110 °C) Installation temperature from -40 °C	UL94 V-2	Yes	Yes	Self-extinguishing // Very good tensile strength // Very good chemical resistance // Particularly cold and impact resistant	REACH, RoHS
Polyamide 46	PA46	natural (yellowish)	-40 °C to +150 °C (installation temperature -10 °C to +60 °C)	UL94 V-2		Yes	Self-extinguishing / low development of toxic gases and smoke // Very good tensile strength // Very good chemical resistance // Resistant to higher temperatures	REACH, RoHS
Polyamide 12	PA12	black	-40 °C to +85 °C (briefly up to +105 °C)	UL94 HB	yes / 20+ years	Yes	Self-extinguishing // Very good tensile strength // Very good chemical resistance // Very low water absorption (less than 1%) // UV-weather-resistant for 20 years	REACH, RoHS
Polypropylene/ fire-resistant modified	PP BS	black	-40 °C to +135 °C (short-term up to +150 °C) Melting temperature: from +160 °C	UL 94 V-2, FMVSS / flame retardant, flame-resistant, self-extinguishing, low smoke emission	limited / black version up to 2 years		Flame-retardant, flame-resistant, self-extinguishing, low smoke development // Very good chemical resistance (fuels, mineral oil, greases, alkalis, as well as most common solvents, limited resistance to alkalis) // Tensile strength: 500 N // Elongation at break: approx. 300% // Peak compressive strength: approx. 320 N	REACH, RoHS, UL

MATERIAL TABLE SHRINK TUBING

Radiation-crosslinked polyolefin	PO	black, blue, green-yellow, other colors	-55 °C to 125 °C	UL 224 (except transparent)	limited / black version up to 2 years		Flame-retardant // flame-resistant // low smoke emission // good chemical resistance // non-corrosive / also copper	RoHS
Radiation-crosslinked polyolefin/ adhesive-coated	PO	black, transparent	-55 °C to 110 °C	FMVSS / Sheath self-extinguishing	limited / black version up to 2 years		Flame retardant // Good chemical resistance // Non-corrosive / also copper	RoHS
Cross-linked elastomer	TPE	black	-75 °C to 150 °C	UL 224 / self-extinguishing	Yes		Self-extinguishing // Highly fuel-resistant // Resistant to diesel, hydraulic fluids and chemicals as well as all conventional liquids and solvents (also non-corrosive / even copper)	RoHS
Polyvinyl chloride	Rigid PVC	black	-10 to 105 °C	UL 224 / flame retardant	no / only in special versions		Only very slightly hygroscopic // Very good chemical resistance // Good resistance to acids // Corrosion-resistant	RoHS, UL
Polyethylene terephthalate	PET	black, transparent	-40 °C to +125 °C	Low smoke development, no toxic gases	yes / black version approx. 3 years		Very good fire protection properties (self-extinguishing) // High melting point (>200 °C)	RoHS
Kynar /Polyvinylidene fluoride	PVDF	transparent	approx. -55 °C to 175 °C	UL224 VW-1 / self-extinguishing, low smoke development	Yes		Excellent fire protection properties // Self-extinguishing, low smoke development // Very good chemical resistance // Does not promote the growth of mold and fungi	RoHS, UL
Polytetrafluoroethylene	PTFE	transparent	-65 °C to 260 °C	UL 224 / non-flammable	Yes		Anti-adhesive // Non-flammable // Very good chemical resistance	RoHS
Viton (fluoroelastomer)	Viton	black	-55 °C to 220 °C	ASTM / self-extinguishing	Yes		Self-extinguishing // Very good chemical resistance: Particularly resistant to corrosive liquids at high temperatures as well as to all conventional liquids and solvents (also non-corrosive / also copper)	RoHS, UL

material	Material short name	Color	Operating temperature	Fire protection	UV-stable	Material properties	Standards
Polyamide 6	PA6	black	-45 °C to 120 °C (briefly up to 150 °C)	UL94 V-2, FMVSS, ASTM / flame retardant, flame-resistant, self-extinguishing, low smoke emission	yes / 5 - 10 years	Flame-retardant, flame-resistant, self-extinguishing, low smoke development // Resistant to fuels, mineral oil, greases, alkalis, and most common solvents // Limited resistance to alkalis // Elongation at break: 50 - 200% // Peak compressive strength: approx. 320 N	RoHS, UL, HF
Polyamide 6/ for light compressive stress	PA 6 LD	black	-45 °C to 120 °C (briefly up to 150 °C)	UL94 V-2, FMVSS, ASTM / flame-retardant, flame-retardant, self-extinguishing, low smoke development	yes / 5 - 10 years	Flame-retardant, flame-resistant, low smoke development // Resistant to fuels, mineral oil, greases, alkalis, and most common solvents // Conditionally resistant to alkalis // Impact strength (normal temperature): 6 J // Tensile strength: 250 N	RoHS, UL, HF
Polypropylen	PP	black	-40 °C to 135 °C (briefly up to 150 °C)	UL 94 V-2, FMVSS / flame retardant, flame-resistant, self-extinguishing, low smoke emission	limited / black version up to 2 years	Flame-retardant, flame-resistant, self-extinguishing, low smoke development // Resistant to fuels, mineral oil, greases, alkalis, and most common solvents // Limited resistance to alkalis // Elongation at break: approx. 400 - 600% // Peak compressive strength: approx. 320 N	RoHS, UL, HF
Polypropylene/ fire-resis- tant modified	PP BS	black	-40 °C to 135 °C (briefly up to 150 °C) Melting temperature: 160 °C to 170 °C	UL 94 V-2, FMVSS / flame retardant, flame-resistant, self-extinguishing, low smoke emission	limited / black version up to 2 years	Flame-retardant, flame-resistant, self-extinguishing, low smoke development // Very good chemical resistance (fuels, mineral oil, greases, alkalis and most common solvents, limited resistance to al- kalis) // Tensile strength: 500 N // Elongation at break: approx. 300% // Peak compressive strength: approx. 320 N	RoHS, UL, HF
Polypropylene/ UV-weat- her-resistant	PP UV	black	-40 °C to 105 °C (briefly up to 120 °C)	UL 94 V-2, FMVSS / flame retardant, flame-resistant, self-extinguishing, low smoke emission	yes / up to 20 years	Flame-retardant, flame-resistant, self-extinguishing, low smoke development // UV-weather-resis- tant for up to 20 years // Resistant to fuels, mineral oil, grease, alkalis, and most common solvents // Conditionally resistant to alkalis // Tensile strength: 500 N // Elongation at break: approx. 300% // Peak compressive strength: approx. 320 N	RoHS, UL, HF
Perfluoroalkoxy	PFA	black	-200 °C to 260 °C Mel- ting temperature: 300 °C to 310 °C	UL 94 V-0, flame-retardant, self-extinguishing, low smoke emission	Yes	Self-extinguishing // Resistant to almost all media: mineral oils, fuels, greases, alcohols // UV-stable for up to 30 years // Elongation at break: 200% - 400% // Tensile strength: Up to 800 N/mm²	RoHS, UL
Ethylene-vinyl acetate co- polymer/ halogen-free	EVA	black	-40 °C to 55 °C (briefly up to 65 °C)	UL 94 HB / self-extinguishing	Yes	Self-extinguishing // Durability: UV-stable for up to 2 years // High heat and aging resistance	RoHS, UL, HF
Polyolefin (flame-retardant modified)	PO	black, gray	-15 °C to 105 °C	Non-flame spreading, flame retardant	no / only in special versions	Non-flame-propagating // Resistant to alcohols, greases, mineral oils, fuels // Elongation at break: approx. 250% // Compressive strength: light / 320 N	RoHS
Polyvinyl chloride	PVC	gray	-50 °C to 60 °C	Fire class A1-F / self-extinguishing	no	Virtually no water absorption // Low thermal conductivity // Low impact strength	RoHS
Low-density polyethylene/ halogen-free	PE LD	black	-40 °C to 70 °C (briefly up to 90 °C)	UL 94 HB (V-2), FMVSS / self-extinguishing, flame retardant	limited / black version up to 2 years	Self-extinguishing // Resistant to acids, alkalis, inorganic salts, water, grease // Impact resistance: 2 years	RoHS, UL, HF
High-density polyethylene/ halogen-free, high impact resistant	PE HD HRS	black, red	-40 °C to 90 °C (briefly up to 120 °C)	UL 94 HB (V-2), FMVSS / self-extinguishing, flame retardant	limited / black version up to 2 years	Self-extinguishing // Resistant to almost all media: mineral oils, fuels, greases, alcohols // Only attacked by strongly oxidizing, concentrated acids // Tensile strength: approx. 22 MPa // Elongation at break: approx. 100%	RoHS, UL

HS: Halogen-free
HRS: High impact strength

PRODUCT
STANDARDS

	Registration, Evaluation, Authorization of Chemicals.		Restriction of Hazardous Substances in electrical and electronic equipment
	Underwriters Laboratories		Canadian Underwriters Laboratories
	Canadian United States Underwriters Laboratories		Canada 5858
	International Electrotechnical Commission		European Conformity
	Association of Electrical, Electronic and Information Technologies		American Society for Testing and Materials
	Society of Automotive Engineers		Military Specification
	Bureau Veritas		Det Norske Veritas Germanischer Lloyd
	Lloyd's Register		UK Conformity Assessed
	PAHs certificate		Italian Naval Register
	Obligation to take back and dispose of electrical and electronic equipment		Approval for products in the Eurasian Economic Area



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