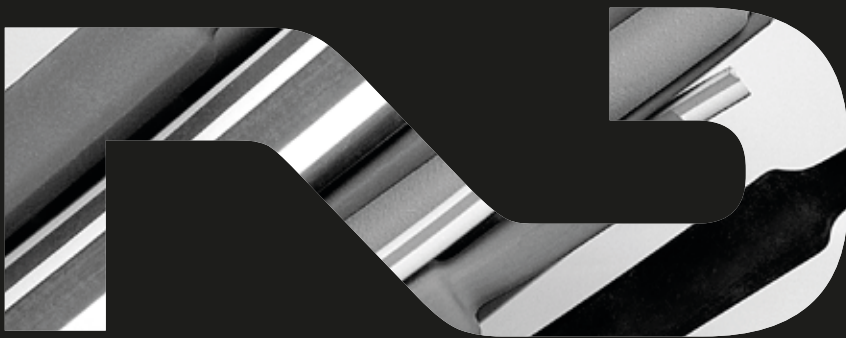




Cabling
solutions





www.elematic.it



As a producer of **cabling** and **fixing systems**, we are present in the market since 1977, becoming a leading company in our field. Able to anticipate the trends of the market with innovative spirit and a service constantly oriented to the needs of the customer, we have been achieving market share through our partners all over the world.

PRODUCTS AND SOLUTIONS

We supply added-value products and innovative solutions to our customers. Our goal is:

- ▶ **focused product range**
- ▶ **quality and certification**
- ▶ **innovation, research & development**
- ▶ **customer satisfaction**
- ▶ **service & flexibility**



PRODUCTS

cabling & fixing solutions

**RESEARCH,
INNOVATION &
DEVELOPMENT**

CERTIFICATION

ISO 9001:2008
ISO 14001:2004



ITW (Illinois Tool Works) is a leading diversified manufacturing company, based in Glenview, Illinois (USA). ITW designs and manufactures highly engineered fasteners and components, equipment and consumable systems, and a high variety of specialty products and equipment for customers around the world.

THE STRENGTH OF A BIG GROUP WITH A COMMON GOAL

Since 1998, Elematic belongs to ITW Group: service, innovation and technology.

More than 100 years of history

49.000 people

57 countries around the world

3 geography areas: North America, Asia-Pacific, Europe

PRODUCTION

cabling & fixing systems

CUSTOMER

customer satisfaction:
our target

QUALITY

punctual and accurate test
monitoring in the production
line and laboratory

MARKET

focus on the
market

FLEXIBILITY

Accurate and precise
preciservice uale



PADOVA

Viale Regione Veneto, 5 - 35127
Padova Z.I. - Italia

Legal Head Office
Light-duty anchors production
Research and Development

CAZZAGO DI PIANIGA

Viale Lombardia, 10 - 30030
Cazzago di Pianiga - Venezia - Italia

Headquarter
Logistic platform

CADONEGHE

Via Edison, 23- 35010
Cadoneghe - Padova - Italia

Cable ties & accessories
production

SYSTEM CERTIFICATIONS...

QUALITY SYSTEM



ISO 9001:2008

The company is certified **ISO 9001:2008** for the design and manufacturing of cable ties and fixing systems with engineering polymers. Trading of fixing, cabling systems and electrical power tools. This certification guarantees that all the steps of our company processes, from development to delivery, are controlled following detailed procedures.

ENVIRONMENTAL MANAGEMENT



ISO 14001:2004

Aware of the importance of our impact on the environment, we developed a certified environmental management system that leads us to reduce as much as possible this impact. All our Italian sites are certified according **ISO14001:2004** standard with the aim of design and manufacturing of cable ties and fixing systems through injection molding, design and manufacturing of our molds and, trading of cabling and fixing accessories.



BUJE - CROAZIA

Momjanska, 3
Buje

Cable ties & accessories
production

INOWROCLAW - POLONIA

Poznańska 375, 88-100
Inowrocław - Polonia

R&D & production "Cable protection"

...AND PRODUCT CERTIFICATIONS.



E ELEMATIC®

E ELEMATIC®

WALL DISPLAYS

cabling products
fixing products

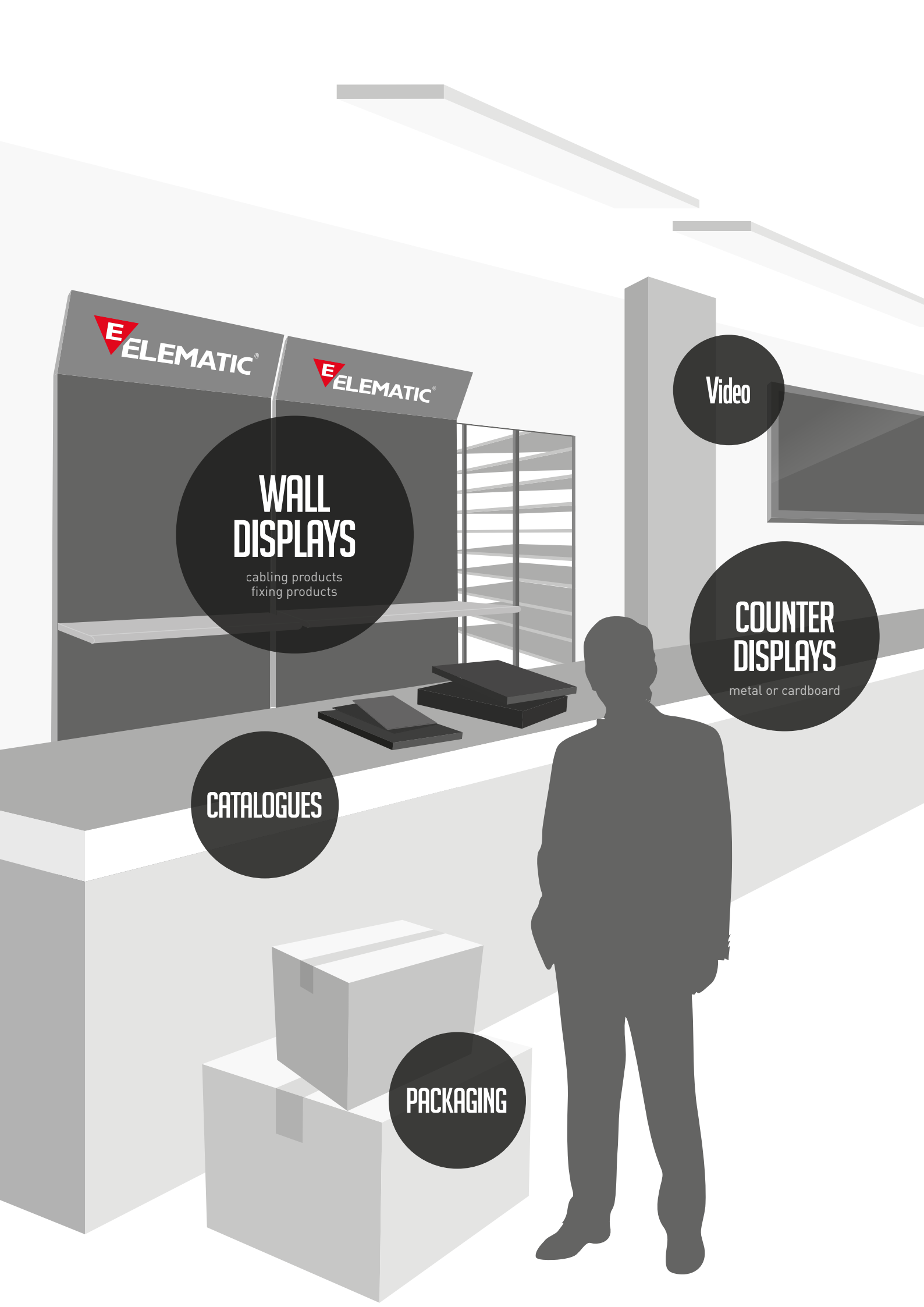
Video

COUNTER DISPLAYS

metal or cardboard

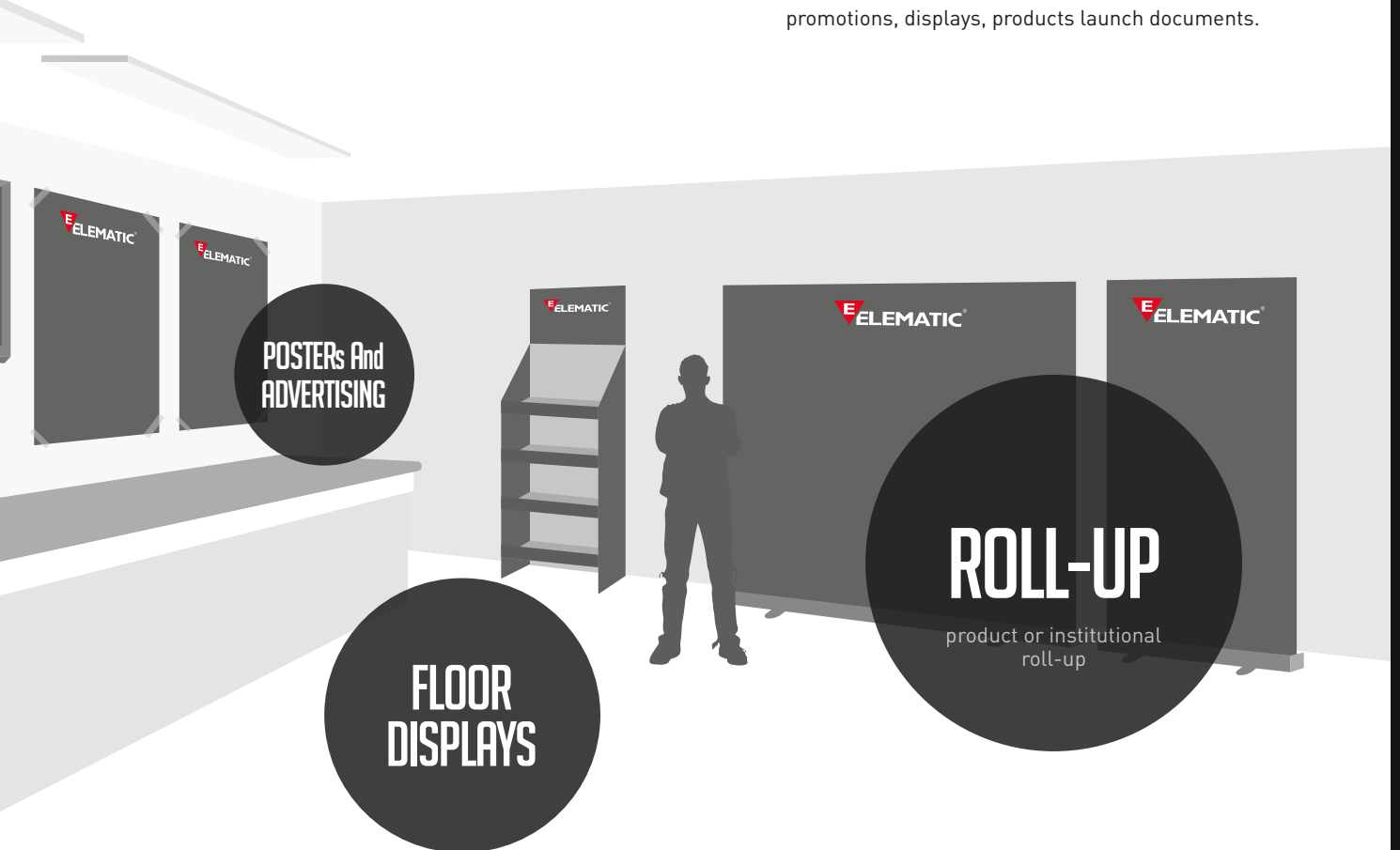
CATALOGUES

PACKAGING



CLOSE TO YOU...

Through our marketing support,
we create solutions for your market:
promotions, displays, products launch documents.



- ▶ fully customizable **modular wall displays**
- ▶ **counter** and **floor displays**
- ▶ product or institutional **roll-up**
- ▶ **posters** and **advertising**
- ▶ **catalogues**

- ▶ product **flyers**
- ▶ new products **launch documents**
- ▶ **promotions**
- ▶ **gadgets**

Scan the **QRCode**
to view our complete
marketing supports.





E ELEMATIC®

**NEW
LOOK!**

DISCOVER THE NEWS



NEW BRAND IMAGE UNIQUE AND STRONG

The new way to present our products, the new dress and packaging will give more visibility of our offer on the market. Our main objective is to support customers in their sale's activity to create a strong and understandable brand image.



NEW PACKAGING, SAME QUALITY!

We guarantee the highest quality of our offer by the innovation of our company's processes.

NEW COMPLETE LABELS, CLEAR AND EASY TO READ

Family products identification by colours. Clear technical information to choose the right products. Easy to read.

A WIDE RANGE OF CABLE TIES



 **ELEMATIC**[®]

Discover more at www.elematic.it



CABLE TIES AND ACCESSORIES

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HOW TO CHOOSE A CABLE TIE

How to choose the right cable tie

The most important characteristics of a cable tie are:

- the raw material, for specific applications and environmental conditions (weather, chemicals and heat resistance, flammability rating);
- the tensile strength they can stand (tear strength);
- the min and max diameter they can bundle;
- the shape of the tie in case of particular applications.

Resistance to chemical agents

- Chemical agents as powders, liquids or gases can deteriorate the raw material cable tie are made of: in this case, the mechanical properties of the cable tie, the performance of the product could not meet the required standards (see the table: Resistance to chemical agents).

UV and weather resistance

All polymers, including the polyamides used for the production of cable ties, are sensitive to UV radiation. The most common additive used for protecting polyamides from UV radiation is carbon powder generally known as “carbon black”.

Natural cable ties (Elematic codes 52xx) have low resistance to UV radiation and therefore are not suggested for outdoor applications.

Black cable ties (Elematic codes 53xx) are added with carbon black and they have a good weather and UV resistance; they are recommended for outdoor applications compared with the natural one. Test on black cable ties have showed an UV resistance of about 3 years in outdoor applications and to exposition to the typical environment of a South-European country.

Weather Resistant Cable Ties (Elematic codes 53xx UV) are made of a special added compound to provide an extra weather resistance so that they are suitable for outdoor applications. They are tested according to the norm CEI EN 62275 and the test method used, according to ISO 4892-2, simulates a condition equivalent to an exposition to solar radiance of at least 10 years in a region of South European Countries. The UV resistant cable ties meet all the tests defined by the norm and maintain, after the test conditions, the 100% of the declared tensile strength (type 2 classification - point 6.2.2 of the standard).

Belturing Plus (Elematic codes 64xx) are produced with materials resistant to UV rays and they are recommended for heavy-duty applications. In fact, as the UV resistant cable ties, these cable ties are tested according to the norm CEI EN 62275; Belturing Plus cable ties meet all the tests defined by the norm and maintain, after the test conditions, the 50 % of the declared tensile strength (type 1 classification - point 6.2.1 of the norm CEI EN 62275).

Temperature resistance

All polymers, including polyamides used for the production of cable ties, are sensitive to high temperatures, becoming therefore fragile and sensitive to vibrations.

The max suggested installation temperature for standard cable ties is 60°C, while the max service temperature for continuous use is 85°C.

The min suggested installation temperature for standard cable ties in Polyamide 6.6 is -10°C, while the min service temperature for continuous use is -40°C.

Heat Resistance cable ties (Elematic codes 53xx T) are made of a specially added compound to provide an extra heat resistance (max service temperature for continuous use up to 125°C)

These cable ties are available in black and natural colour (the natural is more similar to aquamarine green colour due to the special polymer used).

Belturing Plus (Elematic codes 64xx) ensure a greater resistance in installations at low temperatures (up to a minimum temperature of -30 ° C).

2-LOCK™ cable ties (Elematic codes 12xx and 13xx) ensure an exceptional resistance in installations at low temperatures (up to a minimum temperature of -40 ° C)

Tear resistance

Elematic cable ties are tested according International standard for cable ties CEI EN 62275. Strength tests are made at constant speed of 25mm/min and the maximum force declared is kept steady for 60 sec.

The standard conditions defined for the tensile test are referred to an ambient temperature of 23°C and a relative humidity of 50%.

It is important to underline that the values arising from those laboratory tests may not be representative of the resistance to the loads of real installations, due to the presence of external factors (high humidity, vibrations, high temperatures, etc.).

General indications for cable ties installation (width 2,2 ÷ 4,8 mm)

Cable tie width (mm)	Tool setting (daN)
2,2	0<daN<3
2,5÷2,6	3<daN<6
3,5	6<daN<10
4,5÷4,8	10<daN<13

*1 daN ≈ 1 Kg

For further technical information, please contact our technical department.

Flammability rating

Fire resistance of polymers (also called flammability) is tested in laboratory on standard specimens with sizes $125\pm 5 \times 13\pm 0.5$ mm and different thickness (0.8; 1.6; 3.2; 6 mm). The most used standard for this evaluation is the UL94 classification (Underwriters laboratories). These tests classify materials according to flame propagation speed on the specimen, to allow the auto-extinguishing of the flame and to the risk of flame propagation by drops. The lower rate is HB, that identifies a material with low combustion speed, then we find, in order, classes V2, V1 and V0, with a growing capacity of flame extinguishing.

Herewith please find a list of the categories of UL 94 classification:

HB (Horizontal Burning) – Test description: According to the UL 94, the material is classified HB when the burn rate of the specimen with thickness 3,2 mm doesn't exceed the max speed of 38,1 mm/min and the specimen with minimum thickness doesn't exceed 63,5 mm/min.

V0 – V1 – V2 (Vertical Burning): in vertical tests same specimens as HB tests are used. Combustion time is measured, presence of drops or burning of the below cotton are registered and, according to UL 94, materials are classified as follow:

- V0 if the flame extinguishes within 10 seconds;
- V1 if the flame extinguishes within 30 seconds without drops;
- V2 if the flame extinguishes within 30 seconds with drops;

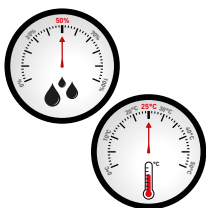
Self-extinguishing cable ties (Elematic codes 52xx V0) are made of a specially added compound and they can be used where the auto extinguishing performance is required (UL94-V0). They are available in milky white colour that depend on the physical characteristics of the material.

Other materials

Coloured cable ties (Elematic codes 52xx G-V-R-B) are made with coloured masters without lead, chromium or cadmium; for this reason, the colour of the products might slightly change according to the moulding conditions.

Detectable cable ties (Elematic codes 52xx DT) are produced with copolymer material added with iron oxide, providing magnetic properties throughout, allow identification by metal detector or X-ray inspection equipment to meet food, beverage and pharmaceutical safety standard on reducing product contaminations. They are produced in blue colour for visual identification; product not suitable for food contact.

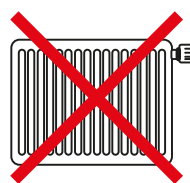
Storage conditions of cable ties



For the correct conservation of the cable ties, it is recommended to store them at room temperature between 10 and 40 ° C and relative humidity between 30% and 70%.



After opening the bag, use the cable ties as soon as possible; close the bag after use in order to maintain the correct humidity of the product.



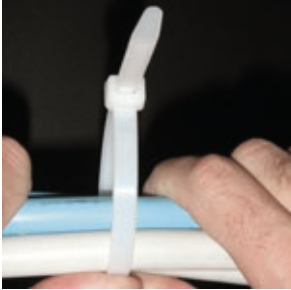
Avoid storing the product near heat sources, which could reduce the humidity of the cable ties decreasing their mechanical properties.



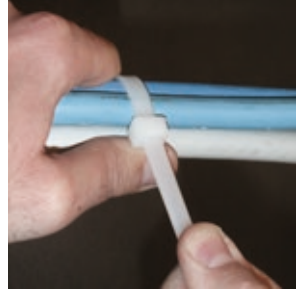
Do not store the cable ties in a sunny place: the direct action of UV rays can damage their structure, making them brittle and weak.

HOW TO INSTALL AND USE A CABLE TIE

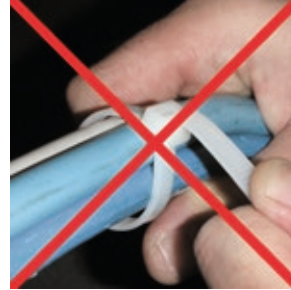
Manual installation of standard cable ties



Insert the tip of the tie.



Tighten manually the tie till the complete fixing of the cables.



Avoid sharp bending of the tie: it will not improve the fixing strength.



Cut the exceeding part of the tie with the tool, leaving a few mm length as safety.

Tool installation of standard cable ties



Set the max tension of the tool depending on the size of the tie.



Grip the cable tie with the tool.



Tighten the tie till the complete fixing of the cables.

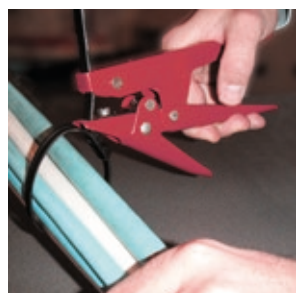


Cut the exceeding part of the cable tie, properly adjusting the setting of the tool.

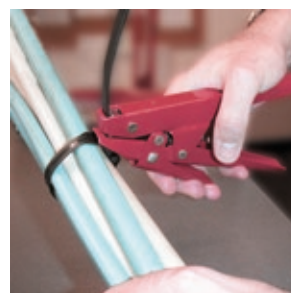
Tool installation of belturing cable ties



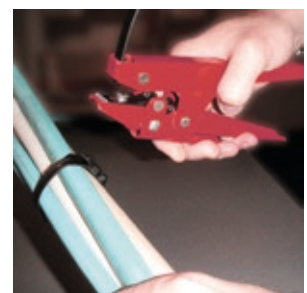
Insert the tip of the tie and tighten a short segment.



Use the tool for tightening the tie around the cables.



Tighten the tie till the complete fixing.



Cut the exceeding part of the tie with the tool, leaving a few mm length as safety.

Resistance to chemical agents of polyamide 6.6

Chemical agent	Conc	Res.
	%	
Acetaldehyde - aqueous solution	40	D
Acetamide - aqueous solution	50	B
Amyl acetate	100	B
Butyl acetate	100	B
Methyl acetate	100	B
Lead acetate - water solution	10	D
Acetone	100	B
Acetic acid - concentrated		P
Acetic acid - water solution	10	P
Benzoic acid - a saturated aqueous solution		D
Boric acid - water solution	10	D
Butyric acid	100	D
Citric acid - water solution	10	L
Hydrochloric acid - water solution	2	L
Hydrochloric acid - water solution	10	P
Hydrochloric acid - water solution	36	S
Chromic acid - water solution	1	D
Chromic acid - water solution	10	P
Formic acid - water solution	10	P
Formic acid - water solution	85	S
Phthalic acid - water solution	10	P
Phthalic acid - solution acuosasatura		D
Lactic acid - water solution	10	D
Lactic acid - water solution	90	P
Nitric acid		P
Oleic acid	100	B
Oxalic acid - water solution	10	D
Salicylic acid	100	B
Sulfuric acid - concentrated	98	S
Sulfuric acid - aqueous solution	2	L
Sulfuric acid - aqueous solution	10	P
Tartaric acid		D
Tartaric acid - water solution	10	B
Water (sea, river, drinking distilled)		B
Chlorine water		D
Acrylonitrile	100	B
Amyl alcohol	100	B
Butyl alcohol	100	D
Benzyl alcohol	100	L
Ethyl alcohol	96	D
Isopropyl alcohol		D
Methyl alcohol	100	D
Propyl alcohol		D
Ammonia	10	B
Ammonia - gaseous		L
Acetic anhydride - concentrated		S
Aniline	100	D
Benzaldehyde	100	L
Benzene	100	B
Bichloride of mercury - aqueous solution	6	P
Chrome - aqueous solution	5	D
Sodium bisulfate - aqueous solution	10	B
Bitumen		D
Potassium bromide - water solution	10	D
Sodium Bromide - aqueous solution	10	D
Butane		B
Butyl phthalate		B
Camphor	100	B
Potassium carbonate	100	B
Sodium carbonate - aqueous solution	10	B
Cyclohexane	100	B
Cyclohexanol	100	B
Gaseous Chlorine	100	P
Chlorobenzene		B
Clorobromometano		D
Chloroform	100	P

Chemical agent	Conc	Res.
	%	
Aluminium chloride - water solution	10	B
Barium chloride - water solution	10	B
Calcium chloride - water solution	10	B
Calcium chloride - water solution	20	S
Ethyl chloride	100	D
Methyl chloride	100	L
Magnesium chloride - water solution	10	B
Sodium chloride - water solution	10	B
Thionyl chloride		P
Vinyl chloride	100	B
Zinc chloride	10	D
Ferric chloride - water solution	10	B
Decalino		B
Diacetone alcohol		B
Ethylene dichloride		B
Diethanolamine		B
Dimethylformamide	100	B
Acetic ether	100	B
Ethyl ether	100	B
Glycol ether		B
Heptane		B
Hexane		D
Phenol - aqueous solution		S
Formaldehyde - aqueous solution	30	B
Formamide		D
Sodium phosphate - aqueous solution	10	B
Glycol butyl	100	D
Ammonium hydroxide - aqueous solution	10	B
Magnesium hydroxide	10	B
Potassium hydroxide - aqueous solution	5	B
Potassium hydroxide - aqueous solution	10	B
Potassium hydroxide - aqueous solution	50	D
Sodium hypochlorite - aqueous solution		B
Isocotane		B
Mercury		B
Methyl ethyl ketone		B
Methyl isobutyl ketone		B
Naphthene		B
Potassium nitrate - aqueous solution	10	B
Sodium nitrate - aqueous solution	5	P
Sodium nitrate - aqueous solution	10	B
Nitrobenzene	100	D
Nitromethane	100	D
Mineral oil		B
Zinc oxide		B
Octyl-phthalate		B
Ozone		P
Perchloroethylene		P
Hydrogen peroxide - aqueous solution	0,5	L
Hydrogen peroxide - aqueous solution	1	P
Hydrogen peroxide - aqueous solution	3	P
Hydrogen peroxide - aqueous solution	30	P
Petrol		B
Magnesium salts - aqueous solution	10	B
Copper salts - aqueous solution	10	B
Caustic Soda - aqueous solution	5	B
Caustic Soda - aqueous solution	10	B
Caustic Soda - aqueous solution	50	D
Aluminium sulphate - aqueous solution	10	B
Copper sulphate - aqueous solution	10	B
Sodium sulfate - aqueous solution	10	B
Carbon disulphide	100	B
Hydrogen sulphide - saturated aqueous solution		P
Lead stearate	100	B
Carbon tetrachloride		B
Trichloroethylene (Trichloroethylene)		D

B = Good resistance without significant variations in weight and/or volume.

D = Discrete resistance with significant variations in weight and/or volume resulting from prolonged contact.

L = Limited resistance: it is possible to use the material in case of short contact.

P = Poor resistance; the material is strongly attacked.

S = Soluble.

Technical characteristics of raw materials

Materials	Operating temperature		Flammability rating	Humidity absorption		Main characteristics
				23°C 50% U.R.*	Saturation	
Polyamide 6.6 standard	-40°C÷85°C	●	UL94-V2	2,7%	8,5%	Polyamide 6.6 injection moulding grade. Good resistance to bases, oils, greases, fuel, oil derivate.
Polyamide 6.6 heat stabilized	-40°C÷125°C	●	UL94-V2	2,7%	8,5%	Polyamide 6.6 heat-stabilized for heat stabilized 6.6 endurance applications to high temperatures.
Polyamide 6.6 UV stabilized	-40°C÷105°C	●	UL94-V2	2,7%	8,5%	Polyamide 6.6 UV stabilized for improved weather resistance.
Polyamide 6.6 self-extinguishing V0	-40°C÷85°C	●	UL94-V0	2,7%	8,5%	Polyamide 6.6 self-extinguishing (halogen-free).
Technopolymer (Belturing Plus)	-45°C÷85°C	●	UL94-HB	0,6%	1,2%	Good resistance to UV rays and weather. Improved shock resistance. Reduced moisture absorption.
Polyethylene HD	-40°C÷100°C	○	UL94-HB	-	-	High-density polyethylene. Good shock resistance, to bases and weak acids.
Polyethylene LD	-50°C÷85°C	● ○	UL94-HB (nat, black) UL94-V2 (white)	-	-	Low-density polyethylene. Good shock resistance, to bases and weak acids.
Polyamide 6	-10°C÷65°C	●	UL94-HB	3%	9,5%	Polyamide 6 injection moulding grade. Good resistance to bases, oils, greases, fuel, oil derivate.
Polypropylene	-10°C÷105°C	●	UL94-HB	-	-	Good resistance to high temperatures, bases and weak acids. Any absorption of humidity.
ABS	-10°C÷60°C	●	UL94-HB	0,3%	-	ABS injection moulding grade. Good mechanical resistance, to bases and weak acids, oils and greases. Good resistance to seawater and corrosive atmosphere. Any absorption of humidity.
PVC (rigid)	-10°C÷70°C	○	UL94-V0	-	-	Low resistance to acids and solvents. Good aging resistance. No moisture absorption.
PVC (flexible)	-40°C÷70°C	●	UL94-V1	-	-	Low resistance to acids and solvents. Good aging resistance. No moisture absorption.
Polycarbonate	-5°C÷85°C	⊗	UL94-V0	-	-	Low resistance to chemical agents. Good UV resistance.

*U.R. = relative humidity

CERTIFICATIONS

Products' type approvals through International Approval Societies



UL - FILE E86244

Elematic cable ties are recognized by UL (Underwriters Laboratories Inc.) following the norm UL 62275 - Cable Management Systems - Cable Ties for Electrical Installation.



DNV - FILE E-11541

DNV certification guarantees that Elematic cable ties comply the "Det Norske Veritas" standards for the fixing of cables in the naval constructions and offshore, for indoor and outdoor installations.



DNV-GL - FILE TAE000000G

DNV-GL certification guarantees that Elematic cable ties comply the "Det Norske Veritas" and "Germanischer Lloyd standards for the fixing of cables in the naval constructions and offshore, for indoor and outdoor installations.



Lloyd's Register
Marine

LOYD'S REGISTER - CERTIFICATE N° 09/00025(E1)

The English Lloyd's Register Homologation certifies the mechanical properties and the flame resistance of Elematic cable ties in the shipbuilding and offshore applications.



BUREAU VERITAS - CERTIFICATE N° 13190/C0 BV

This homologation, according to IEC 60092-IEC 62275 normative, assures that Elematic cable ties are made in accordance to "Bureau Veritas" standards for the fixing cables in shipbuilding.



GL GERMANISCHER LLOYD CERTIFICATE N° 99 332 - 97 HH

Certifies the mechanical properties and the flame resistance of Elematic cable ties for applications on maritime and energy sector.



R.I.N.A. CERTIFICATE N° ELE040812CS

Italian Naval Register Homologation following the norm IEC EN 60092-101 "Electrical Installations in Ship" for the flame test in shipbuilding and offshore applications.

Self declarations



CE Marking

Elematic certifies the conformity of its cable ties to the norm L.V. 2006/95/EC.

CEI EN 62275

Elematic cable ties are internally tested following the European Norm "Cable ties for Electrical Installation". The results are in accordance with the requirements of the regulation.

WEEE - ELV - REACH (REGULATION EC 1907/2006)

Materials used for Elematic cable ties & accessories are compliant to European directives regarding WEEE (waste of Electrical and Electronic Equipment - 2012/19/UE), ELV (life vehicles - 2000/53/CE), REACH (the materials used for the production of our articles do not contain the substances listed in the "Candidate List of Authorization" or in the attachment XIV of the EC 1906/2007).

Quality system

ISO 9001:2008

The company is certified ISO 9001:2008 for the design and manufacturing of cable ties and fixing systems with engineering polymers and trading of fixing and cabling accessories. This certification guarantees that all the steps of our company processes, from development to delivery, are controlled following detailed procedures.

ISO 14001:2004

Aware of the importance of our impact on the environment, we developed a certified environmental management system that leads us to reduce as much as possible this impact. All our Italian sites are certified according ISO14001:2004 standard with the aim of design and manufacturing of cable ties and fixing systems through injection molding, design and manufacturing of our molds and, trading of cabling and fixing accessories.





2-LOCK™

DOUBLE TOOTH PERFECT GRIP!

THE BEST PERFORMANCE WITH A CABLE TIE WITH **DOUBLE METAL TOOTH**.
THE HIGHEST TENSILE STRENGTH AT THE LOWEST TEMPERATURES.

The innovative locking system with over-molded stainless steel cage grants superior mechanical performances than any other cable tie on the market; **2-LOCK™** combine the highest tensile resistance with the lowest effort of insertion, redefining new higher

performance standards. Mechanical excellence, easy to use, very low installation temperature, maximum reliability, innovative packaging, all that make **2-LOCK™** the new reference on the market for polyamide cable ties.



E **ELEMATIC®**

Discover more at www.elematic.it

CABLE TIES // 2-LOCK™ //

2-LOCK™ CABLE TIES



2-LOCK™ cable ties have an innovative locking system (patented) based on an over-moulded stainless steel cage with double tooth which ensures mechanical performance superior to any other cable tie on the market.

The double tooth acts on the cable tie body in a symmetrical way, allowing an higher tensile strength value compared to the cable ties with single steel tooth.

The body of 2-LOCK™ cable tie is perfectly smooth from both sides; this helps to contain the insertion force which is lower than the competitors one and therefore facilitates the application. The absence of the rack on the body allows the "continuous closing adjustment" typical of this products ensuring a correct tensioning for each possible clamping diameter. The black cable ties are added with carbon black that gives an UV resistance for outside applications.

TECHNICAL DATA

Raw material:	polyamide 6.6 with double stainless steel 316 tooth (cage).
Halogen-free.	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-40°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	UV resistance (black colour), excellent resistance to aromatic solvents, oils, greases, petroleum products, high resistance to corrosion (stainless steel 316), good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.



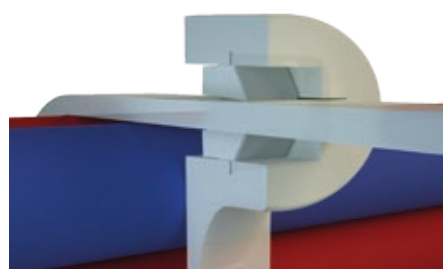
HALOGEN FREE

APPLICATIONS

- ▶ Electrical installations.
- ▶ Industrial wiring.
- ▶ Automotive.
- ▶ Panel building.
- ▶ Special applications.

BENEFITS

- ▶ Exclusive product (patented).
- ▶ Higher mechanical performances.
- ▶ Low insertion effort.
- ▶ Minimum installation temperature (-40°C).
- ▶ Rounded edges for the safest application.
- ▶ Resealable and recyclable bag.



LINKED PRODUCTS:

Tools for cable ties, see pages 82



2-LOCK CABLE TIES

Code	Code	Dimensions*	Ø Bundle max	Tensile strength		Pack	Carton
				(mm)	(mm)		
Natural	Black	(mm)	(mm)			pcs.	pcs.
1203	1303	2,5x100	21	18,36	180	100	15.000
1207	1307	2,5x200	50	18,36	180	100	8.000
1209	1309	3,5x140	35	25,50	250	100	7.000
1214	1314	3,5x200	50	25,50	250	100	7.000
1210	1310	3,5x290	80	25,50	250	100	4.500
1215	1315	4,5x200	50	36,72	360	100	4.000
1216	1316	4,5x250	68	36,72	360	100	4.500
1217	1317	4,5x290	80	36,72	360	100	3.500
1219	1319	4,5x360	101	36,72	360	100	3.000
1225**	1325	7,5x220	56	79,56	780	100	2.000
1227	1327	7,5x360	101	79,56	780	100	1.000

* The nominal dimensions can slightly change according to utilized mould.

** not DNV-GL certified.



The new resealable bag with seal of "first opening" and euro hole for display avoids the dispersion of the product after the first opening and allows the optimal preservation of the product inside so that the cable ties will keep unchanged the initial mechanical characteristics. The bag is completely recyclable; the label is made of plastic material so there is no need to detach from the bag to recycle it.

The bag is completely recyclable; the label is made of plastic material so there is no need to detach from the bag to recycle it.

CABLE TIES // STANDARD //

STANDARD CABLE TIES



The standard cable ties are produced exclusively in Polyamide 6.6 to avoid problems with separation of material (e.g., metals) during recycling or interference with electronic equipment.

The black cable ties are added with carbon black that gives an UV resistance for outside applications.

TECHNICAL DATA

Raw material:	polyamide 6.6.
Halogen-free.	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.



APPLICATIONS

- ▶ Electrical installations.
- ▶ Industrial wiring.
- ▶ Automotive.
- ▶ Panel building.

BENEFITS

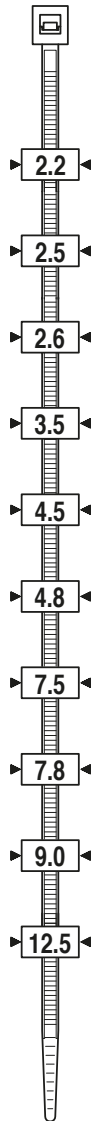
- ▶ Bent rounded tip for an easier insertion through the head of the cable ties.
- ▶ Rounded edges for the safest application.
- ▶ Low friction coefficient of the material.



LINKED PRODUCTS:

Tools for cable ties, see pages 82




STANDARD CABLE TIES

Code	Code	Dimensions*	Ø Bundle max	Tensile strength		Pack	Carton
				(mm)	(mm)		
Natural	Black					pcs.	pcs.
5201/CE	5301/CE	2,2x75	15	6,12	60	100	20.000
5201E	5301E	2,2x75	15	6,12	60	1.000	80.000
5203/CE	5303/CE	2,5x98	21	8,16	80	100	15.000
5203E	5303E	2,5x98	21	8,16	80	1.000	40.000
5203/B2	5303/B2	2,5x98	21	8,16	80	20.000	20.000
5205/CE	5305/CE	2,5x135	32	8,16	80	100	12.000
5205E	5305E	2,5x135	32	8,16	80	1.000	30.000
5206/CE	5306/CE	2,6x160	40	8,16	80	100	10.000
5206E	5306E	2,6x160	40	8,16	80	1.000	25.000
5207/CE	5307/CE	2,6x200	52	8,16	80	100	8.000
5207E	5307E	2,6x200	52	8,16	80	1.000	25.000
5209/CE	5309/CE	3,5x140	32	18,36	180	100	7.000
5209E	5309E	3,5x140	32	18,36	180	1.000	20.000
5214/CE	5314/CE	3,5x200	50	18,36	180	100	7.000
5214E	5314E	3,5x200	50	18,36	180	1.000	15.000
5210/CE	5310/CE	3,5x290	80	18,36	180	100	4.500
5210E	5310E	3,5x290	80	18,36	180	500	10.000
5208E	5308E	3,5x370	103	18,36	180	100	4.000
5212/CE	5312/CE	4,5x120	24	22,44	220	100	8.000
5212E	5312E	4,5x120	24	22,44	220	1.000	20.000
5211/CE	5311/CE	4,5x160	40	22,44	220	100	6.000
5211E	5311E	4,5x160	40	22,44	220	1.000	15.000
5213/CE	5313/CE	4,8x178	45	22,44	220	100	5.000
5213E	5313E	4,8x178	45	22,44	220	1.000	12.000
5215/CE	5315/CE	4,5x200	50	22,44	220	100	4.000
5215E	5315E	4,8x200	50	22,44	220	1.000	10.000
5216/CE	5316/CE	4,8x250	68	22,44	220	100	4.500
5217E	5317E	4,5x290	78	22,44	220	100	3.500
5219E	5319E	4,5x360	100	22,44	220	100	3.000
5218E	5318E	4,8x390	106	22,44	220	100	5.000
5220E	5320E	4,5x430	115	22,44	220	100	5.000
5223E	5323E	7,8x180	45	55,08	540	100	2.500
5225E	5325E	7,8x240	63	55,08	540	100	2.000
5226E	5326E	7,8x300	80	55,08	540	100	1.500
5227E	5327E	7,5x365	100	55,08	540	100	1.500
5229E	5329E	7,5x450	130	55,08	540	100	2.500
5231E	5331E	7,5x540	158	55,08	540	100	2.000
5233E	5333E	7,5x750	220	55,08	540	100	1.200
5234E	5334E	9,0x780	233	71,4	700	100	1.000
5235E	5335E	12,5x225	57	110	1.080	50	2.000
5237E	5337E	12,5x500	143	110	1.080	50	1.000
5239E	5339E	12,5x720	213	110	1.080	50	600
5241E	5341E	12,5x850	255	110	1.080	50	600
5243E	5343E	12,5x1.000	302	110	1.080	50	500

* The nominal dimensions can slightly change according to the utilized mould

CABLE TIES // SPECIALS //

UV RESISTANT CABLE TIES



These cable ties are made in polyamide 6.6 with special additives that assures an extra resistance to UV rays; they are tested according to the norm CEI EN 62275 and the test method used, according to ISO 4892-2, simulates a condition equivalent to an exposition to solar radiance of at least 10 years in a region of South European Countries. The UV and weather resistant cable ties meet all the tests defined by the norm and maintain, after the test conditions, the 100% of the declared tensile strength (type 2 classification - point 6.2.2 of the standard).

TECHNICAL DATA

Raw material:	polyamide 6.6.
Halogen-free	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 105°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	high UV resistance (DNV certification), excellent resistance to aromatic solvents, oils, greases, petroleum products, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.



APPLICATIONS

- ▶ Photovoltaic installations.
- ▶ Outdoor installations.
- ▶ Industrial wiring.

BENEFITS

- ▶ Excellent resistance to UV rays.
- ▶ Bent rounded tip for an easier insertion through the head of the cable ties.
- ▶ Rounded edges for the safest application.
- ▶ Suitable for photovoltaic installations.

WEATHER RESISTANT CABLE TIES - EXTRA UV

Code	Dimensions*	Ø Bundle max	Tensile strength		Pack	Carton
			(kg)	(N)		
Black	(mm)	(mm)			pcs.	pcs.
5303/C UVE	2,5x98	21	8,16	80	100	15.000
5309/C UVE	3,5x140	32	18,36	180	100	7.000
5314/C UVE	3,5x200	50	18,36	180	100	7.000
5315/C UVE	4,8x200	50	22,44	220	100	4.000
5317 UVE	4,5x290	78	22,44	220	100	3.500
5327 UVE	7,5x365	100	55,08	540	100	1.500

* The nominal dimensions can slightly change according to the utilized mould



LINKED PRODUCTS:

Tools for cable ties, see pages 82



HEAT RESISTANT CABLE TIES



These cable ties, made of polyamide 6.6 with special additives, can be used in environments where a resistance to high temperature is required (125°C continuous, 150°C for 500h). They are available in black and natural color; this last has an aquamarine color shade depending on the physical characteristics of the raw material.

TECHNICAL DATA

Raw material:	polyamide 6.6.
Halogen-free	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 125°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	excellent resistance to high temperatures. high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.

HALOGEN FREE

APPLICATIONS

- ▶ Automotive (engine compartment).
- ▶ Use at high temperature.
- ▶ Industrial wiring.

BENEFITS

- ▶ Excellent resistance to high temperatures.
- ▶ Bent rounded tip for an easier insertion through the head of the cable ties.
- ▶ Rounded edges for the safest application.

HEAT RESISTANT CABLE TIES

Code	Code	Dimensions*	Ø Bundle max	Tensile strength		Pack	Carton
Natural	Black	(mm)	(mm)	(kg)	(N)	pcs.	pcs.
5203/C TE	5303/C TE	2,5x98	21	8,16	80	100	15.000
5209/C TE	5309/C TE	3,5x140	32	18,36	180	100	7.000
5214/C TE	5314/C TE	3,5x200	50	18,36	180	100	7.000
5215/C TE	5315/C TE	4,8x200	50	22,44	220	100	4.000
5217 TE	5317 TE	4,5x290	78	22,44	220	100	3.500
5227 TE	5327 TE	7,5x365	100	55,08	540	100	1.500

* The nominal dimensions can slightly change according to the utilized mould



LINKED PRODUCTS:

Tools for cable ties, see pages 82



CABLE TIES // SPECIALS //

SELF-EXTINGUISHING CABLE TIES



The self-extinguishing V0 cable ties, made of polyamide 6.6 with additives, can be used where the auto extinguishing performance is required. They conform with UL-94 V0 and GW 960°C standards and the halogen and phosphorus free material avoids toxic emission in event of fire.

TECHNICAL DATA

Raw material:	polyamide 6.6 white.
Halogen-free	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V0.
Resistance to external agents:	high flammability resistance, excellent resistance to aromatic solvents, oils, greases, petroleum products, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.
UNI CEI 11170-3 certification relating to the assessment of the fire behaviour of the electrical components in rail vehicles.

HALOGEN FREE

APPLICATIONS

- ▶ Electrical applications in the rail industry and shipbuilding.
- ▶ Civil and industrial installations with higher risk in case of fire (cinema, theatre).

BENEFITS

- ▶ Excellent flame resistance.
- ▶ Low smoke emission.
- ▶ Bent rounded tip for an easier insertion through the head of the cable ties.
- ▶ Rounded edges for the safest application.

SELF-EXTINGUISHING CABLE TIES (UL94 - V0) - GW 960°C

Code	Dimensions* (mm)	Ø Bundle max (mm)	Tensile strength		Pack pcs.	Carton pcs.
			(kg)	(N)		
White						
5203/C V0E**	2,5x98	21	8,16	80	100	15.000
5209/C V0E**	3,5x140	32	18,36	180	100	7.000
5214/C V0E	3,5x200	50	18,36	180	100	7.000
5215/C V0E	4,8x200	50	22,44	220	100	4.000
5217 V0E	4,5x290	78	22,44	220	100	3.500
5227 V0E	7,5x365	100	55,08	540	100	1.500

* The nominal dimensions can slightly change according to the utilized mould
** Art. on request - minimum order quantity: 1 carton



LINKED PRODUCTS:
Tools for cable ties, see pages 82



DETECTABLE CABLE TIES

BY METAL DETECTOR OR X-RAY



These cable ties, made with polyamide 6.6 added with iron oxide, providing magnetic properties throughout, allow identification by metal detector or X-ray inspection equipment to meet food, beverage and pharmaceutical safety standard on reducing product contaminations.

This allow the manufacturers of food and pharmaceutical companies to respect the FDA's Hazard Analysis and Critical Control Point (HACCP) systems standards by preventing any contamination.



TECHNICAL DATA

Raw material:	polyamide 6.6 blue added with iron oxide.
Halogen-free	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-5°C ÷ 60°C.
Flammability rating:	UL 94 class HB.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.

HALOGEN FREE

APPLICATIONS

- ▶ To fix wires in electrical equipment in food industries, pharmaceutical and wherever there is a risk of contamination by external agents (Directive HACCP).
- ▶ These cable ties are not suitable for food contact.

BENEFITS

- ▶ Material easily detectable by metal detectors, X-rays and visually.
- ▶ Bent rounded tip for an easier insertion through the head of the cable ties.
- ▶ Rounded edges for the safest application.

DETECTABLE CABLE TIES

Code	Dimensions*	Ø Bundle max	Tensile strength		Pack	Carton
			(kg)	(N)		
Blue	(mm)	(mm)			pcs.	pcs.
5203/C DTE	2,5x98	21	8,16	80	100	15.000
5209/C DTE	3,5x140	32	18,36	180	100	7.000
5214/C DTE	3,5x200	50	18,36	180	100	7.000
5215/C DTE	4,8x200	50	22,44	220	100	4.000
5217 DTE	4,5x290	78	22,44	220	100	3.500
5219 DTE	4,5x360	100	22,44	220	100	3.000
5227 DTE	7,5x365	100	55,08	540	100	1.500

* The nominal dimensions can slightly change according to the utilized mould



LINKED PRODUCTS:

Tools for cable ties, see pages 82



CABLE TIES // SPECIALS //

COLOURED CABLE TIES



These cable ties are manufactured exclusively in Polyamide 6.6 to avoid problems with separation of material (e.g., metals) during recycling or interference with electronic equipment.

Enable to differentiate and identify power lines or circuits, or other applications where a different colour is required.

TECHNICAL DATA

Raw material:	polyamide 6.6 added with coloured master.
Halogen-free:	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class HB.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

HALOGEN FREE

COLOURED CABLE TIES

Code		Dimensions*	Ø Bundle max	Tensile strength		Pack	Carton
				(mm)	(mm)		
5203/C RE	●	2,5x98	21	8,16	80	100	15.000
5209/C RE	●	3,5x140	32	18,36	180	100	7.000
5214/C RE	●	3,5x200	50	18,36	180	100	7.000
5215/C RE	●	4,8x200	50	22,44	220	100	4.000
5217 RE	●	4,5x290	78	22,44	220	100	3.500
5203/C GE	●	2,5x98	21	8,16	80	100	15.000
5209/C GE	●	3,5x140	32	18,36	180	100	7.000
5214/C GE	●	3,5x200	50	18,36	180	100	7.000
5215/C GE	●	4,8x200	50	22,44	220	100	4.000
5217 GE	●	4,5x290	78	22,44	220	100	3.500
5203/C VE	●	2,5x98	21	8,16	80	100	15.000
5209/C VE	●	3,5x140	32	18,36	180	100	7.000
5214/C VE	●	3,5x200	50	18,36	180	100	7.000
5215/C VE	●	4,8x200	50	22,44	220	100	4.000
5217 VE	●	4,5x290	78	22,44	220	100	3.500
5203/C BE	●	2,5x98	21	8,16	80	100	15.000
5209/C BE	●	3,5x140	32	18,36	180	100	7.000
5214/C BE	●	3,5x200	50	18,36	180	100	7.000
5215/C BE	●	4,8x200	50	22,44	220	100	4.000
5217 BE	●	4,5x290	78	22,44	220	100	3.500

Other colours and dimensions available on request.

* The nominal dimensions can slightly change according to the utilized mould

CABLE TIES // IDENTIFICATION //

IDENTIFICATION CABLE TIES

The polyamide 6.6 cable ties with marking plate allow a quick identification through specific marking on the plate.

The positioning of the plate would be inside or outside the bundles of cables, depending on which code you choose.

TECHNICAL DATA

Raw material:	polyamide 6.6.
Halogen-free:	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids: not resistant to phenols and to chloride solvents.

APPLICATIONS

- ▶ Electrical installations.
- ▶ Industrial wiring.
- ▶ Automotive.
- ▶ Panel building.
- ▶ Special applications.

APPROVALS/CERTIFICATIONS

HALOGEN FREE

CABLE TIES // IDENTIFICATION //

IDENTIFICATION CABLE TIES



IDENTIFICATION CABLE TIES

Code	Dimensions	Plate height	Plate width	Ø Bundle max	Tensile strength		Pack	Carton
	(mm)	(mm)	(mm)		(kg)	(N)		
52100-ME	2,5x100	8	25,4	20	8,16	80	100	10.000
52200-ME	2,5x200	8	25,4	50	8,16	80	100	7.500

CABLE TIES // IDENTIFICATION //

IDENTIFICATION CABLE TIES



IDENTIFICATION CABLE TIES

Code	Dimensions	Plate height	Plate width	Ø Bundle max	Tensile strength		Pack	Carton
	(mm)	(mm)	(mm)		(kg)	(N)		
52190-ME	4,8x190	28	13	50	22,44	220	100	5.000
52270-ME	4,8x270	28	13	75	22,44	220	100	4.000

CABLE TIES // IDENTIFICATION //

IDENTIFICATION CABLE TIES



IDENTIFICATION CABLE TIES

Code	Dimensions	Plate height	Plate width	Ø Bundle max	Tensile strength		Pack	Carton
	(mm)	(mm)	(mm)		(kg)	(N)		
52110-ME	2,5x110	9,1	20,4	20	8,16	80	100	10.000
52210-ME	2,5x210	9,1	20,4	52	8,16	80	100	10.000

CABLE TIES // FOR PANELS //

CABLE TIES FOR PANELS

The polyamide 6.6 push mount cable ties are used for fixing cables to panels with thickness up to 3 mm. The Polyamide 6.6 cable ties with mounting hole, instead, are used for bundling the cables with a screw or bolt.

TECHNICAL DATA

Raw material:	polyamide 6.6.
Halogen-free:	
Humidity absorption:	2,7% [50% relative humidity].
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPLICATIONS

- ▶ Electrical installations.
- ▶ Industrial wiring.
- ▶ Automotive.
- ▶ Panel building.
- ▶ Special applications.

APPROVALS/CERTIFICATIONS

HALOGEN FREE

PUSH MOUNT CABLE TIES



PUSH MOUNT CABLE TIES FOR PANELS

Code	Dimensions	Ø Hole	Panel Thickness	Ø Bundle max	Tensile strength		Pack	Carton
Natural	(mm)	(mm)	(mm)	(mm)	(kg)	(N)	pcs.	pcs.
52155-ME	3,5x150	5,5	2,7	38	13,26	130	100	7.500
52199-ME	3,5x200	5,5	2,7	50	13,26	130	100	5.000
52205-ME	4,5x200	6,3	3	50	22,44	220	100	5.000

CABLE TIES WITH MOUNTING HOLE



CABLE TIES WITH MOUNTING HOLE FOR PANELS

Code	Dimensions	Ø Bundle max	Tensile strength		Ø Hole	Pack	Carton
Natural	(mm)	(mm)	(kg)	(N)	(mm)	pcs.	pcs.
52150-IE	3,5x150	32	13,26	130	4,4	100	10.000
52200-IE	3,5x200	49	13,26	130	4,4	100	5.000
52150-SE	4,5x150	32	22,44	220	5,4	100	7.500
52200-SE	4,5x200	47	22,44	220	5,4	100	5.000
52200-HE	7,5x200	44	55,08	540	6	100	3.000
52300-HE	7,5x300	75	55,08	540	6	100	2.000
52380-HE	7,5x380	101	55,08	540	6	100	2.000

CABLE TIES // RELEASABLE //

RELEASABLE CABLE TIES



The polyamide 6.6 releasable cable ties allow a quick and simple release of the ties. They are ideal for temporary installations or when the addition or removal of cables is required.

TECHNICAL DATA

Raw material:	polyamide 6.6.
Halogen-free:	
Humidity absorption:	2,7% (50% relative humidity).
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

HALOGEN FREE

RELEASABLE CABLE TIES

Code	Code	Dimensions	Ø Bundle max	Tensile strength		Pack	Carton
Natural	Black	(mm)	(mm)	(kg)	(N)	pcs.	pcs.
5250E	5350E	7,5x200	50	22,44	220	100	6.000
5252E	5352E	7,5x250	65	22,44	220	100	4.000
5254E	5354E	7,5x350	100	22,44	220	100	3.500

Available, on request, coloured (red, yellow, green, blue)

COLSPEED CABLE TIES



Colspeed cable ties are produced in Polyamide 6.6. The flat head, the high surface and the closing system with external teeth of these cable ties, make them particularly suitable for applications on suspended lines, avoiding problems of insulation damage.

In the Colspeed cable ties the added carbon black gives an UV resistance higher than the natural ones.

TECHNICAL DATA

Raw material:	polyamide 6.6.
Halogen-free:	
Humidity absorption:	2,7% [50% relative humidity].
Working temperature:	-40°C ÷ 85°C.
Installation temperature:	-10°C ÷ 60°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.



HALOGEN FREE

APPLICATIONS

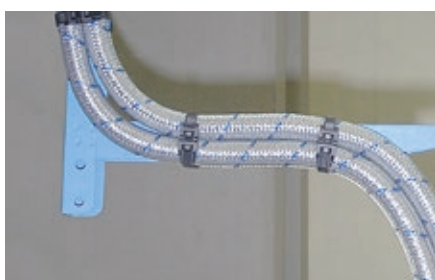
- ▶ Electrical installations.
- ▶ Industrial wiring.
- ▶ Automotive.
- ▶ Panel building.
- ▶ Special applications where a high resistance is required.

BENEFITS

- ▶ Hard to release.
- ▶ Limited insertion effort.
- ▶ Rounded edges for the safest application.
- ▶ Bent rounded tip for an easier insertion.
- ▶ The cable ties can be closed by hand, without the dedicated tool.

COLSPEED CABLE TIES

Code	Dimensions	Head	Ø Bundle max	Tensile strength		Pack	Carton
	(mm)			(kg)	(N)		
6501E	8,8X200	SINGLE	40	40,80	400	100	4.000
6502E	8,8X290	DOUBLE	70	59,16	580	100	2.500
6503E	8,8X380	DOUBLE	100	59,16	580	100	2.000



LINKED PRODUCTS:

Tools for cable ties, see pages 82



INSTALLATIONS CABLE TIES //

BELTURING PLUS CABLE TIES



Belturing Plus cable ties are produced in a special techno-polymer that gave them an extra UV resistance according to the norm CEI EN 62275 (ISO 4892-2, method A - 1000 hours simulating a condition equivalent to an exposition to solar radiance of at least 10 years in a region of South European Countries. Belturing Plus cable ties meet all the tests defined by the norm and maintain, after the test conditions, the 50% of the declared tensile strength (type 1 classification - point 6.2.1 of the standard). The flat head, the high surface and the closing system with external teeth of the cable ties make them particularly suitable for applications on suspended lines, avoiding problems of insulation damage. The particular closing system, which ensures a high resistance to reopening, makes necessary the application with a dedicated tool.

They are therefore recommended in outdoor applications for special climatic conditions and a prolonged UV exposure making them ideal for photovoltaic installations.

TECHNICAL DATA

Raw material:	technopolimer.
Halogen-free:	
Humidity absorption:	<1%.
Working temperature:	-45°C ÷ 85°C.
Installation temperature:	-30°C ÷ 60°C.
Flammability rating:	UL 94 class HB.
Resistance to external agents:	excellent resistance to UV ray (DNV certificate). high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.



Lloyd's Register
Marine



HALOGEN FREE

APPLICATIONS

- ▶ Electrical installations.
- ▶ Photovoltaic installations.
- ▶ Industrial wiring.
- ▶ Heavy-duty applications.
- ▶ External applications.

BENEFITS

- ▶ Highly withstands climatic changes, also in sea-areas.
- ▶ Excellent resistance to UV rays.
- ▶ Can be used in temporary position, which allows the re-opening.
- ▶ A very practical box that can easily be hung to your belt. Its convenient upper opening, very easy to be reclosed, allows the quickest picking-up of the product and the best protection from dust.

INSTALLATION METHOD



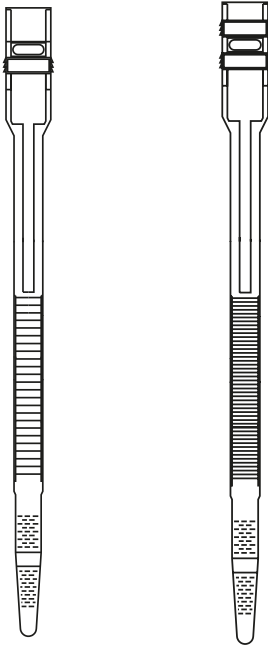
1. Temporary installation (releasable).
2. Definitive installation



LINKED PRODUCTS:

Tools for cable ties, see pages 82




BELTURING PLUS CABLE TIES - SINGLE HEAD

Code	Dimensions	Ø Bundle max	Tensile strength		Pack	Carton
			(kg)	(N)		
Black	(mm)	(mm)			pcs.	pcs.
6449XE	6x115	25	28,56	280	100	7.000
6450XE	6x180	45	28,56	280	100	4.800
6452XE	6x290	78	28,56	280	100	3.500
6454XE	6x360	100	28,56	280	100	1.500
6447XE	9x132	27	39,78	390	100	4.800
6451XE	9x180	40	39,78	390	100	4.800

BELTURING PLUS CABLE TIES - DOUBLE HEAD

Code	Dimensions	Ø Bundle max	Tensile strength		Pack	Carton
			(kg)	(N)		
Black	(mm)	(mm)			pcs.	pcs.
6453XE	9x260	60	55,08	540	100	2.000
6448XE	9x300	80	55,08	540	100	1.500
6455XE	9x360	93	55,08	540	100	1.500
6456XE	9x510	140	55,08	540	100	800
6457XE	9x760	220	55,08	540	100	400

STAINLESS STEEL CABLE TIES //

COLSTEEL CABLE TIES



Colsteel cable ties are made in stainless steel 304 or 316 with ball lock system, for a quick installation and a low insertion effort. They are characterized by an high resistance to high temperature, to the flame and to corrosion.

Extremely UV-resistant, they are ideal for photovoltaic and solar thermal applications and in all areas exposed to the sun and external agents.

The AISI 316 stainless steel is recommended for use in aggressive environments where a very high corrosion resistance is required.

TECHNICAL DATA

Raw material:	stainless steel AISI 304 and 316
Halogen-free.	
Humidity absorption:	no sign.
Working temperature:	-80°C ÷ 538°C.
Not inflammable.	
Resistance to external agents:	excellent resistance to acids, oils, greases, chemicals, solvents, seawater and to corrosive atmosphere excellent resistance to UV rays.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.



STAINLESS STEEL CABLE TIES - AISI 304 - 316

Code	Code	Dimensions	Ø Bundle max	Thickness	Tensile strength		Pack	Carton
AISI 304	AISI 316	(mm)	(mm)	(mm)	(Kg)	(N)	pcs.	pcs.
6701	-	4,6x127	25	0,25	91,80	900	100	4.000
6703	6753	4,6x201	51	0,25	91,80	900	100	3.000
6706	6756	4,6x266	69	0,25	91,80	900	100	3.000
6708	6758	4,6x362	102	0,25	91,80	900	100	3.000
6710	6760	4,6x521	152	0,25	91,80	900	50	1.000
6712	-	4,6x838	254	0,25	91,80	900	50	1.000
6719	6769	7,9x201	51	0,25	204,00	2.000	100	1.500
6720	6770	7,9x266	69	0,25	204,00	2.000	100	1.500
6722	6772	7,9x362	102	0,25	204,00	2.000	100	1.000
6724	-	7,9x521	152	0,25	204,00	2.000	50	1.000
6726	-	7,9x838	254	0,25	204,00	2.000	50	1.000
6728	-	7,9x1.067	304	0,25	204,00	2.000	50	1.000



APPLICATIONS

- ▶ Fixing of cables and pipes in the shipbuilding industry, offshore platforms, petrochemical plants, oil rigs, and environments with a risk of fire.
- ▶ Used as flame safety in electrical installations to fix the metal plates of identification (eg: fire-fighting systems) which must be preserved in the event of fire.
- ▶ Installations where a high mechanical and UV resistance are required (photovoltaic).

BENEFITS

- ▶ Grip by hand or with the dedicated tool.
- ▶ The ball lock system allows a little effort and save time during the installation.
- ▶ They can be put like fire assurance when other plastic cable ties are used (i.e. in the ship technological plants).
- ▶ They can be used like fire assurance when properties of superior strength are required.
- ▶ The absence of flashes and cutting edges avoid damages on the cable electrical insulation.

LINKED PRODUCTS:

Tools for cable ties, see pages 83



DISPLAYS FOR CABLING PRODUCTS



CABLE TIES ROTATING COUNTER DISPLAY

Code	Height (mm)	Width (mm)	Deep (mm)	Pack pcs.
8312500	760	260	230	1
EXPO 2-LOCK	760	260	230	1

Cable ties rotating counter display with fixed hooks. It can contain till 7 different dimensions of cable ties (from cod.5X01/CE up to 5X27E) for a max quantity of 5 cable ties bags for hook.

NOTE

Display without assortment. In order to personalize the assortment, please contact our sales department.



CABLE TIES FLOOR DISPLAY IN METAL

Code	Height (mm)	Width (mm)	Deep (mm)	Pack pcs.
8222200	2.020	540	360	1

Floor display with 30 moving hooks (included). It can contain 30 different dimensions of cable ties for a max quantity of 7 cable ties bags for hook.

NOTE

Display without assortment. In order to personalize the assortment, please contact our sales department.

822212 - KIT CABLE TIES ASSORTMENT FOR FLOOR DISPLAY

Code	Code	Dimensions (mm)	Ø Bundle max (mm)	Tensile strength		Q.ty pcs.
Natural	Black			(kg)	(N)	
5203/CE	5303/CE	2,5x98	21	8,16	80	700
5205/CE	5305/CE	2,5x135	32	8,16	80	700
5207/CE	5307/CE	2,6x200	52	18,36	180	700
5208E	5308E	3,5x370	103	18,36	180	700
5209/CE	5309/CE	3,5x140	35	18,36	180	700
5210/CE	5310/CE	3,5x290	80	18,36	180	700
5214/CE	5314/CE	3,5x200	50	18,36	180	700
5216/CE	5316/CE	4,8x250	68	22,44	220	700
5219E	5319E	4,5x360	100	22,44	220	700
5225E	5325E	7,8x240	63	55,08	540	700

Cable ties assortment to fit the cable ties floor display cod. 8222200.



FLOOR DISPLAY

Code	Description	Dimensions (cm)	Pack pcs.
8221801 NEW	Display structure	100 x h.225 x 50	1
	1 base deep 50cm	50	
	1 shelf deep 40cm	40	
	1 plate for crowner	100	
8221906	Pillar	-	1
8221896	Elematic magnetic crowner	98 x h.29	1

NOTE

Display without assortment. In order to personalize the assortment, please contact our sales department.

CABLE TIES ACCESSORIES // CABLE TIES SUPPORTS //

WALL PLUG BASE



5458E



5459E



5456 AE - 5458 AE

Polyamide 6 support for cable ties up to 9 mm width.
Available in two heights, with or without lips, in black colour.
Fixing with hammer-in anchor.

TECHNICAL DATA

Raw material:	polyamide 6.
Halogen-free:	
Humidity absorption:	3% (at 50% relative humidity).
Working temperature:	-10°C ÷ 65°C.
Min tightening temperature:	-5°C.
Flammability rating:	UL 94 class V2.
Resistance to external agents:	high resistance to aromatic solvents, oils, greases, oil derivatives, good resistance to bases, limited resistance to acids; not resistant to phenols and to chloride solvents.

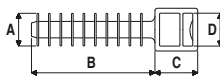
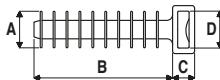
APPLICATIONS

- ▶ Fixing of cables and pipes on solid materials (concrete, solid brick, etc.) in civil and industrial installations.
- ▶ For cable ties up to 9 mm width.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.

HALOGEN FREE

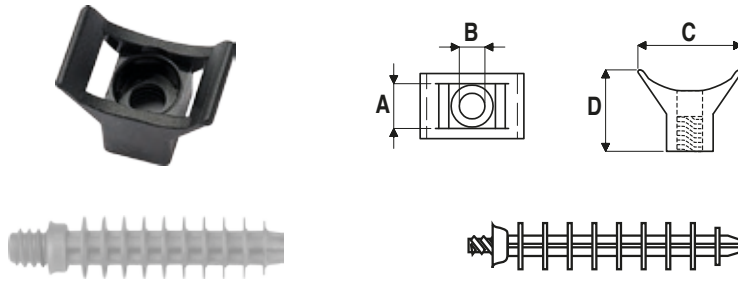


WALLPLUG BASE

Code	Ø Hole (mm)	Dimensions (mm)				Tensile strength		Pack pcs.	Carton pcs.
		A	B	C	D	(kg)	(N)		
5456 AE	6	7,8	30,7	6,3	9,6	55,08	540	100	5.000
5458E	8	10	37	6,5	9,7	55,08	540	100	5.000
5458 AE	8	10	37	6,5	9,7	55,08	540	100	5.000
5459E	8	10	37	13	9,7	55,08	540	100	5.000

CABLE TIES ACCESSORIES // CABLE TIES SUPPORTS //

THREADED SUPPORT FOR CABLE TIE



Polyamide 6.6 black cable ties support M6/7 threaded. It can be fixed with standard anchors or with polyamide 6 M7 threaded wall plug.

APPLICATIONS

- Fixing of cables and pipes with cable ties, on solid materials (concrete, solid brick, etc.) in civil and industrial installations.
- For cable ties up to 9 mm width.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.

HALOGEN FREE

CABLE TIES THREADED SUPPORT

Code	Dimensions (mm)				Tensile strength		Pack	Carton
	A	B	C	D	(kg)	(N)		
1041301E	9,4	5	23	17,6	40,80	400	100	8.000

THREADED WALL PLUG M7

Code	Length	Ø Hole	Thread	Pack	Carton
565940	37	8	M7	100	1.600

The product is provided with a tool in order to facilitate the installation.

CABLE TIES ACCESSORIES // CABLE TIES SUPPORTS //

ARROWHEAD CRADLE



Support in polyamide 6.6, natural, for cable ties.

Create a fixing base of the cable ties on the panels.

APPLICATIONS

- Application on surfaces and panels (plastic, sheet-steel) with thickness up 3 mm; hole Ø 6,5.
- For cable ties up to 7,8 mm width.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.

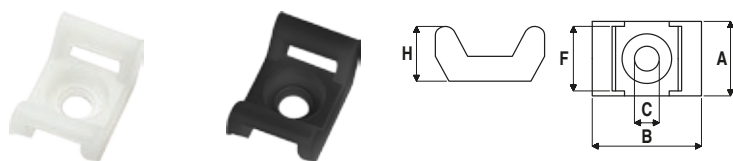
HALOGEN FREE

ARROWHEAD CRADLE

Code	Dimensions (mm)						Ø Hole	Tensile strength		Pack	Carton
	A	B	C	D	E	F		(kg)	(N)		
104300	10	10,6	8,1	3	8	7,7	6,5	55,08	540	100	17.000

CABLE TIES ACCESSORIES // CABLE TIES SUPPORTS //

CRADLES



Support in polyamide 6.6, black and natural, for cable ties.

Ideal for fixing cables and pipes in the civil and industrial applications.

APPLICATIONS

- ▶ Fixing with screw or rivet.
- ▶ For cable ties up to 4,8 or 9 mm width.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.

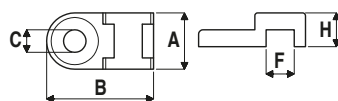
HALOGEN FREE

CRADLES

Code	Code	Cable tie width (mm)	Dimensions (mm)					Tensile strength		Pack	Carton
			A	B	C	F	H	(kg)	(N)		
Natural	Black										
5498	5499	4,8	9,5	15	3,5	5	7	22,44	220	100	10.000
5496E	5497E	9	14,6	22,5	5	9,3	11	71,4	700	100	5.000

CABLE TIES ACCESSORIES // CABLE TIES SUPPORTS //

EYELETS



Support in polyamide 6.6, natural, for cable ties.

Ideal for fixing cables on switchboards and panels where space is limited.

APPLICATIONS

- ▶ Fixing with screw or rivet.
- ▶ For cable ties up to 4,8 mm width.

APPROVALS/CERTIFICATIONS

Compliant with norm CEI EN 62275.

HALOGEN FREE

EYELETS

Code	Cable tie width (mm)	Dimensions (mm)					Tensile strength		Pack	Carton
		A	B	C	F	H	(kg)	(N)		
5460E	4,8	10	19	4,1	5	6	22,44	220	100	10.000

TWO WAYS MOUNTING BASES NEW

Two-ways mounting bases for the anchoring of wires to any smooth surface. Available in ABS white or black (std version), with or without adhesive, for any need of fixing, even in the most severe applications. Version with special material, UV resistant or metal detectable, it can be used in specific applications where special characteristics of the material are required (outdoor, sunny environment, food & pharma).

TECHNICAL DATA STANDARD MOUNTING BASES

Raw material: ABS.
 Working temperature: $-10^{\circ}\text{C} \div 60^{\circ}\text{C}$.
 Flammability rating: UL 94 class HB.

TECHNICAL DATA UV RESISTANT MOUNTING BASES

Raw material: polyamide 6.6
 Working temperature: $-40^{\circ}\text{C} \div 105^{\circ}\text{C}$.
 Flammability rating: UL 94 class V2.

TECHNICAL DATA UV RESISTANT MOUNTING BASES

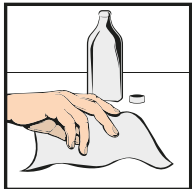
Raw material: polyamide 6.6 blue added with iron oxide.
 Working temperature: $-5^{\circ}\text{C} \div 60^{\circ}\text{C}$.
 Flammability rating: UL 94 class HB.

APPROVALS/CERTIFICATIONS

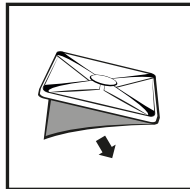
Compliant with norm CEI EN 62275.

HALOGEN FREE

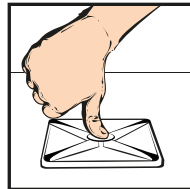
INSTALLATION INSTRUCTION FOR SELF ADHESIVE MOUNTING BASES



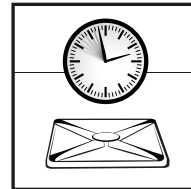
Clean the surface using an appropriate cleaner and wait until the surface is completely dried.



Peel off the protective film avoiding to touch the adhesive.



Put the base on the cleaned surface, pressing down with the finger for several seconds.



To assure the max adhesiveness to the surface, wait for the time indicated in the table technique.

ADHESIVE DATA SHEET

Type of support	U.m.	Rubber base Polyethylene	Acrylic base - Polyurethane
Density	kg/m ³	100	320
500 hour static shear adhesion*	kg/cm ²	0,7	0,3
Maximum recommended weight loading*	kg/cm ²	0,036	0,015
Tear resistance	kg/cm ²	10	20
Elongation		>150%	>90%
UV resistance		not recommended	good
Working temperature	°C	-40/60°C	-40/105°C
Recommended application temperature	°C	15/40°C	15/40°C
Stocking temperature	°C	18 /30°C - 50% u.r.	18 /30°C - 50% u.r.
Shelf life		12 months	24 months
Use		immediate application	application after 24h rest

*On clean zinc metallic surfaces.

MOUNTING BASES ADHESIVITY

Max recommended static load	Rubber base adhesive	Acrylic base adhesive
Dimensions 19x19 mm	150 gr	125 gr
Dimensions 27x27 mm	300 gr	250 gr

APPLICATIONS

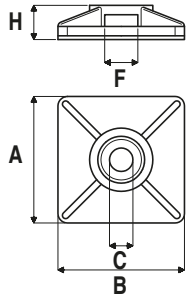
- ▶ Fixing with screw or adhesive, for cable ties up to 3,6 or 4,8 mm width.
- ▶ For indoor (standard), external (UV resistant), food and pharmaceutical industry (metal detectable) installations.
- ▶ **Without adhesive:** for applications with screw or other special adhesives.
- ▶ **With rubber base adhesive:** for applications where a good initial adhesiveness and an immediate use is required.
- ▶ **With acrylic base adhesive:** for applications where it needs a durable strength under severe conditions (high temperature, sun exposure). This product has lower initial tack compared to the one rubber base equipped, and you must wait at least a day for maximum adhesion, which will be maintained for a long time.

BENEFITS

- ▶ Wide range of materials, dimensions, colours, adhesives.
- ▶ Slim profile for application on limited space.

CABLE TIES ACCESSORIES // MOUNTING BASES FOR CABLE TIES //

STANDARD TWO- WAY MOUNTING BASES



BASES WITHOUT ADHESIVE

Code	Code	Cable tie width	Dimensions (mm)					Tensile strength		Pack	Carton
Natural	Black	(mm)	A	B	C	F	H	(kg)	(N)	pcs.	pcs.
5466E	5468E	3,6	19	19	4,1	4	5	18,36	180	100	10.000
5472E	5474E	4,8	27	27	4,8	6	6,5	22,44	220	100	5.000

BASES WITH RUBBER BASE ADHESIVE

Code	Code	Cable tie width	Dimensions (mm)					Tensile strength		Pack	Carton
Natural	Black	(mm)	A	B	C	F	H	(kg)	(N)	pcs.	pcs.
5467 RBE	5469 RBE	3,6	19	19	4,1	4	5	18,36	180	100	15.000
5473 RBE	5475 RBE	4,8	27	27	4,8	6	6,5	22,44	220	100	6.000

BASES WITH ACRYLIC BASE ADHESIVE

Code	Code	Cable tie width	Dimensions (mm)					Tensile strength		Pack	Carton
Natural	Black	(mm)	A	B	C	F	H	(kg)	(N)	pcs.	pcs.
5467 3MVE	5469 3MVE	3,6	19	19	4,1	4	5	18,36	180	100	15.000
5473 3MVE	5475 3MVE	4,8	27	27	4,8	6	6,5	22,44	220	100	6.000

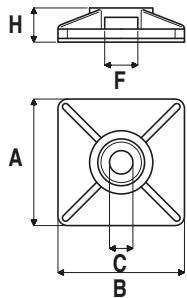
CABLE TIES ACCESSORIES // MOUNTING BASES FOR CABLE TIES //

SPECIAL TWO- WAY MOUNTING BASES NEW



DETECTABLE

UV RESISTANT

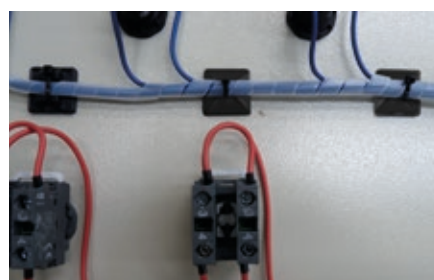


DETECTABLE BASES WITH RUBBER BASE ADHESIVE

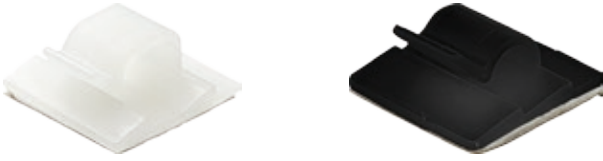
Code	Cable tie width	Dimensions (mm)					Tensile strength		Pack	Carton
Blue	(mm)	A	B	C	F	H	(kg)	(N)	pcs.	pcs.
5473DT RBE	4,8	27	27	4,8	6	6,5	22,44	220	100	6.000

UV RESISTANT BASES WITH ACRYLIC BASE ADHESIVE

Code	Cable tie width	Dimensions (mm)					Tensile strength		Pack	Carton
Black	(mm)	A	B	C	F	H	(kg)	(N)	pcs.	pcs.
5475UV 3MVE	4,8	27	27	4,8	6	6,5	22,44	220	100	6.000



ADHESIVE CABLE CLAMPS FOR ROUND CABLES



Polyamide 6.6 adhesive cable clamps, black or white, to fix round cables to any kind of smooth surface. Available with two different kinds of adhesives for any needs. For technical characteristics of the adhesive and installation instructions, please see the chapter "two-ways bases".

NOTE

For a correct application of the adhesive bases, the surfaces must be thoroughly cleaned and degreased with solvent (alcohol or other cleaning product).

TECHNICAL DATA

Raw material: polyamide 6.6.
 Working temperature: $-40^{\circ}\text{C} \div 85^{\circ}\text{C}$.
 Flammability rating: UL 94 class V2.

APPROVALS/CERTIFICATIONS

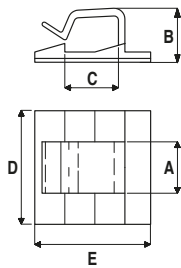
HALOGEN FREE

APPLICATIONS

- ▶ Fixing of round cables.
- ▶ With rubber base adhesive: for applications where a good initial adhesiveness and an immediate use is required.
- ▶ With acrylic base adhesive: for applications where it needs a durable strength under severe conditions (high temperature, sun exposure). This product has lower initial tack compared to the one rubber base equipped, and you must wait at least a day for maximum adhesion, which will be maintained for a long time.

BENEFITS

- ▶ Wide range for dimensions, colour, adhesive.



CABLE CLAMPS WITH RUBBER BASE ADHESIVE FOR ROUND CABLES

Code	Code	Dimensions (mm)				Pack	Carton
Natural	Black	A	B	C	D=E	pcs.	pcs.
5430 RBE	5431 RBE	10	5	4,9	19	100	12.000
5432 RBE	5433 RBE	12,3	12	12	26	100	5.000
5436 RBE	5439 RBE	16	15	18	26	100	3.000

CABLE CLAMPS WITH ACRYLIC BASE ADHESIVE FOR ROUND CABLES

Code	Code	Dimensions (mm)				Pack	Carton
Natural	Black	A	B	C	D=E	pcs.	pcs.
5430 3MVE		10	5	4,9	19	100	12.000
5432 3MVE		12,3	12	12	26	100	5.000
5436 3MVE		16	15	18	26	100	3.000

ACCESSORIES FOR FIXING //

ADHESIVE CABLE CLAMPS FOR FLAT CABLES



Adhesive cable clamps in white PVC, to fix flat cables to any kind of smooth surface. For technical characteristics of the adhesive and installation instructions, please see the chapter "two-ways bases".

NOTE

For a correct application of the adhesive bases, the surfaces must be thoroughly cleaned and degreased with solvent (alcohol or other cleaning product).

TECHNICAL DATA

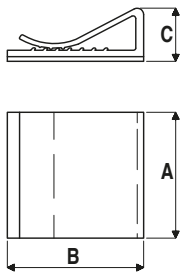
Raw material: PVC.
 Working temperature: $-10^{\circ}\text{C} \div 70^{\circ}\text{C}$.
 Flammability rating: UL 94 class V0.

APPLICATIONS

- ▶ Fixing of flat cables.
- ▶ The rubber-base adhesive is suitable for applications where a good initial adhesiveness and an immediate use is required.
- ▶ For technical characteristics of the adhesive and installation instructions, please see the table below.

BENEFITS

- ▶ Excellent self-extinguishing characteristics.



ADHESIVE FLAT RIBBON CABLE CLAMPS

Code	Dimensions (mm)			Pack	Carton
White	A	B	C	pcs.	pcs.
AFC-20	20	26	9,6	100	5.000
AFC-25	25	26	9,6	100	5.000
AFC-30	30	26	9,6	50	3.500

ACCESSORIES FOR FIXING //

CRAMP WITH STEEL NAIL



High-density polyethylene cramp with high thermic resistance, with hardened and galvanized steel nail.
Ideal to fix electric cables on wall or wood. They are available for round or flat cables.

TECHNICAL DATA

Raw material: high-density polyethylene with high thermic resistance.
Nail in hardened and galvanized steel.

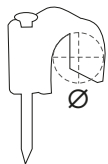
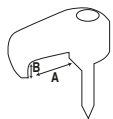
Working temperature: $-40^{\circ}\text{C} \div 100^{\circ}\text{C}$.
Flammability rating: UL 94 class V2.

BENEFITS

- ▶ Wide range of wire sizes (round, flat).
- ▶ Re-sealable and rigid packaging.

APPROVALS/CERTIFICATIONS

HALOGEN FREE



CRAMP WITH STEEL NAIL FOR FLAT CABLE

Code	Dimensions Ax B (mm)	Cable type (cable nr. x mm ²)	Nail dimensions (mm)	Pack pcs.
13620001	5,8x3,5	2x1	2x22	100
13620002	8x2	2x1,5-3x1	2x22	100
13620003	10x3,5	3x1,5-3x2,5	2x22	100

CRAMP WITH STEEL NAIL FOR ROUND CABLE

Code	Dimensions Ø (mm)	Cable type (cable nr. x mm ²)	Nail dimensions (mm)	Pack pcs.
13620004	4	1x1-2x0,5	2x20	100
13620005	5	2x0,75	2x22	100
13620006	6	2x1	2x22	100
13620007	7	2x1-2x1,5	2x27	100
13620008	8	2x2,5	2x27	100
13620009	9	3x2,5	2x27	100
13620010	10	2x4	2x30	100
13620012	12	3x6	2x35	100
13620014	14	4x6	2x35	100
13620017	17	3x10	2x40	50
13620018	6	TV antenna	2x30	100

DUCT RODS RANGE // IN POLYESTER //

ELETWIST

Twisted polyester duct rod \varnothing 4,5 mm, from 10 to 30 meters, with interchangeable threaded terminals.

High boost power, thanks to the absence of shape memory which maintains the rod straight during insertion in the cable ducts.

Excellent sliding within the conduits.

Pulling resistance (with terminals): 130 kg

APPLICATIONS

- ▶ Civil and tertiary installations.

BENEFITS

- ▶ Power and flexibility.
- ▶ Provided with a pulling grip to make easier the traction;
- ▶ interchangeable threaded terminals.
- ▶ Available with cage for an easy and fast rewind of the rod.



ELETWIST DUCT RODS \varnothing 4,5 mm

Code	\varnothing (mm)	Thread	Pack pcs.
13530410	4,5	10	1
13530415	4,5	15	1
13530420	4,5	20	1
13530425	4,5	25	1
13530430	4,5	30	1

DUCT RODS RANGE // IN POLYESTER //

ELETWIST ACCESSORIES



EYELET M5

Code	\varnothing (mm)	Thread	Pack pcs.
13530001	5	M5	3



FLEXIBLE STARTING TERMINAL M5 WITH EYELET

Code	\varnothing (mm)	Thread	Pack pcs.
13530002	5	M5	2



STEEL CAGE FOR ELETWIST \varnothing 4,5 mm

Code	\varnothing Cage (mm)	Weight (kg)	Pack pcs.
13530004	280	2,1	1

DUCT RODS RANGE // IN NYLON //

NYLON DUCT RODS

TECHNICAL DATA

Nylon Perlon \varnothing 4 mm duct rod, length up to 25 m, with interchangeable threaded terminals.

High flexibility.

Pulling resistance (with terminals): 115 kg.

APPLICATIONS

- ▶ Civil installations.

BENEFITS

- ▶ Efficiency and practical usage.
- ▶ Ideal for short duct section.
- ▶ interchangeable threaded terminals.



NYLON DUCT RODS \varnothing 4 mm

Code	\varnothing (mm)	Length (m)	Tensile strength (kg)	Q.ty pcs.
13510210	4	10	115	1
13510215	4	15	115	1
13510220	4	20	115	1
13510225	4	25	115	1

Other dimensions and types available on request. For further information, please contact our sales department.

DUCT RODS RANGE // IN NYLON //

NYLON DUCT RODS ACCESSORIES



STARTING TERMINAL M4

Code	\varnothing (mm)	Thread	Q.ty pcs.
13510001	5	M4	3



FLEXIBLE STARTING TERMINAL WITH EYELET

Code	\varnothing (mm)	Thread	Q.ty pcs.
13510002	5	M4	2



Lubrificant gel for cable passage

Code	Description	Nominal capacity (ml)	Pack pcs.
13520001	Lubrificant gel	500	1

Lubrificant gel, water base, for favouring the passage of wires and cables in the electrical conduits; it reduces of 80% the friction in inserting the wires on pipes and tubes.

The innovate formula avoids the glue effect, typical of many other products. After its fast evaporation, there remains the lubricity for a long time.

Working and stocking temperature: $-10^{\circ}\text{C} \div 50^{\circ}\text{C}$. Chemical inert and non-toxic.

ELEFIX



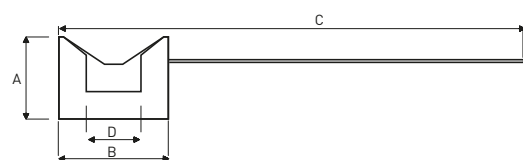
ELEFIX is an easy and quick accessory for the fixing of pipes and tubes. It is available in std grey version for indoor applications.

TECHNICAL DATA

Raw material:	polyamide 6.6, grey colour RAL 7035
Installation temperature:	-15°C ÷ 35°C
Working temperature:	-40°C ÷ +85°C
Flammability rating:	V2 secondo UL 94
Glow wire test:	850 °C according to IEC 60695-2-12
Min tensile strength:	360 N

CERTIFICATIONS

Compliant with norm CEI EN 62275.



Code	Type	Ø Nominal (mm)	Dimensions (mm)				Tensile strength (N)	Pack pcs.	Carton pcs.
			A	B	C	D			
565958	ELEFIX	16-32	17,6	24,5	180	5,9	360	100	1.200
565961		40-63	17,6	40,5	280	5,9	360	100	600

CHARACTERISTICS

- ▶ The two versions: Ø 16-32 mm and Ø 40-63 mm permit the anchorage of conduits of rigid plastic and metal from Ø 16 to 63 mm.
- ▶ M7 threaded hole for fixing with threaded accessories or with anchors.

BENEFITS

- ▶ The ELEFIX range integrated with the proper anchor, allows the fixing on all the types of materials such as natural stone, concrete, hollow blocks and bricks, plasterboard and aerated concrete.
- ▶ The packaging offers to the end users an excellent functionality: in fact into the box you can find an empty space that permits to contain the anchors chosen for the desired application.



LINKED PRODUCTS:

Threaded wall plug M7, see pages 29



RECOMMENDED TRACTION LOADS

		Building material					
		Full material	Hollow material			Other supports	
Threaded anchor M7		85 N	-	-	-	-	30 N
UCX VM6		200 N	-	-	-	-	-
T6/VA 6x30 - 8x40		350 N**	230 N**	-	-	-	100 N
MINI DRIVA		-	-	30 N	30 N*	30 N	30 N
T-CLICK		-	-	90 N	90 N*	-	90 N
DRIVA		-	-	60 N	60 N*	60 N	60 N
DRIVA NYLON		-	-	40 N	40 N*	-	40 N

*with pre-drilling

**values obtained with T6/VA 8x40

INSTALLATION METHOD

With anchor M7 (code: 565940)				
With UCX VM6 (cod. 8710014)				
With T6/VA 6x30 (cod. 565390)				
With Mini Driva (cod. 565398)				
With Driva (cod. 8704226)				
With T-Click (cod. 8704216)				

ELEFIX

THE FAST
AND EASY
PIPE FIXING

THREADED HOLE

M7 threaded hole for fixing with threaded accessories or with anchors.

MULTI-MATERIAL

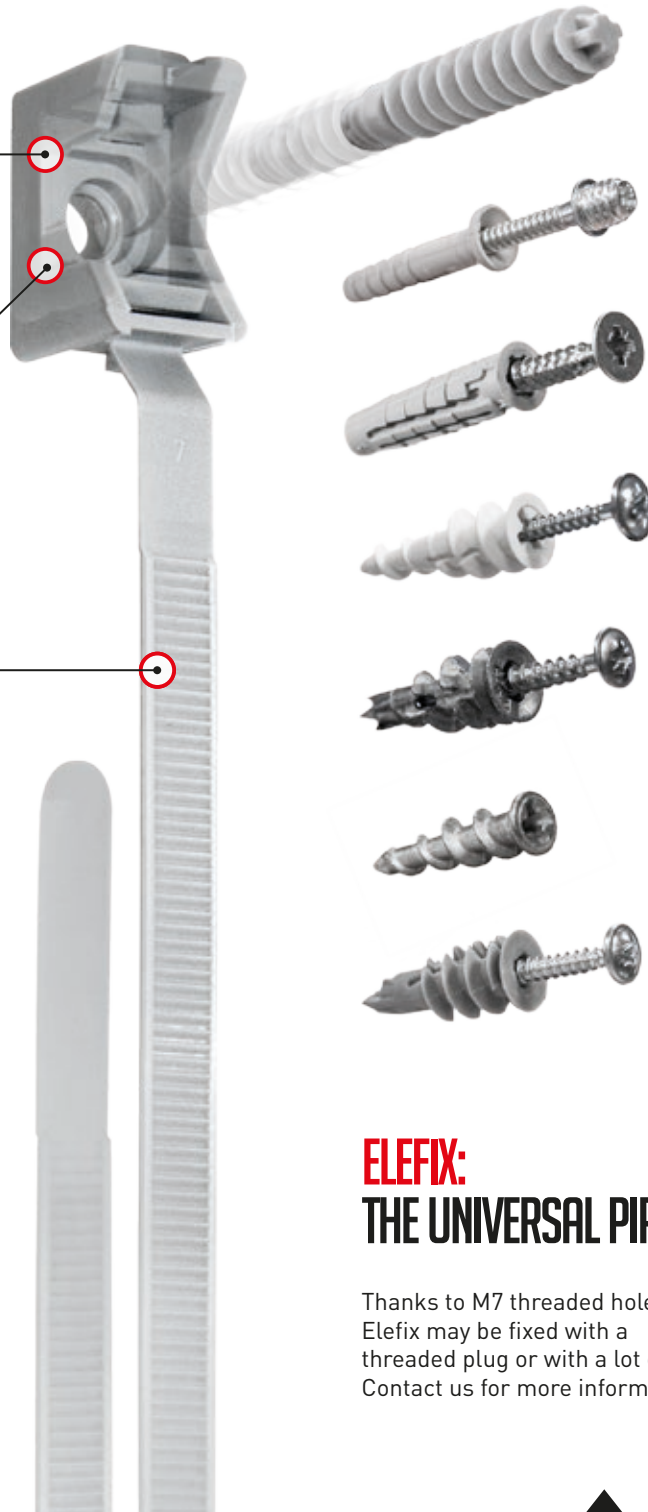
Elefix allows fixing on all the types of materials such as natural stone, concrete, hollow blocks and bricks, plasterboard and aerated concrete.

FLAMMABILITY

V2 according to UL 94
(grey and black versions)
V0 according to UL 94
(white version)

VERSATILE

The two versions permit the anchorage of conduits of rigid plastic and metal from Ø 16 to 63 mm.



THREADED HOLE

UCX VM

T6/VA

DRIVA NYLON

DRIVA

MINI DRIVA

T-CLICK

ELEFIX: THE UNIVERSAL PIPE FIXING

Thanks to M7 threaded hole,
Elefix may be fixed with a
threaded plug or with a lot of anchors!
Contact us for more informations



CABLE CONNECTORS

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PREINSULATED COPPER TERMINALS



The preinsulated copper terminals create a perfect base of contact for the insertion of the cables into blocks, using a limited space.

TECHNICAL DATA

Connector material: electrolytic tinned copper (purity grade 99,9%).
 Insulation material: polypropylene.
 Self-extinguishing UL94 V2

Halogen-free.
 Working temperature: $-10^{\circ}\text{C} \div 105^{\circ}\text{C}$.
 Installation temperature: $0^{\circ}\text{C} \div 60^{\circ}\text{C}$.
 Max admissible point: 120°C for short periods.
 Resistance to external agents: good resistance to bases and weak acids. Limited resistance to strong oxidant acids, oils and minerals. No resistance to chloride solvents.

APPROVALS/CERTIFICATIONS

According, for colour and dimension, to the norm DIN 46228/4.
 Certification CSA nr. 250148.



APPLICATIONS

- ▶ Electrical wiring and connections in electric and electronics switchboards.

BENEFITS

- ▶ High conductivity of the raw material.
- ▶ Available in three colours: T, W and D.
- ▶ Available in cutting strips 50 pcs. in the sect. 0,5 - 0,75 - 1,0 - 1,5 - 2,5 mm².



Preinsulated end-sleeve terminals - 50 pcs - cutting strips

Code	Section			Dimensions (mm)						Pack pcs.
	T	(mm ²)	AWG	L1	L2	D1	S1	D2	S2	
E02B	○	0,50/N	20	14	8	1	0,15	2,6	0,25	500
E05B	●	0,75/N	18	14	8	1,2	0,15	2,8	0,25	500
E09B	●	1,00/N	18	14	8	1,4	0,15	3	0,25	500
E13B	●	1,50/N	16	14	8	1,7	0,15	3,5	0,25	500
E16B	●	2,50/N	14	14	8	2,2	0,15	4,2	0,25	500

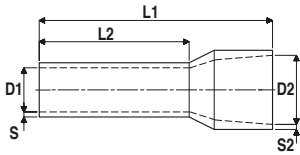
Tool for crimping end-sleeve terminals in strips, see cabling tools section.



LINKED PRODUCTS:

Tools for terminals, see pages 84




Preinsulated copper terminals - col. T/W/D

Code	T	Code	W	Code	D	Section		Dimensions (mm)					Pack pcs.	
						(mm ²)	AWG	L1	L2	D1	S	D2		S2
E034	●	E134	●			0,25/N	24	10	6	0,75	0,15	1,8	0,25	500
E035	●	E135	●			0,25/L	24	12	8	0,75	0,15	1,8	0,25	500
E036	●	E136	●			0,34/N	22	10	6	0,8	0,15	2	0,25	500
E037	●	E137	●			0,34/L	22	12	8	0,8	0,15	2	0,25	500
E01	○	E010	●	E01	○	0,50/K	20	12	6	1	0,15	2,6	0,25	500
E02	○	E020	●	E02	○	0,50/N	20	14	8	1	0,15	2,6	0,25	500
E02C	○				○	0,50/N	20	14	8	1	0,15	2,6	0,25	100
E03	○	E030	●	E03	○	0,50/HL	20	16	10	1	0,15	2,6	0,25	500
E04	●	E040	○	E004D	●	0,75/K	18	12	6	1,2	0,15	2,8	0,25	500
E05	●	E050	○	E005D	●	0,75/N	18	14	8	1,2	0,15	2,8	0,25	500
E05C	●					0,75/N	18	14	8	1,2	0,15	2,8	0,25	100
E06	●	E060	○	E006D	●	0,75/HL	18	16	10	1,2	0,15	2,8	0,25	500
E07	●	E070	○			0,75/L	18	18	12	1,2	0,15	2,8	0,25	500
E08	●	E080	●	E08	●	1,00/K	18	12	6	1,4	0,15	3	0,25	500
E09	●	E090	●	E09	●	1,00/N	18	14	8	1,4	0,15	3	0,25	500
E09C	●					1,00/N	18	14	8	1,4	0,15	3	0,25	100
E10	●	E100	●	E10	●	1,00/HL	18	16	10	1,4	0,15	3	0,25	500
E11	●	E110	●	E11	●	1,00/L	18	18	12	1,4	0,15	3	0,25	500
E13	●	E113	●	E13	●	1,50/N	16	14	8	1,7	0,15	3,5	0,25	500
E13C	●					1,50/N	16	14	8	1,7	0,15	3,5	0,25	100
E14	●	E114	●	E14	●	1,50/HL	16	16	10	1,7	0,15	3,5	0,25	500
E15	●	E115	●	E15	●	1,50/L	16	24	18	1,7	0,15	3,5	0,25	500
E16	●	E116	●	E116	●	2,50/N	14	14	8	2,2	0,15	4,2	0,25	500
E16C	●					2,50/N	14	14	8	2,2	0,15	4,2	0,25	100
E17	●	E117	●	E117	●	2,50/HL	14	18	12	2,2	0,15	4,2	0,25	500
E18	●	E118	●	E118	●	2,50/L	14	24	18	2,2	0,15	4,2	0,25	500
E19	●	E119	●	E119	●	4,00/N	12	16,5	10	2,8	0,2	4,8	0,3	500
E19C	●					4,00/N	12	16,5	10	2,8	0,2	4,8	0,3	100
E20	●	E120	●	E120	●	4,00/HL	12	19,5	12	2,8	0,2	4,8	0,3	500
E21	●	E121	●	E121	●	4,00/L	12	25,5	18	2,8	0,2	4,8	0,3	500
E22	●	E122	●	E022D	●	6,00/N	10	20	12	3,5	0,2	6,3	0,3	100
E23	●	E123	●	E023D	●	6,00/L	10	26	18	3,5	0,2	6,3	0,3	100
E24	●	E124	●	E024D	●	10,00/N	8	22	12	4,5	0,2	7,6	0,4	100
E25	●	E125	●	E025D	●	10,00/L	8	28	18	4,5	0,2	7,6	0,4	100
E26	●	E126	●	E026D	●	16,00/N	6	24	12	5,8	0,2	8,8	0,4	100
E27	●	E127	●	E027D	●	16,00/L	6	28	18	5,8	0,2	8,8	0,4	100
E28	●	E128	●	E028D	●	25,00/N	4	30	16	7,3	0,2	11,2	0,4	50
E29	●	E129	●	E029D	●	25,00/L	4	36	22	7,3	0,2	11,2	0,4	50
E30	●	E130	●	E30	●	35,00/N	2	30	16	8,3	0,2	12,7	0,4	50
E31	●	E131	●	E31	●	35,00/L	2	39	25	8,3	0,2	12,7	0,4	50
E32	●	E132	●	E32	●	50,00/N	1	36	20	10,3	0,3	15	0,5	50
		E133	●			50,00/L	1	40	25	10,3	0,3	15	0,5	50

Ferrule length: Short=K - Normal=N - Medium=HL - Long = L

TWIN INSULATED TERMINALS



Insertion of two cables into the same terminal.

TECHNICAL DATA

Connector material:	electrolytic tinned copper (purity grade 99,9%).
Insulation material:	polypropylene.
	Self-extinguishing UL94 V2
Halogen-free:	
Working temperature:	-10°C ÷ 105°C.
Installation temperature:	0°C ÷ 60°C.
Max admissible point:	120°C for short periods.
Resistance to external agents:	good resistance to bases and weak acids. Limited resistance to strong oxidant acids, oils and minerals. Not resistant to chloride solvents.

APPLICATIONS

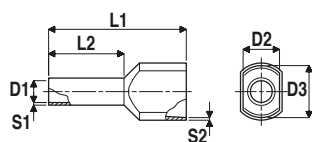
- ▶ Electrical wiring and connections in electric and electronics switchboards.

BENEFITS

- ▶ High conductivity of the raw material.
- ▶ Minimal operational space of the terminals in the block.
- ▶ Allows the insertion of two cables into the same terminal.

APPROVALS/CERTIFICATIONS

According, for colour and dimension, to the norm DIN 46228/4.
Certification CSA nr. 250148.



TWIN insulated terminals

Code		Code		Section		Dimensions (mm)						Pack	
T	D	T	D	D	(mm ²)	D1	D2	D3	L1	L2	S1	S2	pcs.
11031002	○	11031002	○	2x0,50/N	1,4	2,5	4,7	15	8	0,15	0,25	500	
11031005T	●	11031005	●	2x0,75/N	1,7	2,8	5	15	8	0,15	0,25	500	
11036006T	●	11036006	●	2x0,75/HL	1,7	2,8	5	17	10	0,15	0,25	500	
11031009	●	11031009	●	2x1,00/N	1,95	3,4	5,4	15	8	0,15	0,3	500	
11036010	●	11036010	●	2x1,00/HL	1,95	3,4	5,4	17	10	0,15	0,3	500	
11031013	●	11031013	●	2x1,50/N	2,2	3,6	6,6	16	8	0,15	0,3	500	
11036014	●	11036014	●	2x1,50/HL	2,2	3,6	6,6	20	12	0,15	0,3	500	
11031016T	●	11031016	●	2x2,50/N	2,8	4,2	7,8	18,5	10	0,2	0,3	250	
11036017T	●	11036017	●	2x2,50/HL	2,8	4,2	7,8	21,5	13	0,2	0,3	250	
11031019T	●	11031019	●	2x4,00/N	3,7	4,9	8,8	23	12	0,2	0,4	100	
11031022T	●	11031022	●	2x6,00/N	4,8	6,9	10	26	14	0,2	0,4	100	
11031024T	●	11031024	●	2x10,0/N	6,4	7,2	13	26	14	0,2	0,4	100	
11031026T	●	11031026	●	2x16,0/N	8,2	9,6	18,4	30	14	0,2	0,4	50	

Ferrule length: Normal=N - Medium=HL



LINKED PRODUCTS:

Tools for terminals, see pages 84



INSULATED TERMINALS ASSORTMENT IN BOX

Insulated terminals assortment in box, in many dimensions and colours.
Box dimensions: diameter = 90mm; h = 45mm.

APPROVALS/CERTIFICATIONS

According, for colour and dimension, to the norm DIN 46228/4.
Certification CSA nr. 250148.



APPLICATIONS

- ▶ Electrical wiring and connections in electric and electronics switchboards.

BENEFITS

- ▶ The assortment of different sizes and colours allows you to find the suitable terminal for the wished installation.
- ▶ The practical box in PVC is provided with separations for the easiest choice of the wished product.



Preinsulated copper terminals cross-section 0,5 ÷ 2,5 mm²

Code	T	Section	Pack
		(mm ²)	pcs.
11012001	○	0,5	50
	●	0,75	100
	●	1	100
	●	1,5	100
	●	2,5	50



Preinsulated copper terminals cross-section 4 ÷ 16 mm²

Code	T	Section	Pack
		(mm ²)	pcs.
11012002	●	4	50
	●	6	20
	●	10	20
	●	16	10

COPPER TERMINALS



The copper terminals create a perfect base of contact for the insertion of the cables into blocks, using a limited space.

TECHNICAL DATA

Connector material: electrolytic tinned copper [purity grade 99,9%].

APPROVALS/CERTIFICATIONS

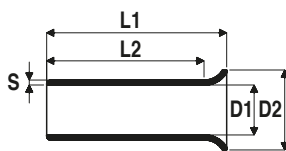
According to the norm: DIN 46228/1.

APPLICATIONS

- ▶ Electrical wiring and connections in electric and electronics switchboards.

BENEFITS

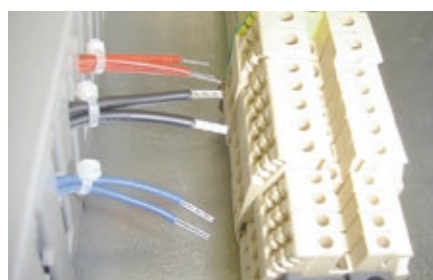
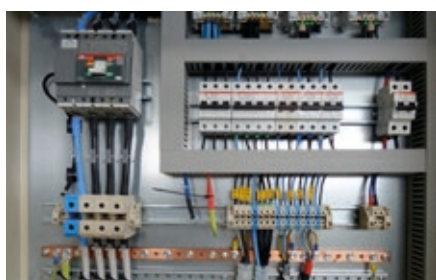
- ▶ The copper terminals create a perfect base of contact for the insertion of the cables into blocks.



COPPER terminals

Code	Section		Dimensions (mm)					Pack pcs.
	[mm ²]	AWG	L1	L2	D1	D2	S	
11001001	0,25	24	5	4,6	0,8	2	0,15	500
11001012	0,5	20	10	9,3	1	2,1	0,15	500
11001021	0,75	18	6	5,3	1,2	2,3	0,15	500
11001022	0,75	18	10	9,3	1,2	2,3	0,15	500
11001031	1	17	6	5,3	1,4	2,5	0,15	500
11001032	1	17	10	9,3	1,4	2,5	0,15	500
11001041	1,5	16	7	6	1,7	2,8	0,15	500
11001042	1,5	16	10	9	1,7	2,8	0,15	500
11001051	2,5	14	7	9	2,2	3,4	0,15	500
11001052	2,5	14	10	9	2,2	3,4	0,15	500
11001061	4	12	9	8	2,8	4	0,2	500
11001062	4	12	12	11	2,8	4	0,2	500
11001071	6	10	12	11	3,5	4,7	0,2	100
11001072	6	10	15	14	3,5	4,7	0,2	100
11001081	10	7	12	10,8	4,5	5,8	0,2	100
11001082	10	7	15	13,8	4,5	5,8	0,2	100
11001092	16	6	15	13,5	5,8	7,5	0,2	100
11001093	16	6	18	16,5	5,8	7,5	0,2	100
11001101	25	3	15	13	7,3	9,5	0,2	50
11001111	35	2	18	16	8,3	11	0,2	50
11001122	50	1	25	22	10,3	13	0,3	50

0,25 mm² cross section not belonging to the norm DIN 46228/1



LINKED PRODUCTS:

Tools for terminals, see pages 84



INSULATED CRIMPING TERMINALS



The insulated terminals are obtained by plates of copper undergoing a process of hot treatment and electrolytic tin plating. This process optimizes the maximum malleability of the material providing the easiest compression during the crimping operations. Available with nylon insulation (Easy Entry system) e in PVC (anti-vibration sleeve).

TECHNICAL DATA

Connector material:	electrolytic tinned copper (purity grade 99,9%) obtained by plates of copper, undergoing a process of hot-treatment and of electrolytic tin plating.
Insulation material:	nylon (EASY ENTRY) for rings, forks, pins and end connectors. PVC for butt connectors and piggy-backs
Working temperature:	Self-extinguishing UL94 V2 nylon: up to 105°C. PVC: up to 75°C.
Halogen-free:	

APPROVALS/CERTIFICATIONS

Certifications: UL file n° E344191 and E344188.

APPLICATIONS

- ▶ The insulated crimping terminals are used for electrical connections.

BENEFITS

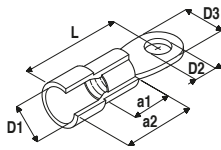
- ▶ The particular internal shape of the insulation (Easy Entry) enables the quickest and safest insertion of the cables.
- ▶ The internal anti-vibration sleeve (PVC insulation) avoids the tear as well as the unthreading of the cable even in presence of particular vibrations.



LINKED PRODUCTS:

Tools for terminals, pages 84



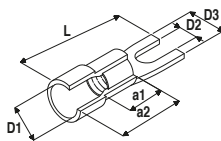


E344191
EASY ENTRY
SYSTEM


RING TERMINALS in nylon

Code		Section		Dimensions (mm)						Pack
		(mm ²)	AWG	D1	D2	D3	L	a1	a2	pcs.
11201134	●	0,25÷1,5	22÷16	4,2	3,2	6	16	5	10	100
11201135	●	0,25÷1,5	22÷16	4,2	3,7	6	16	5	10	100
11201143	●	0,25÷1,5	22÷16	4,2	4,3	8	17	5	10	100
11201150	●	0,25÷1,5	22÷16	4,2	5,3	10	18	5	10	100
11201161	●	0,25÷1,5	22÷16	4,2	6,5	11	20	5	10	100
11201180	●	0,25÷1,5	22÷16	4,2	8,4	14	22	5	10	100
11201191	●	0,25÷1,5	22÷16	4,2	10,5	18	24	5	10	100
11201232	●	1,5÷2,5	16÷14	4,8	3,2	6	17	5	11	100
11201236	●	1,5÷2,5	16÷14	4,8	3,7	6	17	5	11	100
11201239	●	1,5÷2,5	16÷14	4,8	4,3	8	18	5	11	100
11201250	●	1,5÷2,5	16÷14	4,8	5,3	10	20	5	11	100
11201261	●	1,5÷2,5	16÷14	4,8	6,5	11	22	5	11	100
11201280	●	1,5÷2,5	16÷14	4,8	8,4	14	23	5	11	100
11201291	●	1,5÷2,5	16÷14	4,8	10,5	18	25	5	11	100
11201295	●	1,5÷2,5	16÷14	4,8	13	19	26	5	11	100
11201440	●	4÷6	12÷10	6,4	4,3	8	20	6	12	100
11201450	●	4÷6	12÷10	6,4	5,3	10	21	6	12	100
11201460	●	4÷6	12÷10	6,4	6,5	11	22	6	12	100
11201480	●	4÷6	12÷10	6,4	8,4	14	25	6	12	100
11201491	●	4÷6	12÷10	6,4	10,5	18	27	6	12	100
11201495	●	4÷6	12÷10	6,4	13	19	32	6	12	100

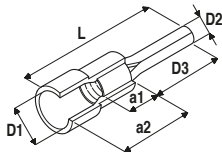
The code 11201161 is not UL certified



E344191
EASY ENTRY
SYSTEM


FORK TERMINALS in nylon

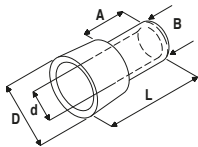
Code		Section		Dimensions (mm)						Pack
		(mm ²)	AWG	D1	D2	D3	L	a1	a2	pcs.
11202132	●	0,25÷1,5	22÷16	4,2	3,2	6	16	5	10	100
11202135	●	0,25÷1,5	22÷16	4,2	3,7	6	16	5	10	100
11202140	●	0,25÷1,5	22÷16	4,2	4,3	6,8	17	5	10	100
11202150	●	0,25÷1,5	22÷16	4,2	5,3	10	18	5	10	100
11202160	●	0,25÷1,5	22÷16	4,2	6,5	11	20	5	10	100
11202232	●	1,5÷2,5	16÷14	4,8	3,2	6	17	5	11	100
11202240	●	1,5÷2,5	16÷14	4,8	3,7	6,8	18	5	11	100
11202242	●	1,5÷2,5	16÷14	4,8	4,3	6,8	18	5	11	100
11202250	●	1,5÷2,5	16÷14	4,8	5,3	10	20	5	11	100
11202261	●	1,5÷2,5	16÷14	4,8	6,5	11	22	5	11	100
11202440	●	4÷6	12÷10	6,4	4,3	8	20	6	12	100
11202450	●	4÷6	12÷10	6,4	5,3	10	21	6	12	100
11202460	●	4÷6	12÷10	6,4	6,5	11	22	6	12	100
11202480	●	4÷6	12÷10	6,4	8,4	14	25	6	12	100
11202490	●	4÷6	12÷10	6,4	10,5	18	27	6	12	100



E344191
EASY ENTRY
SYSTEM

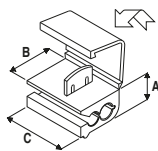
PIN TERMINALS in nylon

Code		Section		Dimensions (mm)						Pack pcs.
		(mm ²)	AWG	D1	D2	D3	L	a1	a2	
11210112	●	0,25÷1,5	22÷16	4,2	1,9	10	22	5	10	100
11210115	●	0,25÷1,5	22÷16	4,2	1,9	12	27	5	10	100
11210212	●	1,5÷2,5	16÷14	4,8	1,9	10	22	5	10	100
11210215	●	1,5÷2,5	16÷14	4,8	1,9	12	27	5	10	100
11210412	●	4÷6	12÷10	6,4	2,9	14	28	6	14	100



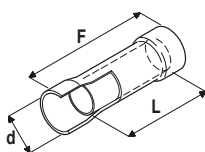
END CONNECTORS in nylon

Code	Section		Dimensions (mm)					Pack pcs.
	(mm ²)	AWG	D	d	A	L	B	
ECDCE-1	0,25÷1,5	22÷16	7,8	2,5	11,4	18,1	5	100
ECDCE-2	1,5÷2,5	16÷14	9,3	3,3	13,5	20,1	5,5	100
ECDCE-5	4÷6	12÷10	11,8	4,4	15,5	25,5	7	100
ECDCE-8	8	8	13,9	5,2	16,5	27,3	9	100



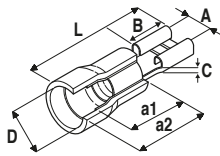
RAPID CONNECTORS (polypropylene)

Code		Section		Dimensions (mm)			Pack pcs.
		(mm ²)	AWG	A	B	C	
ESCR	●	0,25÷1,5	22÷16	7,7	11,7	19,7	100
ESCB	●	1,5÷2,5	16÷14	7,7	11,7	19,7	100
ESCG	●	4÷6	12÷10	9,8	13,9	21,2	100



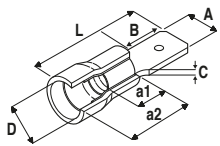
BUTT CONNECTOR in PVC

Code		Section		Dimensions (mm)			Pack pcs.
		(mm ²)	AWG	L	d	F	
11220140	●	0,25÷1,5	22÷16	15	4	26	100
11220250	●	1,5÷2,5	16÷14	15	4,6	26	100
11220465	●	4÷6	12÷10	15	6,4	26	100


FEMALE PUSH-ON TERMINALS in PVC

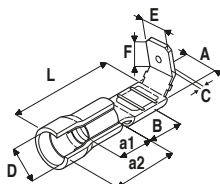
Code		Section		Dimensions (mm)							Pack pcs.
		(mm ²)	AWG	D	A	C	B	L	a1	a2	
11231128	●	0,25÷1,5	22÷16	4,2	3,2	0,5	6,4	18,5	5	10	100
11231129	●	0,25÷1,5	22÷16	4,2	3,2	0,8	6,4	18,5	5	10	100
11231150	●	0,25÷1,5	22÷16	4,2	5	0,5	6	19	5	10	100
11231149	●	0,25÷1,5	22÷16	4,2	5	0,8	6	19	5	10	100
11231163	●	0,25÷1,5	22÷16	4,2	6,6	0,8	7,9	20,8	5	10	100
11231228	●	1,5÷2,5	16÷14	4,8	3,2	0,5	6,4	18,5	5	10	100
11231250	●	1,5÷2,5	16÷14	4,8	5	0,5	6	19	5	10	100
11231249	●	1,5÷2,5	16÷14	4,8	5	0,8	6	19	5	10	100
11231263	●	1,5÷2,5	16÷14	4,8	6,6	0,8	7,9	20,8	5	10	100
11231463	●	4÷6	12÷10	6,4	6,6	0,8	7,9	24,8	6	14	100

The codes 11231163-11231263-11231463 are UL certified

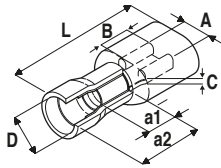

MALE PUSH-ON TERMINALS in PVC

Code		Section		Dimensions (mm)							Pack pcs.
		(mm ²)	AWG	D	A	C	B	L	a1	a2	
11230128	●	0,25÷1,5	22÷16	4,2	2,8	0,5	6,6	17	5	10	100
11230153	●	0,25÷1,5	22÷16	4,2	4,8	0,8	7	19	5	10	100
11230163	●	0,25÷1,5	22÷16	4,2	6,3	0,8	8	21	5	10	100
11230253	●	1,5÷2,5	16÷14	4,8	4,8	0,8	7	19,5	5	10	100
11230263	●	1,5÷2,5	16÷14	4,8	6,3	0,8	8	21	5	10	100
11230463	●	4÷6	12÷10	6,4	6,3	0,8	8	25	6	14	100

The codes 11230163-11230263-11230463 are UL certified


PIGGY-BACKS in PVC

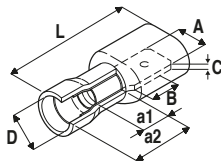
Code		Section		Dimensions (mm)								Pack pcs.	
		(mm ²)	AWG	D	A	C	B	E	F	L	a1		a2
11232153	●	0,25÷1,5	22÷16	4,2	6,6	0,8	7,9	6,3	8	20,8	5	10	100
11232263	●	1,5÷2,5	16÷14	4,8	6,6	0,8	7,9	6,3	8	20,8	5	11	100
11232463	●	4÷6	12÷10	6,4	6,6	0,8	7,9	6,3	8	24,8	6	12	100



TOTALLY INSULATED FEMALE PUSH-ON TERMINALS in PVC

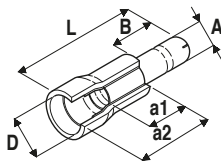
Code		Section		Dimensions (mm)							Pack pcs.
		(mm ²)	AWG	D	A	C	B	L	a1	a2	
11235125	●	0,25÷1,5	22÷16	4,2	3,2	0,5	6,4	20	5	10	100
11235128	●	0,25÷1,5	22÷16	4,2	3,2	0,8	6,4	20	5	10	100
11235148	●	0,25÷1,5	22÷16	4,2	5	0,5	6,4	21,5	5	10	100
11235153	●	0,25÷1,5	22÷16	4,2	5	0,8	6,4	21,5	5	10	100
11235163	●	0,25÷1,5	22÷16	4,2	6,6	0,8	7,9	23,5	5	10	100
11235248	●	1,5÷2,5	16÷14	4,8	5	0,5	6,4	21,5	5	11	100
11235253	●	1,5÷2,5	16÷14	4,8	5	0,8	6,4	21,5	5	11	100
11235263	●	1,5÷2,5	16÷14	4,8	6,6	0,8	7,9	23,5	5	11	100
11235463	●	4÷6	12÷10	6,4	6,6	0,8	7,9	24	6	12	100

The code 11235463 is not UL certified



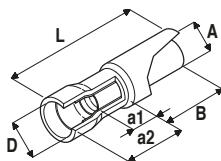
TOTALLY INSULATED MALE PUSH-ON TERMINALS in nylon

Code		Section		Dimensions (mm)							Pack pcs.
		(mm ²)	AWG	D	A	C	B	L	a1	a2	
11236163	●	0,25÷1,5	22÷16	4	6,3	0,8	8	23,4	5	10	100
11236263	●	1,5÷2,5	16÷14	4,5	6,3	0,8	8	23,4	5	11	100
11236463	●	4÷6	12÷10	6,5	6,3	0,8	8	26,5	6	12	100



MALE BULLETS in PVC

Code		Section		Dimensions (mm)						Pack pcs.
		(mm ²)	AWG	D	A	B	L	a1	a2	
11240148	●	0,25÷1,5	22÷16	4	4	8,5	20,5	5	10	100
11240248	●	1,5÷2,5	16÷14	4,5	4	8,5	20,5	5	10	100
11240448	●	4÷6	12÷10	6,5	5	8,5	24,5	6	14	100



FEMALE SOCKETS in PVC

Code		Section		Dimensions (mm)						Pack pcs.
		(mm ²)	AWG	D	A	B	L	a1	a2	
11241148	●	0,25÷1,5	22÷16	4	4	8,5	24,5	5	11	100
11241248	●	1,5÷2,5	16÷14	4,5	4	8,5	25	5	11	100
11241448	●	4÷6	12÷10	6,5	5	8,5	25,5	6	14	100

HEAT SHRINKABLE BUTT CONNECTOR

CABLE CONNECTORS



The butt connectors are made of a tinned copper tube covered by a heat shrinkable tube with a special adhesive inside. The polymer used for the insulation is suitable to be crimped with the dedicated tool.

TECHNICAL DATA

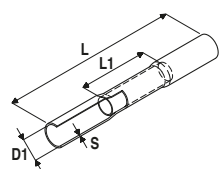
Connector material:	electrolytic tinned copper (purity grade 99,9%).
Insulation material:	cross-linked polyolefin.
Shrinking temperature:	100°C
Working temperature:	-55°C ÷ 125°C.
Dielectric strength:	30 kV/mm.

APPLICATIONS

- ▶ The butt connectors are covered by a heat shrinkable tube with a special adhesive inside granting a perfect "sealing".

BENEFITS

- ▶ The internal adhesive insulation provides an effective sealing of the electrical connection.



HEAT SHRINKABLE BUTT CONNECTOR

Code		Section		Dimensions (mm)				Pack pcs.
		[mm ²]	AWG	L	L1	D1	S	
11221140	●	0,25÷1,5	22÷16	36	15	5,4	0,47	100
11221250	●	1,5÷2,5	16÷14	36	15	5,8	0,56	100
11221465	●	4÷6	12÷10	41	15,2	6	0,57	100

LINKED PRODUCTS:

Tools for terminals, pages 84



COPPER LUGS



The copper lugs are obtained from pure electrolytic copper tube (99,9%) with high conductivity; they are provided with an hole for the inspection of the conductor. Every lug is marked with the section of the wire and with the screw diameter.

TECHNICAL DATA

Connector material: electrolytic tinned copper (purity grade 99,9%).
 Tin coating thickness: 4µm.

APPROVALS/CERTIFICATIONS

According to the norm: IEC 1238-1:1993.

APPLICATIONS

- ▶ Electrical wiring in electric and electronics switchboards.

BENEFITS

- ▶ The hot treatment grants the best crimping operation.
- ▶ The particular countersinking grants the easiest insertion of the wire.
- ▶ The process of electrolytic tin plating ensures the best protection against oxidation.

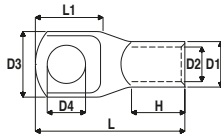


LINKED PRODUCTS:

Tools for copper lugs, see pages 90

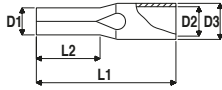


COPPER LUGS



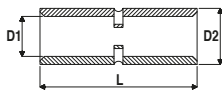
COPPER LUGS 1,5 ÷ 300 mm²

Code	Section (mm ²)	Ø Screw (mm)	Dimensions (mm)							Pack pcs.	Carton pcs.
			D1	D2	D3	D4	L1	H	L		
11301004	1,5	5	4	2,4	8,7	5,3	10	5	19	100	2.000
11301005		6	4	2,4	10	6,4	11	5	21	100	2.000
11301008	2,5	4	4,3	2,7	8,7	4,3	10	7	19	100	2.000
11301009		5	4,3	2,7	8,7	5,3	10	7	19	100	2.000
11301010		6	4,3	2,7	10,3	6,4	12	7	21	100	1.500
11301012	4	5	4,8	3,1	8,7	5,3	10	8	21,5	100	1.500
11301013		6	4,8	3,1	10,3	6,4	12	8	23,5	100	1.000
11301014		8	4,8	3,1	12,5	8,3	17	8	28,5	100	1.000
11301016	6	5	5,5	3,8	10,3	5,3	13	9	26	100	1.000
11301018		6	5,5	3,8	10,3	6,4	13	9	26	100	1.000
11301019		8	5,5	3,8	13,9	8,3	16	9	29	100	800
11301022	10	5	6,9	4,7	11,9	5,3	12,5	10	27,5	100	700
11301023		6	6,9	4,7	11,9	6,4	12,5	10	27,5	100	600
11301024		8	6,9	4,7	13,5	8,3	15,5	10	30,5	100	500
11301025		10	6,9	4,7	15	10,5	15,5	10	30,5	100	500
11301028	16	5	7,8	5,6	11,9	5,3	12	11	27,5	100	500
11301029		6	7,8	5,6	11,9	6,4	12	11	27,5	100	500
11301030		8	7,8	5,6	13,5	8,3	15,5	11	31	100	500
11301031		10	7,8	5,6	16	10,5	16	11	32	100	400
11301032		12	7,8	5,6	17	13	22	11	37	100	300
11301036	25	6	9,5	7,1	13,5	6,4	16	12	34	50	600
11301037		8	9,5	7,1	13,5	8,3	16	12	34	50	500
11301038		10	9,5	7,1	16	10,5	19	12	37	50	500
11301039		12	9,5	7,1	18	13	22	12	40	50	500
11301041	35	6	11	8,2	15,7	6,4	18	14	39	50	400
11301042		8	11	8,2	15,7	8,3	18	14	39	50	400
11301043		10	11	8,2	15,7	10,5	22	15	43	50	350
11301044		12	11	8,2	18	13	22	15	43	50	300
11301051	50	6	12,5	9,5	17,9	6,4	18	18	45	20	240
11301052		8	12,5	9,5	17,9	8,4	18	18	45	20	240
11301053		10	12,5	9,5	17,9	10,5	22	18	49	20	200
11301054		12	12,5	9,5	17,9	13	22	18	49	20	200
11301055		14	12,5	9,5	22	14,5	27	18	54	20	200
11301056		16	12,5	9,5	25	16,5	32	18	54	20	120
11301064	70	8	15	11,5	21,5	8,3	18	20	48	20	160
11301065		10	15	11,5	21,5	10,5	22	20	52	20	160
11301066		12	15	11,5	21,5	13	22	20	52	20	160
11301067		14	15	11,5	21,5	14,5	32	20	62	20	120
11301068		16	15	11,5	21,5	16,5	32	20	62	20	120
11301075	95	8	17	13,5	24,7	8,3	22	24	56	20	120
11301076		10	17	13,5	24,7	10,5	22	24	56	20	120
11301077		12	17	13,5	24,7	13	22	24	56	20	120
11301078		14	17	13,5	24,7	14,5	33	24	67	20	120
11301079		16	17	13,5	24,7	16,5	33	24	67	20	120
11301086	120	8	20	15,6	28,9	8,3	33	26	72	10	80
11301087		10	20	15,6	28,9	10,5	33	26	72	10	80
11301088		12	20	15,6	28,9	13	33	26	72	10	80
11301089		14	20	15,6	28,9	14,5	33	26	72	10	80
11301090		16	20	15,6	28,9	16,5	33	26	72	10	80
11301097	150	10	21	16,5	30,4	10,5	30	32	79	10	70
11301098		12	21	16,5	30,4	13	33	32	79	10	70
11301099		14	21	16,5	30,4	14,5	33	32	79	10	70
11301107	185	12	23,6	18,4	34	13	34	34	85	10	50
11301108		14	23,6	18,4	34	14,5	34	34	85	10	50
11301109		16	23,6	18,4	34	16,5	34	34	85	10	50
11301116	240	12	26,4	21,2	38,4	13	38,4	35	91	5	40
11301117		14	26,4	21,2	38,4	14,5	38,4	35	91	5	40
11301118		16	26,4	21,2	38,4	16,5	38,4	35	91	5	40
11301123	300	16	28,6	23,4	41,7	16,5	41,7	36	97	5	30



COPPER PIN TERMINALS 10 ÷ 50 mm²

Code	Section (mm ²)	Dimensions (mm)					Pack pcs.	Carton pcs.
		L2	L1	D2	D1	D3		
11307010	10	13,2	24,1	4,8	4,3	6,8	100	1.000
11307016	16	18,2	31	6	5,3	8	100	600
11307025	25	18,5	38	7	7	9	100	400
11307035	35	18,8	43,4	8,2	7	10,2	100	200
11307050	50	19,2	50,5	9,5	8,4	12	50	150



BUTT COPPER TUBE TERMINALS 6 ÷ 300 mm²

Code	Section (mm ²)	L (mm)	Dimensions (mm)		Pack pcs.	Carton pcs.
			D1	D2		
11308003	6	25,5	3,5	5,2	100	1.000
11308004	10	30	4,5	6,5	100	600
11308005	16	32,5	5,5	7,5	100	400
11308007	25	35,5	7	9,5	50	500
11308008	35	40,5	8,5	11	50	300
11308009	50	40,5	10	13	20	260
11308010	70	45,5	11,5	15	20	140
11308011	95	50,5	13,5	18	20	100
11308012	120	65,5	15	19,5	10	90
11308013	150	70,5	16,5	22	10	70
11308014	185	75,5	19	25	10	50
11308015	240	80,5	21	27,5	5	40
11308016	300	90,5	23,5	30,5	5	15

QUALITY AND EXPERIENCE IN THE PRODUCTION OF
**HEAT SHRINKABLE
TUBING**



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CABLE PROTECTION

► Heat shrinkable tubing

Thin wall without adhesive

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HOW TO CHOOSE THE RIGHT HEAT-SHRINKABLE TUBING

TECHNICAL CHARACTERISTICS

	PRODUCT	SHRINKING RATIO	OPERATING TEMPERATURE (°C)	SHRINKING TEMPERATURE (°C)	FLAME RATING (°C)	Ø AVAILABLE (mm)	CHARACTERISTICS	COLOURS	PACKAGING	PAGE
THIN WALL	EV 100	2:1	-30°C÷105°C	>90°C	-	1,6÷50,8	General purpose economic	Black	Reel Box 1 mtr length	60
	ET 100	2:1	-55°C÷135°C	>90°C	UL 224	1,2÷101,6	General purpose	Black colours	Reel Box 1 mtr length	62
	EL 100	2:1	-55°C÷135°C	>90°C	UL 224 VW1	1,6÷101,6	Professional purpose	Black	Reel Box	64
	ET 301	3:1	-55°C÷135°C	>100°C	UL 224	1,5÷39	General purpose high shrinking ratio	Black	Reel Box 1 mtr length	66
DUAL WALL THIN ADHESIVE-LINED	EL 301A	3:1	-55°C÷110°C	>100°C	UL 224 (external wall)	3÷24	Professional purpose adhesive-lined	Black	Box 1 mtr length	70
	EL 401A	4:1	-55°C÷110°C	>100°C	UL 224 (external wall)	4÷52	Professional purpose adhesive-lined high shrinking ratio	Black	1 mtr length	71
MEDIUM WALL WITH ADHESIVE	EM 100A	3:1	-40°C÷120°C	>110°C	-	12÷180	Heavy applications adhesive-lined	Black	1 mtr bag	72

In order to choose the right heat shrinkable tubing size, it is necessary that the diameter of the shrunk tubing allows the perfect adhesion between the tubing and the cable diameter that has to be covered. This result is achieved when the tubing shrinks between 20% and 80% of its complete shrinkage capacity.
Herewith some examples:

EXAMPLE 1

Image to have a **10 mm** diameter cable to be wrapped with a heat shrinkable tubing with a shrinking ratio of **3:1**; in theory both sizes 12/4 and 24/8 would be suitable, since the required diameter of 10 mm lies within the shrinking range of both tubing sizes.

Type	Ø Nominal (mm)		Shrinkage capacity (mm)	Shrinking	
	max expanded	min recovered		min (20%)	max (80%)
12/4	12	4	8	10,4	5,6
24/8	24	8	16	20,8	11,2

the right heat shrinkable tubing is 12/4.

EXAMPLE 2

Image to have a **5 mm** diameter cable to be wrapped with a heat shrinkable tubing with a shrinking ratio of **2:1**; in theory both sizes 6,4/3,2 and 9,5/4,7 would be suitable, since the required diameter of 5 mm lies within the shrinking range of both tubing sizes.

Type	Ø Nominal (mm)		Shrinkage capacity (mm)	Shrinking	
	max expanded	min recovered		min (20%)	max (80%)
6,4/3,2	6,4	3,2	3,2	5,76	3,84
9,5/4,7	9,5	4,7	4,7	8,56	5,74

the right heat shrinkable tubing is 6,4/3,2.

COMPLETE EXAMPLE - THIN AND DUAL WALL TUBING

Type	Shrinking ratio	Ø Nominal (mm)		Shrinkage capacity (mm)	Shrinking	
		max expanded	min recovered		max (80%)	min (20%)
1,2/0,6	2:1	1,2	0,6	0,6	1,08	0,72
1,6/0,8		1,6	0,8	0,8	1,44	0,96
2,4/1,2		2,4	1,2	1,2	2,16	1,44
3,2/1,6		3,2	1,6	1,6	2,88	1,92
4,8/2,4		4,8	2,4	2,4	4,32	2,88
6,4/3,2		6,4	3,2	3,2	5,76	3,84
9,5/4,7		9,5	4,7	4,8	8,54	5,66
12,7/6,4		12,7	6,4	6,3	11,44	7,66
19,1/9,5		19,1	9,5	9,6	17,18	11,42
25,4/12,7		25,4	12,7	12,7	22,86	15,24
38,1/19,1	38,1	19,1	19,0	34,30	22,90	
50,8/25,4	50,8	25,4	25,4	45,72	30,48	
76,2/38,1	76,2	38,1	38,1	68,58	45,72	
101,6/50,8	101,6	50,7	50,8	91,44	60,96	
1,5/0,5	3:1	1,5	0,5	1	1,30	0,70
3/1		3,0	1,0	2	2,60	1,40
4,8/1,6		4,8	1,6	3,2	4,16	2,24
6/2		6,0	2,0	4	5,20	2,80
9/3		9	3	6	7,80	4,20
12/4		12,0	4,0	8	10,40	5,60
18/6		18	6	12	15,60	8,40
24/8		24,0	8,0	16	20,80	11,20
39/13		39,0	13,0	26	33,80	18,20
4/1		4:1	4	1	3	3,40
8/2	8		2	6	6,80	3,20
12/3	12		3	9	10,20	4,80
16/4	16		4	12	13,60	6,40
24/6	24		6	18	20,40	9,60
32/8	32		8	24	27,20	12,80
52/13	52		13	39	44,20	20,80

EV 100



EV 100 is a thin wall heat shrinkable tubing in cross-linked polyolefin, economic, suitable for electrical insulation and general applications where a low shrinking temperature is required.
Available in reel, dispenser box, 1 mtr. length.

TECHNICAL DATA

Shrinking ratio:	2: 1.
Diameters available:	from Ø 1,6 mm to Ø 50,8 mm.
Colours available:	black.
Working temperature:	-30°C ÷ 105°C.
Shrinking temperature:	> 90°C.
Flammability rating:	not self-extinguishing.
Longitudinal change:	+5%; -10%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

FMVSS 302

HALOGEN FREE

APPLICATIONS

- ▶ Insulation, protection and identification cables and joints.

BENEFITS

- ▶ Halogen-free.



LINKED PRODUCTS:

Heat guns & accessories, see pages 97





EV 100 HEAT SHRINKABLE TUBING IN REEL

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12201016	1/16"	1,6	0,8	0,43	200
12201024	3/32"	2,4	1,2	0,51	200
12201032	1/8"	3,2	1,6	0,51	200
12201048	3/16"	4,8	2,4	0,51	200
12201064	1/4"	6,4	3,2	0,65	150
12201095	3/8"	9,5	4,7	0,65	150
12201127	1/2"	12,7	6,4	0,65	100
12201190	3/4"	19,1	9,5	0,77	50
12201254	1"	25,4	12,7	0,89	50
12201381	1 1/2"	38,1	19,1	1	25
12201508	2"	50,8	25,4	1,1	25



EV 100 HEAT SHRINKABLE TUBING IN DISPENSER BOX

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12251016	1/16"	1,6	0,8	0,43	15
12251024	3/32"	2,4	1,2	0,51	15
12251032	1/8"	3,2	1,6	0,51	15
12251048	3/16"	4,8	2,4	0,51	12
12251064	1/4"	6,4	3,2	0,65	12
12251095	3/8"	9,5	4,7	0,65	10
12251127	1/2"	12,7	6,4	0,65	8
12251190	3/4"	19,1	9,5	0,77	5
12251254	1"	25,4	12,7	0,89	3



EV 100 HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12271016	1/16"	1,6	0,8	0,43	30
12271024	3/32"	2,4	1,2	0,51	30
12271032	1/8"	3,2	1,6	0,51	30
12271048	3/16"	4,8	2,4	0,51	24
12271064	1/4"	6,4	3,2	0,65	24
12271095	3/8"	9,5	4,7	0,65	20
12271127	1/2"	12,7	6,4	0,65	16
12271190	3/4"	19,1	9,5	0,77	10
12271254	1"	25,4	12,7	0,89	6

ET 100



ET 100 is a thin wall heat shrinkable tubing in cross-linked polyolefin, self-extinguishing, flexible and strong, with chemical resistance and safety in the electrical insulation, suitable for general applications.

Available in reel, dispenser box, 1 mtr. length.

TECHNICAL DATA

Shrinking ratio:	2: 1.
Diameters available:	from Ø 1,2 mm to Ø 101,6 mm.
Colours available:	black, white, red, blue, transparent, green/yellow.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224 (except transparent).
Longitudinal change:	-5%; +5%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/5 ($\varnothing \leq 50,8$)
 Class 1 (colour) - class 2 (transparent)
 UL224 125°C - UL cert. E 228117*
 CSA C22.22 N.198.1-98 OFT*
 *except transparent



APPLICATIONS

- Insulation, protection and identification cables and joints.

BENEFITS

- Self-extinguishing.

HEAT SHRINKABLE ET 100 FLOOR DISPLAY

Code	Height (mm)	Width (mm)	Deep (mm)	Pack pcs.
8221705	1.740	415	345	1

NOTE

Floor display without assortment. In order to personalize the assortment, please contact our sales department. Total assortment: 24 boxes.

RECOMMENDED ASSORTMENT: cod. KIT 8221705

Code	Code	Code	Code	Q.ty [Pack]	Pack [m]
Black	Green/Yellow	Blue	Red		
12273016	-	-	-	1	30
12273024	-	-	-	1	30
12273032	-	-	-	1	30
12273048	12273048G/V	12273048BL	12273048R	1	24
12273064	12273064G/V	12273064BL	12273064R	1	24
12273095	12273095G/V	12273095BL	12273095R	1	20
12273127	12273127G/V	12273127BL	12273127R	1	16
12273190	12273190G/V	12273190BL	12273190R	1	10
12273254	-	-	-	1	6

NOTE

Display included in the assortment.


ET 100 HEAT SHRINKABLE TUBING IN REEL - DISPENSER BOX - 1 MTR LENGTH


Code	Pack	Code	Pack	Code	Pack	Ø Internal expanded	Ø Internal expanded	Ø Internal recovered	Wall thickness recovered
Reel	[m]	Box	[m]	1 mtr length	[m]	[inch]	[mm]	[mm]	[mm]
12203012	200	12253012	15	12273012	30	3/64"	1,2	0,6	0,41
12203016	200	12253016	15	12273016	30	1/16"	1,6	0,8	0,43
12203024	200	12253024	15	12273024	30	3/32"	2,4	1,2	0,51
12203032	200	12253032	15	12273032	30	1/8"	3,2	1,6	0,51
12203048	200	12253048	12	12273048	24	3/16"	4,8	2,4	0,51
12203064	150	12253064	12	12273064	24	1/4"	6,4	3,2	0,64
12203095	150	12253095	10	12273095	20	3/8"	9,5	4,7	0,64
12203127	100	12253127	8	12273127	16	1/2"	12,7	6,4	0,64
12203190	50	12253190	5	12273190	10	3/4"	19,1	9,5	0,77
12203254	50	12253254	3	12273254	6	1"	25,4	12,7	0,89
12203381	25	-	-	12273381	4	1 1/2"	38,1	19,1	1,02
12203508	25	-	-	12273508	3*	2"	50,8	25,4	1,14
12203762	15	-	-	12273762	3*	3"	76,2	38,1	1,27
12203994	15	-	-	12273994	3*	4"	101,6	50,8	1,4

*Packed in plastic bag.


ET 100 YELLOW/GREEN HEAT SHRINKABLE TUBING IN REEL - DISPENSER BOX - 1 MTR LENGTH


Code	Pack	Code	Pack	Code	Pack	Ø Internal expanded	Ø Internal expanded	Ø Internal recovered	Wall thickness recovered
Reel	[m]	Box	[m]	1 mtr length	[m]	[inch]	[mm]	[mm]	[mm]
-	-	-	-	12273012 G/V	30	3/64"	1,2	0,6	0,41
-	-	-	-	12273016 G/V	30	1/16"	1,6	0,8	0,43
12203024 G/V	200	12253024 G/V	15	12273024 G/V	30	3/32"	2,4	1,2	0,51
12203032 G/V	200	12253032 G/V	15	12273032 G/V	30	1/8"	3,2	1,6	0,51
12203048 G/V	200	12253048 G/V	12	12273048 G/V	24	3/16"	4,8	2,4	0,51
12203064 G/V	150	12253064 G/V	12	12273064 G/V	24	1/4"	6,4	3,2	0,64
12203095 G/V	150	12253095 G/V	10	12273095 G/V	20	3/8"	9,5	4,7	0,64
12203127 G/V	100	12253127 G/V	8	12273127 G/V	16	1/2"	12,7	6,4	0,64
12203190 G/V	50	12253190 G/V	5	12273190 G/V	10	3/4"	19,1	9,5	0,77
12203254 G/V	50	12253254 G/V	3	12273254 G/V	6	1"	25,4	12,7	0,89
12203381 G/V	25	-	-	12273381 G/V	4	1 1/2"	38,1	19,1	1,02
12203508 G/V	25	-	-	12273508 G/V	3*	2"	50,8	25,4	1,14

*Packed in plastic bag.

For other colours , add after the code: BL=white - BL=blue - R=red - TR=transparent

Size 3" e 4" available only in colour black

EL 100



EL 100 is a flexible, self-extinguishing thin wall heat shrinkable tubing in cross-linked polyolefin, suitable for professional applications in electrical and electronics sectors, in particular for cable insulating, marking, and identification. EL 100 ensures an excellent flame resistance.
Available in reel and box dispenser.

APPLICATIONS

- ▶ Insulation, protection and identification cables and joints.

BENEFITS

- ▶ High self-extinguishing.

TECHNICAL DATA

Shrinking ratio:	2: 1.
Diameters available:	from Ø 1,6 mm to Ø 101,6 mm.
Colours available:	black.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224 - VW1.
Longitudinal change:	-5%; +5%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/5 class 3 ($\varnothing \leq 50,8$)
UL 224 125°C VW1- UL cert. E 228117
CSA C22.22 N.198.1-98 OFT.



LINKED PRODUCTS:

Heat guns & accessories, see pages 97





EL 100 HEAT SHRINKABLE TUBING IN REEL

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12204016	1/16"	1,6	0,8	0,43	200
12204024	3/32"	2,4	1,2	0,51	200
12204032	1/8"	3,2	1,6	0,51	200
12204048	3/16"	4,8	2,4	0,51	200
12204064	1/4"	6,4	3,2	0,64	150
12204095	3/8"	9,5	4,7	0,64	150
12204127	1/2"	12,7	6,4	0,64	100
12204190	3/4"	19,1	9,5	0,77	50
12204254	1"	25,4	12,7	0,89	50
12204381	1 1/2"	38,1	19,1	1,02	25
12204508	2"	50,8	25,4	1,14	25
12204762	3"	76,2	38,1	1,27	15
12204994	4"	101,6	50,8	1,4	15



EL 100 HEAT SHRINKABLE TUBING IN DISPENSER BOX

Code	∅ Internal expanded	∅ Internal expanded	∅ Internal recovered	Wall thickness recovered	Pack
	(inch)	(mm)	(mm)	(mm)	(m)
12254016	1/16"	1,6	0,8	0,43	15
12254024	3/32"	2,4	1,2	0,51	15
12254032	1/8"	3,2	1,6	0,51	15
12254048	3/16"	4,8	2,4	0,51	12
12254064	1/4"	6,4	3,2	0,64	12
12254095	3/8"	9,5	4,7	0,64	10
12254127	1/2"	12,7	6,4	0,64	8
12254190	3/4"	19,1	9,5	0,77	5
12254254	1"	25,4	12,7	0,89	3

ET 301



ET 301 is a thin wall heat shrinkable tubing in cross-linked polyolefin, self-extinguishing, flexible and strong, with chemical resistance and good capacity of electrical insulation, suitable for general applications.

Thanks to its high shrinking ratio, more applications can be covered with the same diameter. Its high expansion ratio is designed for use when wide ranging substrate diameters need to be covered.

Available in reel, dispenser box, 1 mtr. length.

TECHNICAL DATA

Shrinking ratio:	3: 1.
Diameters available:	from Ø 1,5 mm to Ø 39 mm.
Colours available:	black.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224.
Longitudinal change:	+1%; -10%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/5
class 1
UL224 125°C - UL cert. E 228117
CSA C22.22 N.198.1-98 OFT



APPLICATIONS

- ▶ Insulation, protection and identification cables and joints.

BENEFITS

- ▶ High shrinking ratio.
- ▶ Self-extinguishing.



LINKED PRODUCTS:

Heat guns & accessories, see pages 97





ET 301 HEAT SHRINKABLE TUBING IN REEL

Code	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12205015	1,5	0,5	0,45	200
12205030	3	1	0,55	200
12205045	4,8	1,6	0,6	150
12205060	6	2	0,7	150
12205090	9	3	0,7	150
12205120	12	4	0,7	100
12205180	18	6	0,8	50
12205240	24	8	1	50
12205390	39	13	1,15	30



ET 301 HEAT SHRINKABLE TUBING IN DISPENSER BOX

Code	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12255015	1,5	0,5	0,45	15
12255030	3	1	0,55	15
12255060	6	2	0,7	10
12255090	9	3	0,7	8
12255120	12	4	0,7	7
12255180	18	6	0,8	4
12255240	24	8	1	3



ET 301 HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12275015	1,5	0,5	0,45	30
12275030	3	1	0,55	30
12275060	6	2	0,7	24
12275090	9	3	0,7	20
12275120	12	4	0,7	16
12275180	18	6	0,8	10
12275240	24	8	1	6
12275390	39	13	1,15	4*

*Packed in plastic bag.

ASSORTIBOX ET 100

with multifunctional gas tool

TECHNICAL DATA

Technical data tubing:	see ET 100.
Ø Int. sleeves (mm):	from 1,2/0,6 to 19,1/9,5.
Length sleeves (mm):	50/100/200.
Colours sleeves:	black, transparent, blue, red, white, green/yellow.
Total:	406 pcs / 21.700 mm.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224, 125°C (except transparent).
Longitudinal change:	-5%; +5%.
Dielectric strength:	> 20 kV/mm.



ASSORTIBOX ET100 - Composition cod.12233001

	Ø Sleeves	Length	Pcs for box
	(mm)	(mm)	nr.
●	1,2/0,6	50	25
⊘	1,2/0,6	50	25
●	1,2/0,6	50	25
●	1,2/0,8	50	25
⊘	1,2/0,8	50	25
●	1,2/0,8	50	25
●	2,4/1,2	50	20
⊘	2,4/1,2	50	20
○	2,4/1,2	50	20
●	3,2/1,6	50	50
●	4,8/2,4	50	40
●	6,4/3,2	50	15
⊘	6,4/3,2	50	15
●	9,5/4,7	50	15
●	9,5/4,7	50	15
●	9,5/4,7	50	15
●	9,5/4,7	50	15
●	12,7/6,4	100	10
●	19,1/9,5	200	6

N.B: multifunctional gas tool included in the box

ASSORTIBOX ET 301

with multifunctional gas tool

TECHNICAL DATA

Technical data tubing:	see ET 301.
Ø Int. sleeves (mm):	from 1,5/0,5 to 24/8.
Length sleeves (mm):	40/80/120/170.
Colours sleeves:	black, blue, red, white, green/yellow, brown.
Total:	170 pcs / 10.640 mm.
Working temperature:	-55°C ÷ 135°C.
Shrinking temperature:	> 90°C.
Flammability rating:	self-extinguishing UL 224, 125°C.
Longitudinal change:	+1%; -10%.
Dielectric strength:	> 20 kV/mm.



ASSORTIBOX ET301 - Composition cod. 12235001

	Ø Sleeves	Length	Pcs for box
	(mm)	(mm)	nr.
●	1,5/0,5	40	10
●	1,5/0,5	40	5
●	1,5/0,5	40	5
●	1,5/0,5	40	5
●	1,5/0,5	40	5
●	3/1	40	20
●	3/1	40	5
●	3/1	40	5
●	3/1	40	5
●	3/1	40	5
●	6/2	40	20
●	6/2	40	5
●	6/2	40	5
●	6/2	40	5
●	6/2	40	5
●	9/3	80	5
●	9/3	80	2
●	9/3	80	2
●	9/3	80	2
●	9/3	80	2
●	12/4	80	5
●	12/4	80	2
●	12/4	80	2
●	12/4	80	2
●	12/4	80	2
●	18/6	120	10
●	18/6	80	2
●	18/6	80	2
●	18/6	80	2
●	18/6	80	2
●	24/8	170	8
●	24/8	120	2
●	24/8	120	2
●	24/8	120	2
●	24/8	120	2

N.B: multifunctional gas tool included in the box

EL 301A WITH ADHESIVE



EL 301A is a flexible, heat shrinkable tubing in cross-linked polyolefin, with thermoplastic adhesive inside suitable for professional applications, such as insulation, identification and protection of wires and cables, in electric and electronic components. Its high shrinking ratio and its inner liner allow to seal and encapsulate the inner components, covering sections of different dimensions. Available in dispenser box, 1 mtr. length (reel on request).

TECHNICAL DATA

Shrinking ratio: 3: 1.
 Diameters available: from Ø 3 mm to Ø 24 mm.
 Colours available: black.
 Working temperature: -55°C ÷ 110°C.
 Shrinking temperature: > 100°C.
 Flammability rating: self-extinguishing (external wall).
 Longitudinal change: +1%; -15%.
 Dielectric strength: > 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/4 class 3 (external wall)

ADHESIVE

APPLICATIONS

- Insulation and protection cables and joints.

BENEFITS

- Excellent insulating and waterproofing properties.



EL 301A HEAT SHRINKABLE TUBING IN DISPENSER BOX - 1 MTR LENGTH

Code	Pack	Code	Pack	Ø Internal expanded	Ø Internal recovered	Wall thickness recovered
Box	(m)	1 mtr length	(m)	(mm)	(mm)	(mm)
12256030	15	12276030	30	3	1	1
12256060	12	12276060	24	6	2	1,1
12256090	10	12276090	20	9	3	1,3
12256120	8	12276120	16	12	4	1,7
12256180	5	12276180	10	18	6	2
12256240	3	12276240	6	24	8	2,5

*Packed in plastic bag.



LINKED PRODUCTS:

Heat guns & accessories, see pages 97



EL 401A WITH ADHESIVE



EL 401A is a flexible, heat shrinkable tubing in cross-linked polyolefin, with thermoplastic adhesive inside suitable for professional applications, such as insulation, identification and protection of wires and cables, in electric and electronic components. The high shrinking ratio and the thermoplastic adhesive inner liner allow to seal and encapsulate components, covering sections of different dimensions. Available in 1 m cut length (reel on request).

TECHNICAL DATA

Shrinking ratio:	4: 1.
Diameters available:	from Ø 4 mm to Ø 52 mm.
Colours available:	black.
Working temperature:	-55°C ÷ 110°C.
Shrinking temperature:	> 100°C.
Flammability rating:	self-extinguishing (external wall).
Longitudinal change:	+1%; -15%.
Dielectric strength:	> 20 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

APPROVALS/CERTIFICATIONS

SAE-AMS-DTL-23053/4 class 3 (external wall)

ADHESIVE

APPLICATIONS

- ▶ Insulation and protection cables and joints.

BENEFITS

- ▶ High shrinking ratio.
- ▶ Excellent insulating and waterproofing properties.



EL 401A HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12278040	4	1	1,02	30
12278080	8	2	1,02	24
12278120	12	3	1,3	20
12278160	16	4	1,78	12
12278240	24	6	2,1	6
12278320	32	8	2,5	10*
12278520	52	13	2,5	10*

*Packed in plastic bag.



LINKED PRODUCTS:

Heat guns & accessories, see pages 97



EM 100A WITH ADHESIVE



EM 100A is a medium wall heat shrinkable tubing in cross-linked polyolefin, with internal thermoplastic adhesive, suitable for a wide range of applications, such as insulating and protecting cable joints and terminations. The inner liner provides good moisture sealing and weathering protection. Good strain and abrasion resistance. Available in plastic bag 1 mtr. length.

TECHNICAL DATA

Shrinking ratio: 3:1.
 Diameters available: from Ø 12 mm to Ø 180 mm.
 Colours available: black.
 Working temperature: -40°C ÷ 120°C.
 Shrinking temperature: > 110°C.
 Flammability rating: not self-extinguishing.
 Longitudinal change: -10%.
 Dielectric strength: > 17 kV/mm.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

HALOGEN FREE

ADHESIVE

APPLICATIONS

- ▶ Insulation and protection cables and joints also in underground laying.

BENEFITS

- ▶ High mechanical resistance.
- ▶ Excellent insulating and waterproofing properties.



EM 100A HEAT SHRINKABLE TUBING IN 1 MTR LENGTH

Code	Ø Internal expanded (mm)	Ø Internal recovered (mm)	Wall thickness recovered (mm)	Pack (m)
12247012	12	3	2,2	25
12247019	22	6	2,3	15
12247030	33	8	2,6	10
12247040	40	12	2,6	5
12247050	55	17	2,9	3
12247063	65	19	3,15	3
12247070	72	22	3,15	2
12247095	92	26	3,15	1
12247115	115	35	3,35	1
12247140	180	60	3,5	1



LINKED PRODUCTS:

Heat guns & accessories, see pages 97



NEOPRENE SLEEVES



Sleeves in lubricated neoprene suitable for protecting and insulating electrical panels and industrial wirings.

TECHNICAL DATA

Type of material: black lubricated neoprene.
 Diameters available: from Ø 1,25 mm to Ø 17 mm.
 Working temperature: -30°C ÷ 90°C.
 Flammability rating: UL 94 class V0.
 Dielectric strength: 13 kV/mm

APPLICATIONS

- ▶ Protecting and insulating electrical panels.

BENEFITS

- ▶ The sleeves are internally lubricated for an easy and quick application with the dedicated tools.
- ▶ Resistance to oils and solvents.
- ▶ Good resistance to humidity and aging.
- ▶ Resistant to low temperatures.

NEOPRENE SLEEVES

Code	Name	Ø Internal (mm)	Ø External (mm)	Length (mm)	Thickness (mm)	Pack pcs.
5380	A0	1,25	2	20	0,5	1.000
5381	A1	1,75	3,5	20	0,5	1.000
5381BIS	A1BIS	2,4	4,5	20	0,6	1.000
5382	A1K	2,5	5,5	25	0,9	1.000
5383	A2	3	6	25	0,6	1.000
5384	A2K	4	8	30	1,2	1.000
5385	A3	5	9	25	0,7	1.000
5386	A4	7,5	12	30	0,8	1.000
5387	A5	10	15	35	0,9	500
5388	A8	12	20	50	1,2	500
5389	A9	14	23	50	1,3	500
5390	A10	17	28	50	1,3	500

Codes 5388, 5389, 5390 available on request (minimum order quantities).



LINKED PRODUCTS:

Tools for neoprene sleeves see pages 93



PVC TUBING SLEEVES



Tubing sleeve in PVC is suitable for mechanical protection, insulating cables in the electrical applications. The material is resistant to ozone, aging and weak acids. Available in reel from 25 mt up to 500 mt long, 0,3mm up to 1,3 mm thickness. High temperature resistance (120°C) on request.

TECHNICAL DATA

Raw material:	PVC.
Diameters available:	from Ø 3 to Ø 50 mm.
Colours available:	black.
Working temperature:	-40°C ÷ 70°C.
Flammability rating:	UL 94 class V1.
Dielectric strength:	25 kV/mm.

APPLICATIONS

- ▶ Protection cables in electrical panels, industrial wiring and automotive.

BENEFITS

- ▶ Extreme easy and slip of a cable bundle.

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.



PVC TUBING SLEEVES

Code	Ø Internal (mm)	Ø External (mm)	Thickness (mm)	Pack (m)
12370300	3	3,6	0,3	200
12370400	4	4,6	0,3	200
12370500	5	5,8	0,4	200
12370600	6	6,8	0,4	200
12370700	7	7,8	0,4	200
12370800	8	8,8	0,4	200
12370101	10	11	0,5	200
12370121	12	13	0,5	100
12370141	14	15,2	0,6	100
12370161	16	17,2	0,6	100
12370181	18	19,4	0,7	100
12370202	20	21,6	0,8	100
12370222	22	23,8	0,9	100
12370242	24	25,8	0,9	50
12370262	26	27,8	0,9	50
12370282	28	30	1	50
12370303	30	32	1	50
12370404	40	42,5	1,2	25
12370505	50	52,6	1,3	25



POLYETHYLENE SPIRALS



The low density polyethylene spiral is extremely flexible and it is ideal for bundle and protect the electrical cable and wir. Available in two colours, good resistance to acid and basic environment. packed in plastic bag

TECHNICAL DATA

Type of material:	Extruded Polyethylene LD (low density).
Colours available:	natural and black.
Dim. available:	for bundle of cables from $\varnothing 3$ to $\varnothing 150$ mm.
Working temperature:	$-50^{\circ}\text{C} \div 85^{\circ}\text{C}$.
Flammability rating:	UL 94 class HB.
Halogene-free:	

NOTE

For availability, minimum order quantities and lead time of products on request, please ask to our sales department.

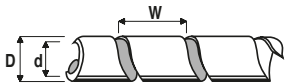
HALOGEN FREE

APPLICATIONS

- ▶ Bundling and protection of electrical cables.

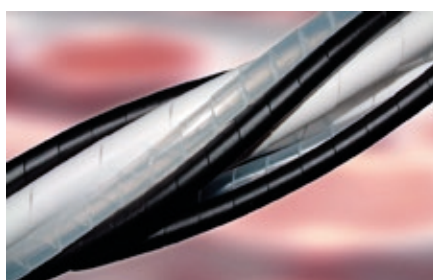
BENEFITS

- ▶ The spiral is obtained by a tube of extruded and cut polyethylene.
- ▶ Extremely flexible.
- ▶ Quick installation also in definitive wiring.
- ▶ Due to the spiral structure, cables can branch out at any point and in any direction.

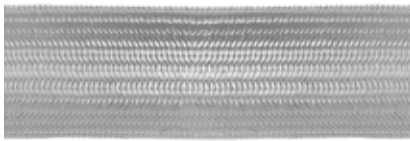


POLYETHYLENE SPIRALS

Code	Code	Thickness	Dimensions (mm)			Wiring (mm)		Pack	Carton
Natural	Black	(mm)	d	D	W	\varnothing min	\varnothing max	(m)	(m)
SP 2	SP 2N	0,6	2,3	3,5	5	3	15	50	1.000
SP 4	SP 4N	0,65	3,7	5	7	4	20	25	500
SP 6	SP 6N	0,75	6,5	8	10	7	40	25	500
SP 9	SP 9N	0,85	8,2	10	12	9	50	25	350
SP 12	SP 12N	1	10	12	14	11	70	25	250
SP 15	SP 15N	1	12	14	16	13	80	20	200
SP 20	SP 20N	1,2	17,6	20	22	18	120	25	100
SP 25	SP 25N	1,4	22,2	25	27	23	150	20	80



BRAIDED SLEEVES



The braided sleeve is available in polyester or in polyamide 6.6 according to the type of application required. It is suitable for mechanical protection and cable bundling. The material is resistant to abrasion and chemical agents and it is recommended for applications where an high flame resistance and low smoke toxicity is required (e.g. railway use). Available in reel.

TECHNICAL DATA - POLYESTER

Raw material:	polyester.
Yarn diameter:	0,22 mm.
Working temperature:	-40°C ÷ 150°C.
Colours available:	grey - black.
Diameters available:	from 6 to 40 mm.
Flammability rating:	UL 94 class V2.
Halogene-free.	

TECHNICAL DATA - POLYAMIDE 6.6

Raw material:	polyamide 6.6.
Yarn diameter:	0,25 mm.
Working temperature:	-40°C ÷ 125°C.
Colours available:	grey - black.
Diameters available:	from 6 to 40 mm.
Flammability rating:	UL 94 class V2.
Halogene-free.	

APPROVALS/CERTIFICATIONS

FMVSS 302, DIN 5510-2 (polyester, polyamide 6.6)
 NF F 16-101 (polyamide 6.6)
 EN 45545-2 (HL3)

HALOGEN FREE

APPLICATIONS

- ▶ Flexible cable protection in the electrical or electronic installations, and in the telecommunications.
- ▶ Extreme easy insertion and slip of a cables bundle.

BENEFITS

- ▶ Extreme easy insertion and slip of a cables bundle.
- ▶ The braided sleeve can be cut with a heat cutter, to prevent fraying at the end of the yarn.



BRAIDED SLEEVE IN POLYESTER


Code	Code	Ø Nominal	Ø Max	Pack
Grey	Black	(mm)	(mm)	(m)
15501006	15502006	6	12	100
15501008	15502008	8	15	100
15501010	15502010	10	18	100
15501012	15502012	12	22	50
15501015	15502015	15	25	50
15501018	15502018	18	28	50
15501020	15502020	20	30	50
15501025	15502025	25	38	50
15501030	15502030	30	49	50
15501040	15502040	40	60	50

BRAIDED SLEEVE IN POLYAMIDE 6.6


Code	Code	Ø Nominal	Ø Max	Pack
Grey	Black	(mm)	(mm)	(m)
15510006	15520006	6	9	100
15510008	15520008	8	13	100
15510010	15520010	10	15	100
15510012	15520012	12	18	50
15510014	15520014	14	20	50
15510016	15520016	16	21	50
15510018	15520018	18	22	50
15510020	15520020	20	25	50
15510025	15520025	25	28	50
15510030	15520030	30	37	50
15510035	15520035	35	45	50
15510040	15520040	40	48	50

INSULATION TAPES IN PVC



The PVC insulation tapes are available in different thicknesses, lengths and colours; the material is self-extinguishing and with a high degree of electrical insulation and mechanical protection for any applications in civil and industrial installations.

The characteristics of the adhesive and the PVC support ensure a high insulating power (600 V) and they can be used even in critical conditions (low temperatures, high mechanical stress).

TECHNICAL DATA

Type of support:	PVC film with adhesive
Nominal thickness:	0,13 mm - 0,15 mm - 0,18 mm.
Adhesion to steel:	2,5 N/cm.
Adhesion to backing:	2,2 N/cm.
Breaking strength:	25 N/cm (0,13) - 27 N/cm (0,15) - 30 N/cm (0,18).
Elongation at break	200% (0,13) - 200% (0,15) - 250% (0,18).
Dielectric strength:	40 kV/mm.
Working temperature:	-18 ÷ 90°C.
Flammability rating:	self-extinguishing.

APPROVALS/CERTIFICATIONS

PVC tapes: CEI EN 60454-3-1 e BS 3924
Homologation VDE nr. 40039640



APPLICATIONS

- ▶ Electrical installations.
- ▶ Insulation and cable marking.
- ▶ Automotive.
- ▶ Identification.

BENEFITS

- ▶ Easy application.
- ▶ High electrical insulation.
- ▶ High resistance to abrasion.
- ▶ Good resistance to acids, bases and weather.

ADHESIVE INSULATION TAPES THICKNESS 0,13 mm

Code		Width	Length	Rolls for bar	Rolls for carton
		(mm)	(m)	pcs.	pcs.
NI 20N	●	15	10	10	200
NI 20BI	○	15	10	10	200
NI 20BL	●	15	10	10	200
NI 20GI	●	15	10	10	200
NI 20GR	●	15	10	10	200
NI 20R	●	15	10	10	200
NI 20T	●	15	10	10	200
NI 20V	●	15	10	10	200
NI 20M	●	15	10	10	200
NI 22N	●	19	25	10	120
NI 22BI	○	19	25	10	120
NI 22BL	●	19	25	10	120
NI 22GI	●	19	25	10	120
NI 22GR	●	19	25	10	120
NI 22R	●	19	25	10	120
NI 22T	●	19	25	10	120
NI 22V	●	19	25	10	120
NI 22M	●	19	25	10	120
NI 21N	●	15	25	12	144
NI 23N	●	19	10	10	200
NI 24N	●	25	25	8	96
NI 26N	●	38	25	5	60
NI 27N	●	50	10	4	60
NI 28N	●	50	25	4	48

ADHESIVE INSULATION TAPES THICKNESS 0,15 mm

Code		Width	Length	Rolls for bar	Rolls for carton
		(mm)	(m)	pcs.	pcs.
NI 14N	●	15	10	10	200
NI 14BI	○	15	10	10	200
NI 14BL	●	15	10	10	200
NI 14GR	●	15	10	10	200
NI 14R	●	15	10	10	200
NI 14T	●	15	10	10	200
NI 14M	●	15	10	10	200
NI 16N	●	19	25	10	120
NI 16BI	○	19	25	10	120
NI 16BL	●	19	25	10	120
NI 16GR	●	19	25	10	120
NI 16R	●	19	25	10	120
NI 16T	●	19	25	10	120
NI 16M	●	19	25	10	120
NI 18N	●	25	25	8	96
NI 18BI	○	25	25	8	96

ADHESIVE INSULATION TAPES IN PVC THICKNESS 0,18 mm

on request: ○ ● ●

Code		Width	Length	Rolls for bar	Rolls for carton
		(mm)	(m)	pcs.	pcs.
NI 06N	●	19	20	10	120

SELF-AMALGAMATING INSULATION TAPES



The self-amalgamating tapes in EPR allow you to create a mechanical and electrical protection providing a high waterproofing power.

TECHNICAL DATA

Type of support:	ethylene-propylene rubber (EPR)
Nominal thickness:	0,75 mm.
Adhesion to steel:	4 N/cm.
Breaking strength:	20 N/cm.
Elongation at break:	620%.
Dielectric strength:	32 kV/mm.
Working temperature:	-40 ÷ 90°C.
Flammability rating:	self-extinguishing.

APPLICATION

Remove the protective film and stretching the tape to reduce its width by one third. Wrap the section to be covered by overlapping each subsequent layer of 50%. End the application by pulling the tape and join the end part of the tape to the section covered. It is recommended to cover the connection with PVC adhesive tape.

APPLICATIONS

- ▶ Insulation, waterproofing and protection of electrical components.
- ▶ For jointing and repairing a wide range of solid dielectric power cables up to 69 KV.
- ▶ Compatible with a wide range of rubber and plastic dielectric cable insulation, polyethylene, pvc, butyl and neoprene.

BENEFITS

- ▶ Excellent physical and electrical properties with a high degree of stability under condition of humidity.
- ▶ The tape amalgamates rapidly when applied under tension to provide a void-free homogeneous wrapping, without the need for external heat or pressure.
- ▶ Excellent resistance to water and ozone.

ADHESIVE INSULATION TAPES THICKNESS 0,75 mm - SELF-AMALGAMATING

Code		Width (mm)	Length (m)	Rolls for bar pcs.	Rolls for carton pcs.
NI 69A	●	19	10	1	48



CABLING TOOLS

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EZ CRIMP	84
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Stripping and cutting tools	91
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TOOLS FOR CABLE TIES //

5401



Metal tool for cable ties with automatic cutting device. Tightening strength can be conveniently set. Suitable for cable ties from 2,2 to 4,8 mm width.

Code	L	Weight	Pack
	(mm)	(gr)	pcs.
5401	160	310	1

TOOLS FOR CABLE TIES //

5403



Metal tool for cable ties with automatic cutting device. Tightening strength can be conveniently set. Suitable for cable ties from 2,2 to 4,8 mm width.

Code	L	Weight	Pack
	(mm)	(gr)	pcs.
5403	165	221	1

TOOLS FOR CABLE TIES //

5400C



Professional metal tool for cable ties with normal cutting device. Suitable for cable ties from 3,5 to 9 mm width.

Code	L	Weight	Pack
	(mm)	(gr)	pcs.
5400C	190	290	1

TOOLS FOR CABLE TIES //

5406C



Professional metal tool for cable ties with normal cutting device. Suitable for cable ties from 3,5 to 12,5 mm width.

Code	L	Weight	Pack
	(mm)	(gr)	pcs.
5406C	190	260	1

TOOLS FOR CABLE TIES //

5405C



Professional metal tool for cable ties with automatic cutting device. Suitable for cable ties from 3,5 to 13 mm width. Tightening strength can be conveniently set through comfortable hand force.

Code	L	Weight	Pack
	(mm)	(gr)	pcs.
5405C	200	320	1

TOOLS FOR CABLE TIES //

5407

Tools for stainless steel cable ties

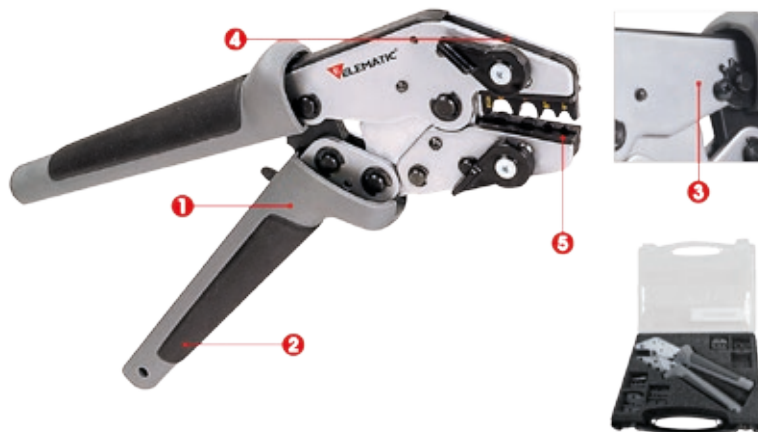


A metal tool which allows to adjust the tightening strength with the screw under the handle. When the set tension is reached, the blade cuts off the tail of the ties without effort and flashes. Suitable for cable ties with width up to 7,9 mm.

Code	L	Weight	Pack
	(mm)	(gr)	pcs.
5407	178	560	1

EZ CRIMP

Professional crimping tool



PROFESSIONAL CRIMPING TOOL

- ❶ Frame with ratchet and built-in safety release for perfect connections.
- ❷ 2-components, antislippage handles.
- ❸ Adjustable crimp pressure.
- ❹ Lever for manual unlock of dies.
- ❺ Simple change of crimp dies without any tools.

BENEFITS

- ▶ The “easy change” quick release, the simple change of crimp dies without thumb screws or tools, the advantage of working with all die sets - all these features make this tool unique and extremely functional in all applications.
- ▶ The die sets are made of micro casted steel, obtained by a particular melting technology able to grant precision in the couplings as well as the highest resistance against wear and tear.

ELEMATIC EZ CRIMP® (EASY CRIMP) is a patented, extremely robust and reliable crimping tool, realized in micro casted C45 steel (matt chromo plated tool frame) with ergonomic handles made of antislip plastic material. It is the ideal tool for all applications in switchboards and in all industrial installations.

Professional crimping tool EZ CRIMP + DIES

Code	Description	Assortment	Pack pcs.
9400 U	EZ CRIMP 250x80 mm - 580 g.	Tool without dies	1
9400	EZ CRIMP + 5 dies	9400 U (EZ CRIMP) 9400 M-TB16 9400 M-TB35 9400 M-CP6 9400 M-CN10 9400 M-CO2,5	1
9400 PLUS	EZ CRIMP + 5 dies COAX/RG	9400 U (EZ CRIMP) 9400 M-TB16 9400 M-CP6 9400 M-CN10 9400 M-CO2,5 9400 M-CC1	1
9401	EZ CRIMP + 3 dies	9400 U (EZ CRIMP) 9400 M-TB16 9400 M-TB35 9400 M-CP6	1
9400 FV	EZ CRIMP + 5 photovoltaic dies	9400 U (EZ CRIMP) 9400 M-TB16 9400 M-CP6 9400 M-CN10 9400 M-MC3 9400 M-MC4	1

CRIMP DIES

Standard crimp dies for crimping terminals and connectors.

	Code	Description
	9400 M-TB6	for wire ferrules 0,5÷6 mm ²
	9400 M-TB16	for wire ferrules 0,5÷16 mm ²
	9400 M-TB35	for wire ferrules 16÷35 mm ²
	9400 M-TB50	for wire ferrules 25÷50 mm ²

Standard crimp dies for crimping terminals and connectors.

	Code	Description
	9400 M-CP6	for preinsulated terminals 0,5÷6 mm ²
	9400 M-CN10	for copper lugs 0,5÷10 mm ²
	9400 M-CO2,5	for open barrel terminals 0,5÷2,5 mm ² (grip 4,8-6,3)
	9400 M-CT6	for heat-shrinkable butt connectors 0,5÷6 mm ²

CRIMP DIES FOR SPECIAL CRIMPING

(packaging with one piece)

Dies for crimping all kinds of coax connectors (BNC / TNC / THINNET / MINI-UHF / N / SMA / SMB) and RG cables.

	Code	Connectors	Cables
	9400 M-CC1	Coax BNC/TNC	RG58 RG59 RG62 RG71
	9400 M-CC2	Coax Thinnet Mini-UHF BNC/TNC	RG58 RG174
	9400 M-CC3	Coax BNC/TNC	RG174 RG179 Small coax connectors
	9400 M-CC4	Coax Type N	RG8 RG11 RG213 RG216
	9400 M-CC5	Coax CATV Type F BNC/TNC	RG6 RG6 Quad
	9400 M-CC6	SMA, SMB Mini-59 Mini-UHF B/TNC	RG58 Mini-59 RG174
	9400 M-CC7	Type N	RG8 RG11

Dies for crimping unshielded plugs and connectors (phone, wiring, computer, service stations, etc.)

	Code	Connectors	Cables
	9400 M-WES1	RJ45 8P8K Stewart	solid + flexible flat + round 22-24 AWG
	9400 M-WES2	RJ11-RJ12 6P6K Stewart	solid + flexible flat + round 22-24 AWG
	9400 M-WES3	telephone 4P4K AMP Stewart	solid + flexible flat + round 22-24 AWG
	9400 M-WES4	RJ45 8P8K AMP	solid/flexible flat/round 22-24 AWG
	9400 M-WES5	RJ11 - RJ12 6P6K AMP	solid/flexible flat/round 22-24 AWG
	9400 M-WES6	RJ11, DEC MMJ 6P6K AMP	solid/flexible flat/round 22-24 AWG
	9400 M-WES7	RJ50 10P10K AMP	solid/flexible flat/round 22-24 AWG

Dies for fibre optic connectors

	Code	Connectors	Cables
	9400 M-CF8	Optical fibre	SMA
	9400 M-CF9	Optical fibre	SMA, SMB SFR ST SC

Dies for crimping shielded plugs and connectors (phone, wiring, computer, service stations, etc.)

	Code	Connectors	Cables
	9400 M-WEC1	RJ45 8P8K short Stewart	solid/flexible STP 22-24 AWG
	9400 M-WEC2	RJ45 8P8K long Hirose	solid/flexible STP 22-24 AWG
	9400 M-WEC3	RJ45 8P8K short Hirose	solid/flexible STP 22-24 AWG
	9400 M-WEC5	RJ45 8P8K AMP Molex Ø 6mm	solid/flexible STP 22-24 AWG

Dies for solar connectors

	Code	Connectors	Cables
	9400 M-MC3	Multi Contact MC3 and equivalent	4-6 mm ²
	9400 M-MC4	Multi Contact MC4 and equivalent	4-6 mm ²
	9400 M-TC6	Tyco* and equivalent, insulated butt splices	4-6 mm ² (Tyco) 0,5÷6 mm ² (butt splices)

* double crimp with 2,5 mm²cavity

TOOLS FOR WIRE-TERMINALS //

9102



Crimping tool with plastic handles and spring for re-opening. Suitable for ferrules from 0,5 to 2,5 mm². (AWG 20 ÷ 14)

Code	Section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9102	0,5÷2,5	145	60	160	1

TOOLS FOR WIRE-TERMINALS //

9004



Crimping tool with plastic handles and spring for re-opening. Suitable for ferrules from 0,75 to 10 mm². (AWG 18 ÷ 8)

Code	Section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9004	0,75 ÷ 10	180	80	320	1

TOOLS FOR WIRE-TERMINALS //

9039A



Professional crimping tool in steel plate with micro casted steel dies, lateral crimping and plastic handles, dies locking regulation device. Ratchet closing system for handles and automatic unclamping at complete execution of the crimping operation. Suitable for ferrules from 0,5 to 6 mm² (AWG 22÷10).

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9039A	0,5 ÷ 6	206	390	1

TOOLS FOR WIRE-TERMINALS //

9039



Professional crimping tool in steel plate with micro casted steel dies, lateral crimping and plastic handles, dies locking regulation device. Ratchet closing system for handles and automatic unclamping at complete execution of the crimping operation. Suitable for ferrules from 6 to 16 mm² (AWG 10 ÷ 6).

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9039	6 ÷ 16	205	380	1

TOOLS FOR WIRE-TERMINALS //

9302



Professional metal crimping tool, with burnished finishing, square crimp and lateral loading of the connector. Provided with ergonomic, two-component handles. Equipped with safety device and mechanical unlocking release, for an optimum crimping. Suitable for ferrules from 0,08 to 10 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9302	0,08 ÷ 10	180	392	1

9304



Professional metal crimping tool, with burnished finishing, square crimp and frontal loading of the connector. Equipped with safety device and mechanical unlocking release, for an optimum crimping. Two-component ergonomic handles. For convenient handling in areas difficult to be reach with preselection of two different crimping ranges. It is suitable for ferrules from 0,08 to 16 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9304	0,08 ÷ 16	190	475	1

CABLING TOOLS

9410

Tool for crimping end-sleeve terminals in strips



Ergonomic and automatic tool for end-sleeve terminals in strips from 0,5 up to 2,5 mm². Equipped with 3 sleeve magazines and a metallic box. It grants an easy and quick change. Multi functional tool for flexible cable cutting stripping, twisting and all crimping operations.

Code	Description	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9410	Kit box for end-sleeve terminals in strips (tool + 3 magazines + box).	0,5-0,75-1,0-1,5-2,5	180	220	1

TOOLS FOR PREINSULATED TERMINALS //

9007

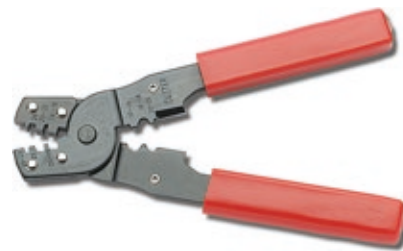


Tool with steel frame, micro casted dies and plastic handles. Equipped with safety device, ratchet for the perfect closing of the handles and automatic unclamping when the crimping operation is completed. Suitable for preinsulated terminals from 0,5 to 6 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9007	0,5 ÷ 6	220	500	1

TOOLS FOR PREINSULATED TERMINALS //

9020



Tool with steel frame and plastic handles. Suitable for open barrel terminals from 0,5 to 6 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9020	0,5 ÷ 6	185	210	1

TOOLS FOR PREINSULATED TERMINALS //

9049



Tool with steel frame, micro casted dies and plastic handles. Equipped with safety device, ratchet for the perfect closing of the handles and automatic unclamping when the crimping operation is completed. Suitable for open barrel terminals from 0,5 to 6 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9049	0,5 ÷ 6	225	510	1

TOOLS FOR COPPER LUGS //

9048



Crimping tool with fusion head, handles in reinforced metal, plastic handles. Equipped with ratchet for the perfect closing of the handles and automatic unclamping at complete execution of the crimping operation.

Suitable for crimping copper lugs through manual pressure, from 1,5 to 16 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9048	1,5 ÷ 16	275	520	1

TOOLS FOR COPPER LUGS //

9038



Tool with frame and dies made of micro casted steel, handles of pressed steel. Suitable for crimping copper lugs through manual pressure, from 10 to 95 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9038	10 ÷ 95	570	3.100	1

TOOLS FOR COPPER LUGS //

9068 9069 9071



Crimping tool with fusion head, handles in reinforced metal, plastic handles and micro casted steel dies. Suitable for crimping copper lugs through manual pressure, up to 120 mm².

Code	Section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9068	25÷120	660	120	4.500	1
9069	16÷95	655	120	4.400	1
9071	10÷50	570	100	3.280	1

TOOLS FOR COPPER LUGS //

9075



Tool with zinc-plated steel frame, handles in reinforced metal with anti slip plastic material, die with hexagonal crimping. Suitable for hexagonal crimping of copper lugs through manual pressure, from 6 to 120 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9075	6 ÷ 120	650	290	1

AUTOMATIC STRIPPING TOOLS //

9305

Automatic self-adjusting insulation stripper



Automatic stripping tool with body made of glass fibre reinforced plastic and ergonomic, two-component handles. Automatic adjustment for an optimal stripping. Metal clamping jaws. It is suitable for cables from 0,03 to 10 mm². Device for stripping cables with adjustable stop from 5 to 20 mm.

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9305	0,03 ÷ 10	195	200	1

AUTOMATIC STRIPPING TOOLS //

5415

Automatic stripping and cutting tool



Automatic stripping and cutting tool with body made of plastic material, blades in zinc-plated steel.
Suitable for cables from 0,5 to 4 mm².

Code	Section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
5415	0,5÷4	170	100,5	138	1

AUTOMATIC STRIPPING TOOLS //

9056

Automatic stripping tool



Automatic stripping tool with blades in steel.
Suitable for cables from 0,5 to 6 mm².

Code	Section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9056	0,5÷6	170	120,5	338	1

AUTOMATIC STRIPPING TOOLS //

9012

Stripping, cutting and crimping tool



Stripping, cutting and crimping tool for insulated terminals with body in metal and plastic handles, provided with spring for the re-opening.
Suitable for cables from 1 to 6 mm².

Code	Section (mm ²)	L (mm)	Weight (gr)	Pack pcs.
9012	1÷6	130	130	1

TOOLS FOR CRIMPING MODULAR PLUGS //

11909001



Tool with system of cable stripping and cutting.
Suitable for crimping modular plugs with 6-8 poles (RJ11, RJ12, RJ45).

Code	Connector	L	H	Weight	Pack
	type N	(mm)	(mm)	(gr)	pcs.
11909001	6P6K; 8P8K	200	65	320	1

TOOLS FOR NEOPRENE SLEEVES //

TOOL FOR NEOPRENE SLEEVES



Special tool for the installation of sleeves, with uniform expansion.
Available in four versions in accordance with the dimension of the sleeve.

Code	Sleeves	Sleeves	Pack
	Ø internal (mm)	Name	
5414	1,25÷2,4	A0÷A1 BIS	1
5416	1,75÷5	A1÷A3	1
5417	3÷10	A2÷A5	1
5418	10÷17	A5÷A10	1

CABLE STRIPPERS //

9058



Cable stripper with screw, for round cable, body in plastic material, parts in chrome-plated metal.
Adjustable blade in tempered steel.
Suitable for cables Ø 4-28 mm.

Code	Ø Cable	L	Weight	Pack
	(mm)	(mm)	(gr)	pcs.
9058	4÷28	135	71	1

CABLE STRIPPERS //

9061



Cable stripper for round cable, body in plastic material, parts in chrome-plated metal.

Adjustable tempered steel blade. Knife with straight chrome-plated steel blade. Suitable for cables \varnothing 8-28 mm.

Code	\varnothing Cable (mm)	L (mm)	Weight (gr)	Pack pcs.
9061	8÷28	180	90	1

CABLE STRIPPERS //

9062



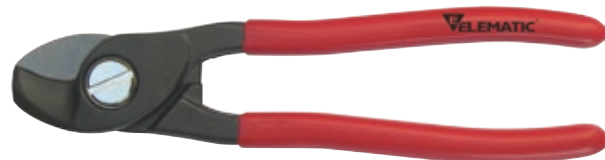
Cable stripper for round cable, body in plastic material, parts in chrome-plated metal.

Adjustable blade in tempered steel. Hook cutter in passivated steel. Suitable for cables \varnothing 8-28 mm.

Code	\varnothing Cable (mm)	L (mm)	Weight (gr)	Pack pcs.
9062	8÷28	180	90	1

CABLE CUTTERS //

9032



Cable cutter for cables in copper and aluminum with \varnothing max 15 mm (~50 mm²). Realized in chrome tempered steel with precision hardened blades.

Code	\varnothing Cable (mm)	L (mm)	Weight (gr)	Pack pcs.
9032	15 max	170	210	1

CABLE CUTTERS //

9033



Cable cutter for cables in copper and aluminum with \varnothing max 25 mm (~150 mm²). Realized in chrome tempered steel with precision hardened blades.

Code	Ø Cable (mm)	L (mm)	Weight (gr)	Pack pcs.
9033	25 max	200	300	1

CABLE CUTTERS //

9051

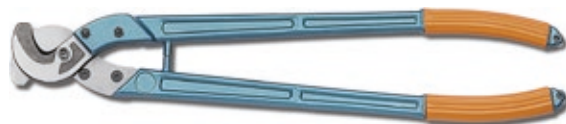


Cable cutter with metal fusion handles and cutting blades in treated steel, with plastic handles. Suitable for cutting cables in copper and aluminium with section up to 250 mm².

Code	Cable section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9051	250 max	600	140	1.540	1

CABLE CUTTERS //

9052



Cable cutter with metal fusion handles and cutting blades in treated steel, with plastic handles. Suitable for cutting cables in copper and aluminium with section up to 500 mm².

Code	Cable section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9052	500 max	800	165	2.880	1

CABLE CUTTERS //

9054



Cable cutter with painted metal handles and ratchet device to advance the treated steel cutting blades, with plastic handles. Suitable for cutting cables in copper and aluminium with section up to 300 mm².

Code	Cable section (mm ²)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9054	300 max	250	125	680	1

PIPES CUTTERS //

9089-9090

Tool for cutting rigid and semi-rigid PVC pipes



Suitable for cutting rigid or semi-rigid PVC pipes with section from 25 up to 40 mm.

Code	Ø Pipe (mm)	L (mm)	H (mm)	Weight (gr)	Pack pcs.
9089	20 max	190,5	70	272	1
9090	40 max	210,5	95	358	1

CABLING TOOLS

TOOLS FOR BRAIDED SLEEVES //

9050

Heat cutter for braided sleeves



Heat cutter for braided sleeves and synthetic materials (belts and ropes). Recommended for short-time operation (12 seconds work, 48 seconds pause), it heats up in 6-8 seconds the operation temperature (600°C).

It is equipped with interchangeable blades (not included), to be cleaned with a brass brush.



HEAT CUTTER FOR BRAIDED SLEEVES*

Code	Power max (W)	Rated voltage (V)	Weight (gr)	Pack pcs.
9050	70	110-230	1.000	1

*Without blade, to choose among the accessories.

ACCESSORIES

Code	Description	Width (mm)	Pack pcs.
9050 L1	Blade for heat cutter	29	1
9050 L2	Large blade for heat cutter	45	1

HOT GUNS //

12200013

Hot air gun



Hot air gun with 2 position selector.
 Position 1: power 1000W, air temperature 375°C, air flow 200 l/min.
 Position 2: power 1500W, air temperature 495°C, air flow 400 l/min.

Code	Power max (W)	Rated voltage (V)	L (mm)	Weight (gr)	Pack pcs.
12200013	1.500	230	240	670	1



HOT GUNS //

12200016

Hot air gun



Steinel hot air gun with 2-speed selector, micanite resistance and ergonomic grip.
 Position 1: power 800W, air temperature 300°C, air flow 240 l/min.
 Position 2: power 1600W, air temperature 500°C, air flow 450 l/min.

Code	Power max (W)	Rated voltage (V)	L (mm)	Weight (gr)	Pack pcs.
12200016	1.600	230-240	252	671	1



HOT GUNS //

12200019 **NEW**

Hot air gun



Steinel hot air gun with 3-speed selector and electronic temperature control by potentiometer. Ceramic resistance and ergonomic grip.

Position 1: air flow 150 l/min.

Position 2: air flow 300 l/min.

Position 3: air flow 500 l/min.

Temperature: from 80 °C to 600 °C according to the setting.

Power max: 2000W.

Code	Power max (W)	Rated voltage (V)	L (mm)	Weight (gr)	Pack pcs.
12200019	2.000	230-240	253	840	1



HOT GUNS //

12200021 **NEW**

Hot air gun



Steinel hot air gun with 2-speed selector and electronic temperature control switch (9 positions). Ceramic resistance, ergonomic grip and integrated fine dust filter.

Position 1: air flow 150 l/min.

Position 2: air flow 500 l/min.

Temperature: from 80 °C to 630 °C according to the setting.

Max power: 2200W.

Code	Power max (W)	Rated voltage (V)	L (mm)	Weight (gr)	Pack pcs.
12200021	2.200	230-240	337	920	1



HOT GUNS //

REFLECTING NOZZLES



Reflector nozzle for channelling the hot air flow and speeding up the thermo shrinking process.
Width 31,2 mm.
Suitable for hot air guns cod. 12200013 - 12200016 - 12200019 - 12200021.

Code	Description	L (mm)	Pack pcs.
12200033	Reflector nozzle	31,2	1

HOT GUNS //

12200011

Multifunctional gas tool



Burner



Hot gun



Soldering iron

Recommended for short time operation, not for continuous use. Turn off the flame after the use.
Capacity butane gas: 7 ml
Medium autonomy: 30 min, depending on the setting.
Max flame temperature: 1300 °C.
Weight: 60 gr.
For safety reasons, the product is provided without gas.

Code	Gas (ml)	Autonomy (min)	L (mm)	Weight (gr)	Pack pcs.
12200011	7	30	265	60	1



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