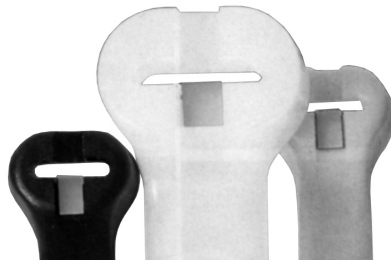


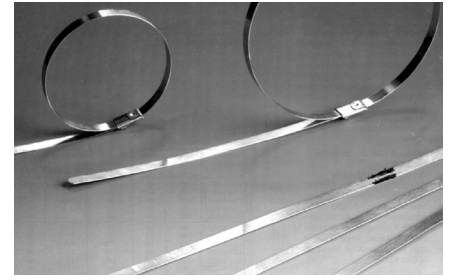
Cable ties, TK type

They are used when fast bundling of cables, wires, pipes or conduits is required; available in a wide range of designs, sizes and strengths. In the standard version made of Polyamide 6.6, they are resistant to typical solvents, sea water, grease, mould, etc. The offer also includes other materials which enable operating in outside conditions, chemically aggressive environment and are resistant to high temperature and self-extinguishing.



Cable ties, TY type

In comparison with the ties TK type they have higher tensile strength owing to ties the lock in the form of a metallic latch. The latch is made of high quality stainless steel, provided for operating even in a very unfavourable conditions. Available in a wide range of designs, sizes and materials corresponding to the TK types of the ties.



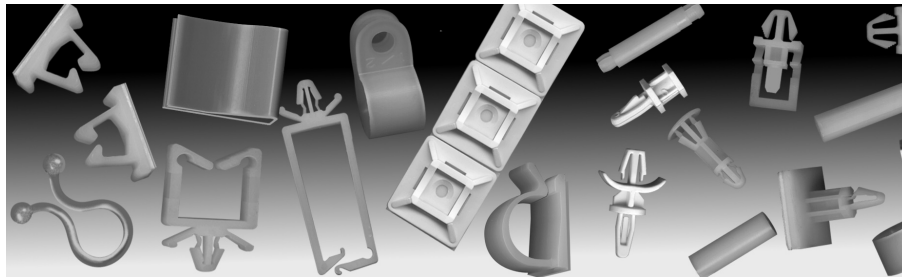
Steel ties TS type

The steel ties have a higher resistance than other components of electrical systems as regards all physicochemical parameters. They are completely fireproof, resistant to UV light, ionizing radiation and atmospheric corrosion. They permit also to make the connection of the highest mechanical strength. They may be used in power industry, road-building, aviation, war industry, oil distillery, shipyard, medical industry, chemical industry, food industry and many other branches of economy. Available in different sizes and designs delivered in pieces or rolls.



Tools for cable ties

Designed for tightening and cutting of cable ties. In case of steel ties the tools also form a lock. The ties tightened by means of tools have no sharp edges which can be dangerous for wire insulation or hands. They improve and considerably advance the mounting of cable ties, installations.



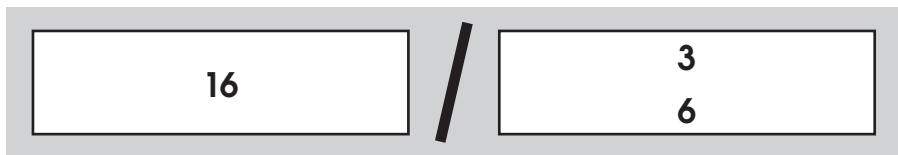
Fasteners and spacing elements

Available in a wide choice of designs; acting jointly with the cable ties or used individually; fixed by screwing on; latching into hole or self-adhesive.

Examples of marking

TK TS	O R	316P
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Type		Additional information	Material
TK	Single-piece, whole made of plastic	UV Resistant to ultraviolet light (sunlight)	PP polypropylene
TY	With metal latch	O For screwing-on	12 polyamide 12
TS	Steel	TO, OT For description	S polyamide 6.6, thermal stabilised
		Z Fitted by latching	VO polyamide 6.6, self-extinguishing
		D Releasable	TE TEFZELTM *
		ZD Z + D	201 steel 201 according to AISI/ASTN
		W With a flat head (only UV version)	201P steel 201 according to AISI/ASTN, coated
		T Steel, locking	304 steel 304 or 200-300 according to AISI/ASTN
		N Steel, fitted by means of tools	316 steel 316 according to AISI/ASTN
		R Steel, in roll	316P steel 316 according to AISI/ASTN, coated
		P Steel, fitted by means of clenching "tongues"	
		B Steel, self-tightening	



Length
Approximate length in cm except the TSR steel ties in coils TSR..., for which the length is given in meters.

Width
Approximate width of tie in mm.

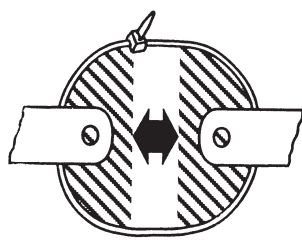
Note!
Actual width and length of tie may slightly differ from these given in the table depending upon the tool used for production.

* TEFZEL™ is a trade mark registered for E.I. DuPont Co.

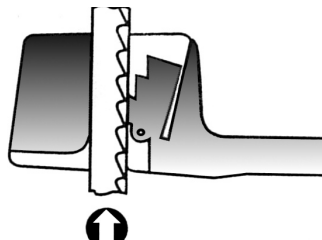
Why are the TK cable used so willingly?



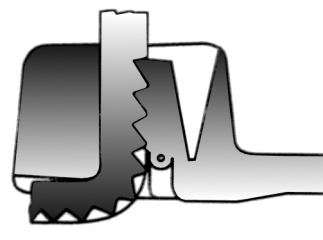
Careful design causes that the TK cable are convenient to mount and also strong. They are characterised by a high quality and reliability.



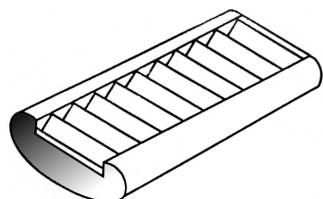
Available in a wide range of sizes and tensile strengths.
Length: 75÷1100 mm
Bundle diameter: 18÷350 mm
Failure tension: 8÷114 kG



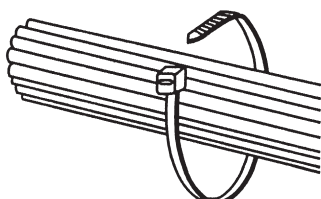
Monolithic structure of the buckling head and latch ensures at the same time an easy mounting and good strength. Additional advantage is a small size.



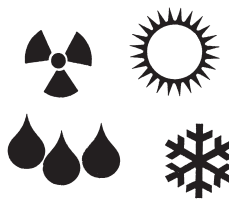
To increase the strength of joint the multi-tooth latches are applied. With the teeth being locked it is impossible to remove the tie from the head.



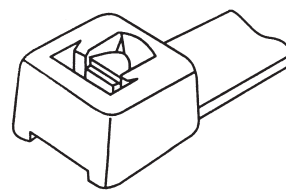
Each tie can be used to fit the bundle from a wide range of diameters since the teeth are placed on the whole length of tie. The close arrangement of the teeth enables to adjust exactly the loop created by the tie to the bundle circumference. The teeth placed under the tie surface do not injure insulation.



The bent and narrowing tie end helps to insert it in the head hole. Thanks to the bent end it is also easier to grasp the tie lying on a flat surface. Moreover, the teeth placed on the bent tip prevent sliding from fingers during drawing the tie through the hole in the head.



Produced of different materials thus permitting to select the proper cable tie to working conditions.

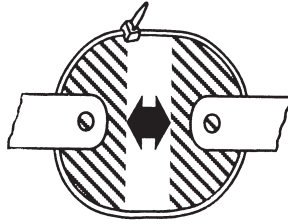


Smooth and rounded edges neither damage the insulation nor injure hands during the mounting.

Why is it worth using the TY cable ties?

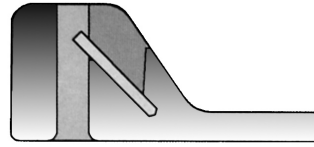


They are distinguishable by a particular durability and reliability; easy to use; construction improves the mounting efficiency. Available in a wide range of sizes.

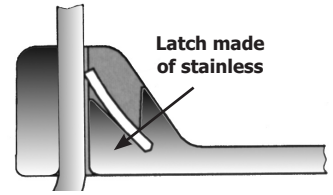


Characterised by extremely high tensile strength.

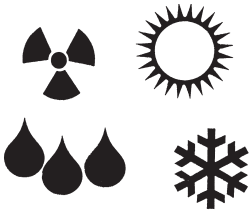
Failure forces: 8÷54 kG.
 Length: 92÷762 mm.
 Max. bundle diameter: 16÷229 mm.



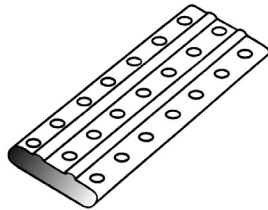
Main advantages of the TY tie result from head construction. Soft pass from head to strip eliminates the places which are particularly sensitive for action of failure force. Small head dimensions make the TY ties useful even in narrow spaces.



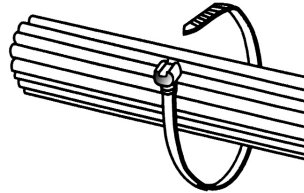
The element to determine the tie properties is a metal latch sealed in the head during the plastic extrusion. To ensure durability the tie is made of stainless and non-magnetic steel "316". The material elasticity enables the tie to be tightened using a small force.



Available in different material versions thus permitting the optimal selection of the tie to the operating conditions.



Tie surface is covered with projections which effectively prevent the tie dislocation along and around the bundle. Moreover, teeth placed on the bent end prevent sliding from fingers.



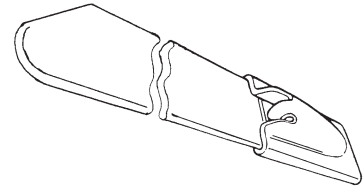
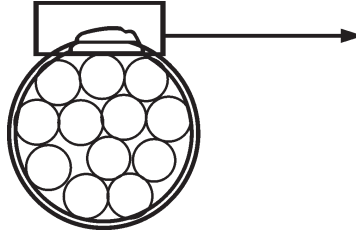
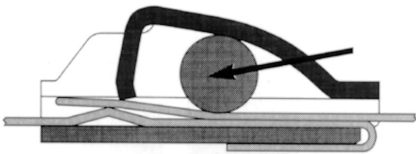
A bent and narrowed tie end helps to insert it in a hole of head. It is also easier to grasp the tie lying on a flat surface.



Smooth and rounded edges neither damage insulation nor injure hands or hands during mounting.

What is worth to know about the steel ties?

Cable ties, TSB type self – tightening



TSB ties have the advantage that they can be fitted without the use of tools. It is only needed to slip the strip into the self-tightening ball lock and to pull up.

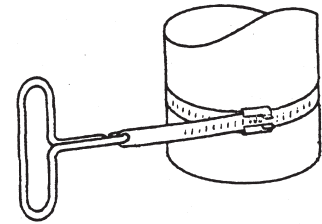
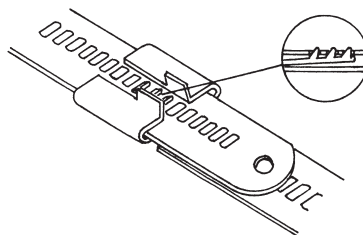
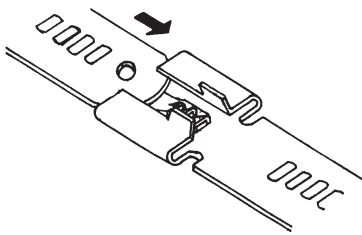
TSB ties are equipped with self-tightening ball lock which locks the tie in any position. They

can be fitted without tools or by means of a tool tightening the tie with an adjusted force and cutting off the tie end. The edges of the ties are rounded which protects the insulation of the fixed cable from cut-ting.

After winding the bundle and slipping the end

of the tie into the lock a ball, placed in the lock housing cooperating with the inclined housing wall, causes self-tightening of the unit. The tightening cannot be unlatched, it is also durable and vibrations resistant.

Cable ties, TST type self-locking



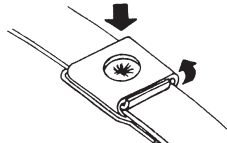
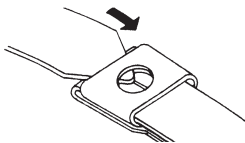
TST ties are equipped with a self-locking buckle which enables the tie to be fitted without using tools. There is an elastic toothed latch in the buckle. After tightening of the tie the teeth fall into the holes in the tie so it is impossible to pull it back.

An additional assurance of locking is obtained as a result of pressing the tabs in the buckle. The strip is covered with holes over the whole length so it is possible to tighten the bundles of various diameters.

TST ties are designed to be fitted by means of

tools. The gun for **TST** ties tightens the strip, cuts the useless end, and presses the tabs. The hole on the tie end serves to lock by using a hook.

Cable ties, type TSN with double lock



TSN ties can be fitted only by means of a tool, i.e. a gun for **TSN** ties. The lock may be made in any point of the strip.

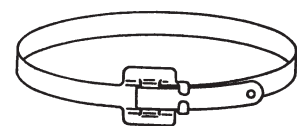
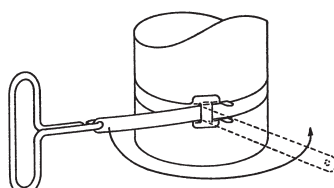
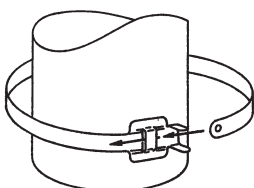
The gun stamps in the strip a bulge that is we-

dedged in the buckle. The useless end of the strip is cut off and the end, sticking out the buckle, is bent up.

A double protection of the lock against unfa-

stening makes that the **TSN** ties are extremely strong and sure.

Cable ties, TSP and TSPE type coated

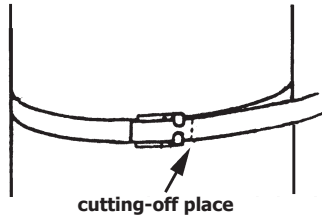


An exceptional resistance of the **TSP** ties is related to the use of stainless steel which is additionally protected against the effects of aggressive environment with chemically resistant polyamide 11 layer.

TSP ties are advantageous because of an easy mounting. After placing the hook in the hole it is necessary to bend backwards the tie end and next to clench the tabs in the buckle.

TSP tie are also designed for fitting by means of

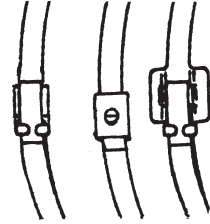
the gun for **TST** ties. The tightening and cutting of tie and the pressing of tabs is then carried on in one operation.

**Cable ties, TSR type
in coil**

This form of delivery allows to a significant saving of materials as only the used length of tie must be cut off. Special tool are needed for mounting.



TSR ties are made of different steel types: 201, 200-300, 304, 316 with different resistance to aggressive chemicals environments. For **TSR** ties we deliver the locks in 5 version,



made of steel 201, 200-300, 316, suitably to given tie type.

How to select a proper cable tie?

The basic condition of a long-lasting usability of a cable tie for operation in particularly heavy conditions is a proper material selection. For

typical requirements the selection can be made using the diagram below. The material is obtained by selecting either "yes" or "no" from the

following properties.

