

# Feman

Jagodina - Srbija

tel: +381 35 230 000

fax: +381 35 230 024

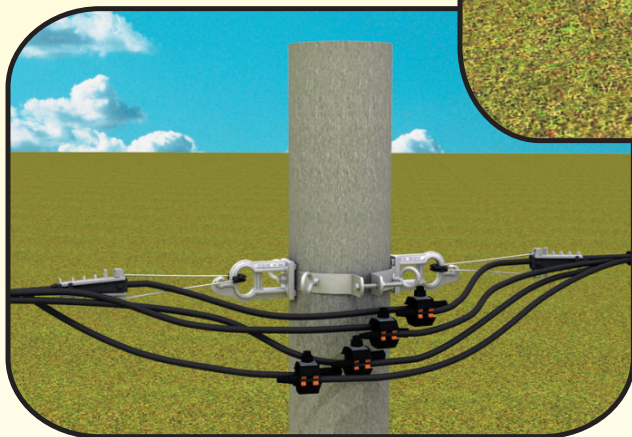
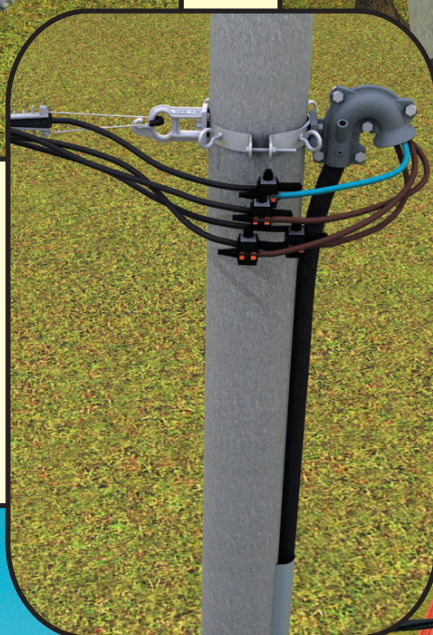
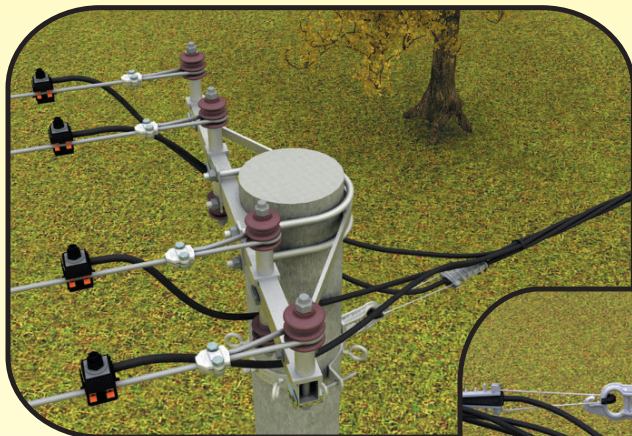
[www.feman.net](http://www.feman.net)

2009

2

ABC cables equipment

*Quality above all*



ON CUSTOMER'S REQUEST WE WILL DELIVER THE GENERAL CATALOGUE

more  
than 1400  
quality products



# INFORMATOR

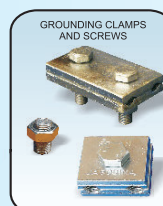
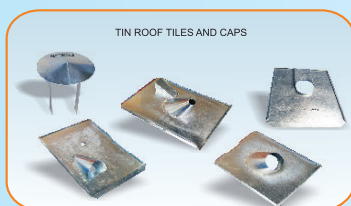
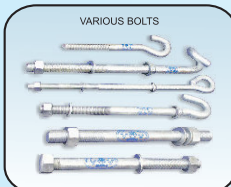
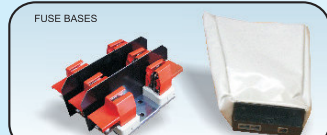
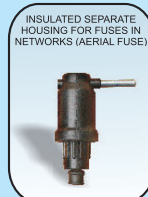
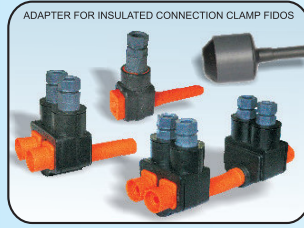
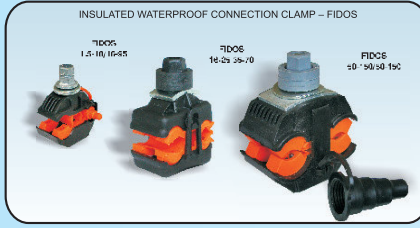
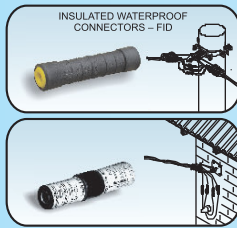
of various FEMAN's products



*Qualitu  
above all*

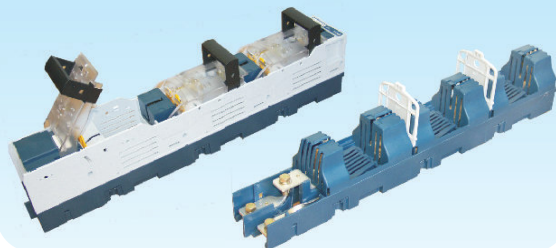


## INFORMATOR of various FEMAN's products



## INFORMATOR of various FEMAN's products

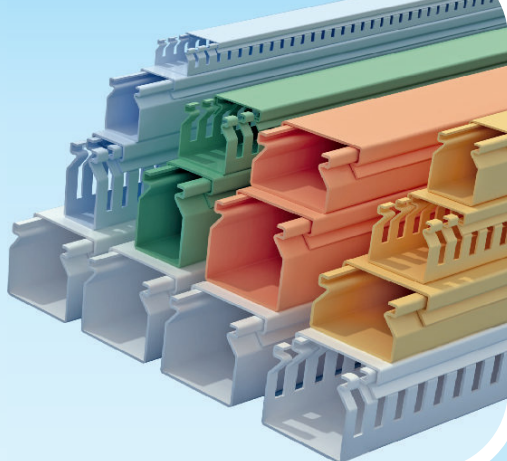
Fuse Switch Disconnecter – Vertical



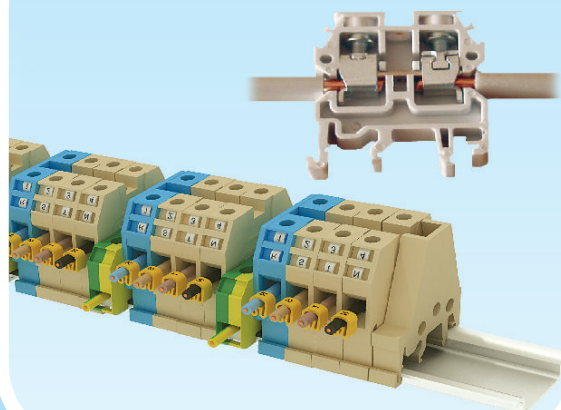
Electrical Distribution Boxes And Fuse Switch Disconnectors



PVC CABLE RACEWAYS



VS CLAMP



Combined Hydraulic Pump



Manual Mechanical Crimpers Fp-50 And Fp-120



Hydraulic Crimper Fcp-200



Hydraulic Crimper Fcp-630



Automatic Grippers



Hydraulic Head Fho-300



Hydraulic Drill Fdb-20



Manual Scissors For Cutting Iron And Cables



Hydraulic Scissors Fcc-87a



Hydraulic Head Fs-240



Manual Hydraulic Crimper Ftb-300



Universal rollers For laying cables



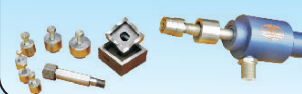
Pulley For Installing Lv And Mv Avc On Posts



Manual Hydraulic Crimper Fp-185



Tools For Sheet Metal Punching Fap-10



Manual Hydraulic Crimper Fp-300



BATTERY OPERATED CRIMPING TOOL





## INFORMATOR of various FEMAN's products

General Use Bracket  
For Single Tension Holding  
Of Mv Abc



General Use Bracket  
For Support Holding  
Of Mv Abc



Reflector Stands



Mercury Light  
Analed



Mercury Street  
Light 125w



Fluo Street  
Light 2x11-18w



"EUROKRISTAL"  
LANTERN



Street Light  
With Ballast For  
Pole Mounting



Mobile Halogen  
Reflectors



Halogen Reflectors  
With Sensors



Street Light  
With Ballast For  
Pole Mounting



Fluo light



Fluorescent Lights  
In-line System



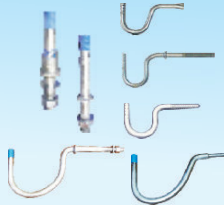
Cable Route Markers  
And Warning Signs



Self-adhesive  
Pvc Signs



BENT SUPPORTS FOR LV AND HV INSULATORS



*Quality above all*

Aluminium Brackets



Non-insulated Clamps



Non-insulated And Insulated Cable Lugs



Non-insulated Connectors  
And Reducing  
Connectors



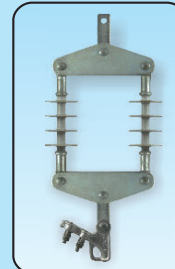
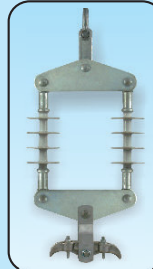
Threaded Connectors



Non-insulated And  
Insulated Terminals



SILICONE INSULATORS WITH CHAINS FOR 10, 25 AND 35 KV



Blower Heater



Winding And Unwinding Machine



Measuring And Rewinding  
Device Fuo-12a And  
Flo 1000/250



Cable Unwinding Devices Kabrns 600/1200



Device For  
Unwinding Cables  
Fso-2600



Stationary  
Length  
Measurer



## INSULATED WATERPROOF CONNECTING CLAMP FIDOS 1.5-10/16-95

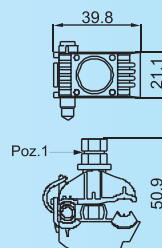
FEMAN

Used for connecting branch power line for household connections, public lighting, and other connections to self-supporting distributive cable bunch under voltage. The waterproof is provided by special rubber, resistant to UV-lights and all other atmospheric influences. Sealed joint safely prevents an occurrence of electrolyte corrosion, and at the same time it enables connection of Al and Cu power lines to house connections. Clamping is done by moment nut. Position 1 indicates the breaking point of the moment nut (clamp force is automatically regulated by a nut which breaks when the proper force is reached - 10Nm). For clamp tightening, as well as for clamp disassembling, we recommend OK-13 wrench. This particular clamp is used for the main line (16 to 95mm<sup>2</sup>) and the branch power line (1.5 to 10mm<sup>2</sup>). When installing under voltage always use protective gloves.

**Packing: 100 pcs**

**Weight: 4.8 kg/100 pcs**

**Code: 3801595**



## INSULATED WATERPROOF CONNECTING CLAMP FIDOS 16-25/35-70

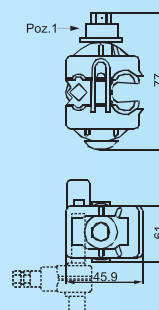
FEMAN

Used for connecting branch power line for household connection to distributive self supporting cable bunch under voltage. The waterproof is provided by special rubber, resistant to UV-lights and all other atmospheric influences. Sealed joint safely prevents an occurrence of electrolyte corrosion, and at the same time it enables connection of Al and Cu branch power lines to house connections. Clamping is done by moment nut. Position 1 indicates the breaking point of the moment nut (clamp force is automatically regulated by a nut which breaks when the proper force is reached - 14 Nm). For clamp tightening, use wrench OK-13, and for clamp disassembling wrench OK-22. Used for main line 35 to 70 mm<sup>2</sup> and branch lines of 16 to 25 mm<sup>2</sup>. For connecting of 16 mm<sup>2</sup> conductors or less, an adapter needs to be installed. During installation under voltage, always use protective gloves. Note: Adapter for smaller diameters are ordered separately.

**Packing: 40 pcs**

**Weight: 12.4 kg/100 pcs**

**Code: 3801670**



## INSULATED WATERPROOF CONNECTING CLAMP FIDOS 4-35/6-150

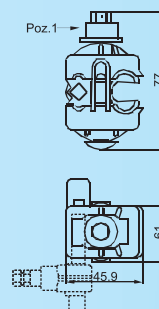
FEMAN

Used for connecting branch power line for household connection to distributive self supporting cable bunch under voltage. The waterproof is provided by special rubber, resistant to UV-lights and all other atmospheric influences. Sealed joint safely prevents an occurrence of electrolyte corrosion, and at the same time it enables connection of Al and Cu branch power lines to house connections. Clamping is done by moment nut. Position 1 indicates the breaking point of the moment nut (clamp force is automatically regulated by a nut which breaks when the proper force is reached - 16 Nm). For clamp tightening, use wrench OK-13, and for clamp disassembling wrench OK-22. Used for main line 6 to 150 mm<sup>2</sup> and branch lines of 4 to 35 mm<sup>2</sup>. During installation under voltage, always use protective gloves.

**Packing: 40 pcs**

**Weight: 10 kg/100 pcs**

**Code: 3804150**



## INSULATED WATERPROOF CONNECTING CLAMP FIDOS (35)50-150/(35)50-150

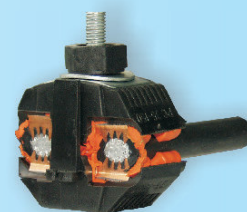
FEMAN

Used for connecting branch power line to distributive self-supporting cable bunch under voltage. The waterproof is provided by special rubber, resistant to UV-lights and all other atmospheric conditions. Sealed joint safely prevents an occurrence of electrolyte corrosion, and at the same time it enables connection of Al and Cu branch power lines to house connections. Clamping is done by moment nut. Position 1 indicates the breaking point of the moment nut (clamp force is automatically regulated by a nut which breaks when the proper force is reached – max 24 Nm). For clamp tightening use wrench OK-13 and for dismantling use wrench OK-22. Used for main line of (35) 50 up to 150 mm<sup>2</sup> and branch line of (35) 50 up to 150 mm<sup>2</sup>. When installing under voltage, always use protective gloves.

**Packing: 50 pcs**

**Weight: 22 kg/100 pcs**

**Code number: 3802580**

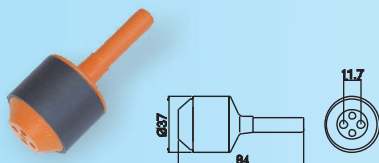






Used for hard working conditions when connecting branch power line to distributive self-supporting cable bunch under voltage. The waterproof is provided by special rubber, resistant to UV-lights and all other atmospheric conditions. Sealed joint safely prevents an occurrence of electrolytic corrosion, and at the same time it enables connection of Al and Cu branch power lines to house connections. Clamping is done by moment nut. Clamping force is automatically regulated by a nut which breaks when the proper force is reached – max 24 Nm). For clamp tightening use wrench OK-13 and for dismantling use wrench OK-22. Used for main line of (35) 50 up to 150 mm<sup>2</sup> and branch line of (35) 50 up to 150 mm<sup>2</sup>. When installing under voltage, always use protective gloves.

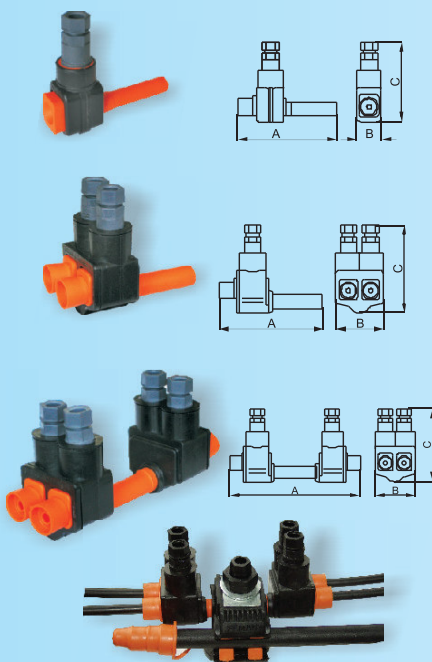
**Package: 25 pcs**  
**Weight: 46 kg/100 pcs**  
**Code number: 3802590**

ADAPTER 4x1,5-16 mm<sup>2</sup> FOR INSULATED CONNECTING CLAMP FIDOS 16-25/35-70

Used as a reducer for connecting clamp FIDOS 16-25/35-70, for house connectors with a possibility of 1, 2, 3 or 4 households using one FIDOS clamp. Adapter is fully insulated and waterproof providing safety during work under voltage as well as a safe and long-lasting connection. Adapter enables connection of Al and Cu conductors for house connectors.

**Packing: 100 pcs**  
**Weight: 6.8 kg/100 pcs**  
**Code: 3802575**

## ADAPTER FOR INSULATED WATERPROOF CONNECTING CLAMP FIDOS 50-150/50-150



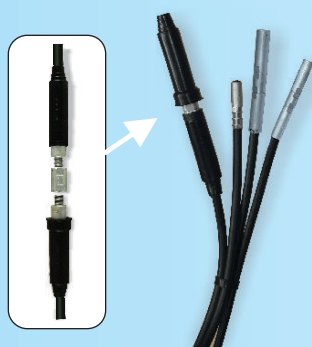
An example of adapter use with FIDOS

Code number	Designation mm <sup>2</sup> /Screw M	A mm	B mm	C mm	Package pcs	Weight a/100 pcs
3802571	1 x 6 -35	80	23	71	50	4.2
3802572	2 x 6 -35	93	43	78	50	9.4
3802574	4 x 6 -35	140	43	78	25	16.7

Used as a reducer for connecting clamp FIDOS 50-150/50-150 for a residential connector with a possibility of connecting 1, 2 and 4 households using one FIDOS clamp. These adapters are completely insulated and waterproof, providing safety while working under voltage as well as a safe and long-lasting connection. Sealed joint with a rubber insert surely prevents an occurrence of electrolytic corrosion and it enables connection of Al or Cu conductors for house connectors. Tightening force is automatically regulated by moment nut which breaks when the proper force is reached. For tightening, as well as for adapter disassembling, we recommend the use of wrench OK-13. When installing under power, always use protective gloves. Note: For adapter assembling it is required to use insulated connecting clamp FIDOS with 8 Cu pikes.

Code number	Type mm <sup>2</sup> /mm <sup>2</sup>	Package pcs
3802576	Fidos (35) 50-150/(35)50-150 + adapter 1x6-35	50
3802577	Fidos (35) 50-150/(35)50-150 + adapter 2x6-35	50
3802578	Fidos (35) 50-150/(35)50-150 + adapter 4x6-35	50

## SEPARABLE JOINTS



Code number	Type mm <sup>2</sup> /mm <sup>2</sup>	Package pcs
3813550	35/50	10
3815050	50/50	10
3817070	70/70	10
3819595	95/95	10
3822096	120/120	10

Used for jointing and separating of conductors for insulated over around cable lines. The joint body is made of aluminum, protected with the coat of insulation. Joints are entirely insulated providing safety while working under voltage, as well as a safe and long-lasting connection.

## INSULATED WATERPROOF JOINTING SLEEVES - FID

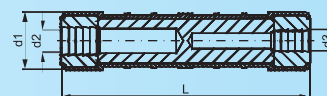
Femán

Code number	Designation mm <sup>2</sup> /mm <sup>2</sup>	d1 mm	d2 mm	d3 mm	L mm	Crimping die	Package pcs	Weight g/100 pcs
3401006	FID 10/6	18.5	4.5	3.5	70.5	E 140	100	2.67
3401010	FID 10/10	18.5	4.5	4.5	70.5	E 140	100	2.56
3401604	FID 16/4	18.5	5.5	2.8	70.5	E 140	100	2.10
3401606	FID 16/6	18.5	5.5	3.4	70.5	E 140	100	1.94
3401610	FID 16/10	18.5	5.5	4.3	70.5	E 140	100	2.57
3401616	FID 16/16	18.5	5.5	5.5	70.5	E 140	100	2.52
3402510	FID 25/10	18.5	6.5	5.5	70.5	E 140	100	2,35
3402516	FID 25/16	18.5	6.5	5.5	70.5	E 140	100	2,28
3402525	FID 25/25	18.5	6.5	6.5	70.5	E 140	100	2,22
3403516	FID 35/16	18.5	8	5.5	70.5	E 140	100	2,35
3403525	FID 35/25	18.5	8	6.5	70.5	E 140	100	2,20
3403535	FID 35/35	18.5	8	8	70.5	E 140	100	2,09
3405025	FID-F 50/25	23.5	9.3	6.5	103	E 173	50	2,95
3405050	FID-F 50/50	23.5	9.3	9.3	103	E 173	50	3,09
3407016	FID-F 70/16	23.5	11.2	5.5	103	E 173	50	6,75
3407050	FID-F 70/50	23.5	11.2	9.3	103	E 173	50	6,50
3407070	FID-F 70/70	23.5	11.2	11.2	103	E 173	50	5,40
3409595	FID-F 95/95	23.5	12.2	12.2	103	E 173	50	5,04
3415454	FID-N 50/50	23.5	9.3	9.3	170	E 173	50	10,40
3417154	FID-N 71/54	23.5	11.2	9.3	170	E 173	50	9,70
3417171	FID-N 71/71	23.5	11.2	11.2	170	E 173	50	9,43
3419595	FID-N 95/95	23.5	12.2	12.2	170	E 173	50	9,10

These sleeves serve for jointing of insulated Aluminum and copper conductors which are used for residential and commercial building connections to distribution network, as well as for jointing of conductors for distributive ABC cables voltage up to 1kV. FID sleeves with the cross sections up to 25mm<sup>2</sup> are mainly used for jointing of house connections. FID-F sleeves with cross sections up to 35, 50 and 70mm<sup>2</sup> are used for jointing of distributive ABC phase conductors. FID-N sleeves with 70mm<sup>2</sup> cross sections are used for jointing the supporting conductor of distributive ABC. All these sleeves are supplied with special insulation.

Hexagonal crimping is carried out directly through the insulation, which has excellent mechanical and electrical characteristics. The standard FEMAN crimps with special die are used for crimping operation. Following the instruction on sleeve insulation, remove the terminal insulation to the needed length. After that, conductors are pulled into sleeve through rubber seal thus preventing humidity penetration and appearance of electrolytic corrosion.

On insulation are indicated the points and sequence where crimping should be made. For FID sleeves, depending on the thickness of the insert, two or three crimping operations are performed from the center towards left and right. FID-N sleeve for zero (supporting) conductor is somewhat longer considering that the joint is under mechanical loading, so therefore, up to six left and right crimping operations need to be done.



Remove the conductor insulation according to the measurements on the sleeve body



Crimp only with dies for FID connectors

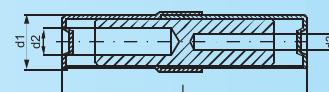


## ALUMINUM INSULATED JOINTS "FALIS"

Femán

Code number	Designation mm <sup>2</sup> /mm <sup>2</sup>	d1 mm	d2 mm	d3 mm	L mm	Package pcs	Weight g/100 pcs
3501006	FALIS 10/6	16	4.5	3.5	73	75	2.45
3501010	FALIS 10/10	16	4.5	4.5	73	75	2.20
3501604	FALIS 16/4	16	5.5	2.8	73	75	2.88
3501606	FALIS 16/6	16	5.5	3.5	73	75	2.77
3501610	FALIS 16/10	16	5.5	4.5	73	75	2.66
3501616	FALIS 16/16	16	5.5	5.5	73	75	2.57
3502516	FALIS 25/16	16	6.5	5.5	73	75	2.10

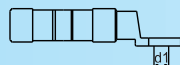
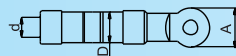
Used for jointing of Aluminum and copper conductor cables, when connecting residential units and public buildings to distributive power line.





## INSULATED WATERPROOF AL-CU BIMETALLIC LUGS CPTAU

FEMAN

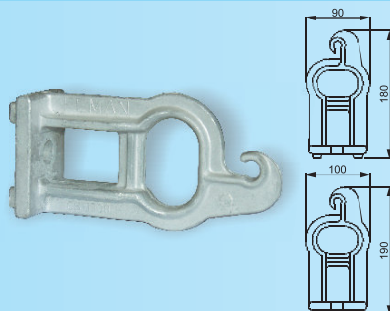


Code number	Designation	Type	d1 mm	D mm	d mm	A mm	Crimping die
3421610	CPTAU 16	16/10	10.5	16	5.3	20	E 140
3422512	CPTAU 25	25/12	13	20	6.2	24	E 173
3423512	CPTAU 35	35/12	13	20	8.0	24	E 173
3425012	CPTAU 50	50/12	13	20	9.0	24	E 173
3427012	CPTAU 70	70/12	13	20	10.4	24	E 173
3429512	CPTAU 95	95/12	13	20	12.2	24	E 173

Used for termination of insulated Al conductors and transition to Cu rail. The conductor, from which the insulation has been removed, is pulled into the lug through the rubber seal thus preventing moisture penetration and appearance of electrolytic corrosion. Hexagonal crimping is carried out directly through the insulation. The points and sequence for crimping are marked on the insulation. For crimping, we recommend "FEMAN" presses with special dies.

## ALUMINUM BRACKET FOR LOW VOLTAGE ABC CS 1500 F - CS 2000 F

FEMAN

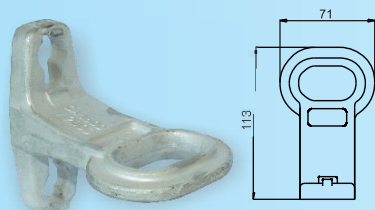


It is used for carrying and tension holding of LV ABC cables to posts. Made of aluminum alloy with exceptional mechanical strength. Attaching is done by general purpose bracket, clamping ring for carrying ABC cables or directly on wooden posts - by screw bolts or tightening with FEMAN stainless steel bands.

Code number	Designation	Package pcs	Weight ka/100 pcs
3810010	CS 1500 F	40	32
3810014	CS 2000 F	40	41

## ALUMINUM BRACKET FOR LOW VOLTAGE ABC CA 1500

FEMAN

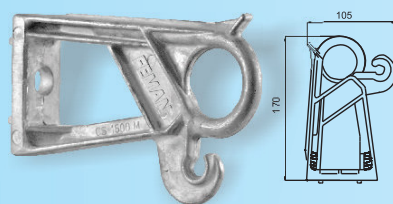


It is used for tension and angular holding (anchoring) of LV ABC cables. It is made of aluminum alloy with high mechanical strength. Attaching is done by two 19mm perforated steel bands or by mostly two M16 bolts. Angular anchoring or direction changing of distributive line is carried out by two tension clamp terminals PA 1500.

**Package: 50 pcs**  
**Weight: 0.190 ka/per piece**  
**Code: 3810013**

## ALUMINUM BRACKET FOR LOW VOLTAGE ABC CS 1500M

FEMAN

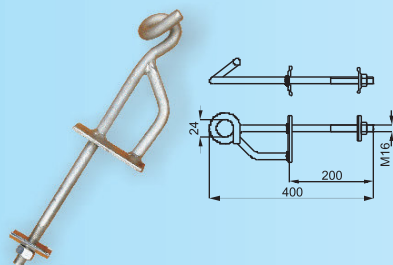


This bracket is used for carrying and tension anchoring of LV ABC cables. It is made of aluminum alloy with great mechanical strength. It can be attached by supporting ring for anchoring of ABC cables, by two perforated steel bands, or directly to the post using M16 screw bolt.

**Package: 50 pcs**  
**Weight: 0.250 ka/per piece**  
**Code: 3810011**

## POST BRACKET FOR ABC CABLE L=200

FEMAN



Used for clamps hanging to carried holding of LV ABC cables. Assembling is simple and it is done through a hole on the post and tightening with a screw bolt.

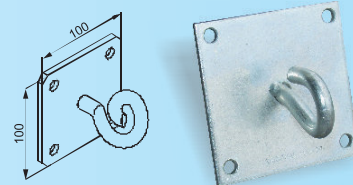
**Package: 10 pcs**  
**Weight: 1.48 ka/per piece**  
**Code: 3810009**

## STEEL WALL BRACKET FOR HOUSEHOLD CONNECTION OF ABC

FEMAN

Used for handling household connection on building facade using tension clamps for house connections. It is delivered in a set with screw anchors and screws.

**Package: 25 pcs**  
**Weight: 38.23 kg/100pcs**  
**Code number: 3810008**

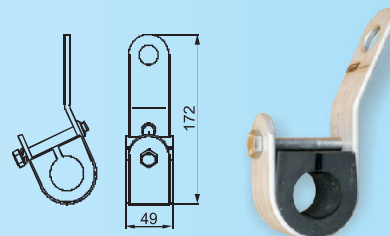


## CLAMP FOR CARRYING SUPPORT OF LV ABC WITHOUT THE MAIN CONDUCTOR

FEMAN

Code number	For ABC mm <sup>2</sup>	Package pcs	Weight kg/100 pcs
3810225	PS 2 x 25	50	29.0
3810425	PS 4 x 25	50	28.3
3810235	PS 2 x 35	50	28.5
3810435	PS 4 x 35	50	27.8
3810470	PS 4 x 70	50	25.6
3810495	PS 4 x 95	50	25.0

Used with brackets for LV ABC cables for self carrying of LV ABC cable without the main conductor on posts in cases where the carrying cables are neutral and phase lines. Clamps meet all IEC 61284 standards.

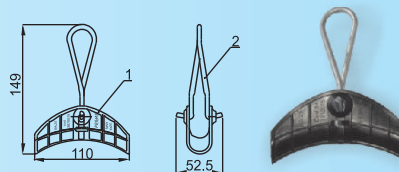


## ANGULAR CLAMP FOR HOUSEHOLD CONNECTION RA 25

FEMAN

Used when changing direction of LV ABC cables for household connections. It is designed for carrying 2 or 4 insulated conductors with max cross section 4x25 mm<sup>2</sup>. It consists of clamp body and hanging frame. The clamp body is made of polyamide with an exceptional mechanical firmness. For attaching of ABC to the clamp, we recommend FEMAN cable tie 200x13mm<sup>2</sup> (code number 1710213)

**Package: 100 pcs**  
**Weight: 6.60 kg/100 pcs**  
**Code number: 3810015**

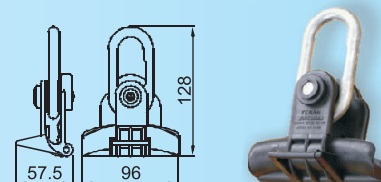


## CLAMP FOR CARRYING SUPPORT OF LV ABC CABLES PS 1500

FEMAN

Used with brackets for LV ABC for carrying support of LV ABC on posts. Support is carried through the carrying cable (54-95 mm<sup>2</sup>). Clamp is made of highly firm materials and resistance to all atmospheric influences. Contemporary construction enables fast, simple and reliable assembly. After laying of carrying cable, the clamp is closed with a special buckle which exclude possibility for its opening and cable loosening.

**Package: 75 pcs**  
**Weight: 15.5 kg/100pcs**  
**Code number: 3810020**

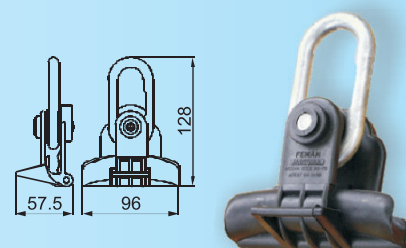


## CLAMP FOR CARRYING SUPPORT OF LV ABC CABLES PS 2000

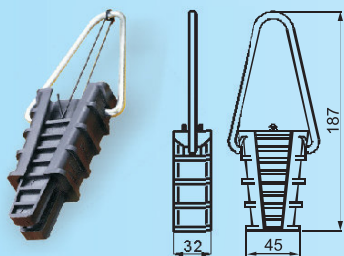
FEMAN

Used with brackets for LV ABC for carrying support of LV ABC on posts. Support is carried through the carrying cable (95-150 mm<sup>2</sup>). Clamp is made of highly firm materials and resistance to all atmospheric influences. Contemporary construction enables fast, simple and reliable assembly. After laying of carrying cable, the clamp is closed with a special buckle which exclude possibility for its opening and cable loosening.

**Package: 75 pcs**  
**Weight: 16.5 kg/100pcs**  
**Code number: 3810025**



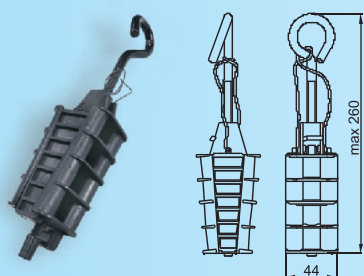




Meant for household connections carried out by self-supporting cable bunches: 2x16 mm<sup>2</sup>, 2x25 mm<sup>2</sup>, 4x16 mm<sup>2</sup>, 4x25 mm<sup>2</sup>. Made of special materials with an exceptional mechanical firmness and resistance to all atmospheric influences. Contemporary construction allows reliable, easy and quick installation under all weather conditions. This clamp is designed and tested according to the strictest demands for this type of equipment. It is used for assembling of mono-phase or tri-phase household connectors. NOTE: When installing mono-phase house connector, a cable or a piece of cable must be placed in each base on the wedges, for the sake of force balancing.

**Package: 80 pcs**  
**Weight: 12.80 kg/100 pcs**  
**Code number: 3811625**

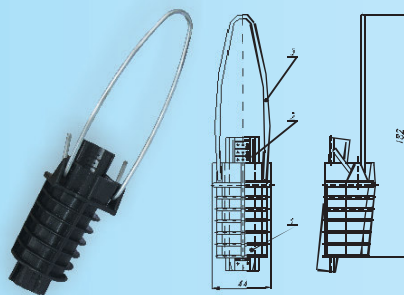
## TENSION SUPPORTING CLAMP FOR HOUSEHOLD CONNECTION - AUTOMATIC (SELF TENSION.) PA 25 A



Meant for household connections carried out by self-supporting cable bunches: 2x16 mm<sup>2</sup>, 2x25mm<sup>2</sup>, 4x16 mm<sup>2</sup>, 4x25 mm<sup>2</sup>. It is made of special materials, with great mechanical firmness, resistant to all atmospheric influences. Contemporary construction allows reliable, easy and quick assembly under all weather conditions. This clamp is designed, tested and attested according to the strictest demands for this type of supplies. The advantage of this clamp compared to others is that the additional tensioning of ABC can be done with it, by simple pulling of the clamp even after wedges locking. The conductors are additionally tightened (max 103mm) so the automatic gripper and mounting device are not needed. During installation, a cable or a piece of cable must be placed in each bearing on the wedges.

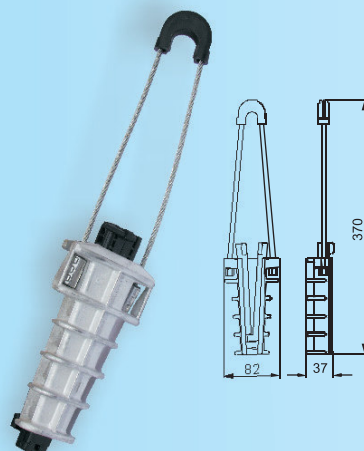
**Package: 50 pcs**  
**Weight: 17.80 kg/100 pcs**  
**Code number: 3811630**

## ANCHORING CLAMP PA 621 (200daN)



Used for tension support of one insulated conductor, with diameter from 6mm to 21mm. It is made of polymer (reinforced by glass fibers, resistant to weather conditions and UV lights). Contemporary construction allows reliable, easy and quick assembly under all weather conditions.

**Package: 80 pcs**  
**Weight: 6.80 kg/100 pcs**  
**Code number: 3811635**

TENSION SUPPORT CLAMP FOR LV ABC 54-71.5mm<sup>2</sup> PA 1500 (1500 daN)

Used for tension support of low voltage self-supporting cable bunch on wooden, concrete, and metal posts or facades. This clamp is designed for tension support through the carrying conductor (54-71.5). It is made of aluminum alloy, extremely solid with self-tensioning polyamide insulating insert. Its construction represents the most up-to-date technical solution so that assembling or disassembling is easy, fast and reliable requiring no special tools.

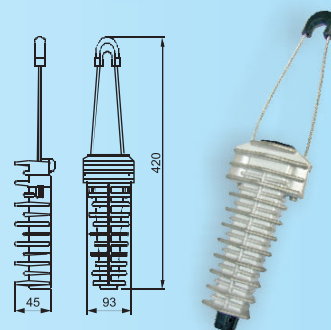
**Package: 35 pcs**  
**Weight: 32.2 kg/100 pcs**  
**Code number: 3812070**

## TENSION SUPPORT CLAMP FOR LV ABC 70-95mm<sup>2</sup> PA 2000 (2000 daN)

FEMAN

Used for tension support of low voltage self-supporting cable bunch on wooden, concrete, and metal posts or facades. This clamp is designed for tension support through the carrying conductor 70-95 mm<sup>2</sup>. Made of Al-alloy with a self-tension polyamide insulation insert. Its construction represents the most up-to-date technical solution so that assembling or disassembling is quick, easy and reliable requiring no special tools.

**Package: 30 pcs**  
**Weight: 64.6 kg/100 pcs**  
**Code number: 3812195**



## TENSION SUPPORT CLAMP FOR LV ABC WITHOUT SUPPORTING CONDUCTOR

FEMAN

Code number	Designation	For ABC mm <sup>2</sup>	Package pcs	Weight kg/100pcs
3813035	PA 416/35	4x16-35	25	80
3813095	PA 450/95	4x50-95	15	140

It is used for tension support of low-voltage self-supporting cable bunches without supporting conductor. The insulated insert is made of polyamide, reinforced by glass fibers, providing good tightness strength. The main construction elements are made of zinc coated steel.



## TENSION SUPPORT CLAMP FOR LV ABC WITHOUT SUPPORTING COND. 2-4x16-35

FEMAN

Code number	Designation	For ABC mm <sup>2</sup>	Package pcs	Weight kg/100pcs
3813016	PA/PS 216/35	2x16-35	80	20
3813025	PA/PS 416/35	4x16-35	50	25

This clamp is applicable for tension support of two or four insulated conductors. It is used for assembling of small cross section distributive bunches, as well as for conductor tightening for household connections. It is made of high quality materials with great mechanical firmness, resistant to all atmospheric influences.

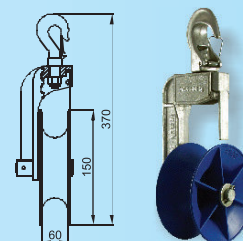


## PULLEY TACKLE FOR INSTALLING LV ABC ON POSTS FR 270

FEMAN

For the correct installing of low voltage self-supporting cable bunch, as well as for additional tensioning, the special pulleys must be used that allow gentle stretching and exclude possibility of differences in flexures between two neighboring fields during tensioning. The pulley construction is such that enables easy assembling and disassembling, as well as the carrying wire inserting in an appropriate clamp. The tackle body and the tackle itself are made of aluminum alloy. Turning is performed through slide bearing. Max. carrying force is 800 daN

**Package: 1 pc**  
**Weight: 1.8 kg/pc**  
**Code number: 3810002**

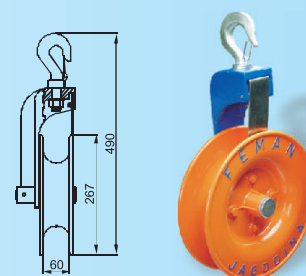


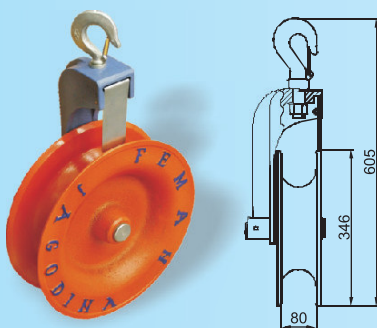
## PULLEY TACKLE FOR INSTALLING LV ABC ON POSTS FR 270

FEMAN

For the correct installing of low voltage self-supporting cable bunch, as well as for additional tensioning, the special pulleys must be used that allow gentle stretching and exclude possibility of differences in flexures between two neighboring fields during tensioning. The pulley construction is such that enables easy assembling and disassembling, as well as the carrying wire inserting in an appropriate clamp. For the stretching needs and the cable joint assembling, we recommend "FEMAN-PULLEY TACKLE". Its construction completely fulfills the stretching demands, it is not heavy and it is convenient for assembling and disassembling. The tackle body and the tackle itself are made of aluminum alloy. Turning is performed through slide bearing. Max. carrying force is 1000 daN

**Package: 1 pc**  
**Weight: 4.35 kg/pc**  
**Code number: 3810000**

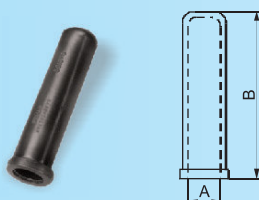




This tackle is necessary for installing mid-voltage self-supporting cable bunch. The tackle is hung on the bracket arm, attached to a general purpose bracket. Using the special FEMAN device, insulated supporting MV ABC cable can be switched from this pulley tackle into the clamp for carrying support of the bunch. Max. carrying force is 1600 daN

**Package: 1 pc**  
**Weight: 8.4 kg/pc**  
**Code number: 3810005**

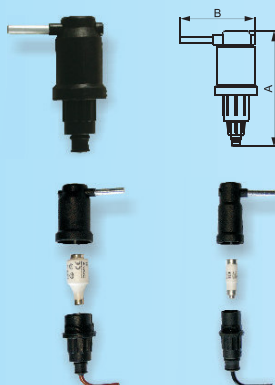
## INSULATED END CAP



Code number	Cross section of cable mm <sup>2</sup>	øA mm	B mm	Package pcs	Weight kg/100 pcs
3830716	16/25	8.5	62	100	0.4
3830700	50/70	13	76	100	1.6

Used for secure closing of LV ABC ends to prevent moisture penetration into the cable and provides safe work under voltage. It is made of insulated rubber, resistant to UV-rays and all weather conditions.

## INSULATED SEPARABLE HOUSING FOR SYSTEM FUSES (AERIAL FUSE)

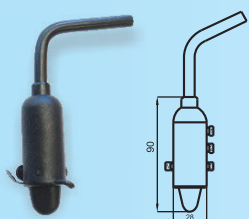


Code number	Designation	Power A	AxB mm	Package pcs	Weight kg/100 pcs
3802614	E14/DOI	2-16	83x51	25	3.4
3802627	E27/DII	6-25	92x65	25	4.6

It is meant for protection of public lighting connected to ABC cables, as well as for all types of uninsulated aerial lines. This product is made of special insulating materials, resistant to temperatures higher than normal, UV-lights as well as all other weather conditions. Using "FEMAN" insulated waterproof clamps FIDOS for connecting to power lines, complete seal is achieved. They are produced in two sizes. Using these housings, the numerous benefits are achieved:

- Easy damage determination.
- In spite of some light damage, the rest of the system is working.

## INSULATED ADAPTER FOR SHORTING AND GROUNDING



Code number	Insulated cable diameter (mm <sup>2</sup> )	Maximum short-circuit current (kA/1s)	Weight Kg/pc	Package pcs
3802578	25	4	0.2	50

Used for shorting and grounding of ABC. Assembling is done in combination with FIDOS 16-25/35-70, usually on every first branching post and near the end of the power line. It is applied for a short-circuit current up to 4kA/1s and constant power up to 200A. Insulation material is made of polyamide resistant to weather conditions and UV-rays. The adapter is fully waterproof and satisfies demands of NFC 33 020 standard.

## WRENCH FOR SEPARATING CORES FROM CABLE BUNCH



It is made of special insulated material, of high mechanical strength. Used for separating some cores from the cable bunch, having easier assembling of an appropriate clamp. When installing under voltage, always wear protective gloves.

**Package: 10 pcs**  
**Weight: 0.36 kg/pc**  
**Code number: 3850110**



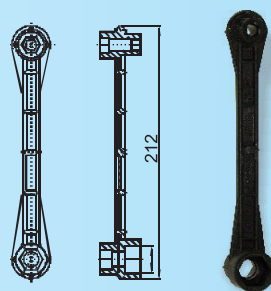


## UNIVERSAL INSULATED WRENCH FOR TIGHTENING OF INSULATED CLAMPS



Used for tightening of moment nut on "FIDOS" connection clamps. It enables work under voltage while assembling FIDOS clamps on ABC cables. This wrench can be used for tightening of screw nuts OK 10, 13 i 17 and 22. When installing under voltage, always use protective gloves.

**Package: 10 pcs**  
**Weight: 6.0 kg/100 pcs**  
**Code number: 3850105**

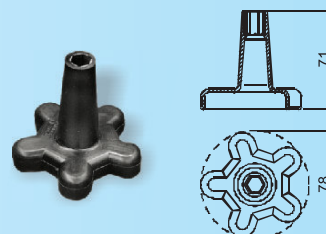


## WRENCH OK-10 FOR TIGHTENING OF INSULATED CLAMPS



Used for tightening of moment nut on "FIDOS" connection clamps. Enables work under voltage while assembling FIDOS clamps on ABC cables. When working under power, always use protective gloves.

**Package: 100 pcs**  
**Weight: 0.34 kg/pc**  
**Code number: 3850100**

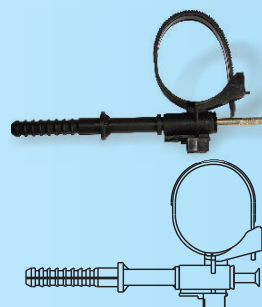


## WALL BEARER WITH BINDING THREAD FOR LV ABC



Code number	Type	Rastojanie od zida mm	Pre-nik kabla mm	Package pcs	Weight kg/100 pcs
1714040	FZN 40	40	25-45	100	4.6

Used for assembling on walls or posts. LV ABC cable is tightened with an adjustable binding thread. The body of the bearer and the binder are made of polyamide resistant to weather conditions and UV-rays. Usually, the bearer is mounted on wall at a distance of 0.7m. When the bearer is mounted on a wooden post, the screw anchor is removed and the nail is nailed directly into the wood.



## DOUBLE BUCKLE CABLE BINDING THREAD



Code number	Type	L mm	A mm	Package pcs	Weight kg/100 pcs
1710189	FKV 180/9	180	9	100	0.32
1710269	FKV 260/9	260	9	100	0.45

Double buckle cable binding thread is extremely resistant to UV-rays and all weather conditions, and it is characterized by very firm binding. It is designed for quick and easy assembling on LV ABCs. It is made of insulated polyamide without any metal parts. Tightening is done with tonas for automatic tightening of cable binding threads.

**FLY-600L (code no. 1550613)**

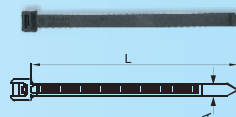


## PLASTIC CABLE BINDING THREAD

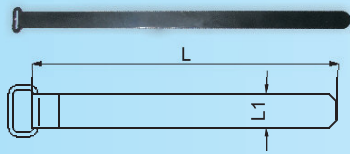


Code number	Type	L mm	A mm	Package pcs	Weight kg/100 pcs
1710213	FKV 200/13	200	13	100	0.60
1710223	FKV 250/13	250	13	100	0.67

We recommend it instead of plastic coated aluminum belt. The cable binding thread is extremely resistant to UV-rays and all weather conditions, and it is distinguished by very firm binding. It is designed for quick and easy assembling on LV ABCs. It is made of insulated polyamide without any metal parts, which guarantees safety when working under voltage. It can be tightened with tonas for automatic tightening of cable binding threads FLY-600L (code no. 1550613)



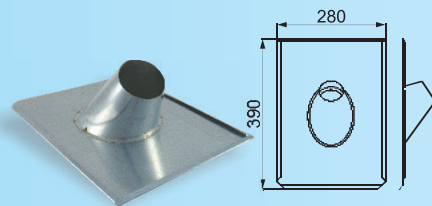
## PVC COATED ALUMINUM BELT



Code number	L mm	L1 mm	Package pcs	Weight ka/100 pcs
3880120	200	20	50	0.6
3880130	300	20	50	1
3880135	350	20	50	1.2
3880140	400	20	50	1.4

Used for tightening phase conductors of LV ABC cables to supporting clamp, supported on both sides and in front of tension clamp to keep conductors spliced. PVC coated belt (clamping ring) is made of aluminum tin while link is aluminum based. The belt is covered with PVC-coating.

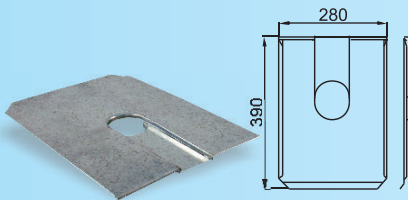
## TIN ROOF TILE FOR ROOF PIPE SUPPORT



Code number	Designation ø support	Package pcs	Weight ka/100 pcs
3890420	2"	10	67
3890425	2.5 "	10	69
3890430	3"	10	73

Protected from corrosion by galvanization.

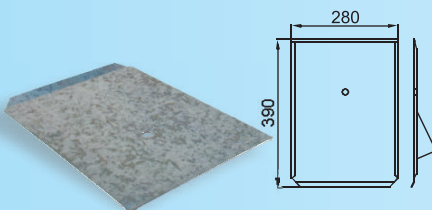
## TWO-PIECE TIN ROOF TILE



Code number	Designation ø support	Package pcs	Weight ka/100 pcs
3890444	2"	20	60
3890445	2.5 "	20	58
3890446	3"	20	56

Used as rain protection and leaking on roofs covered with tiles in cases where the roof support has already been placed. Protected from corrosion by galvanization.

## TIN ROOF TILE FOR ANCHOR AND PTT ANCHOR



Used for anchors of  $\varnothing 16-25$  mm. Protected from corrosion by galvanization.

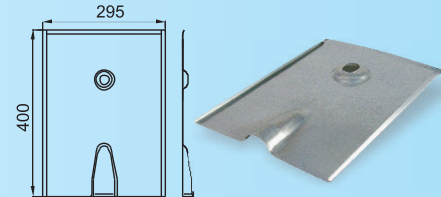
**Package: 50pcs**  
**Weight: 54 ka/100pcs**  
**Code number: 3890435**

## TIN ROOF TILE FOR HOUSEHOLD CONNECTION



Used for household connection. Protected from corrosion by galvanizing. Delivered with protective cap.

**Package: 60 pcs**  
**Weight: 62 kg/100pcs**  
**Code number: 3890440**

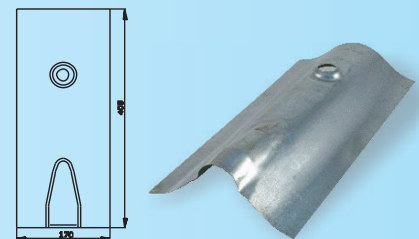


## TIN ROOF TILE FOR HOUSEHOLD CONNECTION – SALONIT



Used for household connection. Protected from corrosion by galvanizing. Delivered with protective cap.

**Package: 30 pcs**  
**Weight: 32 kg/100pcs**  
**Code number: 3890441**



## TIN CAP FOR ROOF PIPE 2-3"



Used for placing onto roof airers (2, 2 ½ and 3") to prevent water penetration into the pipe. Protected from corrosion by galvanization.

**Package: 50 pcs**  
**Weight: 13 kg/100pcs**  
**Code number: 3890250**



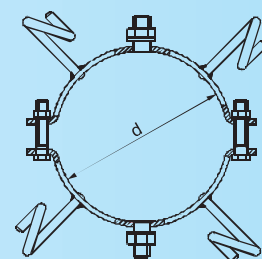
## STEEL PIPE RING (WITHOUT AL BRACKETS) FOR HANGING ABC CABLES ON POSTS



Code number	d mm	Package pcs	Weight kg/100pcs
3891130	120-130	20	172
3891150	130-150	20	182
3891170	150-170	15	208
3891200	170-200	15	187
3891250	200-250	12	215
3891300	250-300	10	253
3891360	300-360	7	280



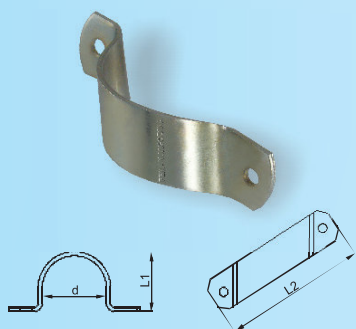
Used for tightening of supporting and tensioning elements on concrete, steel and wooden posts, or when more than a few household connections are needed at one place. Usually produced galvanized, but on customer's request we hot-dip galvanize them.





## SLOPED PILLAR BRACKETS

FemaN

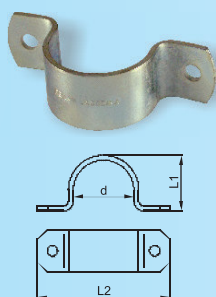


Code number	Designation	d mm	L1 mm	L2 mm	Package pcs	Weight ka/100pcs
3890524	2"	61	56	155	50	38
3890527	2.5"	77	72	171	50	43
3890532	3"	90	85	188	50	54

Used for tightening support of roof brackets onto roof construction. Usually Zn-alvanized, but on request hot-dip galvanized.

## FLAT PILLAR BRACKETS

FemaN

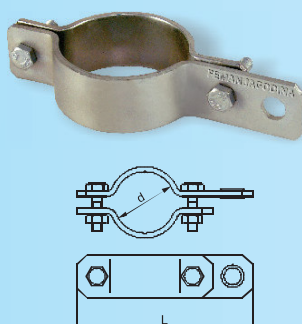


Code number	Designation	d mm	L1 mm	L2 mm	Package pcs	Weight ka/100pcs
3890523	2"	61	56	133	50	35
3890525	2.5"	77	72	149	50	40
3890530	3"	90	85	162	50	46

Used for tightening support of roof brackets onto roof construction. Usually Zn-alvanized, but on customer's request we do hot-dip galvanization.

## PIPE RING WITH A SINGLE HOLE

FemaN

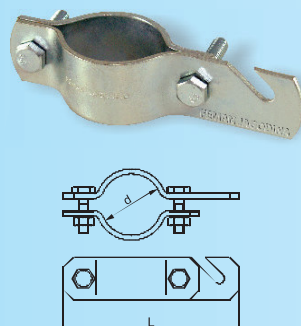


Code number	Designation	d mm	L mm	Package pcs	Weight ka/100pcs
3890682	2"	61	175	50	69
3890684	2.5"	77	192	50	71
3890686	3"	90	210	40	99

Used for one-sided anchoring of roof pipe support (bracket), and for connecting ABC cables by tension clamp. Usually Zn-alvanized, but on customer's request we do hot dip galvanizing.

## PIPE RINGS WITH ONE NOTCH

FemaN



Code number	Designation	d mm	L mm	Package pcs	Weight ka/100pcs
3890642	2"	61	175	50	85
3890644	2.5"	77	192	50	92
3890646	3"	90	210	40	97

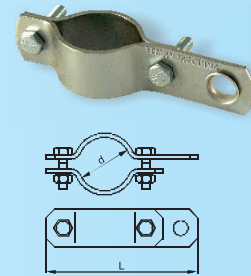
Used for one-sided anchoring of roof pipe support (bracket), and for connecting of ABC cables by tension clamp. Usually Zn-alvanized, but on customer's request we do hot-dip galvanizing.

## SINGLE HOLE PIPE RINGS

FEMA N

Code number	Designation	d mm	L mm	Package pcs	Weight ka/100pcs
3890620	2"	61	175	50	68
3890625	2.5"	77	192	50	70
3890630	3"	90	210	40	98

Used for single sided anchoring of roof-pipe support (bracket) and for connecting of ABC cables by tension clamp. Usually Zn- galvanized, but on request we do hot-dip galvanization.

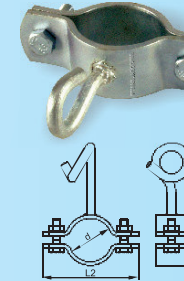


## BENT HOOK PIPE RINGS

FEMA N

Code number	Designation	d mm	L mm	Package pcs	Weight ka/100pcs
3890652	2"	61	135	50	69
3890654	2.5"	77	152	50	71
3890656	3"	90	190	40	99

Used for single sided anchoring of roof-pipe support (bracket) and for connecting of ABC cables by tension clamp. Usually Zn- galvanized, but on request we hot-dip galvanize them.

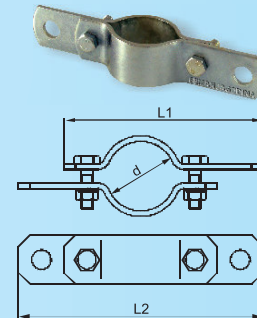


## DOUBLE PIPE RINGS WITH TWO HOLES

FEMA N

Code number	Designation	d mm	L1 mm	L2 mm	Package pcs	Weight ka/100pcs
3890662	2"	61	175	215	40	73
3890664	2.5"	77	192	232	35	76
3890666	3"	90	210	250	35	104

Used for double sided anchoring of roof pipe support (bracket) using a tension bar. Usually Zn- galvanized, but on request we hot-dip galvanize them.

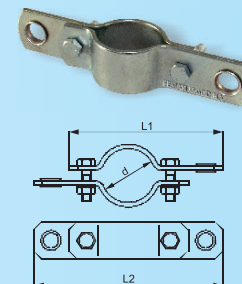


## DOUBLE PIPE RINGS WITH TWO HOLES AND RINGS

FEMA N

Code number	Designation	d mm	L1 mm	L2 mm	Package pcs	Weight ka/100pcs
3890692	2"	61	175	215	50	74
3890694	2.5"	77	192	232	50	77
3890696	3"	90	210	250	40	105

Used for double sided anchoring of roof-pipe support (bracket) and for connecting ABC cable using tension clamp. Usually Zn-galvanized, but on customer's request we hot-dip galvanize them.

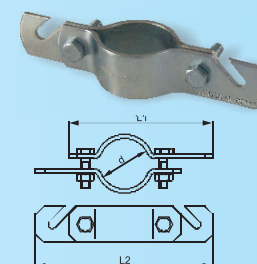


## DOUBLE PIPE RINGS WITH TWO NOTCHES

FEMA N

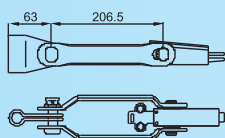
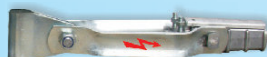
Code number	Designation	d mm	L1 mm	L2 mm	Package pcs	Weight ka/100pcs
3890672	2"	61	175	215	40	72
3890674	2.5"	77	192	232	35	75
3890676	3"	90	210	250	35	103

Used for double sided anchoring of roof-pipe support (bracket) and for connecting ABC cables using tension clamp. Usually Zn- galvanized, but on customer's request we hot-dip galvanize them.



## CLAMP FOR TENSIONING SUPPORT OF MV ABC CABLES AND AI-STEEL ROPES

FemaN

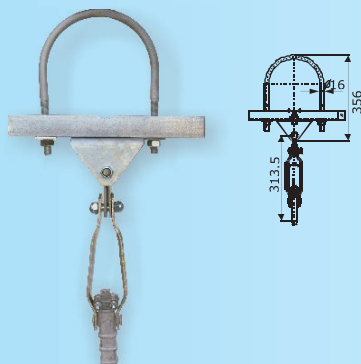


Code number	Clamp for AI-Steel rope mm <sup>2</sup>	Package pcs	Weight ka/100pcs
4850350	35	10	246.0
4850500	50	10	246.4
4850700	70	10	257.0
4850950	95	10	258.5

Used for double angular and tensioning support of mid-voltage cable bunch (uninsulated AI-steel rope). Supporting at MV ABC cables is done through the carrying rope. Used in a set with the hinge support and the general purpose bracket. (ordered separately) Minimum breaking force is 40 kN (without tension bearing clamp) NOTE: When ordering, please mark whether it is for ABC or for uninsulated rope.

## EQUIPMENT FOR SINGLE TENSION SUPPORT OF MV ABC AND AI-STEEL ROPES

FemaN

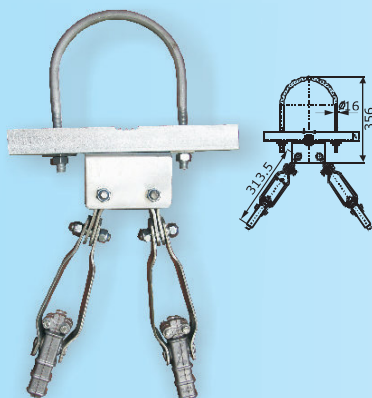


Code number	For post ø mm	Package pcs	Weight ka/100pcs
4892160	160	1	4.67
4892200	210	1	4.87
4892250	250	1	5.12
4892315	315	1	5.27

This equipment includes clamp for mid-voltage ABC, hinge, hinge support, general purpose bracket and an appropriate support ring. Usually cold galvanized, but on customer's request we do hot-dip galvanizing.

## EQUIPMENT FOR DOUBLE TENSION SUPPORT OF MV ABC CABLES AND AI-STEEL ROPES

FemaN

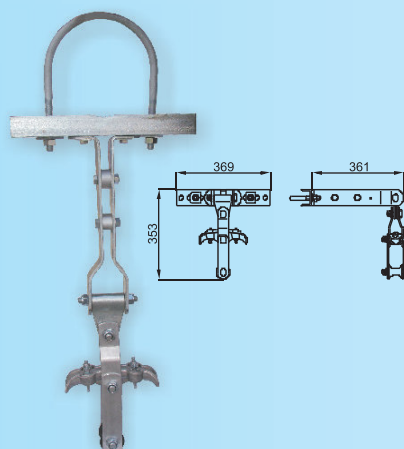


Code number	For post ø mm	Package pcs	Weight ka/100pcs
4893160	160	1	5.47
4893200	210	1	5.67
4893250	250	1	5.92
4893315	315	1	6.07

It includes two clamps for mid-voltage ABC, two hinges, double hinge support, general purpose bracket, and an appropriate support ring. Usually cold galvanized, but on customer's request we do hot-dip galvanizing.

## EQUIPMENT FOR CARR. SUPPORT OF MV ABC CABLE AND AI-STEEL ROPES

FemaN



Code number	For post ø mm	Package pcs	Weight ka/100pcs
4891160	160	5	7.25
4891200	200	5	7.25
4891250	250	5	7.25
4891315	315	5	7.25

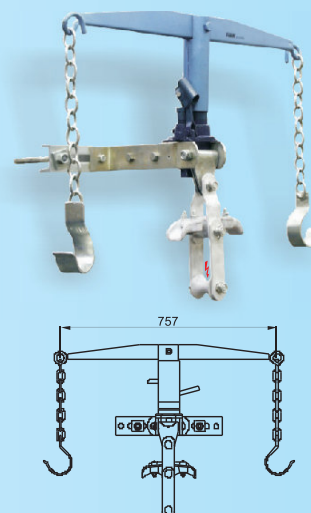
Used for carrying support of MV ABC cables on posts. Min. breaking force is 40 kN (without carrying clamp). Steel parts are usually cold galvanized, but on customer's request we do hot-dip galvanizing.



This device for transferring cable bunch from pulley tackle onto supporting clamp is a new product on the Euro market. It is very simple to work with and makes the job of mounting cable bunches easier. It is intended for laying mid-voltage cable bunches and also for mounting ABC of 0.4 kV. The device has a built-in hydraulic by which cable bunch is risen over vole and chain and transmitted to the supporting clamp. DEVICE FOR TRANSFERRING CABLE BUNCH FROM PULLEY TACKLE ONTO SUPPORTING CLAMP CONSISTS OF:

1. Manual hydraulic elevator 1.5 t
2. Handle
3. Pulley tackle supporter
4. Bracket
5. Support clamp structure

**Package: 1 pc**  
**Device weight: 7 ka**  
**Code number: 4880010**

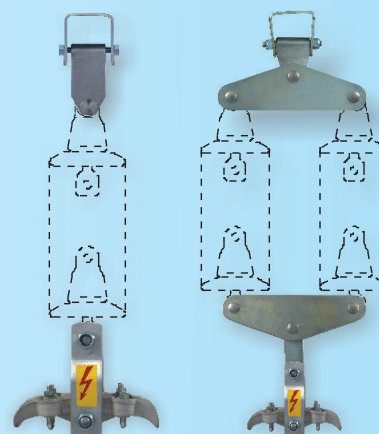


## EQUIPMENT FOR SUPPORTING INSULATOR CHAINS



The equipment for single supporting insulator chain consists of hinge carriers with a wedge and carrying support clamp. Equipment for double supporting insulator chain consists of hinge support with a wedge, two spacer sleeves and a clamp for carrying support. Equipment does not include insulators, i.e. they are ordered separately. Steel parts are usually cold galvanized, but on customer's request we do hot-dip galvanizing.

Code number	Chain type	Package pcs	Weight ka/pc
4890211	Single	10	-
4890212	Double	10	-

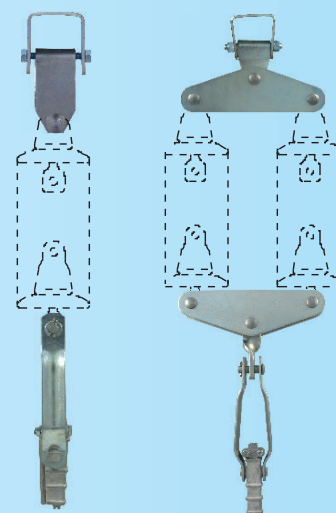


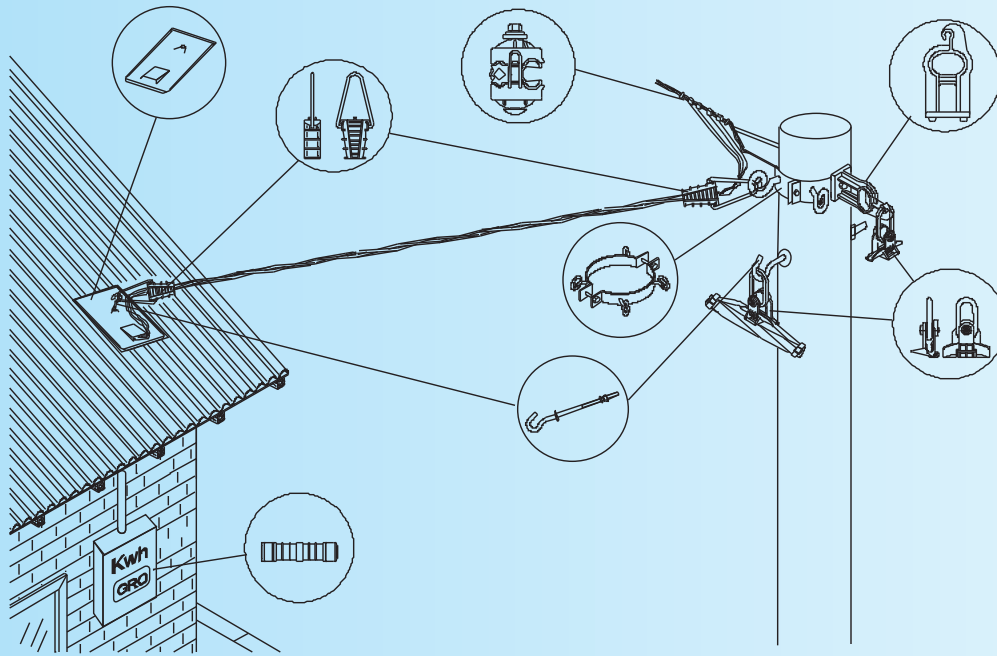
## EQUIPMENT FOR TENSION INSULATOR CHAINS



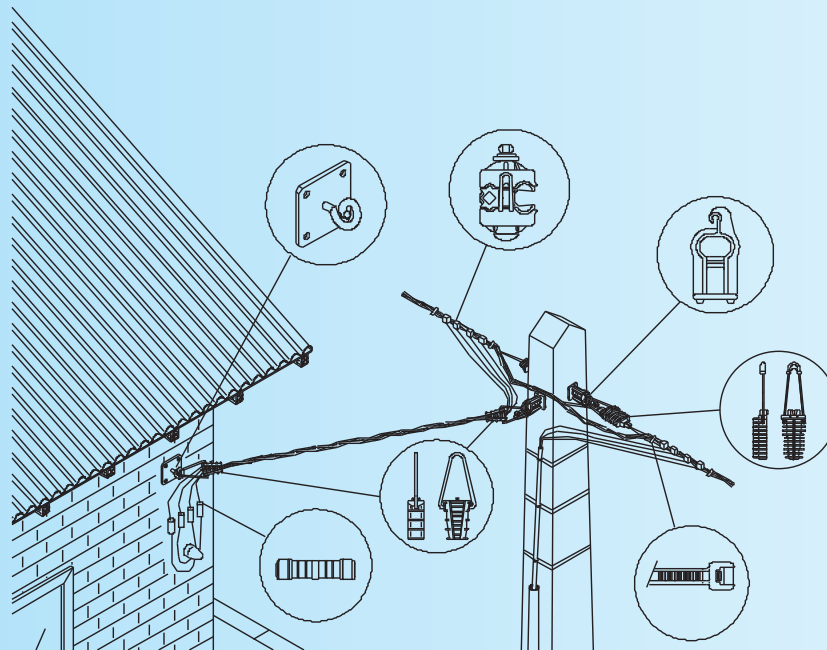
Code number	Chain type	Package pcs
4890201	Single	10
4890202	Double	10

Equipment for single tension insulator chain consists of hinge carrier with a wedge and tension support clamp. Equipment for double tension insulator chain consists of hinge carrier with a wedge, two extensions, two spacer sleeves and the tension support clamp. Equipment does not include insulators - they are ordered separately. When ordering, indicate type of insulators and the insulator number in the chain. Steel parts are usually cold galvanized, but on customer's request we do hot-dip galvanizing.

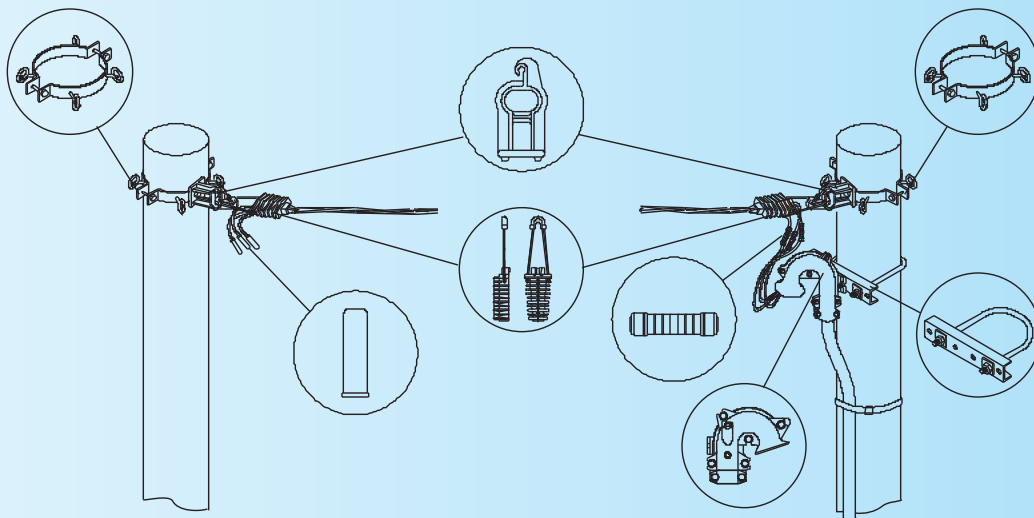




Self-supporting cable bunch housing connector can be assembled on the roof, as shown on the picture above. It is necessary to put a tin for housing connector on the roof through which the bolt with hook is tightened to roof construction. Tension clamp for housing connector is hung on hook which is attached self-supporting cable bunch. Cable is led from the hole on the tin for housing connector to the main distributive box where is connected to house installation by insulated waterproof clamps – FID. It is also necessary to mount FIDOS clamps for connection to main distributive cable.

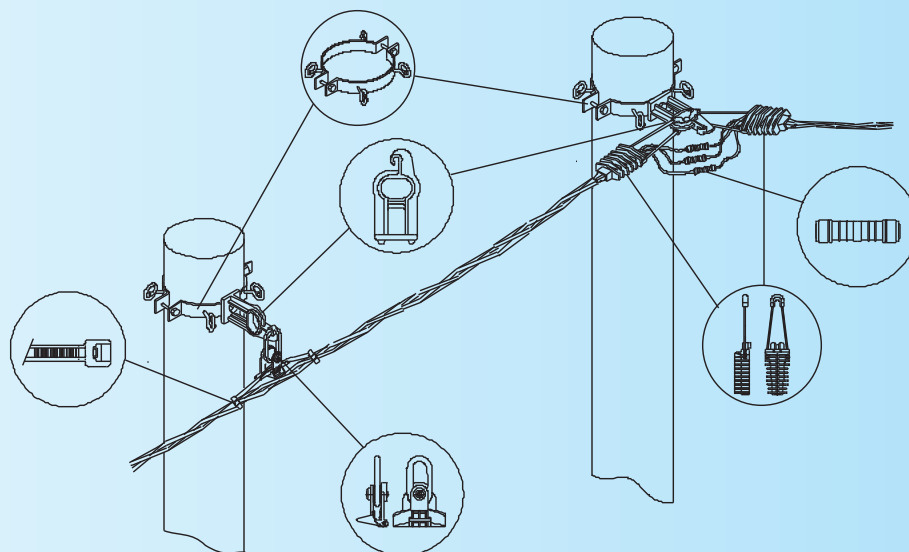


Self-supporting cable bunch housing connectors can be assembled on the wall too, as shown on the picture above. The bracket for housing connector should be put on the wall. Self-supporting cable bunch is attached by tension clamp which is hung on bracket. Self-supporting cable bunch is led from clamp by means of insulated waterproof connection sleeves – FID and further through the hole on the wall to main distributive box.



Distributing self-supporting bunch termination is shown on the picture above. Tension clamp is hung on the AI universal pillar bracket. Distributing self-supporting bunch is hold-tensioned by tension clamp. Holding is made by supporting conductor (54-71.5mm) and the conductors terminations are insulated by terminating insulated caps. Crossing from distributing self-supporting bunch to the cable is made by tension clamp. AI universal pillar bracket and suitable cable head – VKG. The cable head is mounted on the steel pillar bracket. The cable is lead through the cable head and is filled by bitumen to prevent water penetration. The cable is connected by FID sleeves on the cross points. The self-supporting carrying bracket is used for fixing of AI universal pillar bracket on the pillar but in the same way the steel bracket for general purpose can be used.

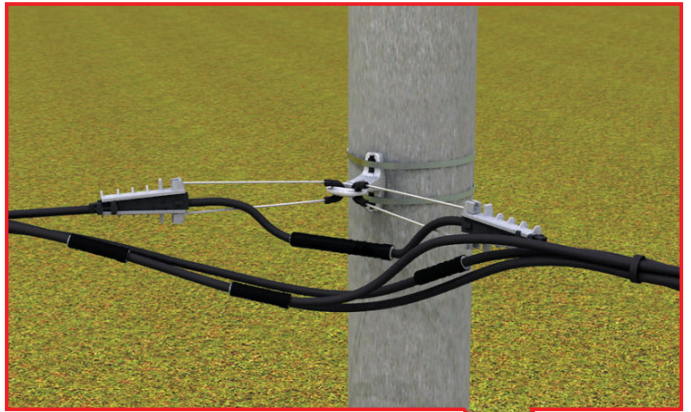
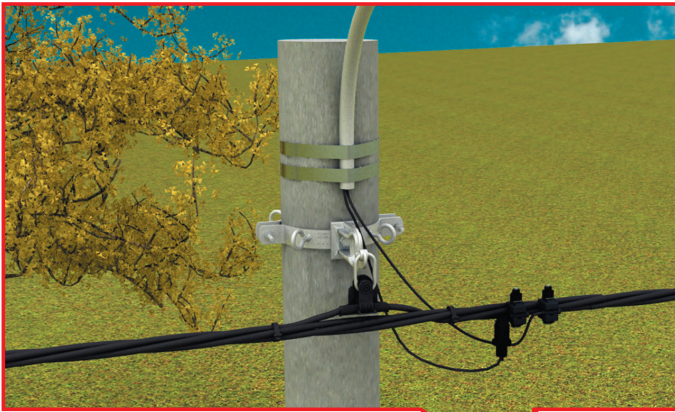
## CARRIED AND ANGULAR SUPPORT. AND ATTACHING OF SELF SUPPORTING BUNCH



Self supporting bunch support holding is made by clamp for carrying support and AI universal pillar bracket. Holding is made by carrying conductor (54-71.5mm) and from the both side of the clamp, self-supporting bunch is caught by cable splices to prevent disentangling. After assembling of conductor, special fastener on the clamp should be closed to prevent self-supporting bunch slackening. The direction changing of distributing self-supporting bunch (angular supporting) can be done by means of two clamps which are hung on AI universal pillar bracket. Also, in this way it could be done the attaching of self supporting bunch by means of FID insulated waterproof sleeves. The pillar bracket with hooks is used for fixing AI universal bracket on the pillar, but at the same time, multi purpose bracket can be also used.

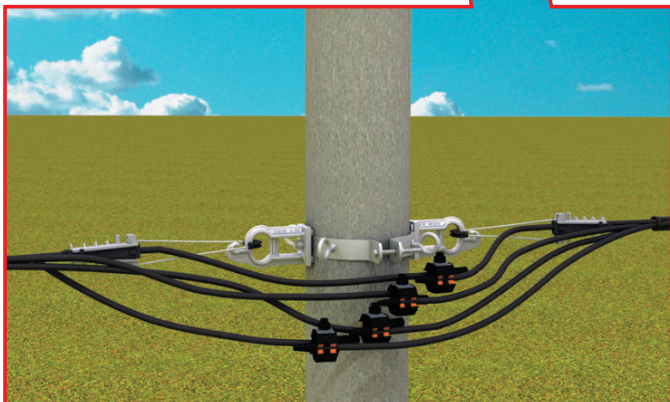
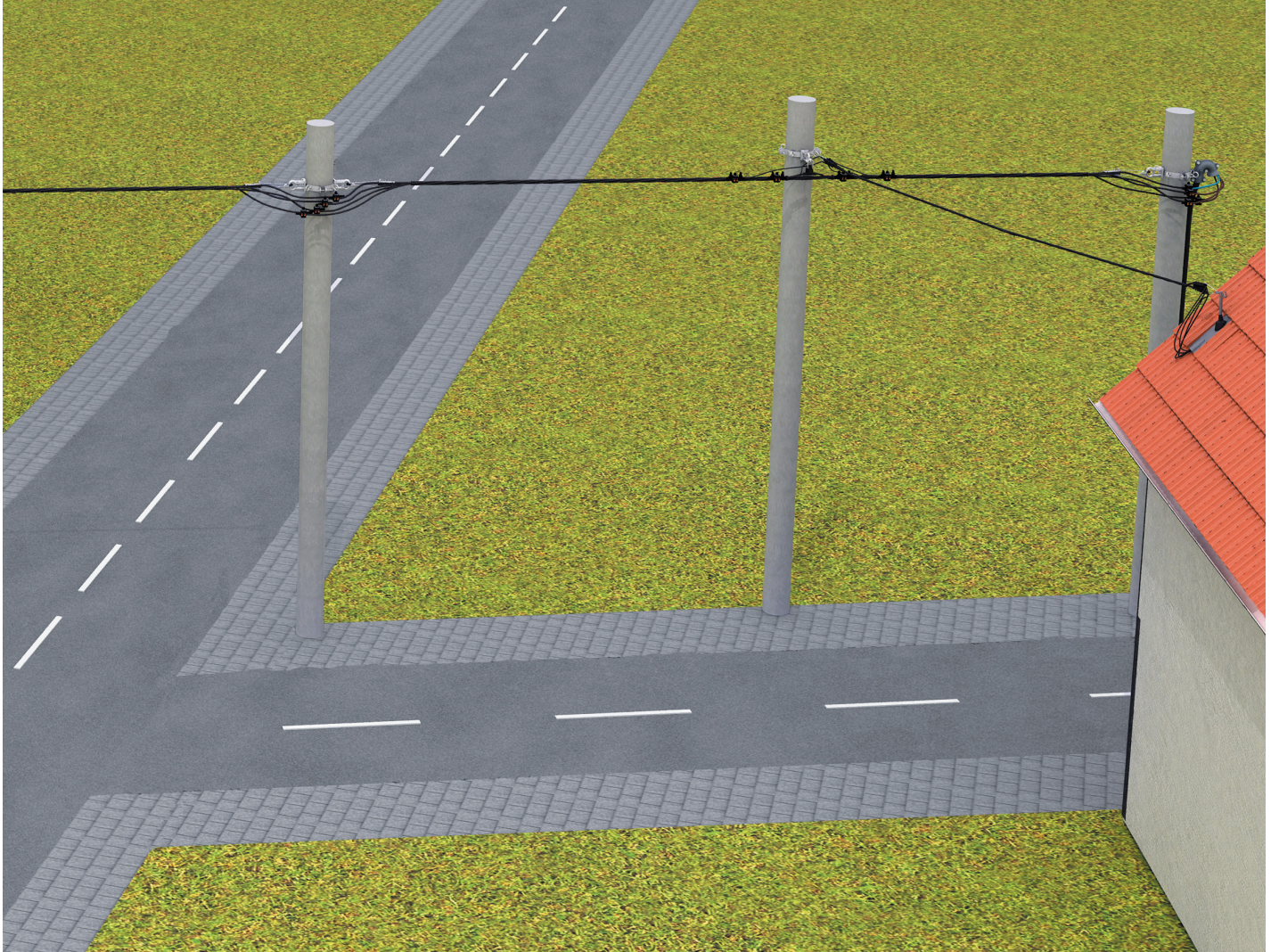
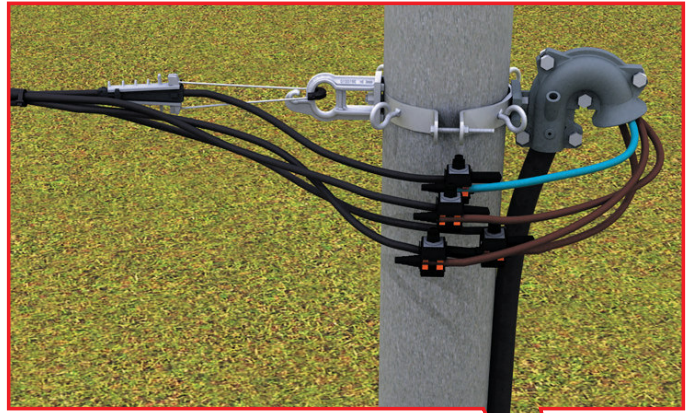
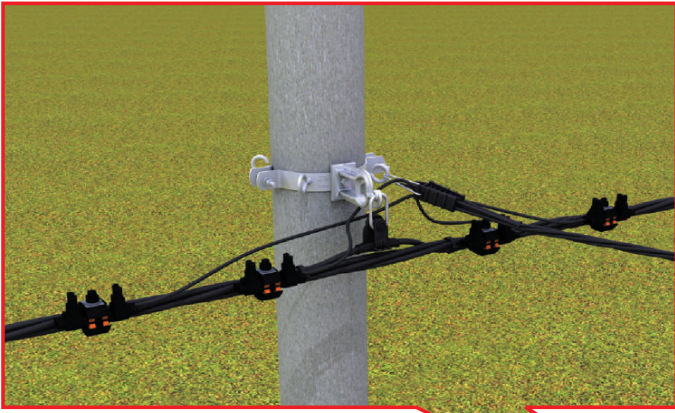


# AN EXAMPLE OF PROPER

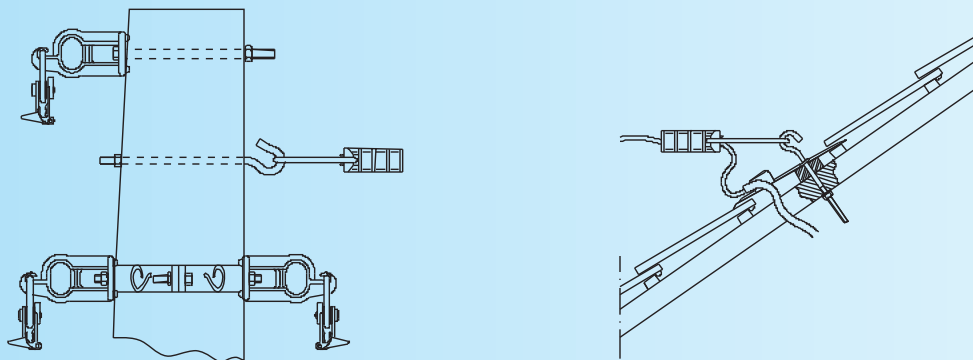
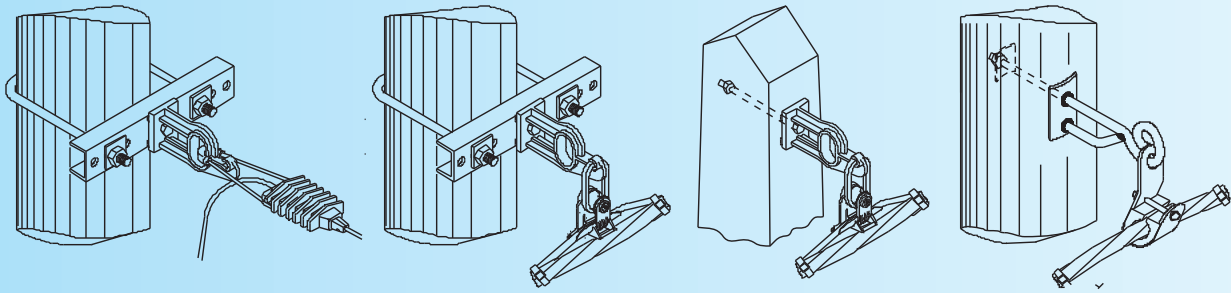




# APPLIANCE OF EQUIPMENT FOR LV ABC

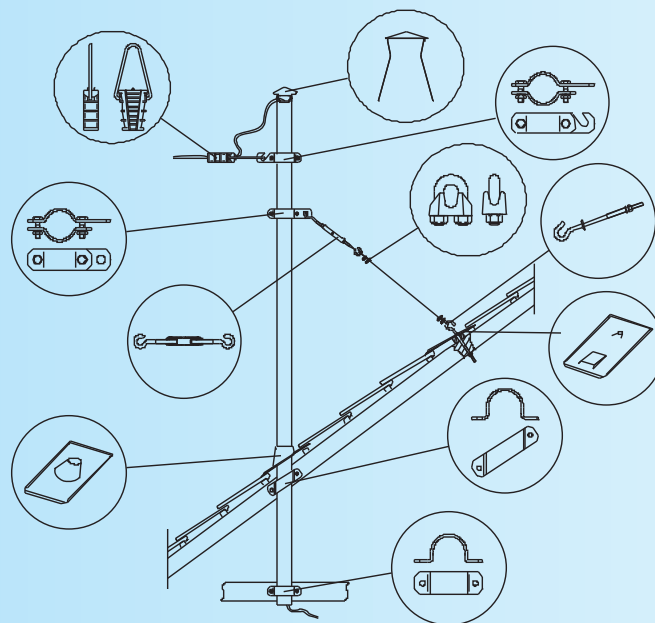






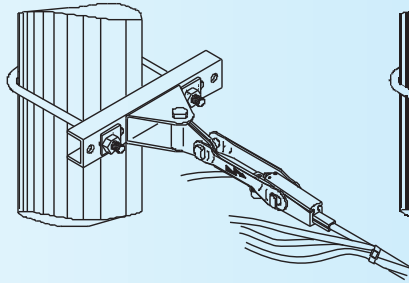
On the pillar by means of: 1) bracket with clamp  
2) bolt with hook and tension clamp for housing connector  
3) pillar bracket with hooks

On the roof by means of clamp for housing connector.  
bolt with hook and tin roof unit for housing connector

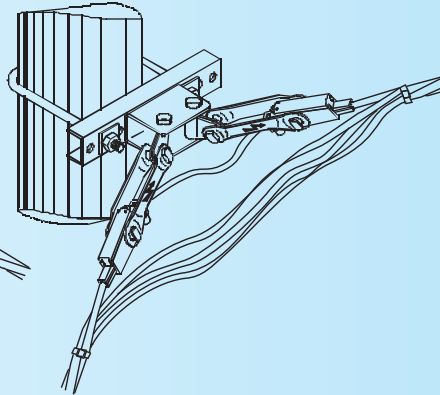


Housing connector can be attached by means of the pipe roof carrier as shown on the picture above. It is necessary to tighten the pipe roof carrier on the roof construction by pipe rings (flat and sloped) and to ensure it by tightening with steel rope, bolt with hook and hat, tensioning bar, bracket. Tin roof unit for roof carrier and tin roof unit for anchor are used to prevent water penetration.

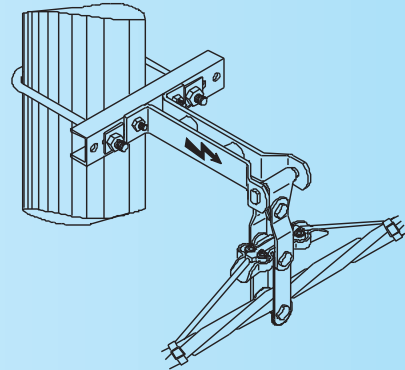
Tension and support



Tension in an angular position



Supporting

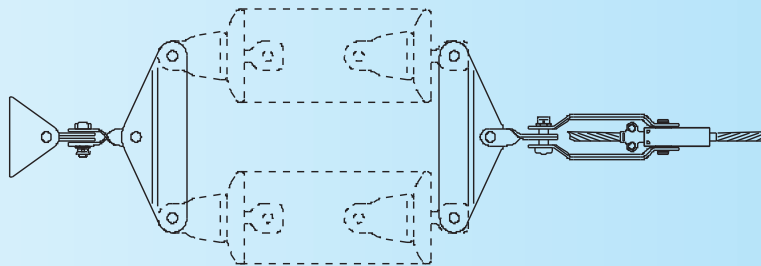


EQUIPMENT FOR TENSION INSULATING CHAINS – FOR AL-STEEL CONDUCTORS

Equipment for single tension insulating chains

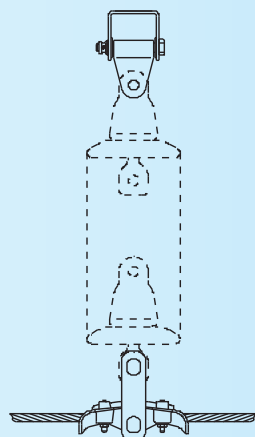


Equipment for double tension insulating chain

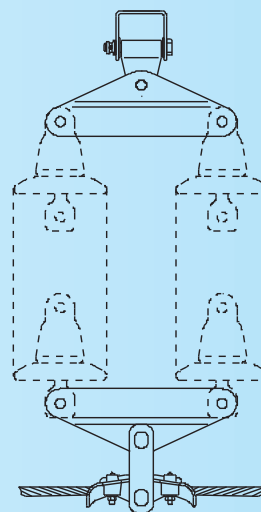


EQUIPMENT FOR SUPPORT. INSULATING CHAINS – FOR AL-STEEL CONDUCTORS

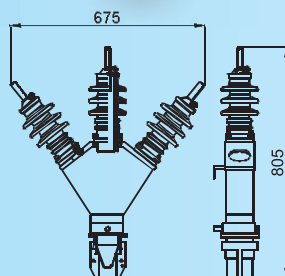
Equipment for single support insulating chain



Equipment for double support insulating chain







Cable head type KGTs-10 is used for outside assembling for terminating of three-wire cables with insulation made of impregnated paper with copper or aluminum conductors with cross sections up to 240 mm<sup>2</sup>, at voltage up to 10 kV. The cable head consists of the following parts

- silumene cable head housing
- two porcelain and one glass insulator (the middle insulator is made of glass and used for visual control of oil level)
- copper funnel, which is tightened to lower part of the housing, through which cable goes into the head. The funnel is also used for weld lead-coating of cable so the space between the cable and the head becomes hermetically closed.
- assembly material

Detailed procedure for assembling is described in the assembly instructions which is delivered with each order. When assembling is finalized, the cable head is filled with oil mass through the opening of the middle insulator cap which is part of assembling equipment.

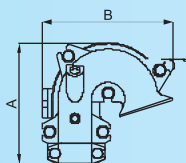
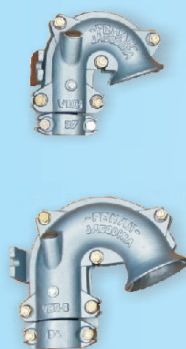
Note: Al-Cu bolt is ordered separately

**Package: 1 pc**

**Weight (without oil): 13 ka/pc**

**Code number: 4800010**

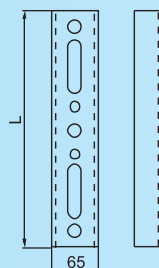
## CABLE SERVICE HEAD VKG



Used when crossing from cable line onto self-supporting cable bunch or vice versa. At the end of the cable line it is necessary to install an appropriate cable head which consists of upper part and clamping ring, as well as nuts which mutually connect the parts of the head. On the lower section there is a connecting part for securing the cable head to the wall or post. On the general use bracket there are holes for tightening of VKG cable head. Bitumen mass is poured through the opening on top of the head, to prevent humidity penetration into the cable. The cable head is cast in silumene, and it is easy to assemble.

Code number	Designation	Max. cable mm <sup>2</sup>	A mm	B mm	Package pcs	Weight ka/pc
3800001	VKG 1	to 4 x 50	213	220	1	1.70
3800003	VKG 3	to 4 x 150	255	290	1	2.16

## GENERAL USE BRACKET



Code number	Type	L mm	Package pcs	Weight ka/pc
4894000	L375	375	1	2.32
4894002	L480	480	1	2.80

Used for tightening of Al universal bracket on posts, VKG cable heads, equipment for LV ABC cables etc. Secured by bracket clamping ring for posts. Usually Zn\*-galvanized, but on customer's request we do hot-dip galvanizing. NOTE: Steel support rings for this bracket are found on page 46.

**Length: 375 mm**

**Package: 5 pcs**

**Weight: 2.80 ka/pc**

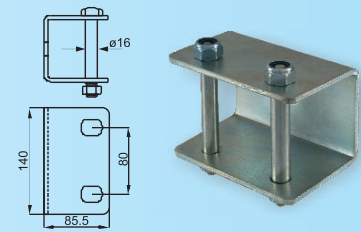
**Code number: 4894002**

## DOUBLE HINGE SUPPORT WITH TWO WEDGES

FEMA

Used for angle linking of general use bracket and two tension support clamps during double tension supporting of LV ABC cables or uninsulated Al-steel rope. Usually Zn- galvanized, but on customer's request we do hot-dip galvanizing.

**Package: 10 pcs**  
**Weight: 2 ka/pc**  
**Code number: 4894004**

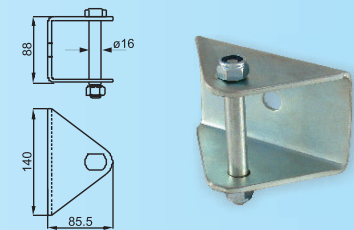


## HINGE SUPPORT WITH WEDGE

FEMA

Used for linking of general use bracket and tension supporting clamp during single tension supporting of LV ABC cables or uninsulated Al-steel rope. Usually Zn- galvanized, but on request we do hot-dip galvanization.

**Package: 10 pcs**  
**Weight: 1.2 ka/pc**  
**Code number: 4894005**

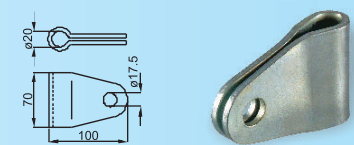


## HINGE

FEMA

Used for linking tension support clamps of LV ABC cables to hinge carrier (during tension support of uninsulated Al-steel rope) Usually Zn- galvanized, but on request we do hot-dip galvanization.

**Package: 10 pcs**  
**Weight: 0.48 ka/pc**  
**Code number: 4894006**

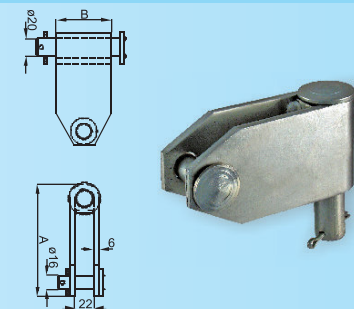


## HINGES

FEMA

Code number	A mm	B mm	Package pcs	Weight ka/100pcs
4703020	93	46	10	72
4703022	127	62	10	112
4703024	127	94	10	160

Hinges are used for tension supporting of mid-voltage equipment (1-35kV). Protected by Zn- galvanization, but on customer's request we hot-dip galvanize them.

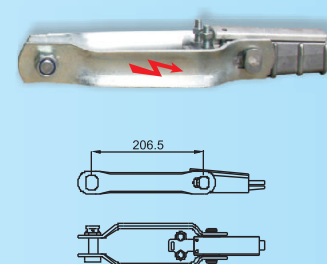


## CLAMP FOR TENSIONING OF MID-VOLTAGE ABC AND AL-STEEL ROPES

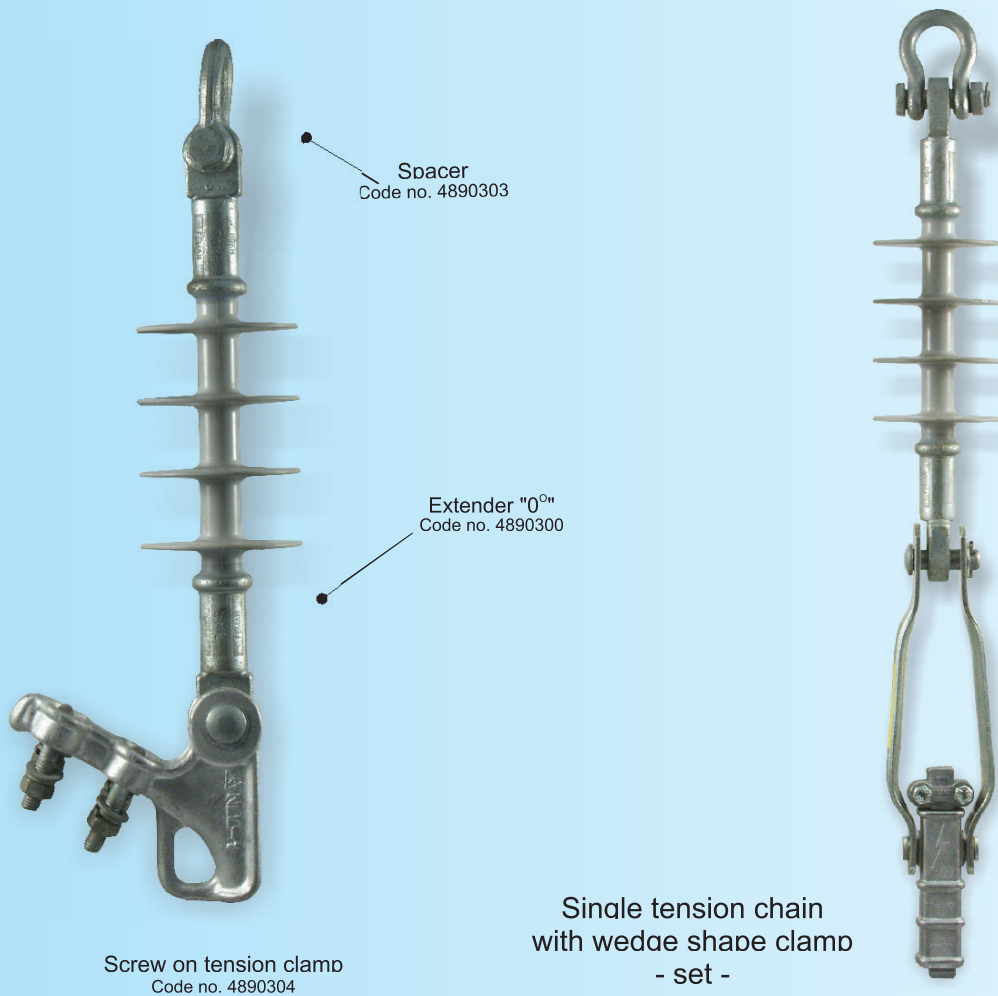
FEMA

Code number	Clamp for Al-Steel rope mm2	Package pcs	Weight ka/100pcs
4853350	35	10	79.6
4853500	50	10	80.2
4853700	70	10	91.4
4853950	95	10	92.1

Used for terminal and angular tensioning support of MV ABC cable bunch (uninsulated Al-steel rope). Supporting is done via the carrying rope. Used with a complete set consists of hinge, hinge support and general use bracket (which is separately ordered). Min. breaking force is 40 kN. NOTE: When ordering, please mark whether it is for ABC or uninsulated rope.



Code number	Type	Voltage kV	Rated voltage kV	Breaking force daN
4890311	Set - single with wedge shape	10	90	4000
4890321	Set - single with wedge shape	20	130	4000
4890331	Set - single with wedge shape	35	145	4000
4890411	Set - single with screw clamp	10	90	4000
4890421	Set - single with screw clamp	20	130	4000
4890431	Set - single with screw clamp	35	145	4000
4890312	Set - double with wedge shape	10	90	4000
4890322	Set - double with wedge shape	20	130	4000
4890332	Set - double with wedge shape	35	145	4000
4890412	Set - double with screw clamp	10	90	4000
4890422	Set - double with screw clamp	20	130	4000
4890432	Set - double with screw clamp	35	145	4000

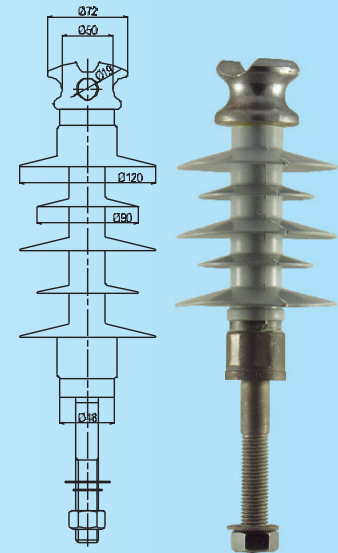


Tension silicon composite insulators are used for tension and support hanging for non-insulated overhead lines from 10 to 35kV. They are made in accordance with IEC 6109-1992-03 standard and usually produced for mechanical loading force of 4000 daN. They are very light compared to ceramic and glass insulator sets providing quick and easy assembling. Corrosion protection is usually performed by cold galvanization, but at the customer's request we do hot-dip galvanization.

## POST SILICONE INSULATOR



Post silicone insulators are used for middle voltage non-insulated aerial networks from 10 kV to 35 kV. They are made according to IEC 61109 standards. They are standardly produced with steel bolts M24/140 mm. and at customers demand we can make them with steel bolts from M20 to M36. with different lengths from 40mm to 200mm. Corrosion protection is achieved with hot dip galvanization.



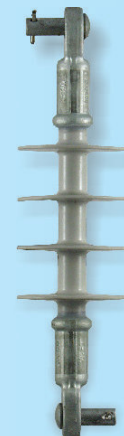
Code number	Type of Insulator	Rated network voltage kV	Rated working voltage kV	Creeping distance mm	Dry lightning impulse withstand voltage kV	Wet power-freq. withstand voltage kV	Breaking force kN	Weight ka/pcs
4890610	PSI 12-M24/140	10	12	365	125	50	15	2.50
4890620	PSI 24-M24/140	20	24	539	165	75	15	2.70
4890630	PSI 38-M24/140	30	38	684	182	94	12.5	2.95

## EQUIPMENT FOR INSULATING CHAINS

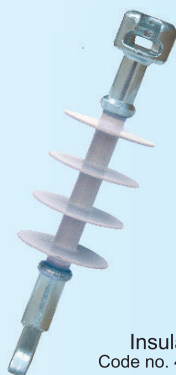


Code number	Name
4890300	Extender "0°"
4890301	Extender "90°"
4890302	Neuter
4890303	Spacer
4890304	Screw on tension clamp (with two screws)
4890310	Insulator 10kV
4890320	Insulator 20kV
4890330	Insulator 35kV

Silicone composite insulators are intended for tension and support hanging for uninsulated overhead lines. Made in accordance with IEC 6109-1992-03 standard.



Insulators  
Code no. 4890310  
Code no. 4890320  
Code no. 4890330



Insulator  
Code no. 4890310



Insulator  
Code no. 4890320



Insulator  
Code no. 4890330



Extender "0°"  
Code no. 4890300



Extender "90°"  
Code no. 4890301



Spacer  
Code no. 4890303



Neuter  
Code no. 4890302



Tension clamp  
Code no. 4890304



Tension silicon composite insulators are used for tension and support handing for non-insulated overhead lines from 10 to 35kV. They are made in accordance with IEC 6109 - 1992 -03 standard and usually produced for mechanical loading force of 4000 daN. They are very light compared to ceramic and glass insulator sets providing quick and easy assembling. Corrosion protection is usually performed by cold galvanization, but at the customer's request we do hot-dip galvanization.

Single tension chain  
with screw clamp  
- set -

Neuter  
Code no. 4890302

Extender "0°"  
Code no. 4890300

Insulators  
Code no. 4890310  
Code no. 4890320  
Code no. 4890330

Neuter  
Code no. 4890302

Extender "90°"  
Code no. 4890301

Tension clamp  
(see page 38)

Double tension chain  
with wedge clamp  
- set -

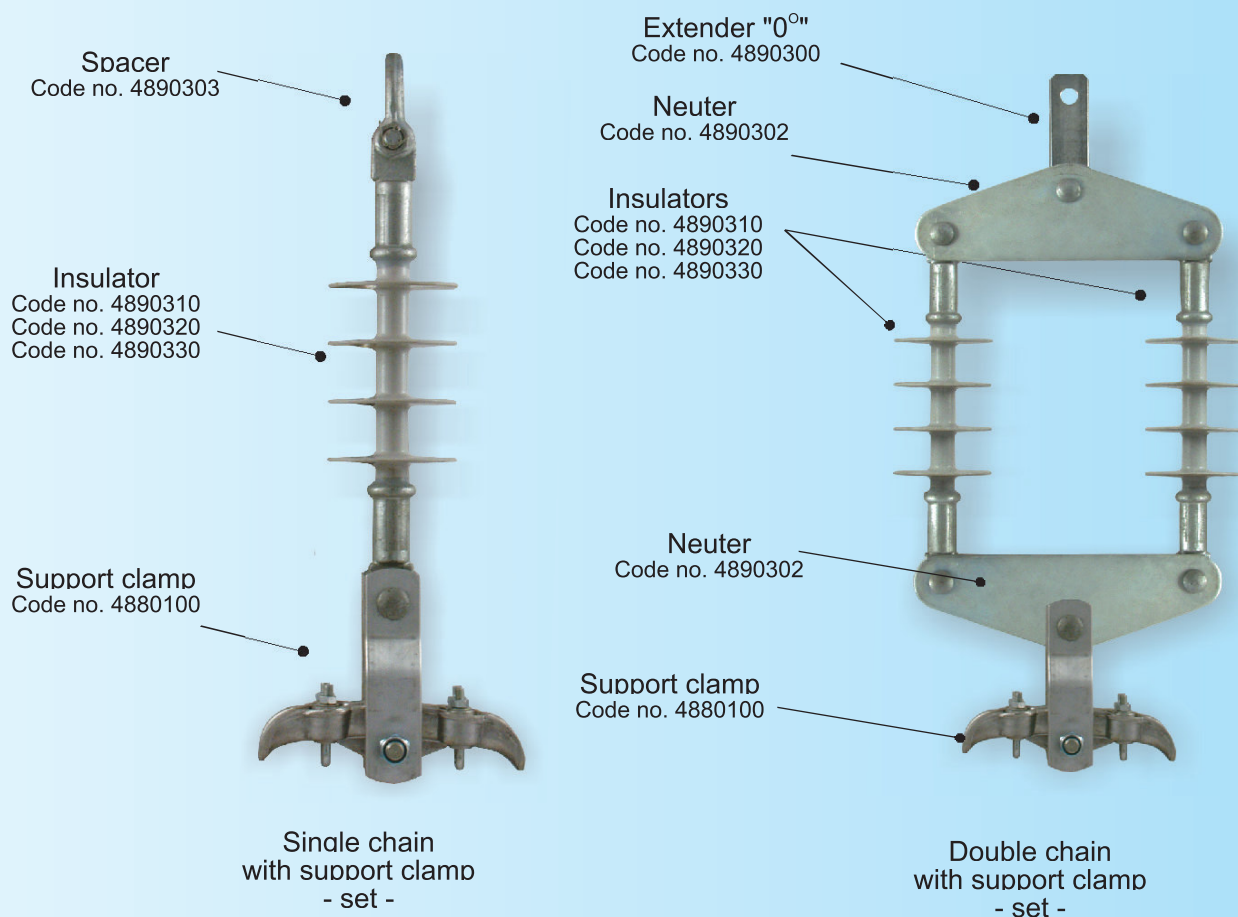
Double tension chain  
with screw clamp  
- set -

Screw on tension clamp  
Code no. 4890304

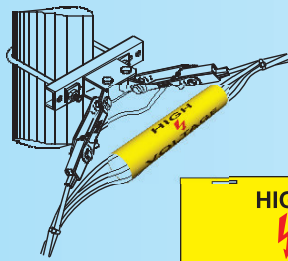


Code number	Type	Voltage kV	Rated voltage kV	Breaking force daN
4890311	Set - single with wedge shape	10	90	4000
4890321	Set - single with wedge shape	20	130	4000
4890331	Set - single with wedge shape	35	145	4000
4890411	Set - single with screw clamp	10	90	4000
4890421	Set - single with screw clamp	20	130	4000
4890431	Set - single with screw clamp	35	145	4000
4890312	Set - double with wedge shape	10	90	4000
4890322	Set - double with wedge shape	20	130	4000
4890332	Set - double with wedge shape	35	145	4000
4890412	Set - double with screw clamp	10	90	4000
4890422	Set - double with screw clamp	20	130	4000
4890432	Set - double with screw clamp	35	145	4000

Silicone composite support insulators are used for MV uninsulated overhead lines from 10 to 35 kV. Made in accordance with IEC 6109-1992-03 standard. They are usually produced for mechanical loading force of 4000 daN. They are very light compared to ceramic and glass insulator sets providing quick and easy assembling. Corrosion protection is performed by galvanic coat with zinc, but at the customer's request we do hot-dip galvanization.



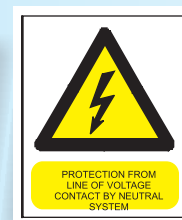
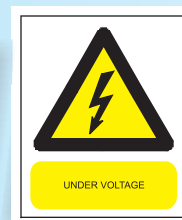
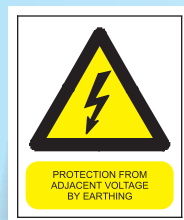
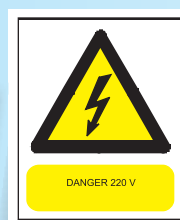
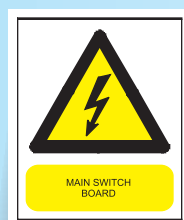
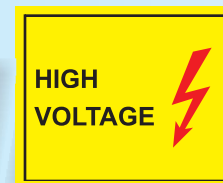
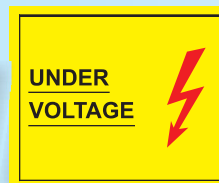
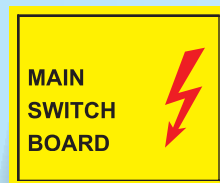
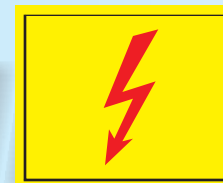
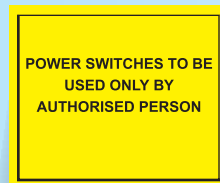
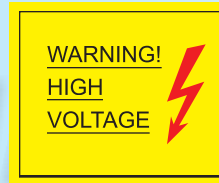
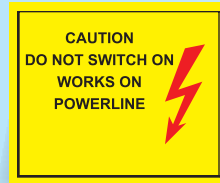
Code number	Type	Voltage kV	Rated voltage kV	Breaking force daN
4890511	Set - Single chain support	10	90	4000
4890521	Set - Single chain support	20	130	4000
4890531	Set - Single chain support	35	145	4000
4890512	Set - Double chain support	10	90	4000
4890522	Set - Double chain support	20	130	4000
4890532	Set - Double chain support	35	145	4000



Dimensions: 320x150 mm  
Code: 4703200

This signs are made from Self extinguish plastic material. resistant to all wether conditions. These signs convey messages or warnings. Sheets are easy to bent. and easily adiusted to every form. We also manufacture custom sian (Please mark the text you wish to have on the sian when ordering).

SELF ADHESIVE PVC WARNING SIGNS



These signs convey messages or warnings. They are made on aluminum or on self-adhesive foil with weather resistant colors. We also manufacture custom sian (Please mark the text you wish to have on the sian when ordering).

Dimensions: 100x120 (120x100) mm  
Code: 4703050

Code number	Name	Dimensions mm	Package pcs	Weight ka/100pcs
4703035	Cable route marker plate 0.4KV	92x64	50	22.8
4703036	Two-cable route marker plate 0.4KV	92x64	50	22.8
4703037	One cable left-turn marker plate 0.4KV	92x64	50	22.8
4703038	One cable right-turn marker plate 0.4KV	92x64	50	22.8
4703039	Two cable left-turn marker plate 0.4KV	92x64	50	22.8
4703040	Two cable right-turn marker plate 0.4KV	92x64	50	22.8
4703045	Cable route marker plate 1KV	92x64	50	22.8
4703046	Two-cable route marker plate 1KV	92x64	50	22.8
4703047	One cable left-turn marker plate 1KV	92x64	50	22.8
4703048	One cable right-turn marker plate 1KV	92x64	50	22.8
4703049	Two cable left-turn marker plate 1KV	92x64	50	22.8
4703050	Two cable right-turn marker plate 1KV	92x64	50	22.8
4703055	Cable route marker plate 10KV	92x64	50	22.8
4703056	Two-cable route marker plate 10KV	92x64	50	22.8
4703057	One cable left-turn marker plate 10KV	92x64	50	22.8
4703058	One cable right-turn marker plate 10KV	92x64	50	22.8
4703059	Two cable left-turn marker plate 10KV	92x64	50	22.8
4703060	Two cable right-turn marker plate 10KV	92x64	50	22.8
4703061	Cable route marker plate 20KV	92x64	50	22.8
4703062	One cable left-turn marker plate 20KV	92x64	50	22.8
4703063	One cable right-turn marker plate 20KV	92x64	50	22.8
4703065	Cable route marker plate 24KV	92x64	50	22.8
4703066	Two-cable route marker plate 24KV	92x64	50	22.8
4703067	One cable left-turn marker plate 24KV	92x64	50	22.8
4703068	One cable right-turn marker plate 24KV	92x64	50	22.8
4703069	Two cable left-turn marker plate 24KV	92x64	50	22.8
4703070	Two cable right-turn marker plate 24KV	92x64	50	22.8
4703072	Cable route marker plate 35KV	92x64	50	22.8
4703073	One cable left-turn marker plate 35KV	92x64	50	22.8
4703074	One cable right-turn marker plate 35KV	92x64	50	22.8
4703051	Cable connector marker plate	92x64	50	22.8
4703076	Telephone marker plate	92x64	50	22.8
4703077	PTT cable marker plate	92x64	50	22.8
4703078	Straight connector marker plate	92x64	50	22.8
4703079	Marker plate for T-connector	92x64	50	22.8
4703080	Marker plate for intersection with waterworks	92x64	50	22.8
4703081	Marker plate for intersection with PTT	92x64	50	22.8
4703082	Marker plate for intersection with sewer	92x64	50	22.8
4703083	Marker plate for intersection with heating pipes	92x64	50	22.8
4703096	Marker plate for underground cable route	92x64	50	22.8



# WARNING SIGNS

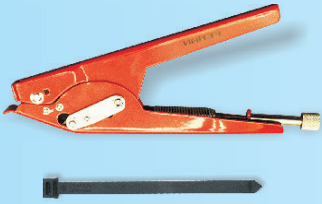
Code number	Name	Dimensions mm	Package pcs	Weight ka/pc
4703100	Warning sign – High Voltage	200x145	50	8.8
4703103	Warning sign – High Voltage with number	200x145	50	8.8
4703104	Sign for numbering posts	200x145	50	8.8
4703113	Phase numbering sign - white	200x145	50	8.8
4703111	First aid instructions A3	420x297	10	17.6
4703112	Golden Rule A-3	420x297	10	17.6
4703115	Fire extinguisher instructions A-3	420x297	10	17.6
4703102	Warning sign – High Voltage A-3	420x297	10	17.6





## AUTOMATIC TIE-GUN FLY-600 L

FemaN



Used for tightening cable splices of up to 13 mm width when wrapping and fixing cable bunches. This tie-gun has a tension regulator which enables cutting off access length on splices after regulated force of tension is applied.

**Length:** 225 mm  
**Weight:** 0.32 kg  
**Code number:** 1550613

## AUTOMATIC GRIPPER 6-14

FemaN

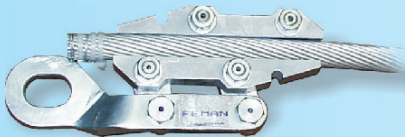


Designed for pulling and tensioning of Aluminum and Aluminum-steel conductors with outer diameters between 6 and 14 mm. Its construction by lever system grips the conductor and while pulling automatically increases tension force of the grip to the conductor, providing quick and tight connection, for pulling and tensioning. Maximum tension force is 400 kg. This automatic gripper has built-in U-joint which enables quick and easy connection with the pulling device. This gripper is made of special Aluminum alloy.

**Length:** 308 mm  
**Weight:** 1.5 kg  
**Code number:** 1884614

## AUTOMATIC GRIPPER FOR Al-Fe ROPE 8-24 mm

FemaN



Used for tensioning of Al-Fe ropes with diameters from 8-24 mm. Made of steel alloy, while the contact pads are of aluminum alloy. If it is used for steel ropes and cables tensioning (please indicate when ordering) the pads are made of carbon steel. Maximum tension force is 2000 kg.

**Length:** 270 mm  
**Weight:** 3.5 kg  
**Code number:** 1884120

## DEVICE FOR LEAD TIGHTENING AND LOAD LIFTING - UP TO 250 KG

FemaN



This device is used for overhead power leads tightening and load lifting. One end of the device is attached to the pole, facade or similar fixed object. By moving handle, the gear system is activated while the chain starts moving. Assembling and use of device is quick and easy. Maximum tension force is 250 kg. Standard length of the chain is 2 meters. At customers demand, we can deliver a longer chain.

**Code number:** 6601734



## DEVICE FOR LEAD TENSIONING AND LOAD LIFTING

FemaN

This device is used for overhead power lines tensioning and load lifting. One end of the device is attached to a pole, facade or similar fixed object. Moving handle activates the gear wheel which starts moving the chain. Assembling and usage are quick and easy. Maximum tension force is 0.75 and 1.5t. Standard length of the chain is 2 meters. At customers demand, we can deliver a longer chain.

Code number: 6600206.....for 0.75 t.  
Code number: 6601826.....for 1.5 t.



## CABLE CUTTERS FLK-325 A

FemaN

Used for cutting of Al and Cu cables without steel sheath up to 185 mm<sup>2</sup>.

Length: 265 mm  
Weight: 0.63 kg/pc  
Code number: 1510325



## MANUAL CUTTERS FOR Al AND Cu CABLES

FemaN

Code number	Designation	ø cable size mm	Length mm	Weight kg
1800040	FM - 40	28	700	3.20
1800450	FLK - 450	25	470	1.75
1801325	FLK - 325	40	1126	4.36

The cutting angle of these cutters is set for cutting aluminum and copper cables. **It is forbidden** to cut Al-steel ropes, because it would cause permanent damage to the blades. The cut is clean and does not require additional finishing.



## MANUAL CUTTERS FOR CUTTING Al-steel CONDUCTORS

FemaN

Code number	Designation	ø cut for Al-steel	ø cut for iron	Cable max. ø diameter	Length mm	Weight kg
1800154	FM - 154	10	7	16 120	470	1.94
1800880	FRC - 800	14	10	20 185	780	3.95

With these cutters the razor is designed to cut Al-steel ropes. The cutting angle is such that during cutting, rope wires are pressed and they do not scatter. The rope end, cut in this way, is easy to pull into jointing sleeve.





Used for crimping 10-300 mm<sup>2</sup> Cu cables and 16-240 mm<sup>2</sup> Al cables. The head rotates 360° permitting work from all angles. To power this hydraulic head use FEMAN hydraulic pump FKPU-700D which is ordered separately.

**Length: 213 mm**  
**Weight: 2.41 kg**  
**Code number: 1870300**



## MANUAL HYDRAULIC CRIMPER FRHP-300



A very compact crimper with an installed high pressure hydraulic pump of 700 bar. Used for crimping of cable accessories for Cu cables 10-300mm and Al cables 10-240mm, threaded copper connectors, shaping inputs and MJPB, MJPT connectors. Head of the press is turned by 360 degrees which enables crimping in every position. The crimper and matrixes for crimping come in their own metal case.

**Length: 460mm**  
**Weight: 3.3kg**  
**Code number: 1870291**



## INPUTS FOR CRIMPING OF FID SLEEVES AND CPTAU LUGS



1800325

1800327

Code number	Die type	Package pcs	Weight kg/100pcs
1800325	E 140	1	12
1800327	E 173	1	11

Inputs are used for crimping of FID sleeves and CPTAU lugs. Hexagonal crimping is directly performed through the insulation with excellent mechanical and electrical characteristics. For crimping of FID sleeves and CPTAU lugs, use one of the "FEMAN" presses FRP 300, FRHP 300, FHP 300, FAP 240, FAP 300, FAP 400.



## MANUAL MECHANICAL CRIMPER FRP-300 C



This crimper is the result of the ongoing improvement of FEMAN's manual mechanical crimpers, so today, it is considered to be the best mechanical crimper. The head rotates for 360° which permits crimping at all positions. The telescoping handles can be extended from 600-800 mm and depending on the length they reduce the working force. The handles are pulled out when working on larger crimps, but for smaller cross section - crimping, the standard length is sufficient. The crimper and crimping matrixes come with their own metal case.

**Length: 510 mm**  
**Weight: 3.04 kg**  
**Code: 1800300**





## HYDRAULIC PUMP 700bar - FHPU 800

Feman

The two-step action system, which helps reaching the pressure of 200 bar much faster, automatically activates the toggle which enables the second speed of oil flow, and thus decelerate the operation speed and makes this pump far easier to handle and work with than similar, previously used pumps. The pump consists of: the hydraulic assembly, reservoir, handle/lever, high pressure hose with connector and lever for releasing pressure. Every FEMAN hydraulic tool may be used with this pump.

**Length: 520 mm**  
**Weight: 10.80 kg**  
**Code number: 1853708**



## BATTERY OPERATED CRIMPING TOOL FAP-60

Feman

Crimping force: 60KN  
 Stroke: 17mm  
 Crimps per charge: approx. 160 crimps (Cu 150mm<sup>2</sup>)  
 Crimping cycle: 3s up to 6s (depending on size)  
 Weight: approx. 4.70 kg (not incl. Battery)  
 Battery voltage: 12V  
 Battery capacity: 2.5Ah  
 Charging time: 1.5h  
**ACCESSORIES:**  
 Crimping dies: 16.25.35.50.70.95.  
 120.150.185.240.300mm<sup>2</sup>

Battery: 2pcs  
 Battery charger: 1set  
 All-main set: 1set  
 Rubber O-ring used in cylinder: 1set  
 Rubber O-ring used in safety valve: 1set  
**AVAILABLE DIES**  
 Cu compression cable lugs and compression joints: 16-300mm<sup>2</sup>  
 Al compression cable lugs and compression joints: 10-240mm<sup>2</sup>

**Code number: 6604167**

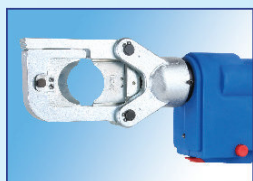


## BATTERY OPERATED SCISSORS AND CRIMPING TOOL FAMP-42

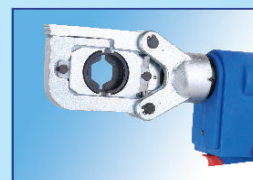
Feman

Crimping force: 60KN  
 Stroke: 42mm  
 Crimping cycle: 5s up to 8s (depending on conductor size)  
 Cutting time: 8s up to 20s (depending on cable diameter)  
 Weight: approx 5.1kg (not incl. Battery)  
 Battery voltage: 12V  
 Battery capacity: 2.5Ah  
 Crimping capacity: approx. 120 crimps (Cu 150mm<sup>2</sup>)  
 Punching capacity: approx. 60 holes (in 3.0mm mild steel)  
 Cutting capacity: approx. 70 cuts (4\*7mm<sup>2</sup> NYN)  
 Charging capacity: approx. 1.5h  
**ACCESSORIES:**  
 Dies and adapters:  
 Rubber O-ring used in cylinder: 1set  
 Rubber O-ring used in safety valve: 1set  
 Battery: 2pcs  
 Battery charger: 1pc

**Code number: 6604162**



Used for crimping copper sleeves and lugs diameter 10–300mm<sup>2</sup> and aluminum cable lugs and sleeves diameter 16–



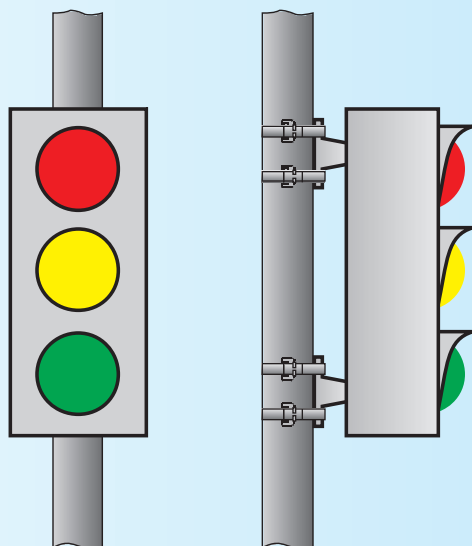
Used for cutting copper and aluminum cables up to Ø40mm



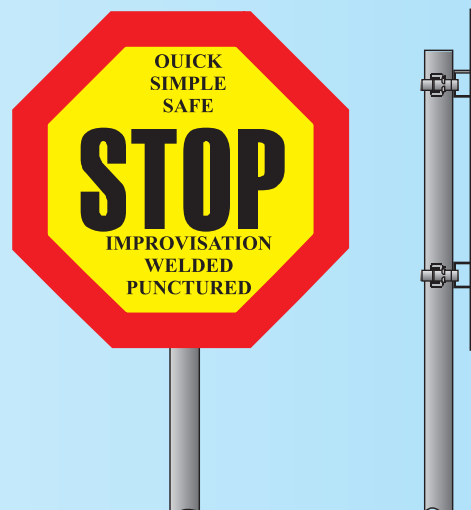
Examples of various binding elements with perforated bands to steel and concrete posts



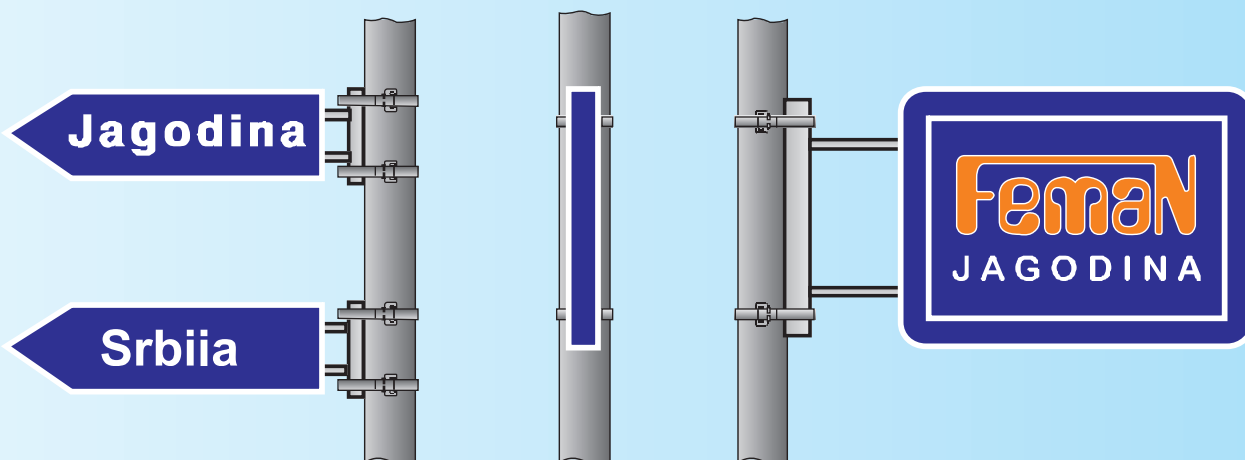
***Quick. simple. safe. permanent.  
without welding or drilling with expensive tools***



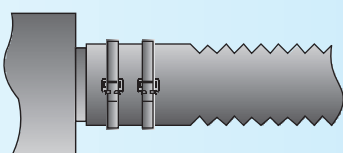
Binding and attaching traffic-lights



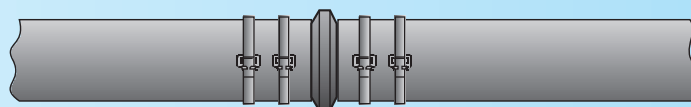
Binding and attaching signs



Binding and attaching advertisements and guideposts



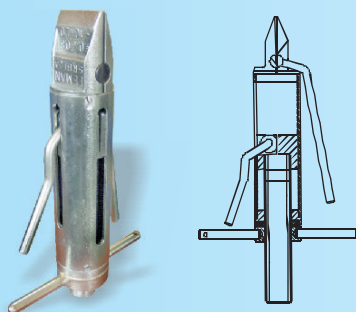
Example of binding of ventilation and air-conditioning pipes and hoses



Extension of pipes/hoses made out of plastic and rubber for pressure up to 60 bars. Extremely suitable for pipelines, sewers, air-conditioners, car industry

## PULLING GRIP FOR STAINLESS STEEL BANDS

Femán

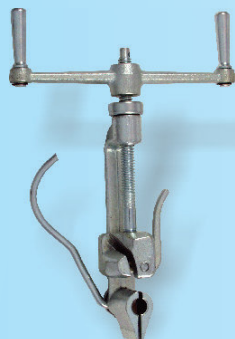


Used for tightening and cutting of stainless steel bands (steel support rings) used for securing equipment to poles. This is a very reliable and practical way for quick and easy securing of brackets, stands, supports, lamps, protection devices, signs, etc. on metal, concrete or wooden pole - supports, making a long lasting, greatly tightened, secure attachment without drilling and welding. This system has long been in use by the electrical industry in the developed countries.

**Packing:** 1 pcs  
**Weight:** 1.78 kg/ pcs  
**Code number:** 4710000

## PULLING GRIP FOR STAINLESS STEEL BANDS FZT

Femán

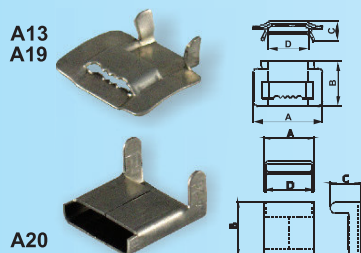


Used for tightening and cutting of stainless steel bands (steel support rings) used for securing equipment to poles. This is a very reliable and practical way for quick and easy securing of brackets, stands, supports, lamps, protection devices, signs, etc. on metal, concrete or wooden pole - supports, making a long lasting, greatly tightened, secure attachment without drilling and welding. This system has long been in use by the electrical industry in the developed countries.

**Packing:** 1 pcs  
**Weight:** 1.8 kg/ pcs  
**Code number:** 4710002

## CLIPS FOR STAINLESS STEEL BANDS

Femán

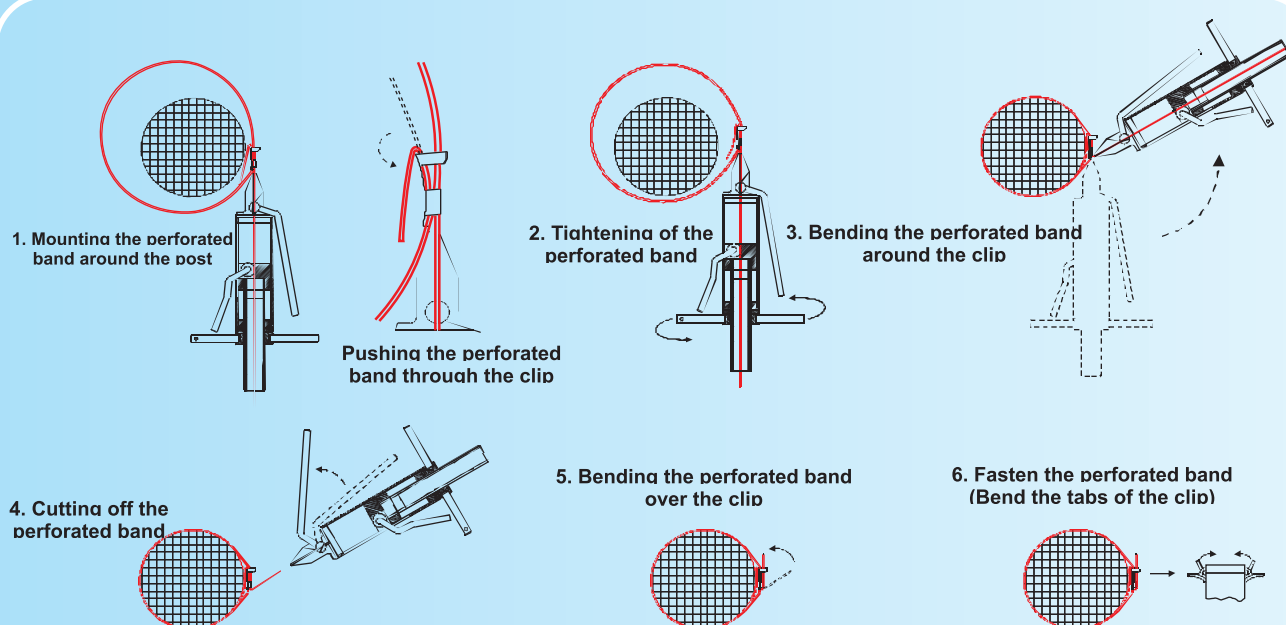


Code number	Type	A mm	B mm	C mm	D mm	Package pcs	Weight kg/100 pcs
4710213	A13	32	27	10	16	100	1,0
4710219	A19	42	27	12	25	100	1,2
4710320	A20	23.2	25	14	21.2	150	0.8

Used for attaching stainless steel bands to poles.

## PROPER PROCEDURE OF PERFORATED BAND TIGHTENING

Femán

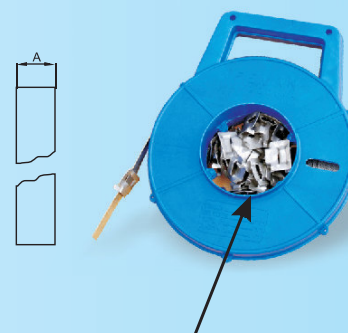




Code number	A mm	Thickness mm	Material (stainless steel)	Breaking strength (N)	Weight of roll in the case	Package m
4710009	9	0.55	1.4371	4100		20
4710013	13	0.70	1.4371	7100	2.6ka/bc	20
4710019	19	0.70	1.4371	10600	3.7ka/bc	20

Used for attaching equipment to poles. On customer's request we can also provide bands of other dimensions and lengths. The case contains 30 clips adapted to the ordered band.

**Code number: 4710000**

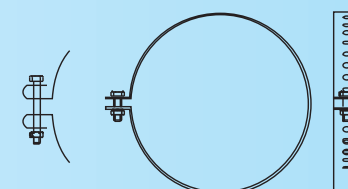


Transparent cover

## PERFORATED GALVANIZED TAPE WITH ROUND HOLES

Code number	A mm	B mm	C mm	Thickness mm	Breaking strength (N)	Weight of roll in the case	Package m
4710120	20	12	6	1.0	4200	3.1ka/bc	20
4710125	25	12	6	1.0	5400	3.5ka/bc	20

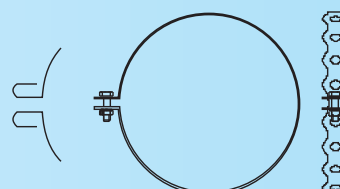
Used for attaching equipment to poles using an appropriate galvanized screw nut and flat washer. At customer's request we also provide bands of other dimensions and lengths. The sharp edges on the band are processed according to DIN. The case also contains 30 pieces of screw nuts adapted to the ordered band.



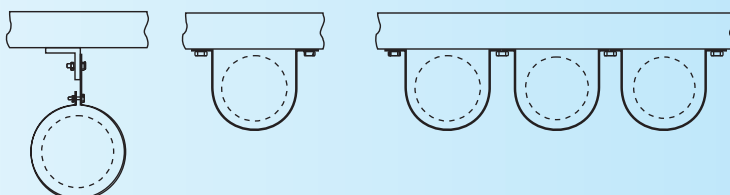
## PERFORATED GALVANIZED ELLIPTICAL BAND

Code number	A mm	B mm	C mm	Thickness mm	Breaking strength (N)	Weight of roll in the case	Package m
4710130	20	24.3	6.2	1.0	4000	2.7ka/bc	20
4710131	20	24.3	8.2	1.0	3400	2.5ka/bc	20

Flexible, light, bendable, universal in use. Used for attaching equipment to poles using an appropriate galvanized screw nut and flat washer. Very convenient for hanging of instillation pipes for water, sewer and heat. On customer's request we also provide bands of other dimensions and lengths. The sharp edges on the band are processed according to DIN. The case also contains 30 pieces of screw nuts adapted to the ordered band.



**Convenient for hanging and tightening of all types and pipes dimensions.**



## CONTENT

INSULATED WATERPROOF CONNECTING CLAMP FIDOS 1.5-10/16-95.....	5
INSULATED WATERPROOF CONNECTING CLAMP FIDOS 16-25/35-70.....	5
INSULATED WATERPROOF CONNECTING CLAMP FIDOS 4-35/6-150 .....	5
INSULATED WATERPROOF CONNECTING CLAMP FIDOS (35)50-150/(35)50-150 .....	5
ADAPTER 4x1.5-16 mm2 FOR INSULATED CONNECTING CLAMP FIDOS 16-25/35-70 .....	6
ADAPTER FOR INSULATED WATERPROOF CONNECTING CLAMP FIDOS 50-150/50-150.....	6
SEPARABLE JOINTS .....	6
INSULATED WATERPROOF JOINTING SLEEVES - FID.....	7
ALUMINUM INSULATED JOINTS "FALIS".....	7
INSULATED WATERPROOF AL-CU BIMETALLIC LUGS CPTAU.....	8
ALUMINUM BRACKET FOR LOW VOLTAGE ABC CS 1500 F - CS 2000F.....	8
ALUMINUM BRACKET FOR LV ABC CA 1500.....	8
ALUMINUM BRACKET FOR LV ABC CS 1500M.....	8
POST BRACKET FOR ABC CABLE L=200.....	8
STEEL WALL BRACKET FOR HOUSEHOLD CONNECTION OF ABC.....	9
CLAMP FOR CARRYING SUPPORT OF LV ABC WITHOUT THE MAIN CONDUCTOR.....	9
ANGULAR CLAMP FOR HOUSEHOLD CONNECTION RA 25.....	9
CLAMP FOR CARRYING SUPPORT OF LV ABC CABLES PS 1500.....	9
CLAMP FOR CARRYING SUPPORT OF LV ABC CABLES PS 2000.....	9
TENSION SUPPORT CLAMP FOR HOUSEHOLD CONNECTION .....	10
TENSION SUPPORT CLAMP FOR HOUSEHOLD CONNECTION - AUTOMATIC (SELF TENSION).....	10
ANCHORING CLAMP PA 621 (200daN).....	10
TENSION SUPPORT CLAMP FOR LV ABC CABLE 54-71.5mm2 (1500 daN).....	10
TENSION SUPPORT CLAMP FOR LV ABC CABLE 70-95mm2 (2000 daN).....	11
TENSION SUPPORT CLAMP FOR LV ABC WITHOUT SUPPORTING CONDUCTOR.....	11
TENSION SUPPORT CLAMP FOR LV ABC WITHOUT SUPPORTING COND. 2-4x16-25.....	11
PULLEY TACKLE FOR INSTALLING LV ABC ON POSTS FR 270.....	11
PULLEY TACKLE FOR INSTALLING MV ABC ON POSTS FR 350.....	11
PULLEY TACKLE FOR INSTALLING MV ABC ON POSTS FR 270.....	12
INSULATED END CAP.....	12
INSULATED SEPARABLE HOUSING FOR SYSTEM FUSES (AERIAL FUSE).....	12
INSULATED ADAPTER FOR SHORTING AND GROUNDING.....	12
WRENCH FOR SEPARATING CORES FROM CABLE BUNCH.....	12
INSULATED UNIVERSAL WRENCH FOR TIGHTENING OF INSULATED CLAMPS.....	13
WRENCH OK-10 FOR TIGHTENING OF INSULATED CLAMPS.....	13
WALL BEARER WITH BINDING THREAD FOR LV ABC.....	13
DOUBLE BUCKLE CABLE BINDING THREAD.....	13
PLASTIC CABLE BINDING THREAD.....	13
PVC COATED ALUMINUM BELT.....	14
TIN ROOF TILE FOR ROOF PIPE SUPPORT.....	14
TWO- PIECE TIN ROOF TILE .....	14
TIN ROOF TILE FOR ANCHOR AND PTT ANCHOR.....	14
TIN ROOF TILE FOR HOUSEHOLD CONNECTION.....	15
TIN ROOF TILE FOR HOUSEHOLD CONNECTION – SALONIT.....	15
TIN CAP FOR ROOF PIPE 2-3".....	15
STEEL PIPE RING (WITHOUT AL BRACKETS) FOR HANGING ABC CABLES ON POSTS.....	15
SLOPED PILLAR BRACKETS.....	16
FLAT PILLAR BRACKETS.....	16
PIPE RING WITH A SINGLE HOLE.....	16
PIPE RINGS WITH ONE NOTCH.....	16
SINGLE HOLE PIPE RINGS.....	17
BENT HOOK PIPE RINGS.....	17
DOUBLE PIPE RINGS WITH TWO HOLES.....	17
DOUBLE PIPE RINGS WITH TWO NOTCHES.....	17
CLAMP FOR TENSIONING SUPPORT OF MV ABC CABLES AND AL-STEEL ROPES.....	18
EQUIPMENT FOR SINGLE TENSION SUPPORT OF MV ABC AND AL-STEEL ROPES.....	18
EQUIPMENT FOR DOUBLE TENSION SUPPORT OF MV ABC CABLES AND AL-STEEL ROPES.....	18
EQUIPMENT FOR CARR. SUPPORT OF MV ABC CABLE AND AL-STEEL ROPES.....	18
DEVICE FOR TRANSFERRING MV ABC FROM PULLEY TACKLE ONTO SUPPORTING CLAMP.....	19
EQUIPMENT FOR SUPPORTING INSULATOR CHAINS.....	19
EQUIPMENT FOR TENSION INSULATOR CHAINS.....	19
THE ACCESSORIES FOR ROOF HOUSING CONNECTOR OF SELF-SUPPORTING CABLE BUNCH.....	20
THE ACCESSORIES FOR WALL HOUSING CONNECTOR OF SELF-SUPPORTING CABLE BUNCH .....	20
TERMINATION OF ABC CABLE BUNCH AND CROSSING ON TO CABLE LEAD.....	21
CARRIED AND ANGULAR SUPPORT. AND ATTACHING OF SELF SUPPORTING BUNCH.....	21

AN EXAMPLE OF PROPER APPLIANCE OF EQUIPMENT FOR LV ABC.....	22
AN EXAMPLE OF PROPER APPLIANCE OF EQUIPMENT FOR LV ABC.....	23
THE EXAMPLES OF DISTRIBUT. SELF-SUPPORTING CABLE BUNCH ATTACHMENT.....	24
THE EXAMPLES OF CONNECTING SELF-SUPPORTING CABLE BUNCH ATTACHMENT.....	24
AN EXAMPLE OF HOUSE CONNECTOR ATTACHMENT ON THE PIPE ROOF SUPPORT.....	24
EXAMPLES OF MV-ABC SELF SUPPORTING CABLE BUNCHES (10-20KV).....	25
EQUIPMENT FOR TENSION INSULATING CHAINS – FOR AL-STEEL CONDUCTORS.....	25
EQUIPMENT FOR SUPPORT. INSULATING CHAINS – FOR AL-STEEL CONDUCTORS.....	25
CABLE HEAD KGTs-10.....	26
CABLE SERVICE HEAD VKG.....	26
GENERAL USE BRACKET.....	26
DOUBLE HINGE SUPPORT WITH TWO WEDGES.....	27
HINGE SUPPORT WITH WEDGE.....	27
HINGE.....	27
HINGES.....	27
CLAMP FOR TENSIONING OF MID-VOLTAGE ABC AND AL-STEEL ROPES.....	27
SILICON COMPOSITE TENSION INSULATOR CHAINS.....	28
POST SILICONE INSULATOR.....	29
EQUIPMENT FOR INSULATING CHAINS.....	29
SILICON COMPOSITE TENSION INSULATOR CHAINS.....	30
SILICONE COMPOSITE SUPPORT INSULATING CHAINS.....	31
SELF ADHESIVE PVC WARNING SIGN.....	32
SELF ADHESIVE PVC WARNING SIGNS.....	32
INFORMATION SIGNS.....	33
WARNING SIGNS.....	33
AUTOMATIC TIE-GUN FLY-600 L.....	34
AUTOMATIC GRIPPER 6-14.....	34
AUTOMATIC GRIPPER FOR AL-Fe ROPE 8-24 mm.....	34
DEVICE FOR LEAD TIGHTENING AND LOAD LIFTING - UP TO 250 KG.....	34
DEVICE FOR LEAD TENSIONING AND LOAD LIFTING .....	35
CABLE CUTTERS FLK-325 A.....	35
MANUAL CUTTERS FOR AL AND Cu CABLES.....	35
MANUAL CUTTERS FOR CUTTING Al-steel CONDUCTORS.....	35
HYDRAULIC HEAD FOR CRIMPING FHP-300 C.....	36
MANUAL MECHANICAL CRIMPER FRHP-300 .....	36
INPUTS FOR CRIMPING OF FID SLEEVES AND CPTAU LUGS.....	36
MANUAL MECHANICAL CRIMPER FRP-300C .....	36
HYDRAULIC PUMP 700bar - FHPU 800.....	37
BATTERY OPERATED CRIMPING TOOL FAP-60.....	37
BATTERY OPERATED SCISSORS AND CRIMPING TOOL FAMP-42.....	37
TIGHTENING EQUIPMENT.....	38
THE EXAMPLES OF BINDING WITH PERFORATED BAND ON STEEL AND CONCRETE POSTS.....	39
PULLING GRIP FOR STAINLESS STEEL BANDS.....	40
STAINLESS STEEL BAND IN PLASTIC CASE.....	40
CLIPS FOR STAINLESS STEEL BANDS.....	40
PROPER PROCEDURE OF PERFORATED BAND TIGHTENING .....	40
PERFORATED GALVANIZED TAPE WITH ROUND HOLES .....	41
PERFORATED GALVANIZED ELLIPTICAL BAND .....	41
PERFORATED BAND WITH ELONGATED HOLES – EDB.....	41









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