

# PRODUCT CATALOGUE



YOUR STEEL MATERIAL SUPPLIER

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BUREAU  
VERITAS

Bureau Veritas Certification

## NECKS IMP SP. Z O.O.

Małgorzатовo 4e, 87-162 Lubicz Dolny, Poland

*Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below*

**ISO 9001:2015**  
**ISO 14001:2015**  
**ISO 45001:2018**

*Scope of certification*

**PRODUCTION OF HOT-DIP GALVANIZED STEEL  
CONSTRUCTION ELEMENTS.**

Original cycle start date:	<b>05-03-2021</b>
Certification Audit date:	<b>11-01-2023</b>
Certification cycle start date:	<b>27-01-2023</b>

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **26-01-2026**

**Certificate No. PL014480/U    Version : 1    Revision date: 26-01-2023**

**Signed on behalf of BVCH SAS UK Branch**  
Local Technical Manager



0008

Certification body address: **5<sup>th</sup> Floor, 66 Prescot Street, London E1 8HG, United Kingdom**  
Local office: **ul. Migdałowa 4, 02-796 Warszawa**

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.  
To check this certificate validity please call: **22 549 04 00**



**Instytut Techniki Budowlanej**

00-611 Warsaw, Filtrowa 1

**Thermal Physics, Acoustics and Environment Department**

02-656 Warsaw, Ksawerów 21

# **CERTIFICATE № 532/2023**

## **of TYPE III ENVIRONMENTAL DECLARATION**

Products:

**Hot-dip galvanized steel structural components**

Manufacturer

**Necks IMP Sp. z o.o.**

ul. Malgorzатовo 4E, 87-162 Lubicz Dolny, Poland

confirms the correctness of the data included in the development of  
Type III Environmental Declaration and accordance with the requirements of the standard

**EN 15804+A2**

**Sustainability of construction works.**

**Environmental product declarations.**

**Core rules for the product category of construction products.**

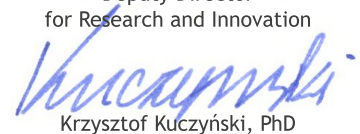
This certificate, issued on 20<sup>th</sup> October 2023 is valid for 5 years  
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics  
and Environment Department

  
Agnieszka Winkler-Skalna, PhD



Deputy Director  
for Research and Innovation

  
Krzysztof Kuczyński, PhD

Warsaw, October 2023

# Certificate

## Inspection of welding process



Certificate No. **01 8610 PL/A-210028.00**

Name and address  
of the manufacturer **Necks IMP Sp. z o.o.**  
**Małgorzатовo 4e**  
**87-162 Lubicz Dolny**  
**Poland**

It is hereby certified that the manufacturer has  
furnished proof of the quality requirements to be met  
for his welding activity.

Specification(s) **EN ISO 3834-2:2005**

Test report No. **3834/.84952243/2021**

Certification scope **Inspection of welding processes according to**  
**EN ISO 3834-2**

Manufacturing plant **Małgorzатовo 4e, 87-162 Lubicz Dolny**

Period of validity **26.02.2021 - 25.02.2024**

Zabrze, 26.02.2021

**Leszek Zadroga**  
Certification Body



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# CERTIFICATE

conformity of the Factory Production Control

**2627-CPR-1090-1.PL0010.TÜVRh.23.00**

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulations - CPR)

This certificate applies to the following construction product:

<b>Construction product</b>	Structural components and kits for steel structures to EXC3 according to EN 1090-2:2018
<b>Intended use</b>	for load-bearing structures in all types of buildings
<b>CE-marking method</b>	ZA.3.2, ZA.3.4 according to EN 1090-1:2009+A1:2011
<b>Manufacturer</b>	<b>Necks IMP Sp. z o.o.</b> Małgorzатовo 4e 87-162 Lubicz Dolny Polska
<b>Manufacturing plant</b> <small>Production facility of the manufacturer</small>	Małgorzатовo 4e, 87-162 Lubicz Dolny
<b>Confirmation</b>	This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the harmonised standard  EN 1090-1:2009+A1:2011 under system 2+ are applied and that the factory production control is assessed to be in conformity with the applicable requirements.
<b>Date of first issue</b>	26.02.2021
<b>Validity</b>	This certificate will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified factory production control certification body.
<b>Next Surveillance inspection</b>	25.02.2025
<b>Place and date of issue</b>	Zabrze, 07.02.2023

*Leszek Zadroga*

**Leszek Zadroga**  
**Notified Body**

	<b>INTEGRATED MANAGEMENT SYSTEM POLICY</b>	KZSZ-Z-03
		01.12.2023
		Page 1 of 1

Necks IMP Sp. z o.o. is a supplier of hot-dip galvanized steel construction elements, providing its customers with expected quality level, wide range of assortment and appropriately calculated price for the market.

Necks IMP Sp. z o.o. meets the requirements of all interested parties: customers, suppliers, employees, by complying with legal requirements, continuously improving processes and activities at all levels of management, and deepening trust in all partners of the business process.

Necks IMP Sp. z o.o. establishes the following long-term general objectives, which constitute the links between the above policy and its implementation in the management of activities and processes, and provides the necessary means for achieving these objectives through:

1. Maintaining its position as a key manufacturer of hot-dip galvanized steel construction elements for the energy industry and increasing market share in these markets.
2. Diversifying the product range by ensuring balanced production volumes between standard items and large projects.
3. Improving effectiveness of processes within the scope of quality, efficiency, occupational safety and environmental protection.
4. Implementing the established plans and ensuring the means to finance growth.
5. Optimising operations to achieve better process efficiency.
6. Ongoing education, training and motivation of our employees and those working under our supervision to perform their tasks and activities in an informed and responsible manner for the provision of services, and involving them in health and safety activities.
7. Conducting activities aimed at eliminating hazards and reducing occupational risks at workplaces through: creation of appropriate working conditions to prevent injuries and health ailments and continuous elimination of threats and reduction in occupational health and safety risks.
8. Ensuring consultation and active participation of all employees through consultation and involvement of OHS staff in efforts to continuously improve health and safety at workplaces.
9. Protecting employees from repercussions in relation to reported incidents, hazards, risks and opportunities and proposals to improve health and safety conditions.
10. Involving employees in pro-quality and pro-environmental activities.
11. Preventing pollution by improving and monitoring of processes, and ensuring compliance with legal and other requirements.
12. Manufacturing hot-dip galvanized steel structures in a way that is friendly and safe for the environment and the local community.
13. Minimising environmental impact by planning optimal transport, and packaging products with consideration for the environment.
14. Using the information collected on our products and services to carry out continuous modification, improvement and enhancement of their quality level.

We are committed to continuous improvement of the Integrated Management System in accordance with the requirements of the reference standards: ISO 9001, ISO 14001, ISO 45001, EN ISO 3834-2, EN 1090-1+A1; EN 1090-2.

Managing Director

Dariusz Siljanczuk

QM

Szymon Jazdzewski





# STEEL STRUCTURES

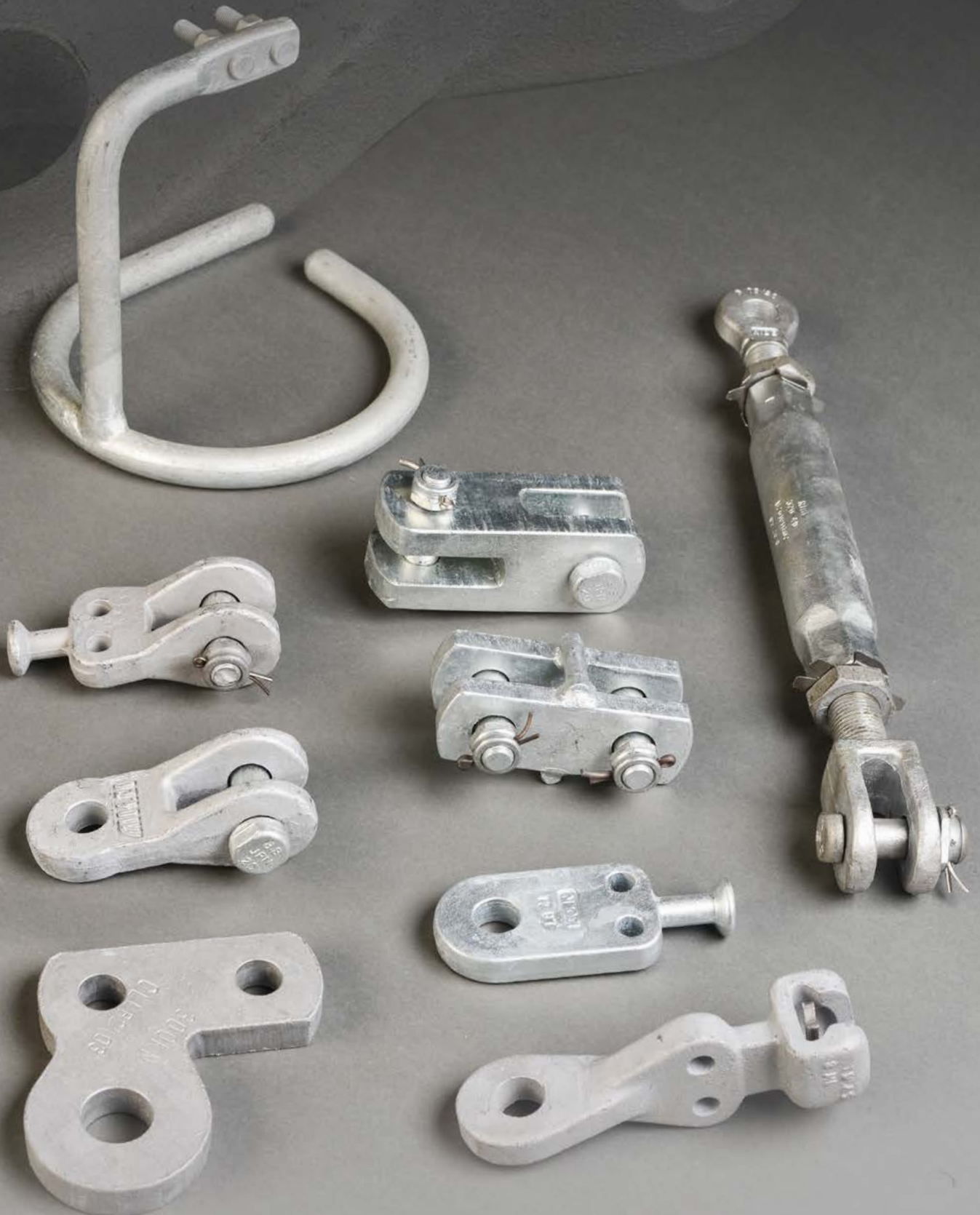
Necks IMP manufactures much more of what you find in the catalogue such as post, brace and insulator accessories.

The products we make according to the customer's drawings include lattice towers and lattice masts, fastening elements for wooden and steel poles, dowels, equipment stands for switchboards, etc.

Necks IMP offers high-quality products with short lead times. For more information please visit [www.necksimp.pl](http://www.necksimp.pl)



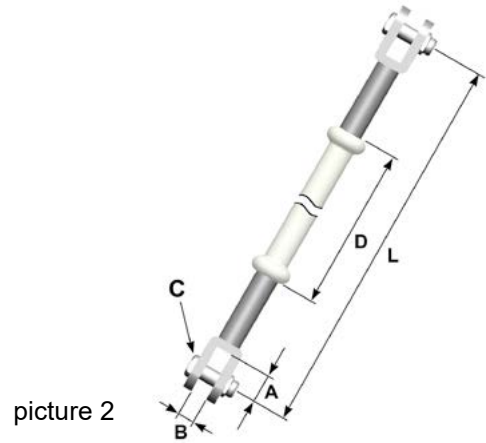
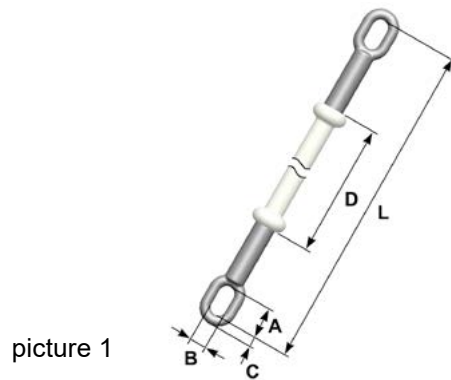
# INSULATOR ACCESSORIES



## SUPPORT INSULATORS

Insulators according to picture 1 are equipped with fittings EE (eye at both ends), according to IEC 61466-1.

Insulators according to picture 2 are equipped with fittings CC (clevis at both ends), according to IEC 61466-1. Supplied with bolt.



Number	Picture	A mm	B mm	C mm	D mm	L mm	Construction voltage kV	Ultimate strength kN	Weight kg
1104403	1	52	26	18	160	525	24	64	3,0
1104405	1	52	26	18	320	685	72,5	64	3,2
1104421	1	52	26	18	2000	2365	72,5	64	6,8
1104441	1	52	26	18	4000	4365	145	64	10,5
1104521	2	46	27	24	2000	2420	72,5	120	7,4
1104541	2	46	27	24	4000	4420	145	120	10,6

# CLAMP COUPLINGS

## OVAL BALL EYE

Made of forged steel

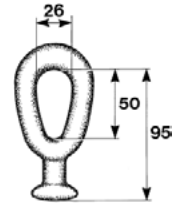
**Number: 4402202**

Weight: 0,35 kg

Pin diameter: 16 mm

Ultimate strength 48 kN

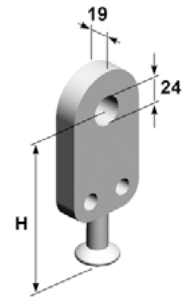
Short circuit current max 12 kA.



## BALL EYE WITH HOLES

Made of forged steel. With two holes for attaching the arc horn.

Number	Pin diameter	H mm	Weight kg	Ultimate strength kN	Short circuit current max kA
<b>4393016</b>	16	128	1,2	48	40
<b>4393020</b>	20	130	1,2	84	40
<b>4393024</b>	24	140	1,3	120	40

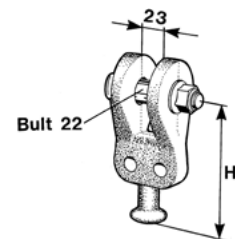


## BALL CLEVIS

Made of forged steel. With two holes for attaching the arc horn.

Mounting bolt included.

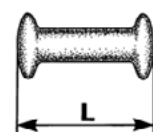
Number	Pin diameter	H mm	Weight kg	Ultimate strength kN	Short circuit current max kA
<b>4392516</b>	16	125	1,5	48	40
<b>4392520</b>	20	135	1,4	84	40



## TWIN BALL PIN

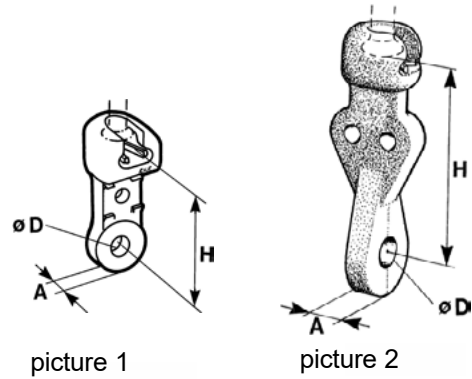
Made of forged steel.

Number	Pin diameter	L mm	Weight kg	Ultimate strength kN	Short circuit current max kA
<b>4402816</b>	16	63	0,16	48	10,9



**SOCKET TONGUE**

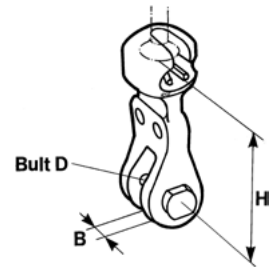
Made of ductile iron. Cotter pin included.



Number	Pin diameter	Picture	A mm	D mm	H mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4399415	16	1	16	18	85	0,70	28	12
4399416	16	1	18	22	95	1,0	48	12
4398416	16	2	20	24	150	1,6	48	50
4398420	20	2	20	24	150	2,3	84	50

**SOCKET CLEVIS**

Made of forged steel. Cotter pin included.



Number	Pin diameter	B mm	D mm	H mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4398516	16	23	22	130	1,6	48	40
4398520	20	23	22	130	2,2	84	40
4398524	24	23	22	135	3,2	120	40

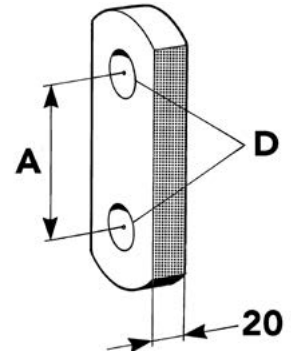
# INSULATOR ACCESSORIES

## LINK

### DOUBLE EYE STRAIGHT

Made of steel

Number	A mm	D mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392011	80	24	1,2	120	40
4392063	110	24	1,4	120	40
4392062	160	24	1,9	120	40
4392071	180	24	2,1	120	40
4392055	215	24	2,4	120	40
4392054	240	24	2,7	120	40
4392064	255	24	2,8	120	40
4392075	285	24	3,1	120	40
4392082	310	24	3,3	120	40
4392072	355	24	3,7	120	40
4392067	380	24	4,0	120	40
4392058	390	24	4,1	120	40
4392060	420	24	4,3	120	40
4392061	470	24	4,8	120	40
4392069	495	24	5,1	120	40
4392083	510	24	5,2	120	40
4392068	520	24	5,3	120	40
4392070	600	24	6,0	120	40
4392059	820	24	8,1	120	40
4392073	1000	24	9,8	120	40
4392087	1055	24	10,3	120	40
4392056	1175	24	11,4	120	40
4392074	1380	24	13,4	120	40
4392049	1415	24	13,8	120	40
4392048	1510	24	14,9	120	40
4392057	1555	24	15,1	120	40
4392065	1690	24	16,3	120	40
4392066	1725	24	16,6	120	40
4392076	1875	24	18,0	120	40
4392077	1900	24	18,2	120	40
4392079	2000	24	19,3	120	40
4392078	2280	24	21,8	120	40
4393101	140	35	3,2	240	40
4393102	250	35	4,8	240	40
4393103	345	35	6,1	240	40
4393104	860	35	13,4	240	40
4393107	1010	35	15,5	240	40
4393108	1300	35	19,6	240	40
4393105	1900	35	28,0	240	40
4393106	2052	35	30,2	240	40





### DOUBLE EYE, EXTENDED

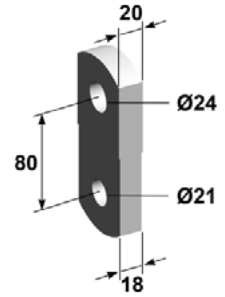
Made of forged steel

Number: 4393202

Weight: 1,1kg

Ultimate strength: 120 kN

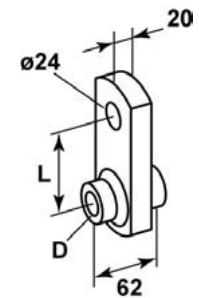
Short circuit current max 30 kA



### EXTENSION LINK

Made of steel

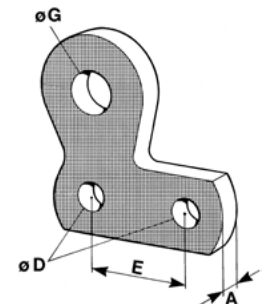
Number	D mm	L mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392301	21	80	1,4	84	40
4392302	21	470	5,1	84	40
4392303	24	80	1,4	120	40
4392304	24	470	5,0	120	40



### TRIANGLE LINK

Made of steel

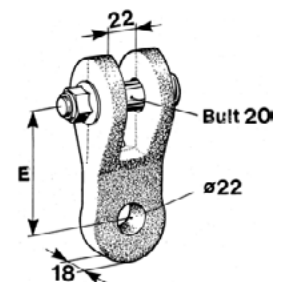
Number	A mm	D mm	E mm	G mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392010	15	22	70	30	1,2	48	12
4392014	20	24	80	35	2,1	120	50
4392033	20	35	135	40	5,8	240	40



### CLEVIS LINK

Made of steel. Mounting bolt included.

Number	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4163719	90	1,0	48	30

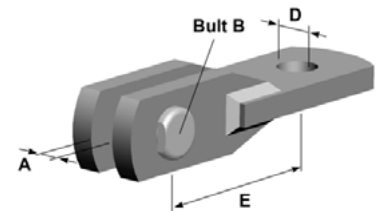
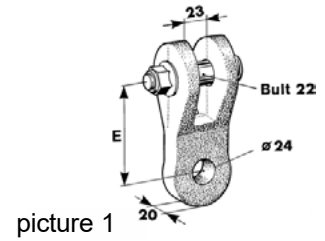


## INSULATOR ACCESSORIES

### CLEVIS LINK

Made of steel. Mounting bolt included.

Number	picture	A mm	E mm	D mm	Bolt B mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392013	1	23	90	24	22	1,5	120	40
4392092	2	23	200	24	22	2,9	120	40
4392093	2	23	200	24	32	4,0	120	40
4392024	2	23	200	35	32	6,1	240	40
4392094	2	28	200	35	32	6,4	240	40
4392089	2	47	200	24	32	4,1	120	40
4392091	2	47	200	35	32	6,2	240	40

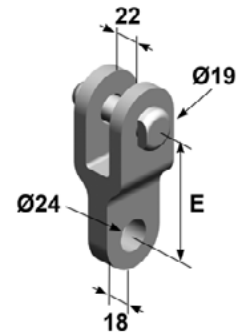


picture 2

### CLEVIS LINK

Made of steel. Mounting bolt included.

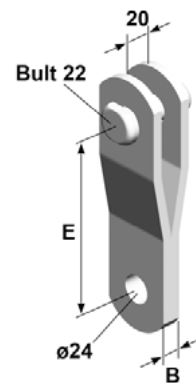
Number	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4416209	90	1,1	48	30



### CLEVIS LINK

Made of steel. Mounting bolt included.

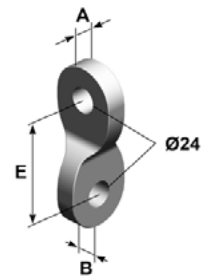
Number	B mm	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392043	16	150	1,7	64	30
4392027	16	570	4,9	64	30
4392025	16	755	6,3	64	30
4392037	20	200		120	40
4392026	20	755	7,8	120	40



### TWISTED LINK

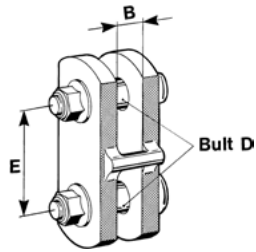
Made of steel

Number	A mm	B mm	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392001	19	19	90	0,9	120	40

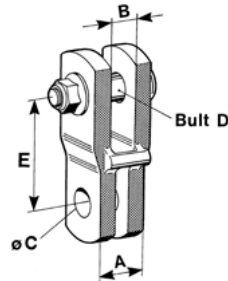


**H-LINK**

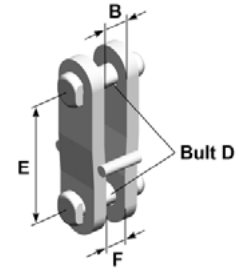
Made of steel. Mounting bolt included (one).



picture 1



picture 2



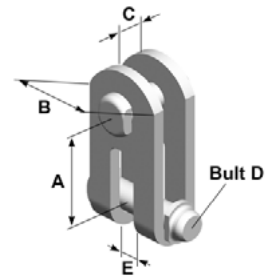
picture 3

Number	Picture	A mm	B mm	C mm	D mm	E mm	F mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392012	1	—	23	—	22	80	—	2,2	120	40
4392018	1	—	23	—	22	160	—	3,3	120	40
4392019	1	—	22	—	20	150	—	2,0	48	30
4392034	1	—	26	—	32	140	—	5,0	240	40
4392032	3	—	28	—	22	130	23	2,6	210	40
4392015	2	40	23	24	22	90	—	2,0	48	40
4392016	2	24	22	22	20	90	—	1,3	48	30
4392036	2	24	22	22	22	90	—	1,3	48	30

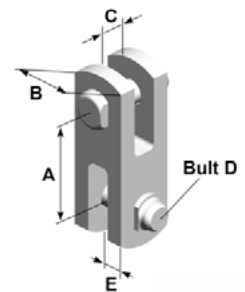
**CROSS CLEVIS**

Made of steel. Mounting bolt included

Number	Picture	A mm	B mm	C mm	D mm	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4163711	1	90	70	24	22	25	1,9	120	40
4163712	1	140	90	26	32	26	5,0	240	40
4163721	2	100	60	23	22	23	2,7	120	40
4163723	2	160	75	23	32	23	8,7	240	40



picture 1



picture 2

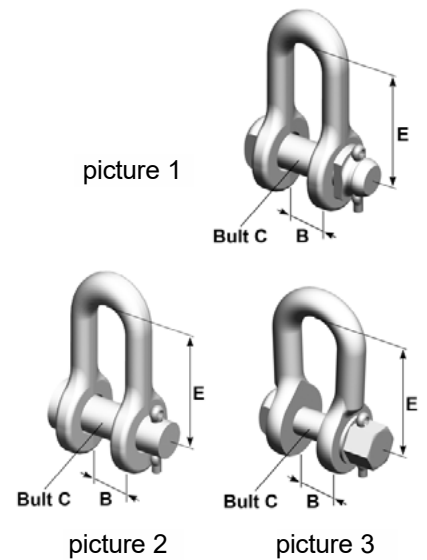
# SCHACKLES

## SCHACKLE

Made of forged steel. Mounting bolt included.

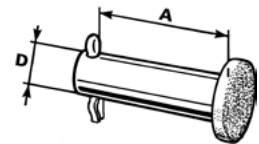
Number	Picture	B mm	C mm	E mm	Weight kg	Ultimate strength kN
4405902 <sup>1)</sup>	1	21	16	100	1,17	48
4406061	3	24	16	70	0,64	48
4406080	1	27	19	71	0,70	80
4406052	1	23	20	70	0,66	48
4406042	2	23	20	70	0,55	48
4406071	3	26	26	100	1,75	120

1) This shackle has a square cross-section.

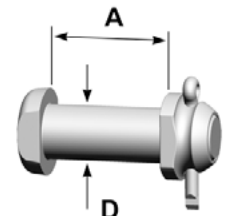


## CLEVIS BOLT

Number	Picture	D mm	A mm	Weight kg	Short circuit current max kA
4473250	1	16	40	0,11	12
4406012	1	20	50	0,20	40
4474048	2	19	48	0,20	40
4474058	2	19	58	0,23	40
4474080	2	19	80	0,26	40
4474143	2	22	43	0,26	40
4474158	2	22	58	0,31	40
4474162	2	22	62	0,33	40
4476410	2	22	105	0,43	40
4476513	2	24	130	0,60	40
4474565	2	32	65	0,80	40
4474578	2	32	78	1,00	40
4474587	2	32	87	1,10	40



picture 1

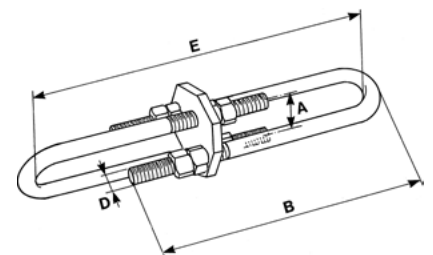


picture 2

# TENSIONER

## ADJUSTMENT SCREW

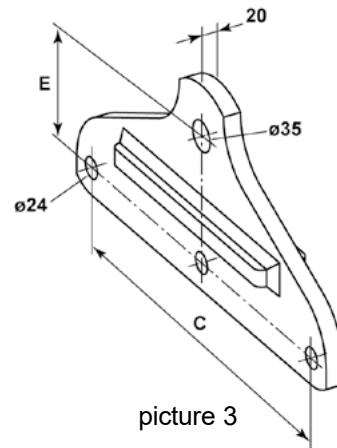
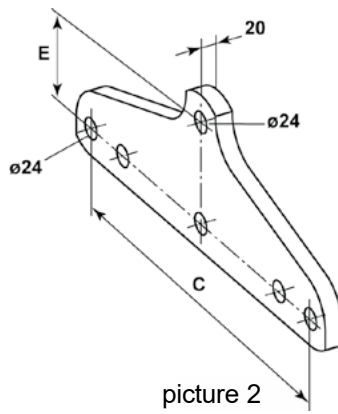
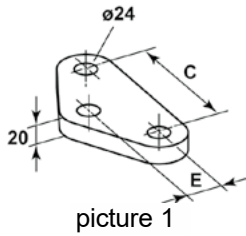
Number	A mm	B mm	D mm	E min mm	E max mm	Weight kg	Ultimate strength kN
4409203	40	200	M12	200	310	1,3	16
4409303	50	300	M16	300	490	2,4	28
4409403	60	350	M20	350	560	5,0	48
4409703	75	425	M24	425	670	8,9	120



# YOKE PLATES

## YOKE PLATE

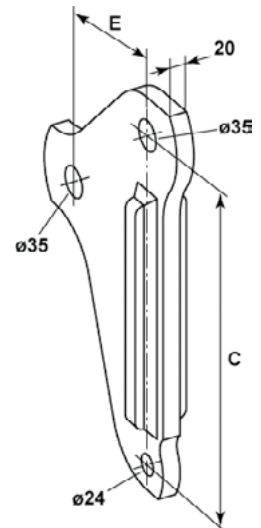
Made of steel



Number	Picture	C mm	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4292121	1	100	60	1,9	48	40
4292120	1	150	40	2,3	48	40
4292123	1	200	50	2,8	48	40
4416514	2	300	100	5,5	120	40
4416512	2	450	120	8,4	120	40
4416517	2	600	180	14,1	120	40
4416529	3	450	150	13,8	240	40
4416530	3	600	190	20,6	240	40
4416519	5	390 <sup>1)</sup>	150	12,3	240	40
4416520	5	520 <sup>2)</sup>	160	16,2	240	40

1) For conductor distance 450 mm.

2) For conductor distance 600 mm



**YOKE PLATE**

Made of steel.

For tensioning of conductors in single-strand hanging chain.

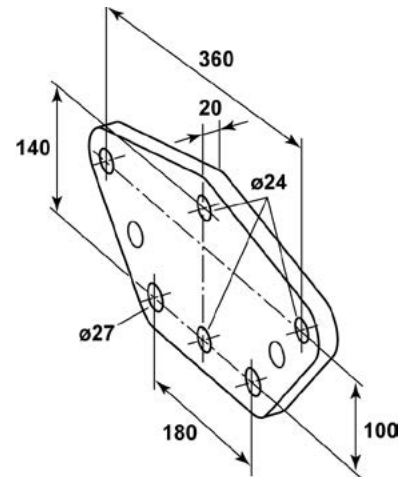
**Number: 4416540**

Weight: 9,6 kg

Ultimate strength: In hanging chain 120 kN

In phase conductor 120 kN

Short circuit current max 40 kA



**YOKE PLATE**

Made of steel.

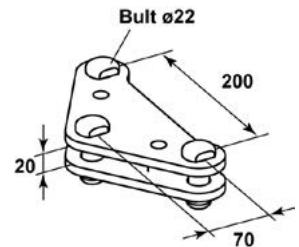
For double composite insulators.

**Number: 4416570**

Weight: 4,0 kg

Ultimate strength: 96 kN

Short circuit current max 40 kA

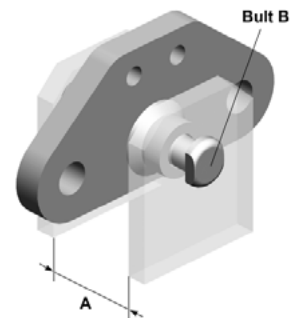


**TENSION PLATE**

Made of steel.

for tensioning of top conductor, bolt included.

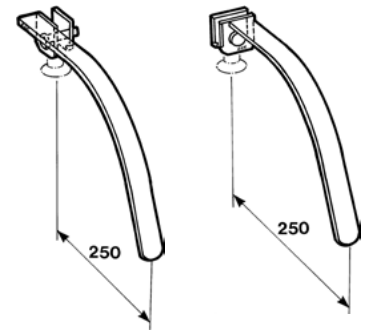
Number	Fits top wire	Bolt		Weight kg	Ultimate strength kN	Short circuit current max kA
	bracket A mm	diameter mm	clamp length mm			
<b>4416451</b>	57	22	105	3,5	84	40
<b>4416461</b>	71	22	105	3,6	84	40
<b>4416471</b>	102	24	130	3,8	84	40
<b>4416481</b>	98	24	130	3,9	84	40



**ARCING HORNS FOR COVER-PIN INSULATORS**  
**72,5 KV - 12 KA**  
**FOR CHAIN INSULATOR BACK SIDE**

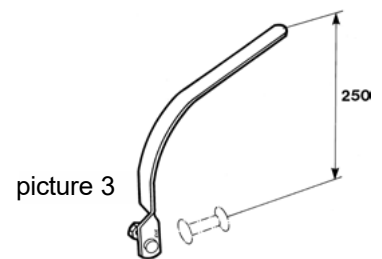
Number	Picture	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
For hanging chain at an angle					
<b>4389031</b>	1	0,61	12	72,5	44022 02
<b>4389032</b>	2	0,51	12	72,5	
For reverse tensioning chain and screwing chain					
<b>4389033</b>	3	0,52	12	72,5	4399415 <sup>1)</sup> 4399416 <sup>1)</sup>

1) Together with clamping pin 4402816.



picture 1

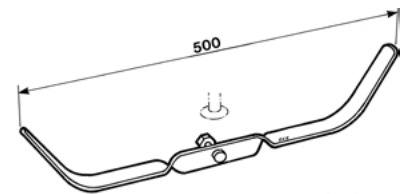
picture 2



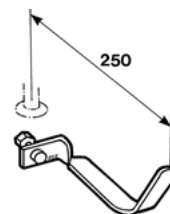
picture 3

**FOR CHAIN INSULATOR PIN SIDE**

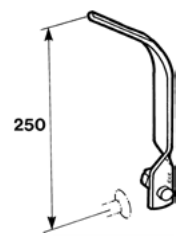
Number	Picture	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
For hanging chain					
<b>4389133</b>	1	0,77	12	72,5	
For hanging chain at angle					
<b>4389132</b>	2	0,47	12	72,5	4399415 4399416
For tension chain					
<b>4389131</b>	3	0,44	12	72,5	



picture 1



picture 2



picture 3

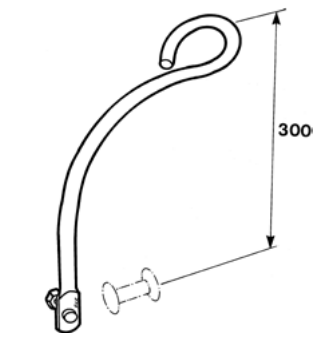
**145 KV - 12 KA**

**FOR CHAIN INSULATOR BACK SIDE**

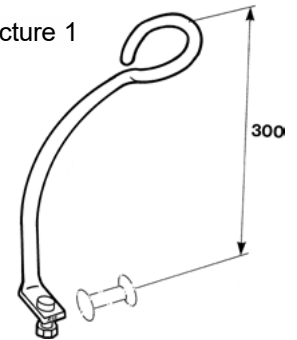
Made of round steel. Mounting bolt included. The nut must be tightened with 75 Nm. 18 mm sleeve was used.

Number	Picture	Weight	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
<b>4389021</b>	1	1,0	12	145	4399415 <sup>1)</sup>
<b>4389022</b>	2	1,0	12	145	4399416 <sup>1)</sup>

1) Together with pin 4402816



picture 1

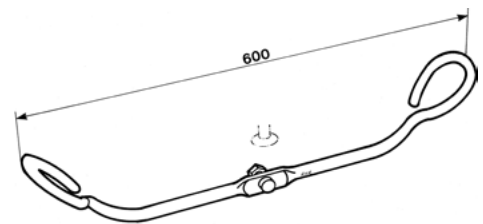


picture 2

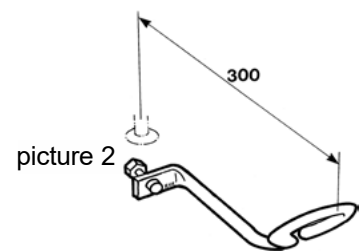
**FOR CHAIN INSULATOR PIN SIDE**

Made of round steel. Mounting bolt included. The nut must be tightened with 75 Nm. 18 mm sleeve was used.

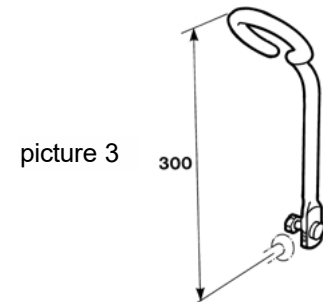
Number	Picture	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
For hanging chain <b>4389123</b>	1	1,7	12	145	
For hanging chain at an angle <b>4389122</b>	2	0,95	12	145	4399415 4399416
For tension chain <b>4389121</b>	3	0,91	12	145	



picture 1



picture 2



picture 3



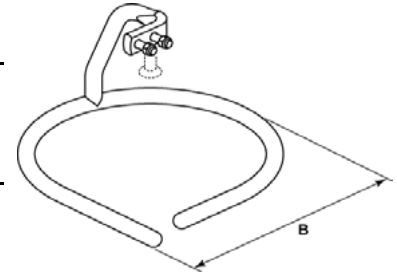
## INSULATOR ACCESSORIES

### 145 kV - 40 kA, SINGLE STRINGED

#### FOR CHAIN INSULATOR BACK SIDE

Made of round steel. Mounting bolt included. The nut must be tightened with 75 Nm. 18 mm sleeve was used.

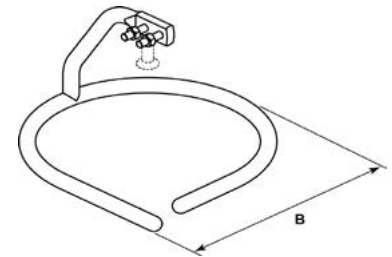
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388040	390	5,9	40	145	4392516 4393016
4388042	460	7,0	40	145	4392520 4393020
4388043	550	8,4	40	145	4393024



#### FOR CHAIN INSULATOR BACK SIDE

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

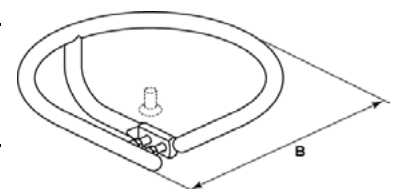
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388044	390	5,8	40	145	4392516 4393016
4388045	460	6,8	40	145	4392520 4393020
4388046	550	8,3	40	145	4393024



#### FOR CHAIN INSULATOR PIN SIDE

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

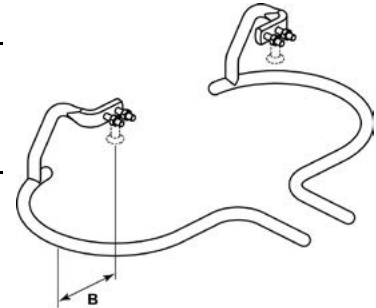
Nummer	B mm	Weight kg	Short circuit-current max kA	Design voltage max kV	Fits clamp coupling Nr
4388140	390	5,7	40	145	4398416 4398516
4388142	460	6,8	40	145	4398420 4398520
4388143	550	8,2	40	145	4398524



**145 kV - 40 kA, DOUBLE STRINGED****FOR CHAIN ISOLATORS REAR SIDE**

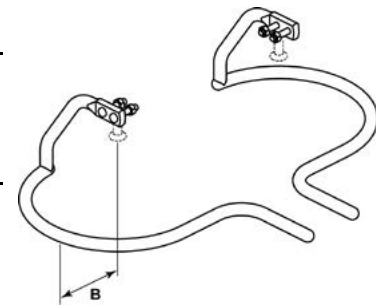
Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388201	195	10,0	40	145	4392516 4393016
4388202	230	11,1	40	145	4392520 4393020
4388203	275	12,7	40	145	4393024

**FOR CHAIN ISOLATORS REAR SIDE**

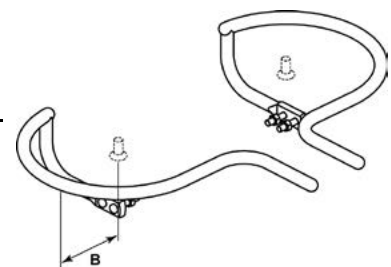
Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used..

Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388301	195	9,7	40	145	4392516 4393016
4388302	230	10,9	40	145	4392520 4393020
4388303	275	12,5	40	145	4393024

**FOR CHAIN INSULATOR PIN SIDE**

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

Number	B mm	Weight kg	Short circuit current max kA	Desig voltage max kV	Fits clamp coupling Nr
4388130	195	9,4	40	145	4398416 4398516
4388131	230	10,8	40	145	4398420 4398520
4388132	275	12,5	40	145	4398524



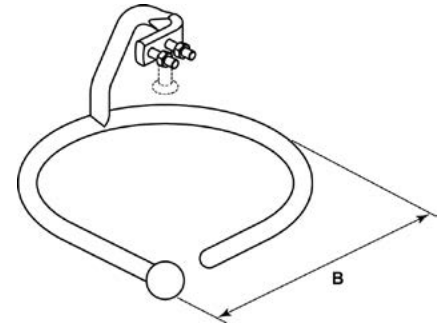
## INSULATOR ACCESSORIES

### 245 kV - 40 kA, SINGLE STRINGED

#### FOR CHAIN INSULATOR BACK SIDE

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

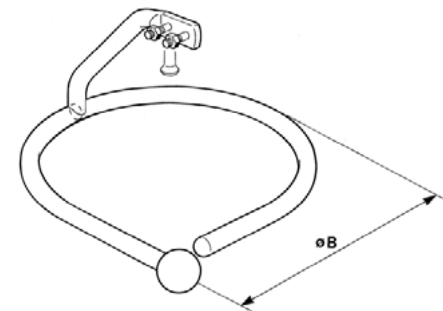
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388027	390	6,3	40	245	4392516 4393016
4388028	460	7,3	40	245	4392520 4393020
4388029	550	8,7	40	245	4393024



#### FOR CHAIN INSULATOR REAR SIDE

Made of round steel. Mounting bolts included. The nuts must be tightened with torque of 75 Nm. 18 mm sleeve was used.

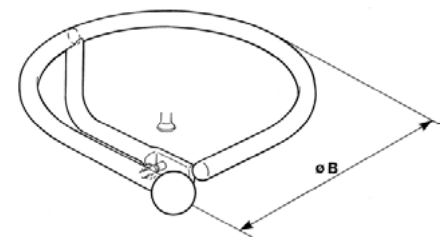
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388024	390	5,8	40	245	4392516 4393016
4388025	460	6,8	40	245	4392520 4393020
4388026	550	8,3	40	245	4393024



#### FOR CHAIN INSULATOR PIN SIDE

Made of round steel. Mounting bolts included. The nuts must be tightened with torque of 75 Nm. 18 mm sleeve was used.

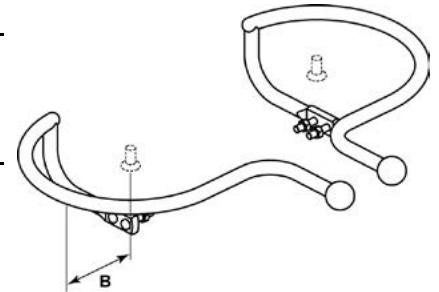
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388144	390	5,7	40	245	4398416 4398516
4388145	465	6,8	40	245	4398420 4398520
4388146	550	8,2	40	245	4398524



**245 kV - 40 kA, DOUBLE STRINGED****FOR CHAIN INSULATOR PIN SIDE**

Made of round steel. Mounting bolts included. The nuts must be tightened with torque of 75 Nm. 18 mm sleeve was used.

Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
<b>4388133</b>	195	10,1	40	245	4398416 4398516
<b>4388134</b>	230	11,5	40	245	4398420 4398520
<b>4388135</b>	275	13,2	40	245	4398524



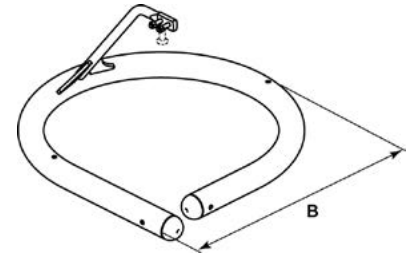
## INSULATOR ACCESSORIES

### 420 kV - 40 kA, SINGLE STRINGED

#### FOR CHAIN INSULATOR BACK SIDE

Made of round steel and steel pipes. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

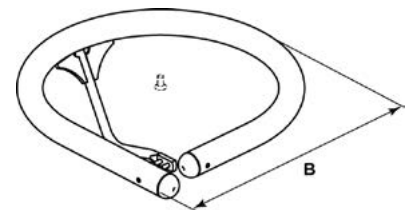
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388813	850	17,8	40	420	4393016
					4393020
					4393024
					4392516
					4392520



#### FOR CHAIN INSULATOR PIN SIDE

Made of round steel and steel pipes. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

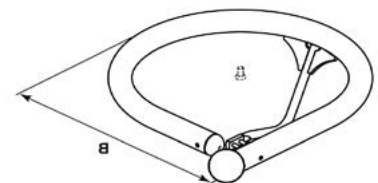
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388913	850	17,8	40	420	4398416
					4398420
					4398516
					4398520
					4398524



#### FOR CHAIN INSULATOR PIN SIDE, WITH BALL

Made of round steel and steel pipes. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

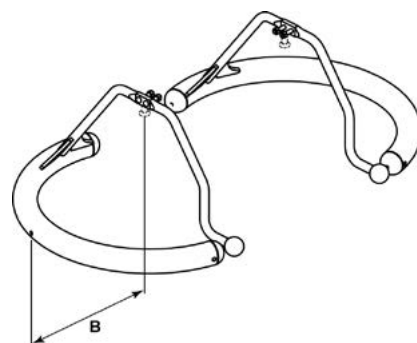
Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388923	850	18,2	40	420	4398416
					4398420
					4398516
					4398520
					4398524



**420 kV - 40 kA, DOUBLE STRINGED****FOR CHAIN INSULATOR BACK SIDE**

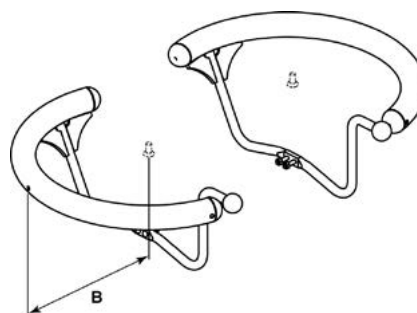
Made of round steel and steel pipes. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
<b>4388815</b>	425	29,4	40	420	4393016
					4393020
					4393024
					4392516
					4392520

**FOR CHAIN INSULATOR PIN SIDE**

Made of round steel and steel pipes. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
<b>4388915</b>	425	29,6	40	420	4398416
					4398420
					4398516
					4398520
					4398524



# ARCING HORNS FOR COMPOSITE INSULATORS

## 24 kV - 12 kA

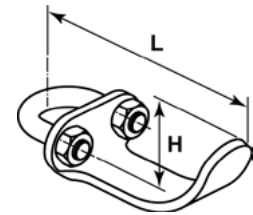
### FOR THE COVER SIDE AND PIN SIDE OF INSULATORS

The arc horn is made of flat steel. Mounting bracket included.

Intended to be mounted on the isolator armature.

The nut must be tightened with 45 Nm. 16 mm sleeve was used.

Number	H mm	L mm	Weight kg	Short circuit current max kA	Design voltage max kV
<b>4398501</b>	38	123	0,26	12	24
<b>4398502</b>	18	121	0,24	12	24

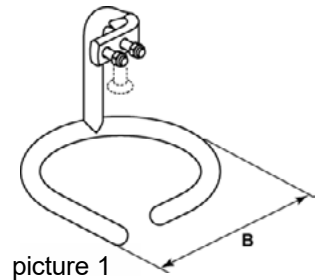


**145 KV - 40 KA**

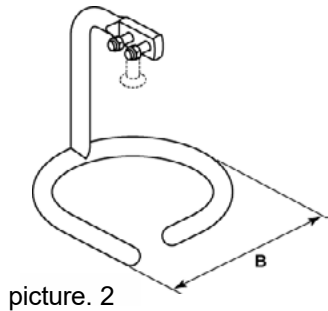
**FOR THE REAR SIDE OF INSULATORS**

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

Number	Picture	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388075	1	260	4,0	40	145	4393016
4388076	1	260	4,1	40	145	4393020
4388080	1	260	4,1	40	145	4393016
4388081	2	260	4,1	40	145	4392516
4388082	2	260	3,9	40	145	4392516
4388083	2	260	4,1	40	145	4392520



picture 1

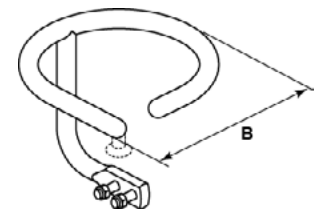


picture. 2

**FOR INSULATOR PIN SIDE**

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388175	260	4,0	40	145	4398416
4388176	260	4,1	40	145	4398416
4388177	260	4,1	40	145	4398420





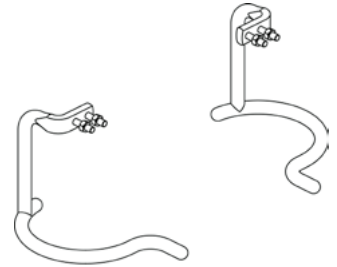
## INSULATOR ACCESSORIES

### 145 KV - 40 KA, DOUBLE STRINGED

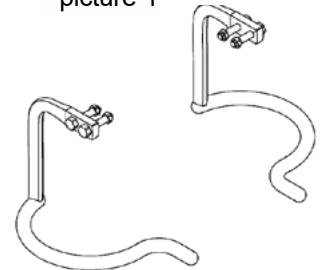
#### FOR THE REAR SIDE OF INSULATORS

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.

Number	Picture Nr.	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388280	1	6,4	40	145	4392516 4393016
4388281	1	6,4	40	145	4392520 4393020
4388283	2	6,4	40	145	4392516 4393016
4388284	2	6,4	40	145	4392520 4393020

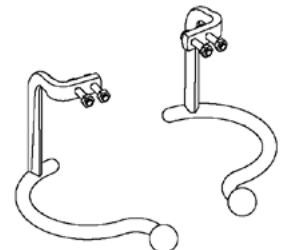


picture 1

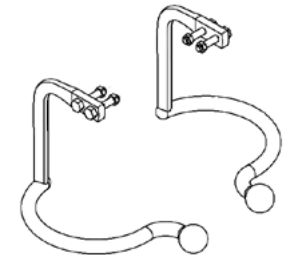


picture 2

Number	Picture Nr.	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388286	3	6,6	40	145	4392516 4393016
4388287	3	6,6	40	145	4392520 4393020
4388289	4	6,6	40	145	4392516 4393016
4388290	4	6,6	40	145	4392520 4393020



picture 3

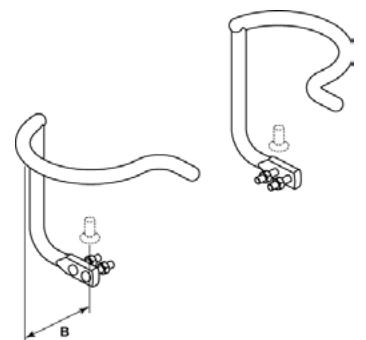


picture 4

#### FOR INSULATOR PIN SIDE

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used..

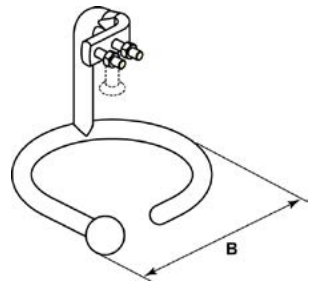
Number	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388190	6,6	40	145	4398416 4398516
4388191				4398416 4398516
4388192				4398420 4398520



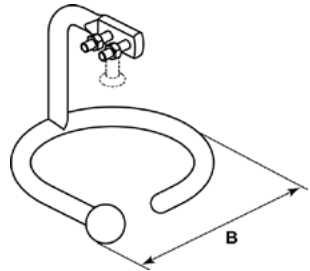
**170 KV - 40 KA**

**FOR THE REAR SIDE OF INSULATORS**

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.



picture 1

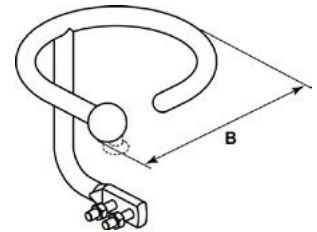


picture 2

Number	Picture	B mm	Weight kg	short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388077	1	272	4,3	40	170	4393016
4388078	1	272	4,4	40	170	4393016
4388079	1	272	4,5	40	170	4393020
4388088	1	272	4,3	40	170	4393020
4388084	2	272	4,2	40	170	4392516
4388085	2	272	4,4	40	170	4392516
4388086	2	272	4,5	40	170	4392520

**FOR INSULATOR PIN SIDE**

Made of round steel. Mounting bolts included. The nuts must be tightened with 75 Nm. 18 mm sleeve was used.



Number	B mm	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388178	272	4,3	40	170	4398416
4388180	272	4,5	40	170	4398416
4388179	272	4,5	40	170	4398420
4388183	272	4,6	40	170	4398420

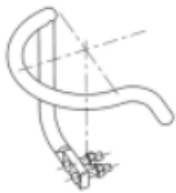
# INSULATOR ACCESSORIES

## 170 KV - 40 KA, DOUBLE STRINGED

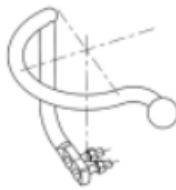
### FOR INSULATOR PIN SIDE

Number	Picture Nr.	Weight kg	Short circuit current max kA	Design voltage max kV	Fits clamp coupling Nr
4388190	1	7,2	40	170	4398416 4398516
4388191	1	7,3	40	170	4398420 4398520
4388380	2	7,2	40	170	4398416 4398516
4388381	2	7,3	40	170	4398420 4398520

Picture 1



Picture 2



# INSULATOR CHAIN



## PERFORMED SPIRALS

## DEAD END

Number	Fits wire dimension mm <sup>2</sup>	Weight kg
6100662	62	4,0
6100699	99	4,3
6100615	157	4,5
6100624	241	4,8



## DEAD END

Number	Type	Fits wire dimension mm <sup>2</sup>	Diameter mm	Weight kg
6100012	Excel 12kV	3x10	29	1,9
6100013	Fxcel 12kV	3x16	31	2,0
6100024	Excel 24kV	3x10	38	2,5
	Fxcel 24kV	3x16	40	
6100111	Axcex 12kV	3x70	41	4,8
	Axcex 24kV	3x70	45	
6100112	Axcex 24kV	3x95	49	5,9
	Axcex 36kV	3x70	52	
6100136	Axcex 36kV	1x240	43	5,3



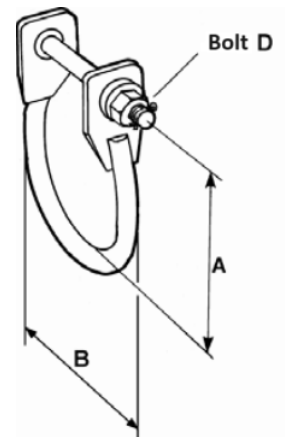
## TOP TIE

Number	Wire diameter mm <sup>2</sup>	Fits insulator neck diameter mm	Weight kg
6100862	62	73–90	0,8
6100899	99	73–90	0,8
6100815	157	73–90	0,9
6100824	241	73–90	1,0



**WEIGHT BRACKET**

Number	Fits wire holder number	A mm	B mm	D mm	Weight kg
5734021	5731199	130	127	16	1,6
	5731114				
	5731115				
5734031	5731123	150	142	20	1,5
5734032	5731132	160	152	20	1,6
5734033	5731145	170	162	20	1,7
5734034	5731159	185	182	20	1,8
5734035	5731177	190	202	20	1,8
5734035	5731191	190	202	20	1,8

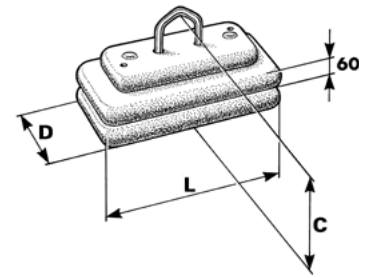


INSULATOR CHAIN

# Weights

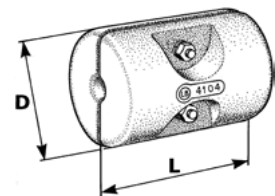
## ADDITIONAL WEIGHTS

Number	Weight kg	C mm	D mm	L mm
5353011	25	130	150	400
5353021	50	130	240	500
5353022	75	190	240	500
5353023	100	190	240	500
5353024	125	250	240	500
5353025	150	250	240	500
5353026	175	310	240	500
5353027	200	310	240	500
5353028	225	370	240	500
5353029	250	370	240	500
5353030	275	430	240	500
5353031	300	430	240	500
5353032	325	490	240	500
5353033	350	490	240	500
5353034	375	550	240	500
5353035	400	550	240	500
5353036	425	610	240	500
5353037	450	610	240	500



## WEIGHT CLAMP

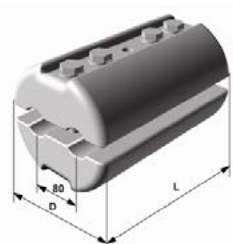
Number	Weight kg	Pic.	Fits wire diameter mm	D mm	L mm	Tightening moment Nm
5410012	2	1	9-13	70	90	45
5410312	10	1	11-22	115	160	75
5410313	10	1	30-40	120	160	75
5410412	15	1	16-28	130	180	75
5410912	25	1	27-40	170	190	75
5411012	40	2	30-40	160	300	75
5411013	40	3	30-40	180	250	75



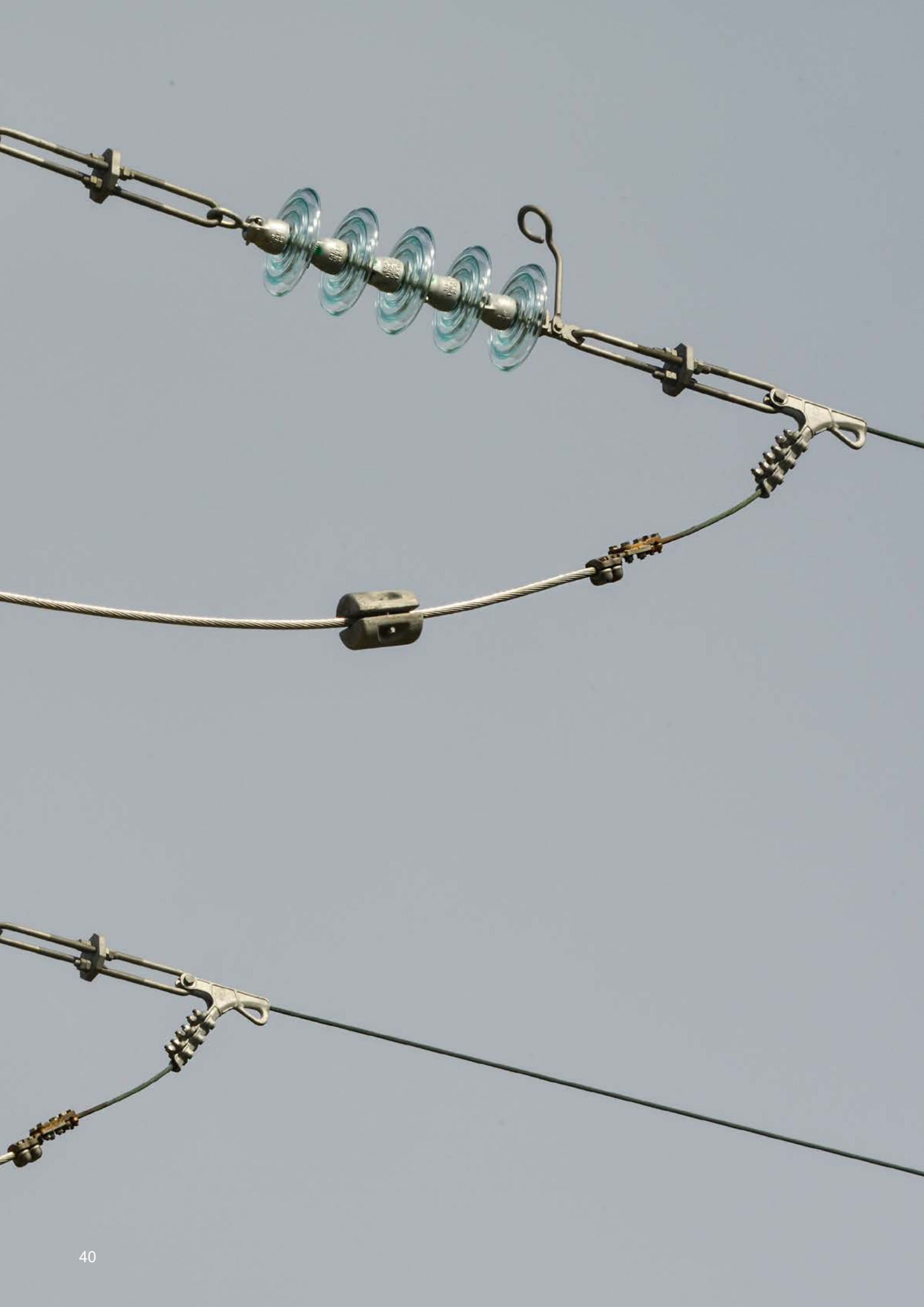
picture 1



picture 2



picture 3





# ANCHOR ACCESSORIES

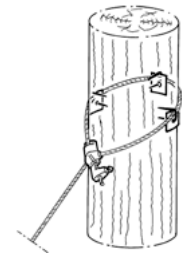


# GUY WIRE KITS

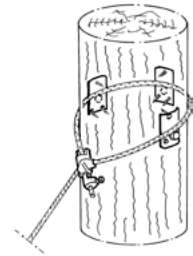
## GUY WIRE KIT IN WOODEN POST

Number	Fits wire diameter mm <sup>2</sup>	Picture	Detailed details according to picture		Weight kg
			1 quantity and number	2	
Single bracket					
<b>3419031</b>	25-52	1	3x 3427002	3419001	1,2
<b>3419041</b>	68	1	4x 3427002	3419001	1,4
<b>3419032</b>	89	2	3x 3427402	3419002	4,7
<b>3419033</b>	105-142	2	3x 3427402	3419003	5,5
Double bracket					
<b>3419052</b>	2x25-52	3	5x 3427002	2x 3419001	2,2
<b>3419072</b>	2x 68	3	7x 3427002	2x 3419001	2,6
<b>3419053</b>	2x89	4	5x 3427402	2x 3419002	8,1

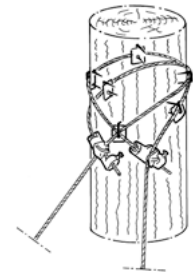
pic. 1



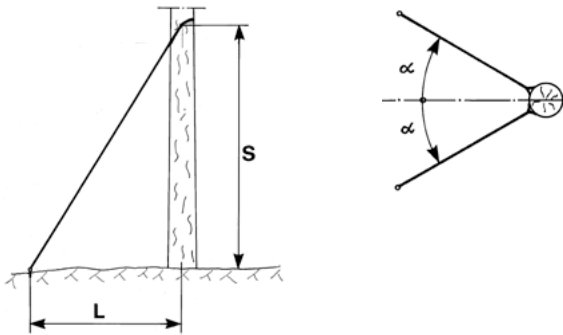
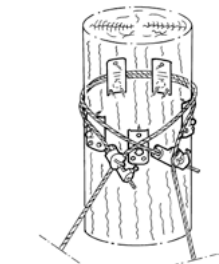
pic. 2



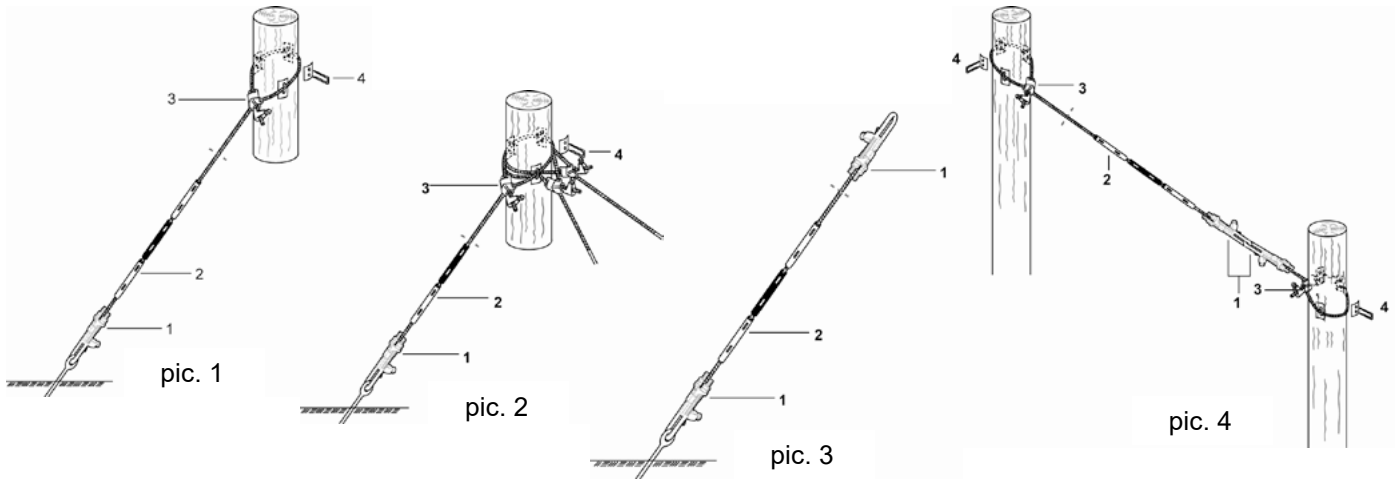
pic. 3



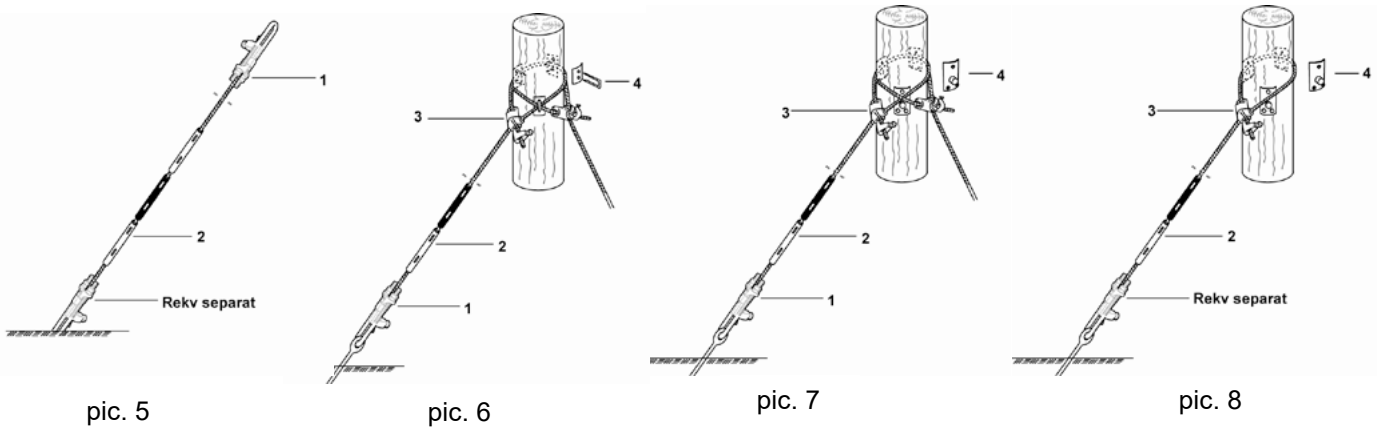
pic. 4



GUY WIRE KITS



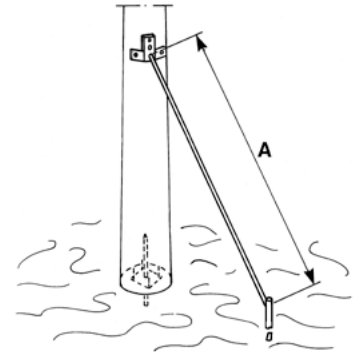
Number	Fits wire diameter mm <sup>2</sup>	Picture	Detailed details according to picture				Weight kg	VF Typ
			1	2	3	4		
3800101	25-68	1	1x 3419103	1x 3436211	1x 3419001	4x 3427002	3,0	S101
3800102	25-68	2	3x 3419103	3x 3436211	3x 3419001	4x 3427002	7,2	S102
3800103	25-68	3	2x 3419103	1x 3436211	—	—	3,1	S103
3800104	25-68	4	2x 3419103	1x 3436211	2x 3419001	8x 3427002	5,9	S104
3800105	89	5	1x 3419203	1x 3436221	—	—	2,8	S105
3800106	105-142	5	1x 3419304	1x 3436221	—	—	5,5	S106
3800107	25-68	6	2x 3419103	2x 3436211	2x 3419001	4x 3427002	5,0	S1070
3800108	89	7	2x 3419203	2x 3436221	2x 3419002	4x 3427402	10,8	S1080
3800109	89	8	—	1x 3436221	1x 3419002	3x 3427402	3,7	S1090



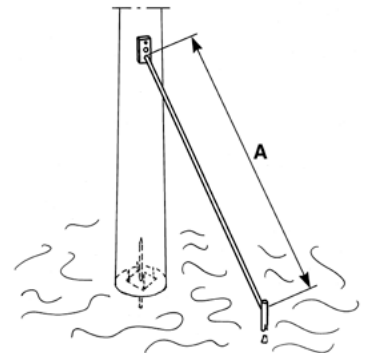
# POLE BEAMS

## LINK WIRE

Number	EBR nr	Picture	A mm	Weight kg	Breaking load kN	Matching drill holes Diameter mm	Depth mm
<b>3439020</b>	0052	1	2000	8,8	29	29	250
<b>3439025</b>	0053	2	2500	13,0	34	29	250



Pic. 1



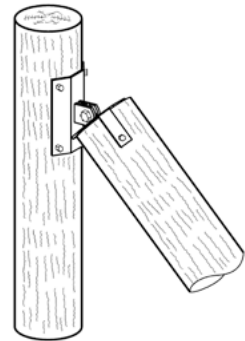
Pic 2

## POLE BRACKET MOUNT

Made of hot-dip galvanized steel. Wood screws included. For post diameter 150–240 mm and strut diameter 150–200 mm.

**Number: 3438960**

Weight: 4,8 kg

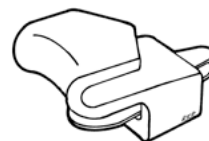


## WIRE ACCESSORIES

# BRACES

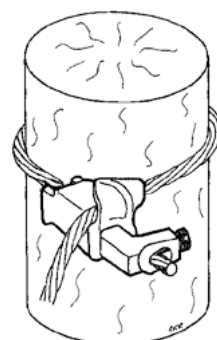
### BRACE CLAMP

Number	Fits wire diameter mm <sup>2</sup>	Weight kg	Recommended max load kN
3426703	16–33	0,35	17,8
3426707	52–68	0,75	46,6



### POLE WIRE CLAMP

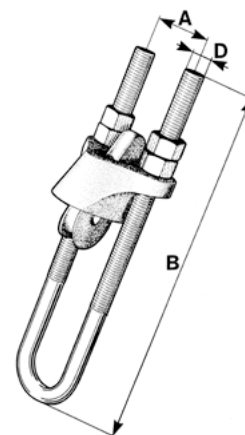
Number	Fits wire diameter mm <sup>2</sup>	Weight kg	Tightening moment Nm	Recommended max load kN
3419001	25–68	0,5	45	47
3419002	89	0,8	75	72
3419003	105–142	1,6	75	100

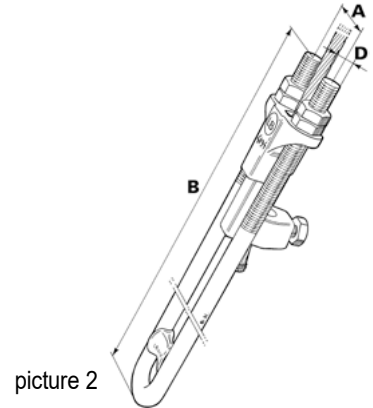
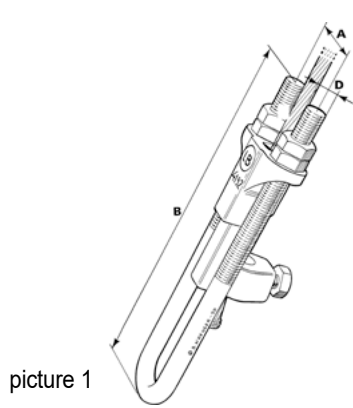


## WIRE TENSIONER

### WEDGE CLAMP

Number	Fits wire diameter mm <sup>2</sup>	A mm	B mm	D mm	Weight kg	Recommended max load kN
3421502	16–33	40	200	M12	0,6	23
3421603	52–68	50	300	M16	1,7	47
3421608			800		3,1	
3421613			1300		4,4	
3421618			1800		5,7	
3421623			2300		7,1	
3421628			2800		8,4	





**WEDGE CLAMP**

For single wire

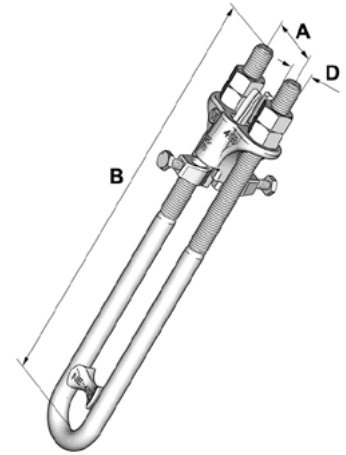
Number	Fits wire diameter mm <sup>2</sup>	Pic	A mm	B mm	D	Weight kg	Tightening moment Nm	Recommended max load kN
3419103	25–68	1	50	300	M16	1,6	45	47
3419108				800		3,0		
3419113				1300		4,3		
3419118				1800		5,7		
3419123				2300		7,0		
3419128			2800	8,3				
3419203	68–105	1	60	350	M20	3,1	75	72
3419208				800		4,9		
3419213				1300		7,0		
3419218				1800		9,0		
3419223				2300		11,2		
3419228			2800	13,3				
3419304	105–142	1	75	425	M24	5,9	75	100
3419308				800		8,6		
3419313				1300		12,3		
3419318				1800		16,0		
3419323				2300		19,7		
3419328			2800	23,4				
3419404	185–284	2	90	425	M27	9,7	100	200
3419408				800		13,2		
3419413				1300		17,8		
3419418				1800		22,5		
3419423				2300		27,2		
3419428				2800		31,8		
3419433				3300		36,5		
3419438	3800	41,1						

## WIRE ACCESSORIES

### WEDGE CLAMP

For double wire

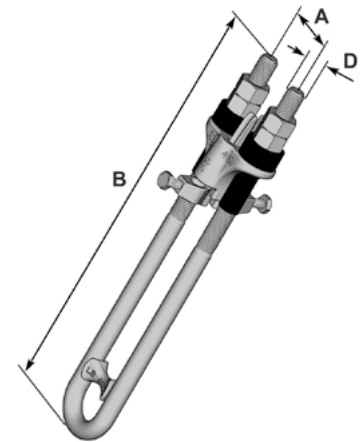
Number	Fits wire diameter mm <sup>2</sup>	A mm	B mm	D mm	Weight kg	Tightening moment Nm	Recommended max load kN
3419504	2x25-70	60	425	M20	4,1	45	98
3419508			800		6,1		
3419513			1300		8,7		
3419518			1800		11,2		
3419523			2300		13,8		
3419528			2800		16,4		
3419604	2x70-107	75	425	M24	6,9	75	150
3419608			800		9,7		
3419613			1300		13,4		
3419618			1800		17,2		
3419623			2300		20,9		
3419628			2800		24,6		
3419704	2x142	90	425	M27	10,3	75	195
3419708			800		13,9		
3419713			1300		18,6		
3419718			1800		23,3		
3419723			2300		28,1		
3419728			2800		32,8		
3419733			3300		36,3		
3419738			3800		41,0		
3419805	2x185	105	500	M33	16,0	100	253
3419808			800		19,9		
3419813			1300		26,5		
3419818			1800		33,0		
3419823			2300		39,6		
3419828			2800		46,2		
3419833			3300		55,3		
3419838			3800		62,2		



**WEDGE CLAMP WITH INSULATOR**

For double wire

Number	Fits wire diameter mm <sup>2</sup>	A mm	B mm	D mm	Weight kg	Tightening moment Nm	Recommended max load kN
3419505	2x25-70	60	425	M20	4,1	45	98
3419509			800		6,1		
3419514			1300		8,7		
3419519			1800		11,2		
3419524			2300		13,8		
3419529			2800		16,4		
3419605	2x70-107	75	425	M24	6,9	75	150
3419609			800		9,7		
3419614			1300		13,4		
3419619			1800		17,2		
3419624			2300		20,9		
3419629			2800		24,6		
3419705	2x142	90	425	M27	10,3	75	195
3419709			800		13,9		
3419714			1300		18,6		
3419719			1800		23,3		
3419724			2300		28,1		
3419729			2800		32,8		
3419734			3300		36,3		
3419739			3800		41,0		
3419806	2x185	105	500	M33	16,0	100	253
3419809			800		19,9		
3419814			1300		26,5		
3419819			1800		33,0		
3419824			2300		39,6		
3419829			2800		46,2		
3419834			3300		55,3		
3419839			3800		62,2		





## WIRE ACCESSORIES

### INSULATOR SLEEVE

Made of plastic. Black. Injection molded, heat treated.

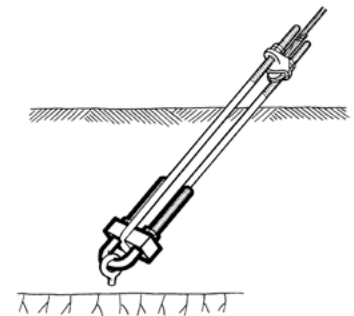
Number	For clamp screw	Weight kg/100 st
3422316	M16	0,90
3422320 <sup>1)</sup>	M20	1,25
3422324	M24	1,50
3422327	M27	6,80
3422333	M33	7,40

1) Fits only double wedge clamp

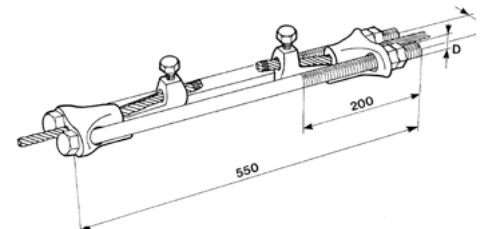


### U-BOLT WITH TENSIONER

Number	Length mm	Dimension mm	Weight kg
3715003	300	M16	1,85
3715103	350	M20	3,2
3715204	425	M24	5,1



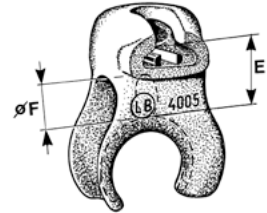
### TENSIONER



### WIRE TENSIONER

Number	Fits wire diameter mm <sup>2</sup>	A mm	D mm	Weight kg	Torque settings Nm	Recommended max load kN
3419141	25–70	50	M16	3,1	45	47
3419241	68–105	60	M20	5,0	75	72

**SOCKET CLAMP**



Number	Fits wire diameter mm <sup>2</sup>	Pin diameter	E mm	F mm	Weight kg	Recommended max load kN
3400516	68	16	44	25	1,1	48
3400520	142	20	55	30	1,8	84

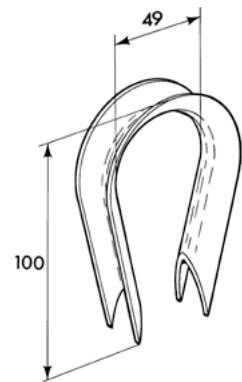
**THIMBLE FOR PERFORMED SPIRALS**

Made of hot-dip galvanized steel.

Number: 3735101

Suitable for tension coil for 25-89 mm<sup>2</sup> wire.

Weight: 0,09 kg



**OPEN THIMBLE**

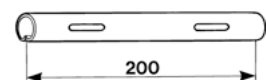
Dead-end thimble for steel cables (GRT)

Number	Fits wire dimension mm <sup>2</sup>	Thread count and direction	Length mm	Weight kg	Recommended max load kN
3732125	25	7H	620	0,21	17,0
3732152	52	7V	780	0,43	35,7
3732168	68	7V	870	0,68	46,6
3732189	89	7V	1000	1,05	61,0
3732110	105	7V	1040	1,20	71,5
3732114	142	19H	1240	2,01	97,0



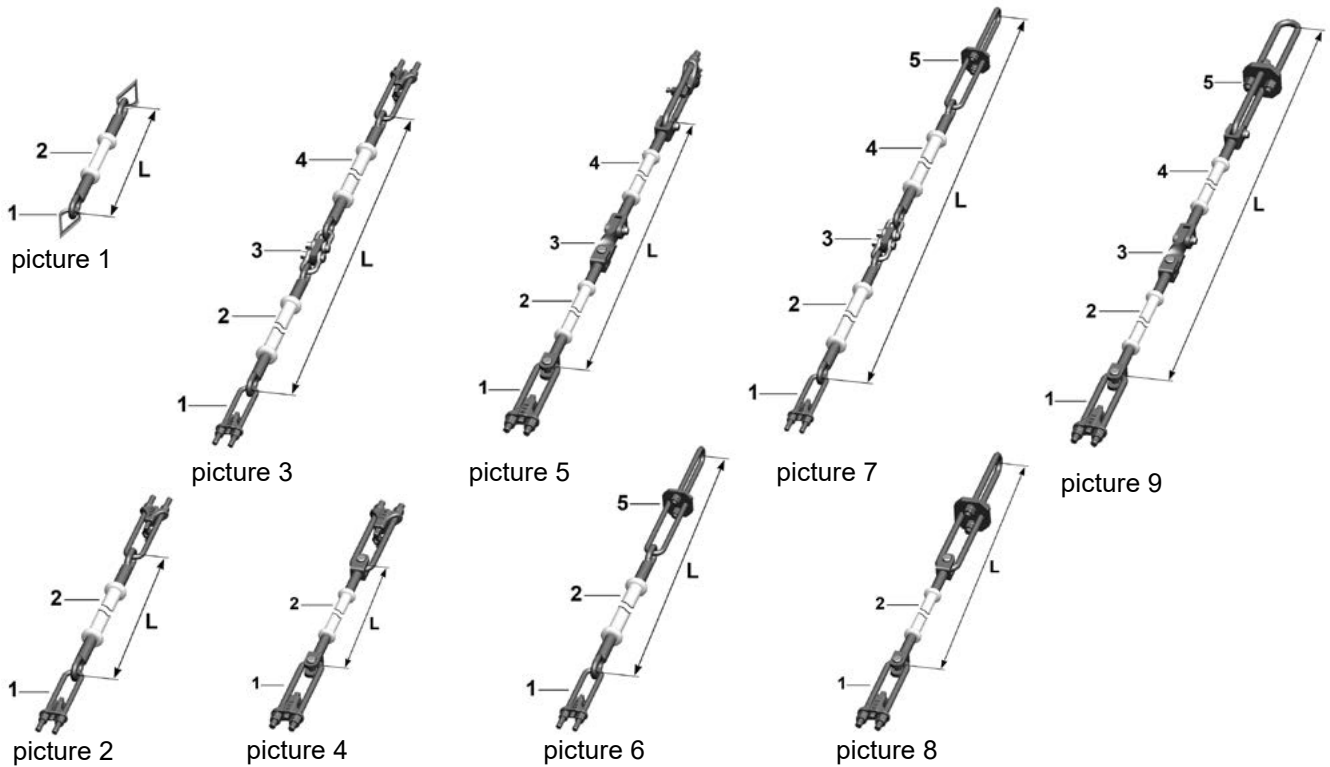
**MARKER**

Number	Fits wire dimension mm <sup>2</sup>	Number of sleeves Yellow	Black	Weight kg
3436211	25-68	4	4	0,10
3436214	25-68	4	5	0,12
3436221	89-185	5	5	0,26
3436244	241-2x284	5	5	0,67



# WIRE ACCESSORIES

## CHAIN INSULATOR



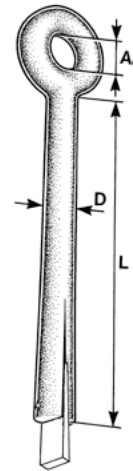
Number	Tension kV	Fits wire diameter mm <sup>2</sup>	Pic.	L mm	Detailed info according to picture					Weight kg	Ultimate strength kN
					1	2	3	4	5		
With thimble											
3104425	24	68	1	525	2x 3735101	1104403	—	—	—	3,2	46,6
3104473	72,5	68	1	685	2x 3735101	1104405	—	—	—	3,4	46,6
With straight-wedge strut screw											
3104451	72,5	68	2	2365	2x 3419103	1104421	—	—	—	9,8	46,6
3104456	72,5	89	2	2365	2x 3419203	1104421	—	—	—	12,2	61,0
3104461	145	68	2	4365	2x 3419103	1104441	—	—	—	13,5	46,6
3104466	145	89	2	4365	2x 3419203	1104441	—	—	—	15,9	61,0
3104471	145	68	3	6920	2x 3419103	1104421	4406060	1104441	—	22,1	46,6
3104481	145	89	3	6920	2x 3419203	1104421	4406060	1104441	—	24,5	61,0
3104551	72,5	142	4	2370	2x 3419304	1104521	—	—	—	18,2	97,0
3104561	145	142	4	4370	2x 3419304	1104541	—	—	—	21,4	97,0
3104571	145	142	5	6930	2x 3419304	1104521	4406073	1104541	—	31,2	97,0
With wedge clamp											
3104452	72,5	68	6	2760	3419103	1104421	—	—	4409303	9,6	46,6
3104457	72,5	89	6	2820	3419203	1104421	—	—	4409403	11,9	61,0
3104462	145	68	6	4760	3419103	1104441	—	—	4409303	13,3	46,6
3104467	145	89	6	4820	3419203	1104441	—	—	4409403	15,6	61,0
3104474	145	68	7	7315	3419103	1104421	4406060	1104441	4409303	21,9	46,6
3104482	145	89	7	7375	3419203	1104421	4406060	1104441	4409403	24,2	61,0
3104552	72,5	142	8	2920	3419304	1104521	—	—	4409703	21,7	97,0
3104562	145	142	8	4920	3419304	1104541	—	—	4409703	24,9	97,0
3104572	145	142	9	7480	3419304	1104521	4406073	1104541	4409703	34,7	97,0

# ANCHORS

## ANCHORING IN MOUNTAINS

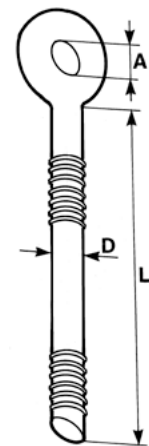
### EYE ANCHOR WITH WEDGE

Made of forged steel. Wedge included.



Number	Fits wire dimension mm <sup>2</sup>	A mm	D mm	L mm	Weight kg	Suitable hole diameter mm
3428618	25	27	18	175	0,6	23
3428725	89	30	25	250	1,7	29
3428750	89	30	25	500	2,7	29
3428835	142	35	32	350	3,7	39
3428850	142	35	32	500	4,7	39

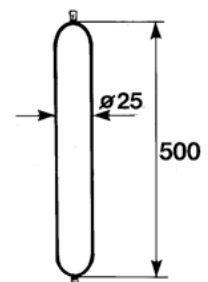
### ANCHOR EYE FOR EMBEDDING



Number	Fits wire dimension mm <sup>2</sup>	A mm	D mm	L mm	Weight kg	Fits hole diameter mm
3428211	52	27	18	200	0,72	26-29
3428221	142	30	25	300	1,7	32-36
3428222	142	30	25	600	2,9	32-36
3428223	142	30	25	1500	6,7	32-36
3428231	185	35	32	900	7,3	39-43
3428232	185	35	32	1500	11,3	39-43

### INJECTION CARTRIDGE

Made of polyester resin with filler and hardener.

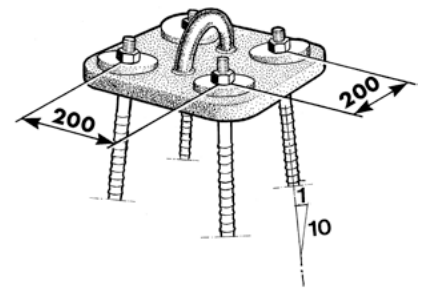


## WIRE ACCESSORIES

### ROCK ANCHOR PLATE

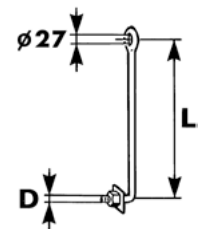
Made of steel. Washers and bolts, M24x600 included.

Weight: 39 kg



### MOUNTAIN LINK

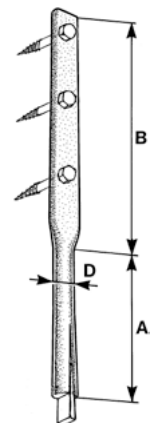
Number	Fits hole diameter mm	Fits wire diameter mm <sup>2</sup>	D	L mm	Weight kg
3425502	18	33	M16	500	0,80
3425602	18	33	M16	1000	1,5
3425702	25	68	M20	500	1,3
3425802	25	68	M20	1000	2,4



### MOUNTAIN STUD WITH WEDGE

Made of hot-dip galvanized steel. Wedge included. Screws not included.

Number	A mm	B mm	D mm	Weight kg	Suitable hole mm	Suitable wood screws
3429101	175	335	18	1,0	23	T6S 10x 75
3429401	250	380	25	2,5	29	T6S 12x100
3429501	350	430	32	5,2	39	T6S 16x120

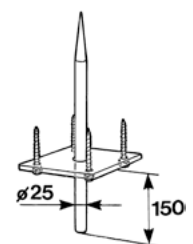


### ROOT STUD

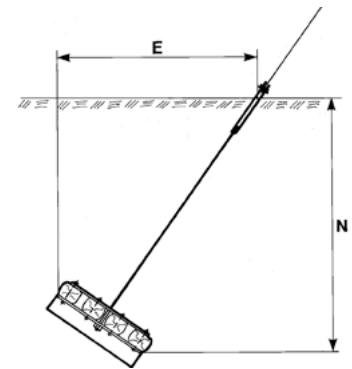
Made of hot-dip galvanized steel. The root stud consists of a stud with a stop ring as well as a guide plate and a nail. Wood screws included.

Weight: 3.7 kg

Suitable hole diameter 28-32 mm anchoring in soil.



# ANCHORING IN SOIL



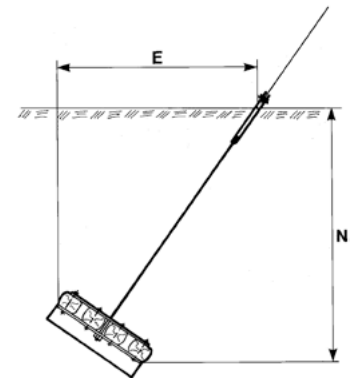
## BRACKET ANCHORAGE

Strut anchorage, Table 1

Number	Fits wire dimension mm <sup>2</sup>	Suitable anchore strength kN	Anchorage length x width mm	Burial depth					
				N (m) at strut spacing1) L=			E (m) at strut spacing1) L=		
				1/2 S	2/3 S	S	1/2 S	2/3 S	S
When the groundwater level is 0 - 1.0 m below the ground surface									
3700900	25	17	850 x 210	1,8	1,6	1,5	1,0	1,1	1,5
3700909			850 x 210	1,8	1,6	1,5	1,0	1,1	1,5
3700910			850 x 210	1,8	1,7	1,6	1,0	1,2	1,6
3700904			850 x 210	1,8	1,7	1,6	1,0	1,2	1,6
3700210	52	36	∅ 475	1,8	1,7	—	1,1	1,2	—
3700211			∅ 475	1,8	1,7	—	1,1	1,2	—
3700212			∅ 475	—	—	1,7	—	—	1,7
3700213			∅ 475	—	—	1,7	—	—	1,7
3701000			1300 x 210	2,1	2,0	1,9	1,1	1,4	1,9
3701109			1300 x 210	2,1	2,0	1,9	1,1	1,4	1,9
3701200	68	48	1300 x 210	2,4	2,3	2,2	1,3	1,6	2,2
3701303			1300 x 210	2,4	2,3	—	1,3	1,6	—
3701403			1300 x 210	—	—	2,2	—	—	2,2
3800111			1300 x 210	2,4	2,3	—	1,3	1,6	—
3701500			2600 x 210	2,1	2,0	1,9	1,1	1,4	1,9
3701509			2600 x 210	2,1	2,0	1,9	1,1	1,4	1,9
3702100	89	63	2600 x 210	2,3	2,2	2,0	1,2	1,5	2,0
3702103			2600 x 210	2,3	2,2	—	1,2	1,5	—
3702203			2600 x 210	—	—	2,0	—	—	2,0
3800112			2600 x 210	2,3	2,2	—	1,2	1,5	—
3800113			2600 x 550	2,1	2,0	—	1,1	1,4	—
3702100	142	99	2600 x 210	2,7	2,6	2,4	1,4	1,8	2,4
3702402			2600 x 210	2,7	2,6	—	1,4	1,8	—
3702502			2600 x 210	—	—	2,4	—	—	2,4
3704000	185	130	2600 x 1100	2,7	2,6	2,5	1,7	2,0	2,5
3704009			2600 x 1100	2,7	2,6	2,5	1,7	2,0	2,5
3704300	260	180	2600 x 1100	3,1	3,1	2,9	1,9	2,8	2,9
3704303			2600 x 1100	3,1	3,1	2,9	1,9	2,8	2,9
3707000	2 x 89	130	2600 x 1100	2,7	2,7	2,6	1,7	2,1	2,6
3707003			2600 x 1100	2,7	—	—	1,7	—	—
3707103			2600 x 1100	—	2,7	2,6	—	2,1	2,6
3707300	2 x 142	200	2600 x 1100	3,3	3,2	3,1	2,0	2,4	3,1
3707302			2600 x 1100	3,3	3,2	—	2,0	2,4	—
3707402			2600 x 1100	—	—	3,1	—	—	3,1

Continuation on the next page

# WIRE ACCESSORIES



Strut anchorage, Table 1 continuation

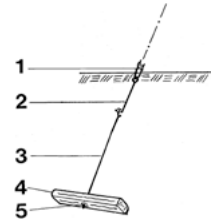
Number	Fits wire diameter mm <sup>2</sup>	Suitable anchore strength kN	Anchorage length x width mm	Burial depth					
				N (m) at strut spacing <sup>1)</sup> L=			E (m) at strut spacing <sup>1)</sup> L=		
				1/2 S	2/3 S	S	1/2 S	2/3 S	S
When the groundwater tlevel is more than 1.0 m below the ground surface									
3700900	25	17	850 x 210	1,4	1,3	1,2	0,8	0,9	1,2
3700903			850 x 210	1,4	1,3	1,2	0,8	0,9	1,2
3700210	52	36	∅ 475	1,7	1,6	1,5	1,0	1,2	1,5
3700211			∅ 475	1,7	1,6	1,5	1,0	1,2	1,5
3701000			1300 x 210	1,7	1,6	1,5	0,9	1,1	1,5
3701003			1300 x 210	1,7	1,6	1,5	0,9	1,1	1,5
3701200	68	48	1300 x 210	1,9	1,9	1,8	1,0	1,3	1,8
3701203			1300 x 210	1,9	1,9	—	1,0	1,3	—
3701303			1300 x 210	—	—	1,8	—	—	1,8
3800111			1300 x 210	1,9	1,9	—	1,0	1,3	—
3701500			2600 x 210	1,6	1,6	1,5	0,9	1,1	1,5
3701504			2600 x 210	1,6	1,6	1,5	0,9	1,1	1,5
3701600	89	63	1300 x 210	2,2	2,1	2,0	1,2	1,5	2,0
3701603			1300 x 210	2,2	2,1	2,0	1,2	1,5	2,0
3800112			2600 x 210	1,9	1,9	—	1,0	1,3	—
3800113			2600 x 550	1,7	1,6	—	0,9	1,1	—
3702100	142	99	2600 x 210	2,2	2,1	2,0	1,2	1,5	2,0
3702302			2600 x 210	2,2	2,1	—	1,2	1,5	—
3702402			2600 x 210	—	—	2,0	—	—	2,0
3703100	185	130	2600 x 550	2,4	2,3	2,2	1,4	1,7	2,2
3703103			2600 x 550	2,4	2,3	—	1,4	1,7	—
3703203			2600 x 550	—	—	2,2	—	—	2,2
3703600	260	180	2600 x 550	2,9	2,8	2,6	1,7	2,0	2,6
3703603			2600 x 550	2,9	2,8	2,6	1,7	2,0	2,6
3706100	2 x 89	130	2600 x 550	2,4	2,4	2,2	1,4	1,7	2,2
3706103			2600 x 550	2,4	2,4	—	1,4	1,7	—
3706203			2600 x 550	—	—	2,2	—	—	2,2
3706300	2 x 142	200	2600 x 550	3,0	2,9	2,8	1,7	2,1	2,8
3706302			2600 x 550	3,0	—	—	1,7	—	—
3706402			2600 x 550	—	2,9	2,8	—	2,1	2,8

Strut anchorage, Table 2

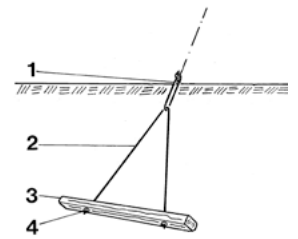
Number	Picture	Detailed information according to picture					Weight kg
		1	2	3	4	5	
3700210	1	—	—	3700210	—	—	11
3700211	1	3419103	—	3700210	—	—	13
3700212	1	—	3425502	3700210	—	—	12
3700213	1	3419103	3425502	3700210	—	—	14
3700900	2	—	—	3430102	3432852	3432302	27
3700903	2	3419103	—	3430102	3432852	3432302	28
3700904	2	3419103	—	3430202	3432852	3432302	29
3700909	2	3419103	3425502	3430102	3432852	3432302	29
3700910	2	—	—	3430202	3432852	3432302	28
3701000	2	—	—	3430402	3432851	3432302	42
3701003	2	3419103	—	3430402	3432851	3432302	43
3701109	2	3419108	—	3430402	3432851	3432302	45
3701200	2	—	—	3430402	3432851	3432313	42
3701203	2	3419103	—	3430402	3432851	3432313	44
3701303	2	3419108	—	3430402	3432851	3432313	45
3701403	2	3419113	—	3430402	3432851	3432313	46
3701500	2	—	—	3430402	3432754	3432313	77
3701504	2	3419103	—	3430402	3432754	3432313	79
3701509	2	3419103	3425702	3430402	3432754	3432313	80
3701600	2	—	—	3430502	3432851	3444001	46
3701603	2	3419208	—	3430502	3432851	3444001	51
3702100	3	—	3431102	3432751	2x3444101	2x3432310	94
3702103	3	3419203	3431102	3432751	2x3444101	2x3432310	97
3702203	3	3419208	3431102	3432751	2x3444101	2x3432310	99
3702302	3	3419304	3431102	3432751	2x3444101	2x3432310	99
3702402	3	3419308	3431102	3432751	2x3444101	2x3432310	101
3702502	3	3419313	3431102	3432751	2x3444101	2x3432310	104
3703100	4	—	3431102	2x3432754	3433103	—	195
3703103	4	3419404	3431102	2x3432754	3433103	—	205
3703203	4	3419408	3431102	2x3432754	3433103	—	210
3703600	4	—	3431202	2x3432754	3433103	—	200
3703603	4	3419418	3431202	2x3432754	3433103	—	225
3704000	4	—	3431102	4x3432754	3433205	—	375
3704009	4	3419408	3431102	4x3432754	3433205	—	390
3704300	4	—	3431202	4x3432754	3433205	—	380
3704303	4	3419418	3431202	4x3432754	3433205	—	405
3706100	5	—	2x3430502	2x3432754	3433113	—	190
3706103	5	2x3419208	2x3430502	2x3432754	3433113	—	200
3706203	5	2x3419213	2x3430502	2x3432754	3433113	—	205
3706300	5	—	2x3430602	2x3432754	3433113	—	200
3706302	5	2x3419313	2x3430602	2x3432754	3433113	—	220
3706402	5	2x3419318	2x3430602	2x3432754	3433113	—	230
3707000	5	—	2x3430502	4x3432754	3433215	—	370
3707003	5	2x3419208	2x3430502	4x3432754	3433215	—	380
3707103	5	2x3419213	2x3430502	4x3432754	3433215	—	385
3707300	5	—	2x3430602	4x3432754	3433215	—	380
3707302	5	2x3419318	2x3430602	4x3432754	3433215	—	410
3707402	5	2x3419323	2x3430602	4x3432754	3433215	—	415
3800111	2	—	—	3420402	3432851	3432302	47
3800112	2	—	—	3430502	3432754	3432313	93
3800113	6	—	—	3430502	2x3432754	3433114	186



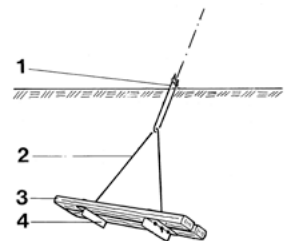
pic. 1



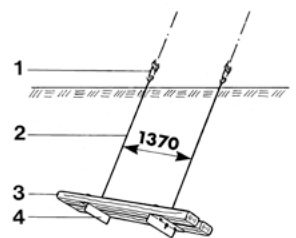
pic. 2



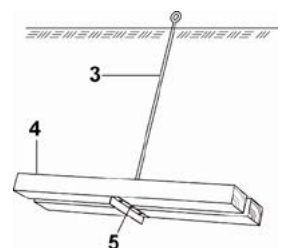
pic. 3



pic. 4



pic. 5

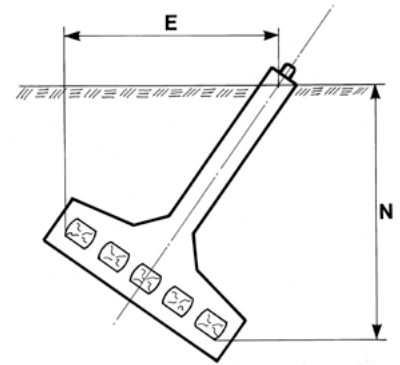
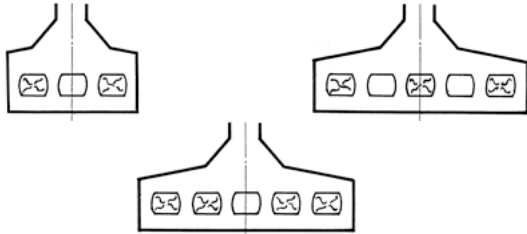


pic. 6



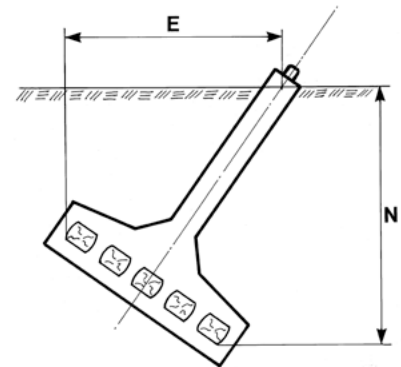
# WIRE ACCESSORIES

## CONCRETE ANCHORS



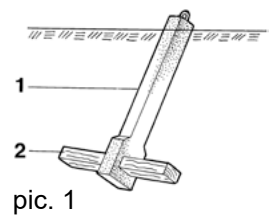
Concrete anchoring, Table 1

Number	Fits wire diameter mm <sup>2</sup>	Suitable anchore strength kN	Anchorage length x width mm	Burial depth					
				N (m) at brace spacing L=			E (m) at brace spacing L=		
				1/2S	2/3S	S	1/2	2/3S	S
When the groundwater level is 0 - 1.0 m below the ground surface									
3707711	52	27	1300 x 210	—	—	1,6	—	—	1,6
3707711		32	1300 x 210	—	1,8	—	—	1,3	—
3707711		35	1300 x 210	2,0	—	—	1,1	—	—
3707712	68	36	2000 x 210	—	—	1,6	—	—	1,6
3707712		42	2000 x 210	—	1,8	—	—	1,3	—
3707712		45	2000 x 210	2,0	—	—	1,1	—	—
3707831	89	56	2000 x 900	—	—	1,8	—	—	1,8
3707831	105	69	2000 x 900	—	2,0	—	—	1,6	—
3707831		73	2000 x 900	2,1	—	—	1,4	—	—
3707951		77	2000 x 1600	—	—	2,1	—	—	2,1
3707951		94	2000 x 1600	—	2,2	—	—	1,9	—
3707951	185	100	2000 x 1600	2,3	—	—	1,7	—	—
3707823	2x 68	92	4000 x 900	—	—	1,8	—	—	2,1
3707823	2x 89	120	4000 x 900	—	2,0	—	—	1,6	—
3707823		120	4000 x 900	2,1	—	—	1,4	—	—
3707925	2x105	140	4000 x 1600	—	—	2,1	—	—	2,1
3707925	2x142	160	4000 x 1600	—	2,2	—	—	1,9	—
3707925		180	4000 x 1600	2,3	—	—	1,7	—	—
When the groundwater level is more than 1.0 m below the ground surface									
3707711	68	43	1300 x 210	—	—	1,6	—	—	1,6
3707711	89	51	1300 x 210	—	1,8	—	—	1,3	—
3707711		55	1300 x 210	2,0	—	—	1,1	—	—
3707712		57	2000 x 210	—	—	1,6	—	—	1,6
3707712		59	2000 x 210	2,0	1,8	—	1,1	1,3	—
3707831	142	90	2000 x 900	—	—	1,8	—	—	1,8
3707831	185	110	2000 x 900	—	2,0	—	—	1,6	—
3707831		110	2000 x 900	2,1	—	—	1,4	—	—
3707951		120	2000 x 1600	—	—	2,1	—	—	2,1
3707951	260	140	2000 x 1600	—	2,2	—	—	1,9	—
3707951		150	2000 x 1600	2,3	—	—	1,7	—	—
3707954		150	3000 x 1600	2,3	2,2	2,1	1,7	1,9	2,1
3707823	2x185	220	4000 x 900	—	—	1,8	—	—	2,1
3707823		250	4000 x 900	—	2,0	—	—	1,6	—
3707823	2x260	260	4000 x 900	2,1	—	—	1,4	—	—



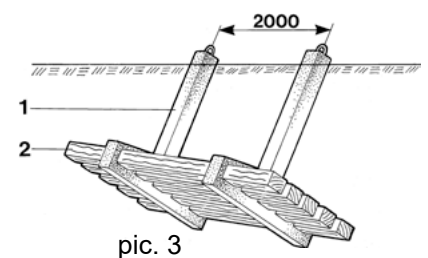
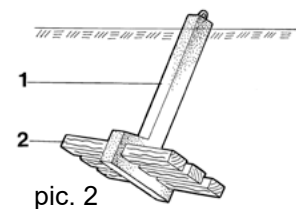
Concrete rod anchoring, Table 1 continued

Number	Fits wire diameter mm <sup>2</sup>	Suitable anchore strength kN	Anchorage length x width mm	Burial depth					
				N (m)			E (m)		
				at brace spacing L= 1/2S	2/3S	S	at brace spacing L= 1/2S	2/3S	S
The groundwater level is lower than the lower edge of the anchorage									
3707711	68	43	1300 x 210	—	—	1,6	—	—	1,6
3707711	89	54	1300 x 210	—	1,8	—	—	1,3	—
3707711		58	1300 x 210	2,0	—	—	1,1	—	—
3707712		59	2000 x 210	2,0	1,8	1,6	1,1	1,3	1,6
3707831	185	99	2000 x 900	—	—	1,8	—	—	1,8
3707831		120	2000 x 900	2,1	2,0	—	1,4	1,6	—
3707832		120	2000 x 900	—	2,0	—	—	1,6	—
3707832	260	130	2000 x 900	2,1	—	—	1,4	—	—
3707951		140	2000 x 1600	—	—	2,1	—	—	2,1
3707951		160	2000 x 1600	—	2,2	—	—	1,9	—
3707951		170	2000 x 1600	2,3	—	—	1,7	—	—
3707954		150	3000 x 1600	2,3	2,2	2,1	1,7	1,9	2,1
3707955		180	3000 x 1600	2,3	2,2	2,1	1,7	1,9	2,1
3707823	2x185	250	4000 x 900	—	—	1,8	—	—	1,8
3707823	2x260	280	4000 x 900	2,1	2,0	—	1,4	1,6	—
3707925		290	4000 x 1600	—	2,2	—	—	1,9	—
3707925		310	4000 x 1600	2,3	—	—	1,7	—	—



Concrete anchoring, Table 2

Number	Picture	1 quantity and number	2 quantity and number	Weight kg
3707711	1	3707701	3432853	345
3707712	1	3707701	3433052	365
3707823	3	2x 3707801	3x 3433090	1210
3707831	2	3707801	2x 3433052	550
3707832	2	3707801	3x 3433052	600
3707925	3	2x 3707901	5x 3433090	1650
3707951	2	3707901	3x 3433052	720
3707954	2	3707901	4x 3433053	880
3707955	2	3707901	5x 3433053	960

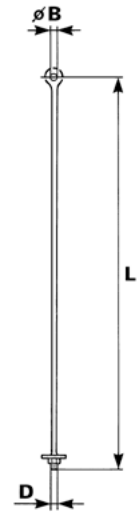


## WIRE ACCESSORIES

### LINK ROD

Nut and washer included.

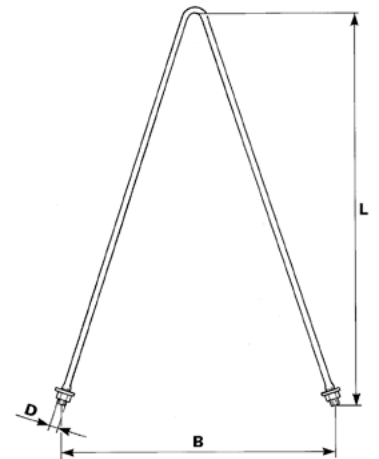
Number	Fits wire diameter Max mm <sup>2</sup>	B mm	D	L mm	Weight kg
3430102	33	27	M16	1600	2,2
3430202	33	27	M16	2200	3,0
3430302	68	27	M20	1600	3,5
3430402	68	27	M20	2200	4,7
3430502	89	30	M24	2200	8,4
3430602	142	35	M30	2200	13



### LINK ROD v-shape

Nuts and washers included.

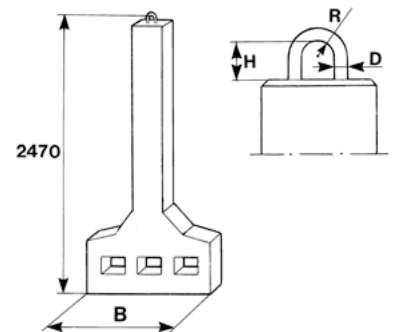
Number	Fits wire diameter Max mm <sup>2</sup>	B mm	D	L mm	Weight kg
3431102	185	1375	M24	2500	20
3431202	284	1375	M30	2000	25



### CONCRETE ANCHORS

Made of concrete in quality C40/50.

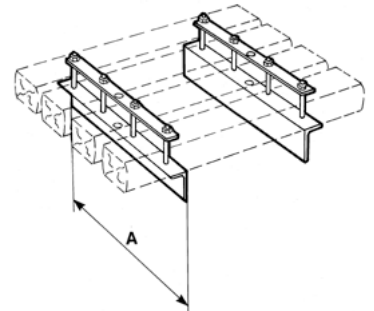
Number	Fits wire diameter Max mm <sup>2</sup>	sliper max quantity	B mm	D mm	H mm	R mm	Weight kg
3707701	89	1	440	25	85	38	310
3707801	260	3	1140	25	85	38	440
3707901	260	5	1840	25	85	38	550



**GROUND FITTINGS**

Bolts and washers included..

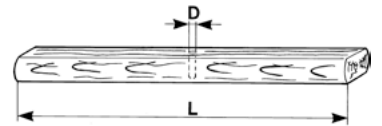
Number	Fits sliper quantity	A mm	Weight kg
For single wire <b>3433103</b>	2	500	34
<b>3433205</b>	4	1100	74
For double wire <b>3433114</b>	2	500	18
For double wire <b>3433113 3433215</b>	2 4	500 1100	34 74



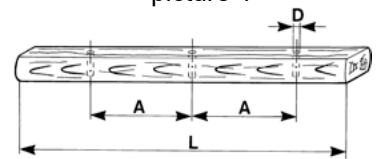
**SLIPER**

Made of salt-impregnated pine.

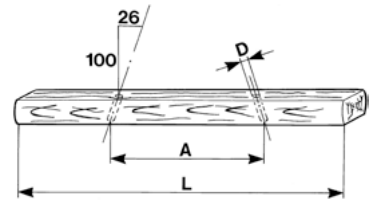
Number	Picture	L mm	A mm	mm	D	quantity	Weight kg
For link rod 160x245 <b>3432852</b>	1	850	—	23	1	23	23
<b>3432851</b>	1	1300	—	35	1	35	35
<b>3432754</b>	2	2600	685	28	3	70	70
For link rod v-shape 160x245 <b>3432751</b>	3	2600	1370	28	2	70	70
For sliper fittings 160x245 <b>3432754</b>	2	2600	685	28	3	70	70
For concrete anchor 160x220 <b>3432853</b>	4	1300	—	—	—	35	35
<b>3433052</b>	4	2000	—	—	—	54	54
<b>3433053</b>	4	3000	—	—	—	81	81
<b>3433090</b>	4	4000	—	—	—	108	108



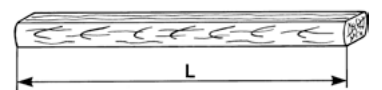
picture 1



picture 2



picture 3



picture 4

**BRACKET ANCHOR**

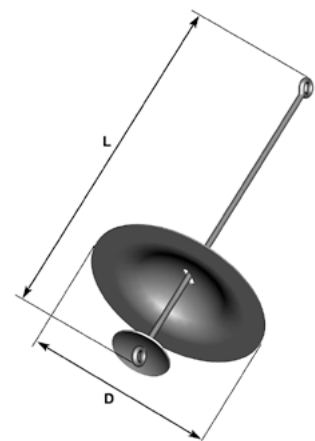
Made of hot-dip galvanized steel.

Number: 3700210

D = 475 mm

L = 2200 mm

Weight: 11,2 kg

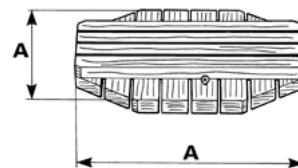


## WIRE ACCESSORIES

### WOODEN BED

Made of salt-impregnated pine. The sizes are adapted so that they can also be used when laying foundations in well rings.

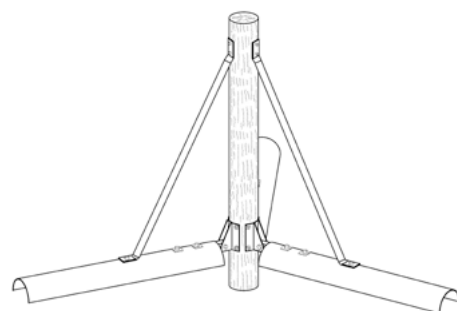
Number	A mm	Weight kg	Fits in well diameter mm
3430701	805	30	900
3430702	1080	50	1200
3430713	1300	65	1500



### GROUND ANCHORAGE

Can be used as post anchoring in loose ground, for straight line posts.  
Made of hot-dip galvanized steel.

Number	EBR nr	Fits pole class max	Weight kg
8004400	0044	N13	91
8007600	0076	G16	103



# POST ACCESSORIES



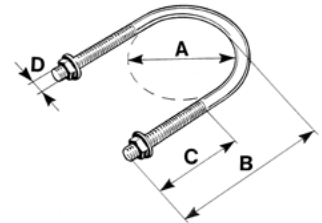
POST ACCESSORIES

# POST BRACKET

## U-BOLT

Made of hot-dip galvanized steel.

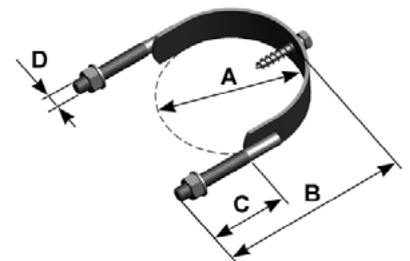
Number	Fits post diameter mm	Dimensions	A mm	B mm	C mm	D	Weight kg
3458718	150–180	12x180	180	210	90	M12	0,6
3458721	180–210	12x210	210	250	100	M12	0,7
3458725	210–250	12x250	250	300	100	M12	0,8



## FLAT U-BOLT, WITH SHORT LEGS

Welded construction with threads. Made of hot-dip galvanized steel. Wood screws T6S 8x65 for 16 mm bar and T6S 12x75 for 20 mm bar are included.

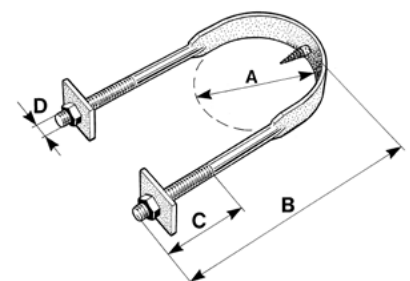
Number	Fits post diameter mm	Dimensions	A mm	B mm	C mm	D	Weight kg
3458810	160–220	16x200 K	200	265	110	M16	1,1
3458825	210–280	16x250 K	250	325	125	M16	1,3
3458831	270–340	16x310 K	310	400	135	M16	1,5
3458920	160–220	20x200 K	200	265	110	M20	1,6
3458925	210–280	20x250 K	250	325	125	M20	1,9
3458931	270–310	20x300 K	300	350	110	M20	2,1
3458937	310–400	20x370 K	370	460	140	M20	2,6
3458947	450-530	20x500 K	500	670	300	M20	3,8



## FLAT U-BOLT, WITH LONG LEGS

Welded construction with threads. Made of hot-dip galvanized steel. Wood screws T6S 8x65 for 16 mm bar and T6S 12x75 for 20 mm bar are included.

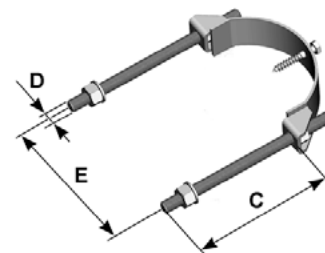
Number	Fits post diameter mm	Dimensions	A mm	B mm	C mm	D	Weight kg
3459017	150–190	16x170 L	170	330	150	M16	1,4
3459020	190–210	16x200 L	200	370	150	M16	1,4
3459023	210–240	16x230 L	230	390	150	M16	1,5



**FLEXIBLE U-BOLT**

According to EBR 0074 and 0075. Made of hot-dip galvanized steel.  
Wood screws T6S 10x75 for 16 mm bar and T6S 12x75 for 20 mm bar  
are included.

Number	EBR nr	Fits pole diameter max mm	C mm	D	E mm	Weight kg
3457810	-	180	179	M16	220	1,6
3457820	0074	180	279	M16	220	1,9
3457910	-	195	175	M20	243	2,4
3457920	0075	195	275	M20	243	2,8
3457930	-	245	315	M20	295	3,0
3457940	-	300	315	M20	350	3,2





POST ACCESSORIES

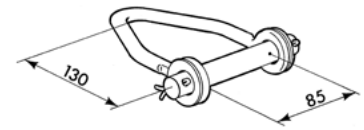
# BRACKETS

## BRACKET

Shackle made of forged steel. Bolt included.

Weight: 0,90 kg

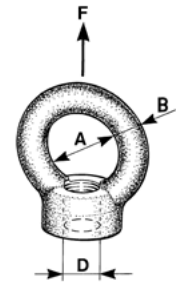
For insulator IR 10.



## LIFTING EYE

Made of forged steel.

Number	A mm	B mm	D mm	Weight kg	Ultimate strength kN
3370920	40	16	M20	0,40	25

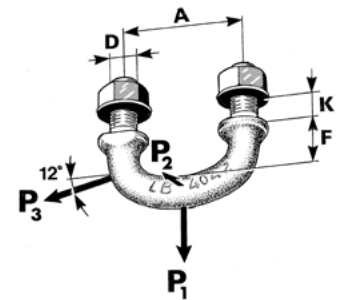


## U-BOLT

Made of forged steel.

Nuts and washers included.

Number	A mm	D	F mm	K max mm	Weight kg	Ultimate strength			Short circuit current max kA
						P <sub>1</sub> kN	P <sub>2</sub> kN	P <sub>3</sub> kN	
3405011	50	M12	22	15	0,30	25	8	30	12
3404211	65	M16	25	17	0,40	50	20	60	12
3404312	75	M20	27	25	0,75	80	30	100	12
3404611	100	M24	37	25	1,3	100	40	120	12

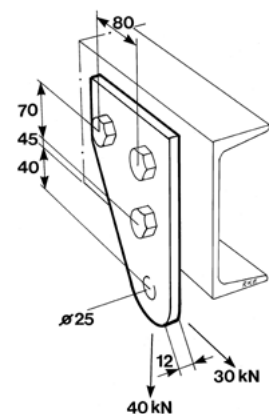


## INSULATOR CHAIN MOUNT

Made of Steel. Mounting bolts included.

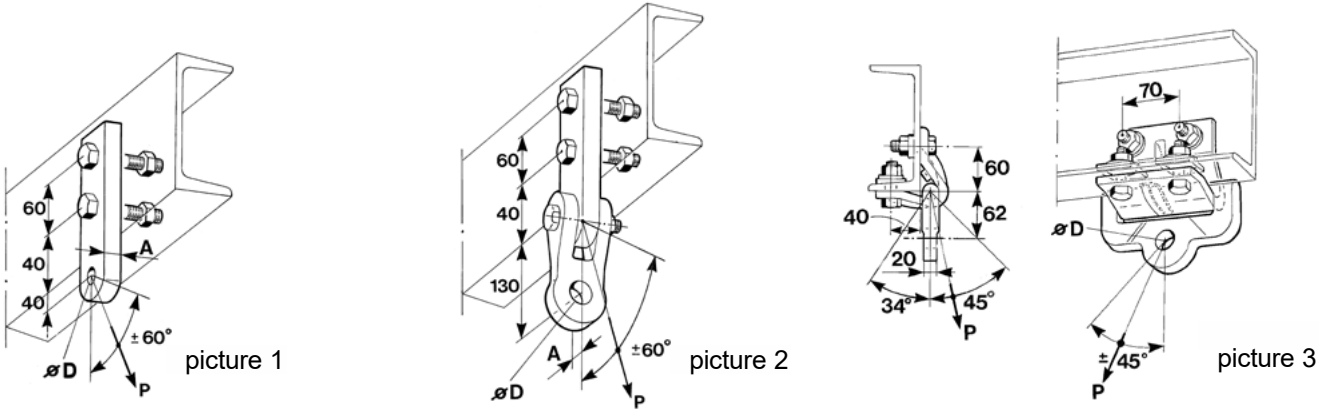
Number: 3417101

Weight: 3,6kg

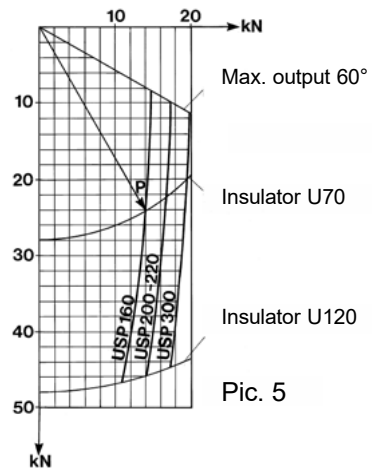
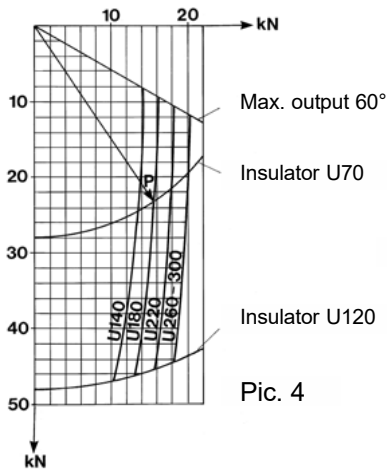


**INSULATOR CHAIN MOUNT**

Made of steel. Mounting bolts included.



Number	Fits beam profile	Picture	A mm	D mm	Weight kg	Ultimate strength kN	Short circuit current max kA
3391812	U140–260	1	12	22	1,2	Pic. 4	12
3391815	U140–260	1	20	24	2,2	Pic. 4	50
3391816	U280–300	1	20	24	2,2	Pic. 4	50
3391850	U140–260	2	20	24	3,7	Pic. 4	50
3391851	U280–300	2	20	24	3,7	Pic. 4	50
3391855	U140–200	3	20	24	4,2	84	50
3391856	U220–300	3	20	24	4,2	84	50
3391812	UPE140–300	1	12	22	1,2	Pic.5	12
3391817	UPE140–300	1	20	24	2,2	Pic. 5	50
3391852	UPE140–300	2	20	24	3,7	Pic. 5	50
3391857	UPE140–300	3	20	24	4,2	84	50

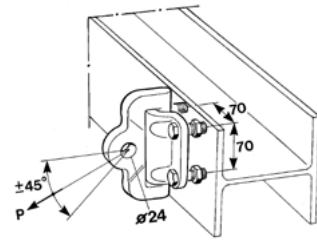


## POST ACCESSORIES

### INSULATOR CHAIN MOUNT

Number	Fits beam profile	Weight kg	Ultimate strength kN	Short circuit current max kA
3391950	HE120A–240A	3,5	120	50
3391951 <sup>1)</sup>	HE260A–300A	3,5	120	50

1) Supplied with two long washers.

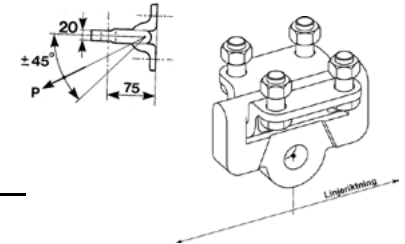


### HINGE FOR SWEDISH POWER GRID POST TYPES

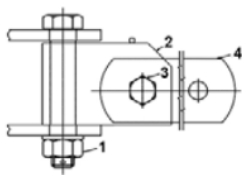
Made of galvanized steel.

Number	For post type	D mm	H mm	D mm	Weight kg	Picture
3391986	Stump 25-130	48	156	35	23	1
3391987 <sup>1)</sup>	Stump 25-130	33	156	24	19	2
3391988	End post	39	300	35	25	3
3391989	End post	39	300	24	21	4

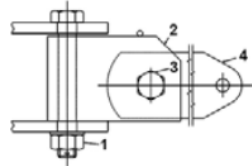
1) For top line



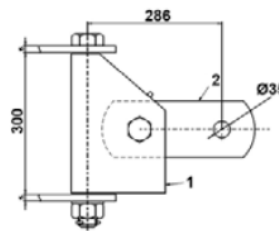
Picture 1



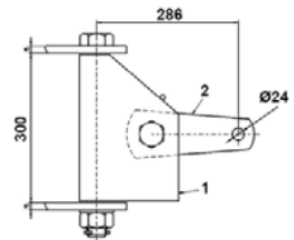
Picture 2



Picture 3



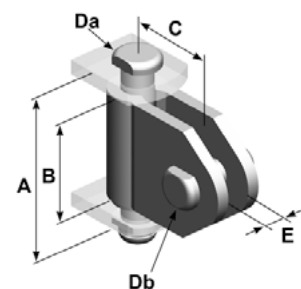
Picture 4



### HINGE

Made of steel. Mounting bolts included.

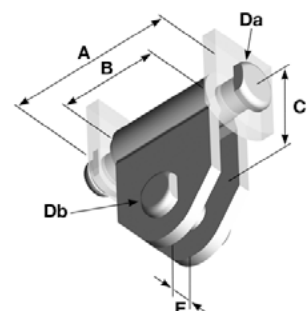
Number	A	B	C	Da mm	Db mm	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4392085	110	80	75	25	22	20	2,2	84	50
4392086	130	90	75	25	22	20	2,7	84	50
4393301	130	90	75	25	22	20	2,8	84	50
4393302	150	110	75	25	22	20	3,0	84	50
4391985	105	80	65	19	19	20	1,6	84	40



### HINGE

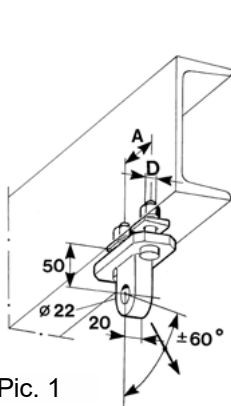
Made of steel. Mounting bolts included

Number	A	B	C	Da mm	Db mm	E mm	Weight kg	Ultimate strength kN	Short circuit current max kA
4393310	110	70	80	25	22	20	2,4	84	40

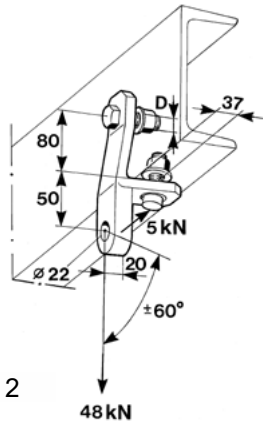


### INSULATOR CHAIN BRACKET

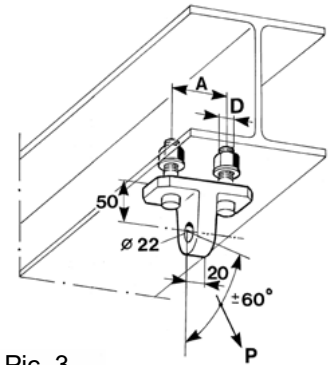
These chain mounts are intended to be used when rebuilding older lines where the short circuit current is expected to exceed 12 kA.



Pic. 1



Pic. 2



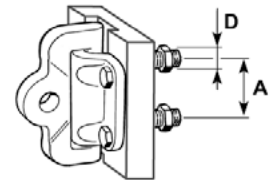
Pic. 3

Number	Fits beam profile	Replaces beam bracket	Picture	A mm	D mm	Weight kg	Ultimate strength kN	Short circuit current max kA
3404716	U120-300	5/8"	1	65	16	1,2	48	30
3404720	U160-300	3/4"	1	75	20	1,6	48	30
3404916	U120-300	"Fishhook"	2	—	16	1,3	48	30
3404816	HE120A-200A	5/8"	3	65	16	1,1	48	30
3404820	HE140A-220A	3/4"	3	75	20	1,6	48	30

### INSULATOR CHAIN BRACKET FOR REBUILDING

Made of hot-dip galvanized steel. Adapter and mounting bolts included.

Can be used both as a tension release bracket and hanging chain bracket. When used as a hanging chain bracket, the attachment's axle link must be mounted in the direction of the line.

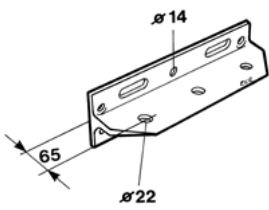


Number	Fits material thickness mm	Replaces beam bracket inch	A mm	D mm	Weight kg	Ultimate strength kN	Short circuit current max kA
3391963	4-9	5/8	65	M16	6,6	40	50
3391960	8-13	3/4	75	M20	6,7	48	50
3391961	11-16	7/8	100	M22	7,6	75	50
3391962	10-15	1	100	M24	7,7	80	50
For drilling in crossarm in line direction							
3391964	4-10	3/4	70	M20	5,9	48	50
3391966	8-15	7/8	70	M22	6,7	75	50
3391968	10-16	1	70	M24	7,0	80	50
3391970	9-14	1 1/4	85	M30	8,5	120	50
For drilling in crossarm across the line direction							
3391965	4-10	3/4	70	M20	5,9	48	50
3391967	8-15	7/8	70	M22	6,7	75	50
3391969	10-16	1	70	M24	7,0	80	50
3391971	9-14	1 1/4	85	M30	8,5	120	50

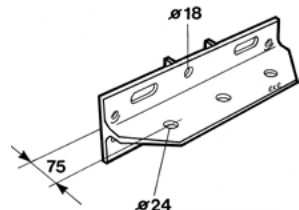
## POST ACCESSORIES

### INSULATOR CHAIN MOUNT

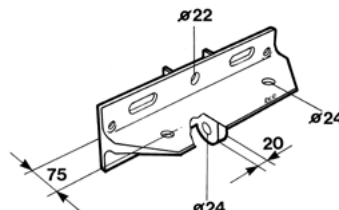
Made of hot-dip galvanized steel. At both ends of the bracket there are holes for attaching grounding clamp 34381--, 34384-- or 34387--. The bracket is used for attaching one or two insulator chains. Wood screws to be ordered separately.



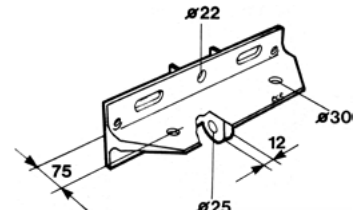
Pic. 1



Pic. 2



Pic. 3

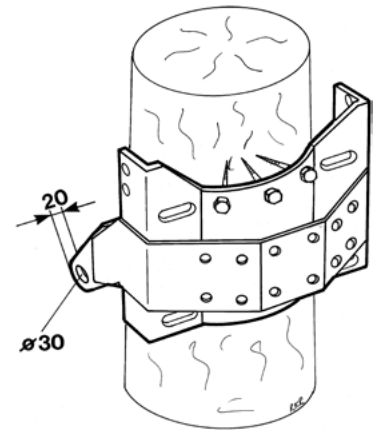


Pic. 4

Number	Fits post diameter mm	Picture	Weight kg	Ultimate strength			Shortcircuit current max kA	Fits post bracket size
				Center hole kN	Side-hole kN	Resulting kN		
3442751	140–230	1	5,9	48	48	70	12	M16K
3442752	170–270	2	9,3	71	84	110	12	M20K
3442753	170–270	3	10,0	48	84	110	30	M20K
3442733	160–300	4	9,2	48	84	110	12	M20K

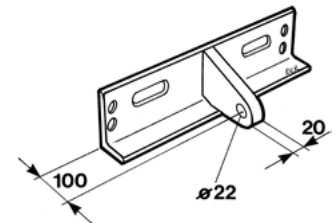
### INSULATOR CHAIN MOUNT

Made of hot-dip galvanized steel. Wood screws included. The bracket is used for attaching one or two insulator chains, as well as double braces.



### GROUND LINE MOUNT

Made of hot-dip galvanized steel. Bracket 3442604 has holes at both ends for attaching grounding clamp 34381--, 34384-- or 34387--.



Number	Fits post diameter mm	Weight kg	Maximum breaking force kN	Short circuit current max kA	Post bracket size
3442604	150–250	5,6	15	30	M20

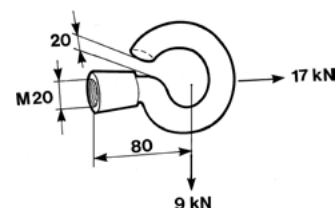
## WIRE MOUNT

### THREADED HOOK

Made of hot-dip galvanized steel.

Number: 3358901

Weight: 0,6 kg

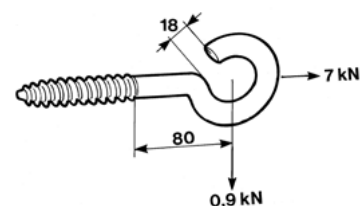


### WALL HOOK

Made of hot-dip galvanized steel.

Number: 3358902

Weight: 0,5 kg

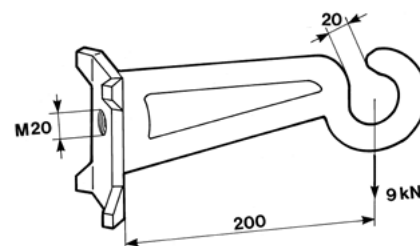


### DISTANCE HOOK

Made of hot-dip galvanized steel.

Number: 3358911

Weight: 1,9 kg

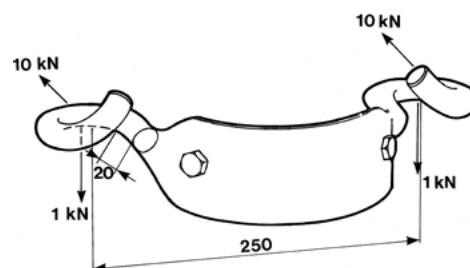


### POLE CLAMP

Made of hot-dip galvanized steel. For post, diameter 150–200 mm. Wood screws, T6S 16x75, ordered separately.

Number: 3358920

Weight: 1,8 kg

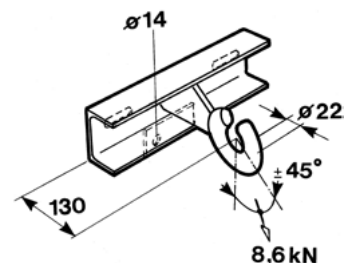


### OUTRIGGER

The hanging bracket is intended for hanging spiral wiring. Made of hot-dip galvanized steel. Wood screw included. For post diameter 150–240 mm. Suitable hanger number 5471951.

Number: 3357105

Weight: 3,6 kg



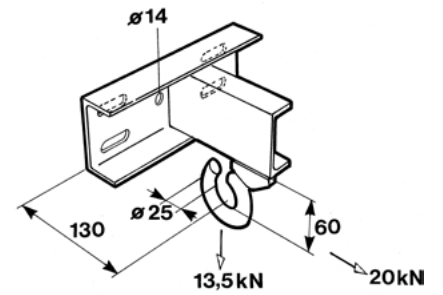
## POST ACCESSORIES

### OUTRIGGER

Made of hot-dip galvanized steel. Wood screw included. For post diameter 150–240 mm. Suitable hanger number 5471951.

**Number: 3357101**

Weight: 7,5 kg

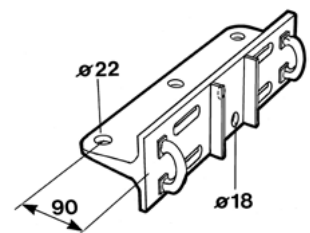


### BRACKET

Made of hot-dip galvanized steel. Wood screws included. For post diameter 150–240 mm.

**Number: 3357201**

Weight: 10 kg



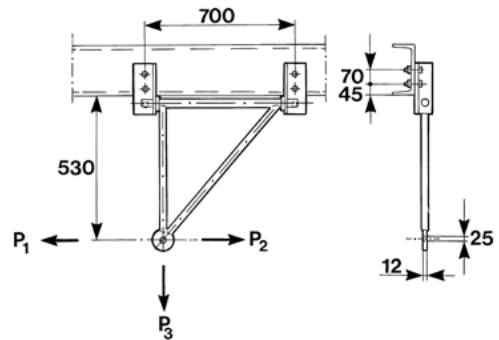
# TRIANGLE HANGERS

## SWING HANGER

Made of hot-dip galvanized steel. Mounting bolts included.

Number: 3417105

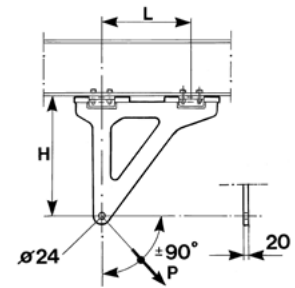
Weight: 18 kg



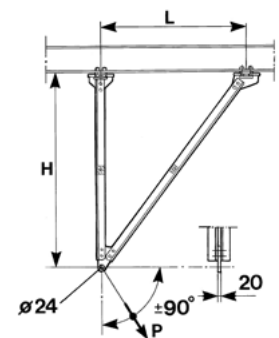
## SWING HANGER

Made of steel. Fasteners and bolts are included.

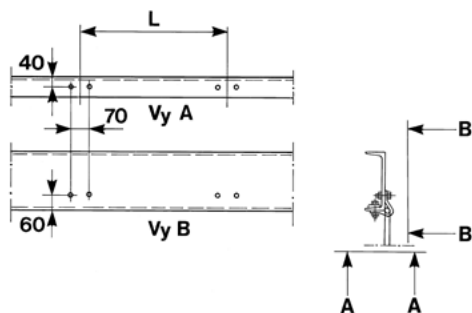
Number	Fits beam profile	Picture	H mm	L mm	Weight kg	Ultimate strength kN	Short circuit current max kA
3417230	U140–200	1	485	375	22	54	50
3417240		2	785	600	38	54	50
3417250		2	1185	900	51	54	50
3417260		2	1685	1275	67	54	50
3417231	U220–330	1	485	375	22	54	50
3417241		2	785	600	38	54	50
3417251		2	1185	900	51	54	50
3417261		2	1685	1275	67	54	50
3417234	USP140–300	1	485	375	22	54	50
3417244		2	785	600	38	54	50
3417254		2	1185	900	51	54	50
3417264		2	1685	1275	67	54	50
3417232	HE140A–240A	1	485	375	21	84	50
3417242		2	800	600	37	84	50
3417252		2	1200	900	50	84	50
3417262		2	1700	1275	66	84	50
3417233	HE260A–300A	1	485	375	21	84	50
3417243		2	800	600	37	84	50
3417253		2	1200	900	50	84	50
3417263		2	1700	1275	66	84	50



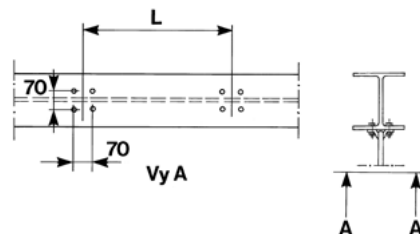
Pic. 1



Pic. 2



Drilling for profile U and USP



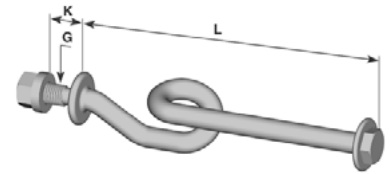
Drilling for profile HE-A



# STEP BOLTS

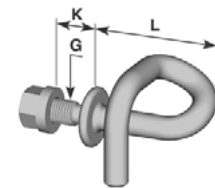
## STEP BOLT WITH FALL PROTECTION, MF 01

Number	G	K max mm	L mm	Weight kg
3476111	M12	22	247	0,80
3476121	M16	19	247	0,85
3476122	M16	34	247	0,87



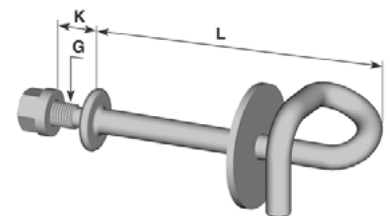
## STEP BOLT WITH FALL PROTECTION, MF 03

Number	G	K max mm	L mm	Weight kg
3476113	M12	22	79	0,50
3476123	M16	19	79	0,55



## STEP BOLT WITH FALL PROTECTION, MF 04

Number	G	K max mm	L mm	Weight kg
3476114	M12	22	190	0,80
3476124	M16	19	190	0,85

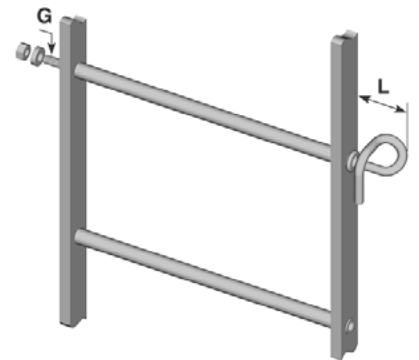


## POST ACCESSORIES

### FALL PROTECTION IN LADDER, MF 06

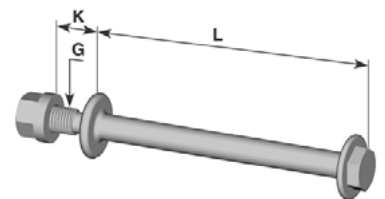
Intended for mounting on fixed ladders.

Number	Fits ladder mm	G	L mm	Weight kg
3476116	400	M12	67	0,65
3476156	450	M12	67	0,70



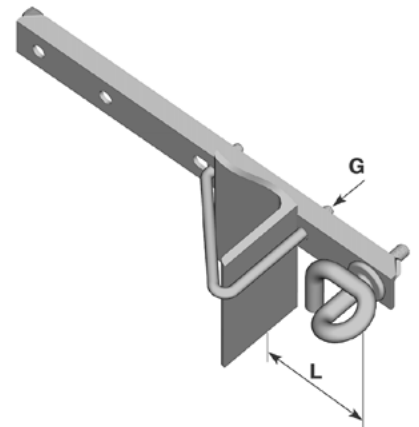
### STEP BOLT, MF 10

Number	G	K max mm	L mm	Weight kg
3476110	M12	22	188	0,45
3476120	M16	19	188	0,50
3476130	M16	34	188	0,52



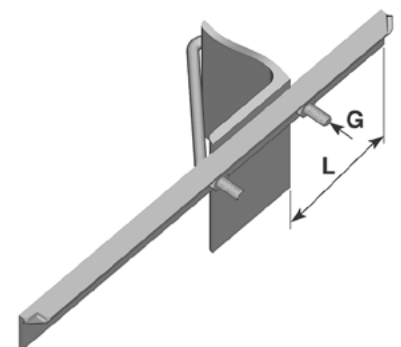
### STEP BOLT WITH FALL PROTECTION, MF 11

Number	G	Suitable for mounting in angle beam mm	L mm	Weight kg
3476131	M12	90*90	130	1,40
3476141	M12	100*100	130	1,45



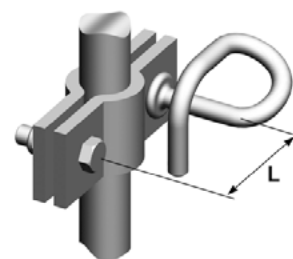
### STEP BOLT, MF 12

Number	G	Suitable for mounting in angle beam mm	L mm	Weight kg
3476132	M12	90*90	110	0,90
3476142	M12	100*100	110	0,95



**MOUNTING FOR GRID MAST, MF 09**

Number	G	Suitable for mounting in round bar diameter mm	L mm	Weight kg
3476181	M12	30	130	1,1
3476182	M12	35	135	1,1
3476183	M12	40	140	1,2
3476184	M12	45	145	1,2
3476185	M12	50	150	1,3
3476186	M12	55	155	1,3
3476187	M12	60	160	1,4
3476188	M12	65	165	1,4
3476189	M12	70	170	1,5
3476190	M12	75	175	1,5
3476191	M12	80	180	1,6
3476281	M16	30	130	1,1
3476282	M16	35	135	1,1
3476283	M16	40	140	1,2
3476284	M16	45	145	1,2
3476285	M16	50	150	1,3
3476286	M16	55	155	1,3
3476287	M16	60	160	1,4
3476288	M16	65	165	1,4
3476289	M16	70	170	1,5
3476290	M16	75	175	1,5
3476291	M16	80	180	1,6

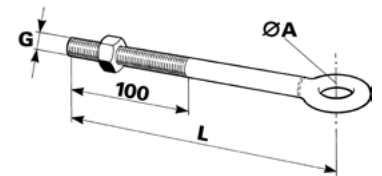


# SCREW, NUT AND WASHER

## EYE STUD

Made of steel in strength class 5.6. Hot-dip galvanized. Nut included.

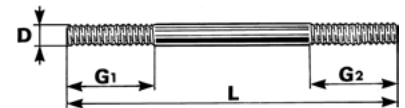
Number	Picture	A mm	G	L mm	Weight kg
3486712	2	27	M16	200	0,4
3486713	2	27	M16	300	0,5
3486714	2	27	M16	400	0,6



## STUD SCREW

Made of steel in strength class 3.6. Hot-dip galvanized.

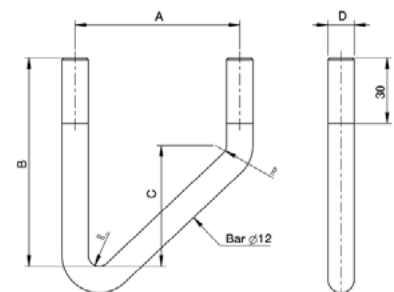
Number	D x L mm	G1	G2	Weight kg
3478824	M20 x 240	25	100	0,6
3478828	280	25	100	0,7
3478832	320	25	100	0,8
3478836	360	120	100	0,9
3478840	400	150	100	1,0
3478850	500	200	200	1,2
3478865	650	250	200	1,6
3478875	750	175	175	1,8
3478890	900	175	175	2,2
3479045	M24 x 450	100	100	1,4
3479060	600	150	150	2,0
3479075	750	150	150	2,4
3479090	900	150	150	3,1
3479012	1200	200	200	4,3



## BRACKET BOLT

Made of galvanized steel. Nut and washers included.

Number	Profile	A mm	B mm	D mm	Weight kg
3476126	L60x60x6	75	95	M12	0,21
3476127	L70x70x7	85	105	M12	0,23
3476128	L75x75x8	90	110	M12	0,24
3476129	L80x80x8	95	115	M12	0,25
3476134	L90x90x9	105	125	M12	0,27
3476135	L100x100x10	115	135	M12	0,30
3476136	L110x110x10	125	145	M12	0,32
3476137	L120x120x13	135	155	M12	0,34
3476138	L130x130x12	145	165	M12	0,36
3476139	L140x140x13	155	175	M12	0,38
3476140	L150x150x12	165	185	M12	0,40
3476225	L50x50x5	70	100	M16	0,41
3476226	L60x60x6	80	110	M16	0,43
3476227	L70x70x7	90	120	M16	0,47

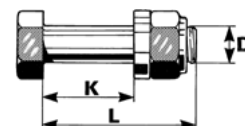


## POST WEIGHT

3476228	L75x75x8	95	125	M16	0,49
3476229	L80x80x8	100	130	M16	0,51
3476234	L90x90x9	110	140	M16	0,55
3476235	L100x100x10	120	150	M16	0,58
3476236	L110x110x12	130	160	M16	0,62
3476237	L120x120x13	140	170	M16	0,66
3476238	L130x130x12	150	180	M16	0,70
3476239	L140x140x13	160	190	M16	0,74
3476244	L150x150x14	170	200	M16	0,77

## METAL SCREWS

Made of steel in strength class 8.8. Hot-dip galvanized.  
Nut and 7 mm thick washer included.



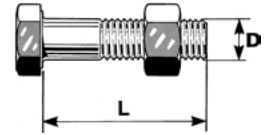
Number	D	K mm	L mm	Weight kg/100	Screw only Nr
3389535	M12	7-12	35	7,8	3379535
3389540		12-17	40	8,3	3379540
3389545		17-22	45	8,7	3379545
3389550		22-27	50	9,2	3379550
3389555		27-32	55	9,7	3379555
3389560		32-37	60	10,2	3379560
3389565		37-42	65	10,7	3379565
3389640	M16	7-12	40	15,5	3379640
3389645		12-17	45	16,4	3379645
3389650		17-22	50	17,1	3379650
3389655		22-27	55	17,9	3379655
3389660		27-32	60	18,8	3379660
3389665		32-37	65	19,5	3379665
3389670		37-42	70	20,3	3379670
3389745	M20	8-13	45	28,0	3379745
3389750		13-18	50	29,5	3379750
3389755		18-23	55	30,5	3379755
3389760		23-28	60	31,6	3379760
3389765		28-33	65	32,9	3379765
3389770		33-38	70	34,1	3379770
3389775		38-43	75	35,3	3379775
3389780		43-48	80	36,6	3379780
3389785		48-53	85	37,9	3379785
3389790		53-58	90	39,2	3379790
3389795		58-63	95	40,5	3379795
3389710		63-68	100	41,8	3379710
3389705	68-73	105	43,1	3379705	
3389711	73-78	110	44,4	3379711	
3389950	M24	13-18	50	47,9	3379950
3389960		18-23	60	49,4	3379960
3389965		23-28	65	50,9	3379965
3389970		28-33	70	53,2	3379970
3389975		33-38	75	55,0	3379975
3389980		38-43	80	56,8	3379980
3389990		48-53	90	60,3	3379990
3389910		58-63	100	63,8	3379910

**HEX BOLT**

Hot-dip galvanized

Made of steel in strength class 8.8. Nut included.

Number	D x L mm	Weight kg /100	Screw only Nr
3311330	M10 x 30	3,9	3310330
3311340	40	4,6	3310340
3311350	50	5,2	3310350
3311430	M12 x 30	5,7	3310430
3311440	40	6,5	3310440
3311450	50	7,4	3310450
3311460	60	8,3	3310460
3311470	70	9,2	3310470
3311480	80	10	3310480
3311490	90	11	3310490
3311410	100	12	3310410
3311540	M16 x 40	12	3310540
3311550	50	14	3310550
3311560	60	15	3310560
3311570	70	17	3310570
3311580	80	19	3310580
3311590	90	20	3310590
3311510	100	22	3310510
3311511	110	23	3310511
3311512	120	25	3310512
3311650	M20 x 50	24	3310650
3311660	60	27	3310660
3311670	70	29	3310670
3311680	80	32	3310680
3311690	90	34	3310690
3311610	100	37	3310610
3311612	120	42	3310612
3311614	140	43	3310614



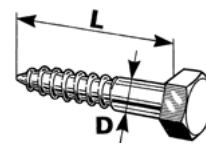
## POST ACCESSORIES

### SCREW FOR WOOD

Hot-dip galvanized.

Made of steel in strength class 3.6.

Number	D mm	L mm	Weight kg/100
3486175	6	75	1,6
3486265	8	65	2,4
3486350	10	50	3,4
3486375	10	75	4,5
3486475	12	75	7,0
3486410	12	100	9,2
3486414	12	140	12
3486575	16	75	12
3486510	16	100	16
3486512	16	120	18
3486516	16	160	22
3486610	20	100	28
3486614	20	140	36



### SCREW FOR WOOD

Hot-dip galvanized.

Number	D mm	L mm	Weight kg/100
3516275	8	75	2,4
3516375	10	75	4,5
3516475	12	75	7,0
3516410	12	100	9,2
3516575	16	75	12
3516510	16	100	16
3486610	20	100	28

### HEX NUT, M6M

Hot-dip galvanized

Made of steel in strength class 8.



Number	Fits screw dimension	Weight kg/100
3312210	M10	1,1
3312212	M12	1,6
3312216	M16	3,8
3312220	M20	7,3
3312222	M22	10
3312224	M24	13
3312227	M27	18
3312230	M30	24

### HEX LOCK NUT

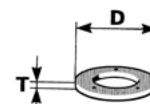
Made of steel in strength class 8.



Number	Fits screw dimension	Weight kg/100
3312012	M12	1,6
3312016	M16	3,0

### ROUND WASHER

Hot-dip galvanized.

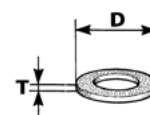


Number	Fits screw dimension	D mm	T mm	Weight kg/100
3312410	M10	22	2	0,48
3312412	M12	24	2	0,52
3312416	M16	30	3	1,2

### RUND WASHER TYP SRB

Hot-dip galvanized.

Made of steel.



Number	Fits screw dimension	D mm	T mm	Weight kg/100
3313120	M20	36	3	1,6
3313122	M22	40	3	1,9
3313124	M24	45	4	3,2

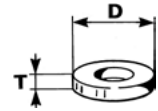


## POST ACCESSORIES

### ROUND THICK WASHER

Hot-dip galvanized.

Number	Fits screw dimension	D mm	T mm	Weight kg/100
3313312	M12	24	7	1,8
3313316	M16	30	7	2,7
3313320	M20	37	7	3,8
3313322	M22	39	7	4,5
3313324	M24	44	7	5,9



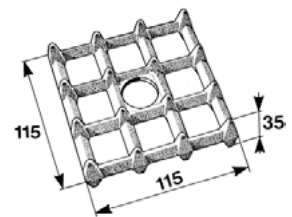
### BIG SQUARE WASHER

Made of hot-dip galvanized ductile iron.

For screw dimension M24.

Number: 3443601

Weight: 0,6 kg



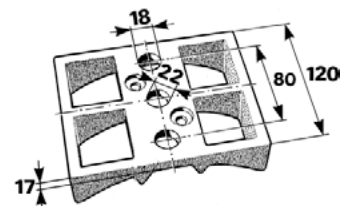
### BIG SQUARE WASHER

Made of hot-dip galvanized ductile iron.

For post diameter 260-400.

Number: 3443101

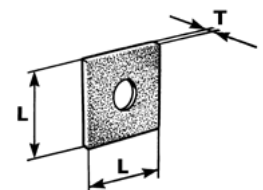
Weight: 1,5 kg



### SQUARE WASHER

Made of hot-dip galvanized steel.

Number	Fits screw	L mm	T mm	Weight kg/100
3432302	M20	120	10	110
3432305	M20	50	12	21
3432307	M20	70	12	44
3432308	M24	60	10	25
3432310	M24	120	10	110
3432313	M24	100	15	120
3312916	M16	50	5	
3312920	M20	60	6	

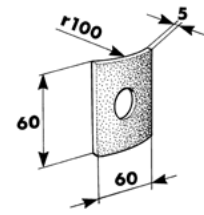


**SQUARE WASHER**

Made of hot-dip galvanized steel. For screw dimension M20

**Number: 3431902**

Weight: 13 kg/100pcs

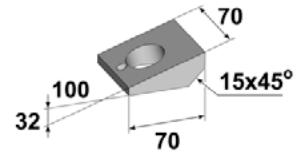


**SLIDE SQUARE WASHER**

Made of hot-dip galvanized steel. For screw dimension M30.

**Number: 3444101**

Weight: 0,55 kg

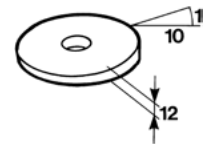


**SLIDE ROUND WASHER**

Made of hot-dip galvanized steel. For screw dimension M24.

**Number: 3705125**

Weight: 0,84 kg

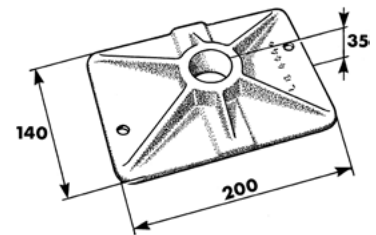


**FLAT WASHER**

Made of hot-dip galvanized ductile iron. For screw dimension M30.

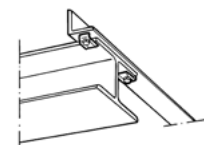
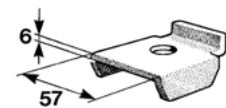
**Number: 3444001**

Weight: 2,3 kg

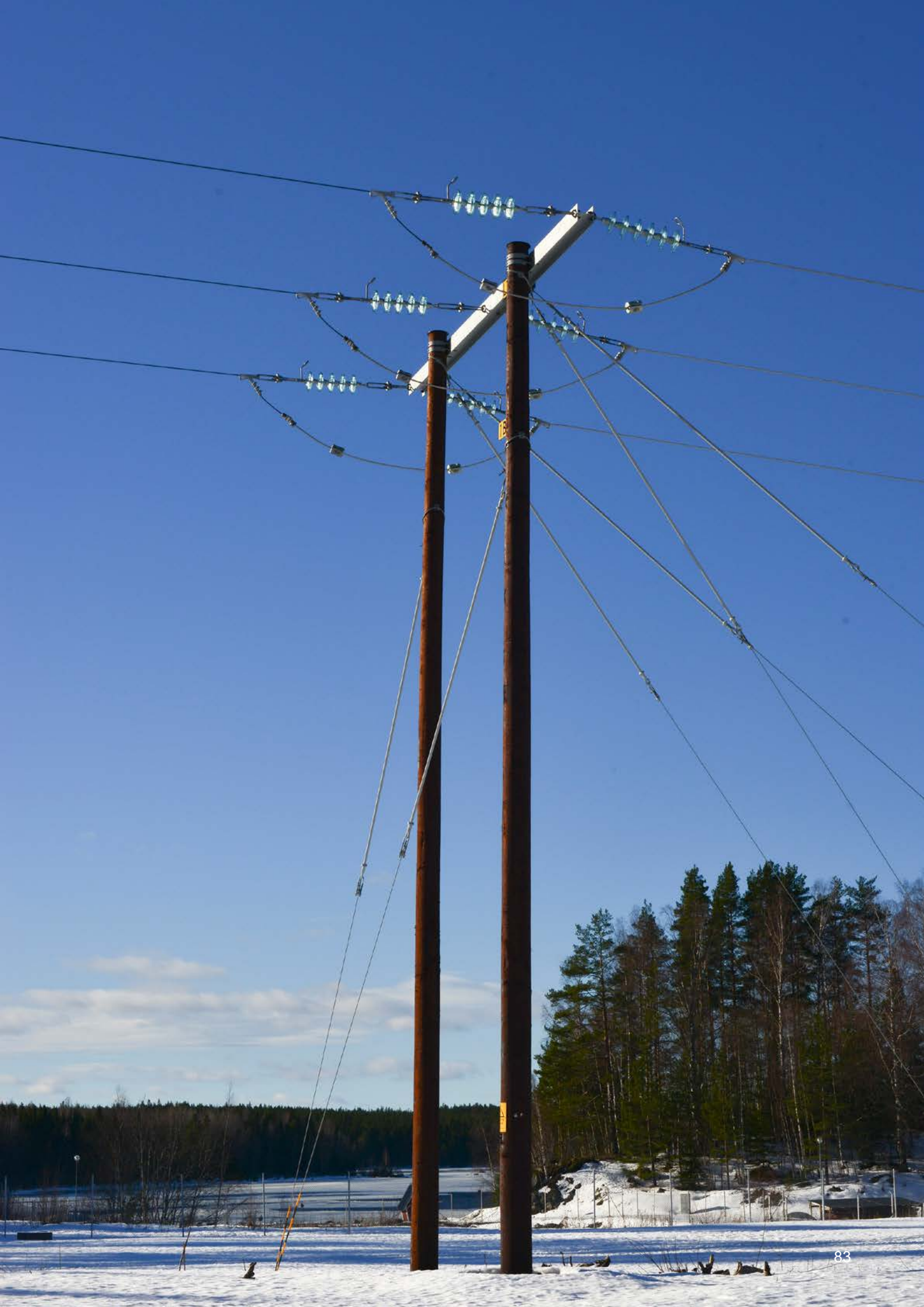


**CLAMP WASHER**

Made of hot-dip galvanized steel.



Number	Fits screw dimension	Flange thickness mm	Weight kg
3449309	M16	8-11	0,15
3449312	M16	11-14	0,16
3449315	M16	14-17	0,17



# EARTHING ACCESSORIES



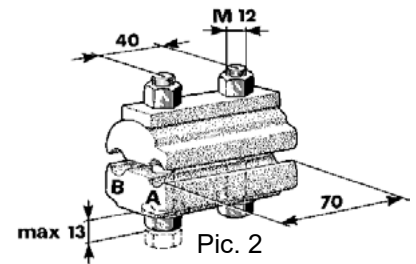
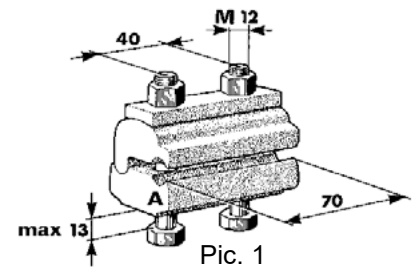
## EARTHING ACCESSORIES

# EARTH CLAMPS

### CONNECTOR, FE

Made of iron. Steel screws. Hot-dip galvanized.

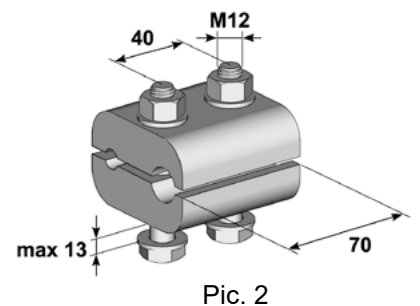
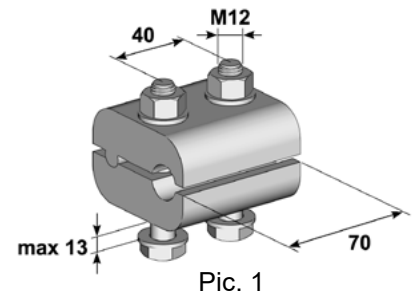
Number	Fits wire diameter		Picture	Weight kg
	A mm <sup>2</sup>	B mm <sup>2</sup>		
For connection to steel stands				
3438101	25-70	—	1	0,8
3438201	89-150	—	1	1,0
3438102	25-70	25- 70	2	0,8
3438202	89-150	68-150	2	1,0
For mounting as a free-hanging parallel clamp				
3438103	25-70	25- 70	2	0,8
3438203	89-150	68-150	2	1,0



### CONNECTOR, AL

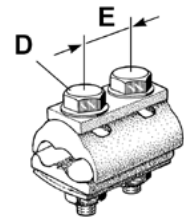
Made of aluminum. Steel screws. Hot-dip galvanized.

Number	Fits wire diameter		Picture	Weight kg
	A mm <sup>2</sup>	B mm <sup>2</sup>		
For connection to steel stands				
3438713	234-241	—	1	0,75
3438714	319-329	—	1	0,75
For connection to steel stands and mounting as a parallel clamp				
3438730	234-241	50-62	2	0,75
3438731	234-241	68	2	0,75
3438732	234-241	89	2	0,75
3438733	234-241	99-105	2	0,75
3438734	234-241	142	2	0,75
3438735	234-241	157	2	0,75
3438737	234-241	234-241	2	0,75
3438739	234-241	260-284	2	0,75
3438740	319-329	50-62	2	0,75
3438741	319-329	68	2	0,75
3438742	319-329	89	2	0,75
3438743	319-329	99-105	2	0,75
3438744	319-329	142	2	0,75
3438745	319-329	157	2	0,75
3438747	319-329	234-241	2	0,75
3438749	319-329	260-284	2	0,75
3438748	319-329	319-329	2	0,75

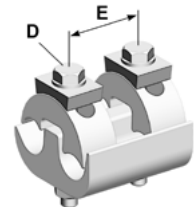


**CONNECTOR, AL**

Made of aluminum. Steel screws. Hot-dip galvanized.  
Short circuit current max 12 kA.



Pic. 1



Pic. 2

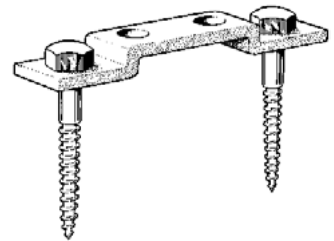
Number	Fits wire diameter mm	E mm	D mm	Picture	Weight kg
5232301	25-99	26	8	1	0,17
5232401	99-157	26	10	1	0,22
5232416	16-120	40	10	2	0,25
5232450	50-240	40	10	2	0,35

**WOODEN POST MOUNT**

Made of hot-dip galvanized steel. Wood screws included.

Number: 3438501

Weight: 0,30 kg

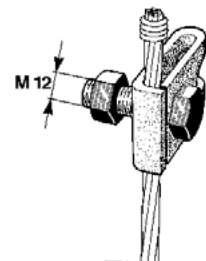


**EARTHING CLAMP**

Made of hot-dip galvanized steel. Mounting bolt, M12x40 included. Intended for 25-68 mm<sup>2</sup> earth cable.

Number: 3433402

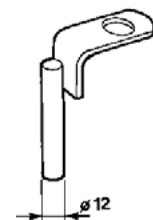
Weight: 0,27 kg



**EARTHING CONDUCTOR PLUG**

Made of hot-dip galvanized steel.  
Short circuit current max 7 kA.

Number	Fits bolt size	Weight kg
3434412	M12	0,16
3434416	M16	0,19
3434420	M20	0,22
3434425	M24	0,25
3434432	M27-M30	0,32



## EARTHING ACCESSORIES

### CONNECTION BRACKET

**For direct connection of earthing clamp to frame bar.**

Earthing clamp for the down conductor is ordered separately.

**Number: 3438510**

Weight: 1,4 kg



**For direct connection of earthing clamp to strut screw.**

Earthing clamp for the down conductor is ordered separately.

Number	Fits bolt size	Weight kg
3434476	M20	1,2
3434477	M24	1,2
3434478	M27	1,2
3434479	M33	1,2



### INSULATED CONNECTION BRACKET

**Mounting on a frame bar.**

Made of hot-dip galvanized steel. Gap insulation of phenolic laminate. Gap distance 1 – 2 mm. The frame bar is drilled with a Ø18 mm hole. Bolt M16x50 for mounting included.

**Number: 3434440**

Weight: 0,7 kg



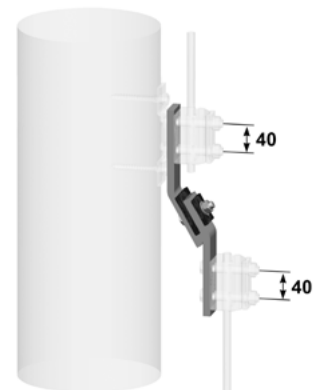
### INSULATED CONNECTION BRACKET

**Mounting on a wooden post.**

Made of hot-dip galvanized steel. Gap insulation of phenolic laminate. Gap distance 1 – 2 mm. Suitable for mounting on wooden post

**Number: 3434456**

Weight: 1,4 kg



**INSULATED ANGLE BRACKET**

For mounting on a stay screw bracket.

Made of hot-dip galvanized steel. Gap insulation made of phenolic laminate. Gap distance 1 – 2 mm. Earthing clamp for down conductor is ordered separately.

Number	Fits bolt size	Weight kg	Pic
3434442	M20	2,4	1
3434443	M24	2,4	1
3434444	M27	2,4	1
3434445	M33	2,4	1
4434471	M33	2,6	2



Pic. 1



Pic. 2

**ANGLE CLAMP**

Number	Area mm <sup>2</sup>	Earthing clamp
<b>Copper cable</b>		
1109735/ 1109835	58,6	3438101
1109750/ 1109850	73,9	3438101
1109770/ 1109870	93,1	3438201
1109780/ 1109880	126	3438201
1109795/ 1109895	159	3438201
<b>Copper cable</b>		
1109225	25	3438101
1109235	35	3438101
1109250	50	3438101
1109270	70	3438101
1109295	95	3438201
1109212	120	3438201

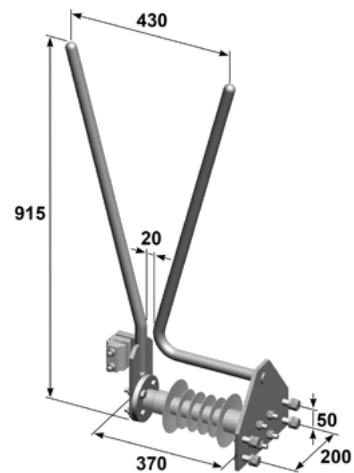


## EARTHING ACCESSORIES

### SPARK GAP, TOP LINE

Made of hot-dip galvanized steel. Supplied with composite insulator C6-125 and earthing clamp and bolts for attachment to the pole top included.

Number	Fits top line diameter mm <sup>2</sup>	Weight kg
3434480	142	20
3434481	241	20
3434482	329	20



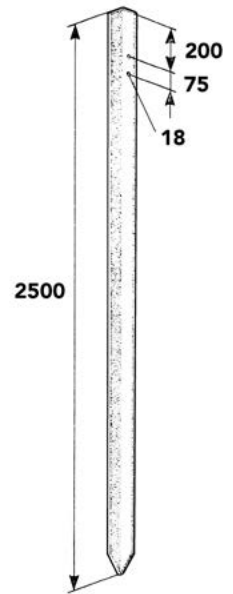
**GROUND ROD**

Made of profiled steel

Each earthing rod comes with 2 earthing washers no. 3434102 and the required bolts.

**Number: 3434001**

Weight: 13,5 kg

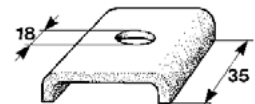


**EARTHING WASHER**

Made of hot-dip galvanized steel. For connection of max. 52 mm<sup>2</sup> cable.

**Number: 3434102**

Weight: 0,03 kg



**THREADED GROUND ROD**

Made of copper-plated steel. The rod is threaded at both ends.

Short circuit current max 18 kA.

Number	L mm	Diameter mm	Weight kg
3437115	1500	20"	1,9
3437121	2100	20"	2,7

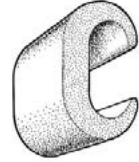


## EARTHING ACCESSORIES

### C-CLAMP

Made of copper

Number	Fits wire		Marking	Weight kg
	diameter mm <sup>2</sup>	total area mm <sup>2</sup>		
<b>3236106</b>	6-16	12-26	C6-10	0,01
<b>3236116</b>	5-25	30-50	C16-25	0,02
<b>3236150</b>	25-95	95-145	C50-70	0,09
<b>3236170</b>	25-120	140-195	C70-95	0,09
<b>3236195</b>	25-185	175-240	C95-120	0,13
<b>3236115</b>	25-300	245-425	C150-185	0,33
<b>3236124</b>	150-300	450-540	C240-300	0,55



### CONNECTOR

Made of corrosion-resistant copper alloy.

**Number: 3437301**

Weight: 0,11 kg

Short circuit current max 18 kA.



### IMPACT SCREW

Made of Steel

**Number: 3437401**

Weight: 0,09 kg



### STEEL TIP

Made of steel

**Number: 3437501**

Weight: 0,09 kg

Used as an extra tip on the earth bar when striking hard ground.







# ASSEMBLY INSTRUCTIONS



# WEDGE CLAMP

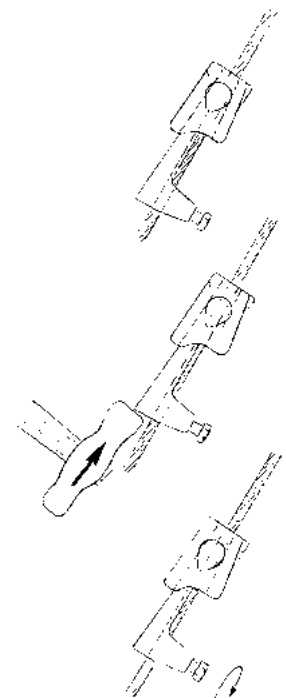
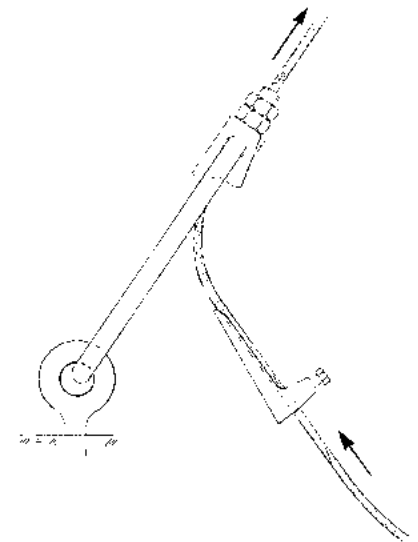
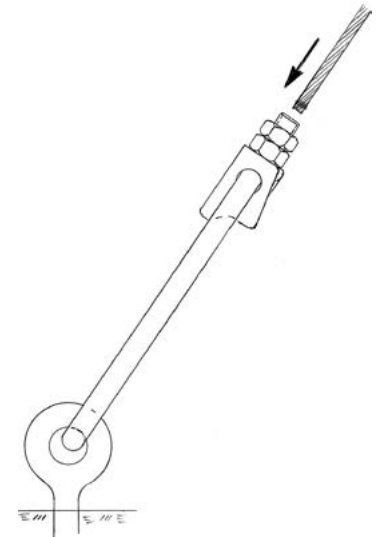
## For single and double wires

When delivered, the surface that will slide in the wedge housing is lubricated with dry sliding grease.

### Make sure the sliding surfaces are kept clean!

- Install the wedge clamp bracket in the eye of the anchorage.
- Pass the stay line through the wedge housing
- Bring the wedge housing up against the stay screw nuts.
- Mount the wedge on the rope.
- Insert the wedge into the housing with the fixing screw pointing downwards. Secure the wedge.
- The fixing screw needs to be tightened with the prescribed torque.
- The line must be cut during the knotting.

Wedge clamp Number	Fits wire diameter mm <sup>2</sup>	Socket size mm	Torque settings Nm
For single wedge clamps			
34191--	25-68	16	45
34192--	89	18	75
34193--	105-142	18	75
34194--	185-284	24	100
For double wedge clamps			
34195--	2 x 25- 70	16	45
34196--	2 x 70-107	18	75
34197--	2 x 142	18	75
34198--	2 x 185	24	100

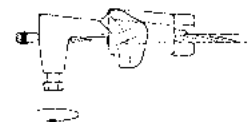
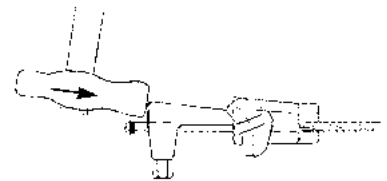
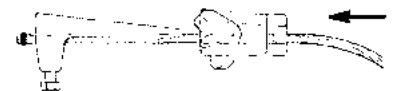
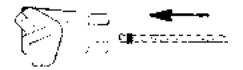
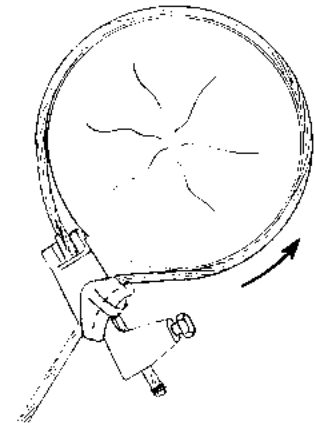


**POLE WIRE CLAMP**

When delivered, the surface that will slide in the housing is lubricated with dry grease.

**Make sure the sliding surfaces are kept clean!**

- Pass the cable through the wedge housing.
- Mount the wedge on the rope.
- Let the line end stick out so far that the nagging comes outside the wedge. The distance for protruding rope must be at least 25 mm.
- Fit the wedge housing over the wedge. The screw of the wedge must be oriented in that direction the stay must be bent.
- Secure the wedge.
- The fixing screw needs to be tightened with the prescribed torque.
- Entwine the post by passing the stay clamp from the right around the post.
- Hook the stay clip from below onto the stay line



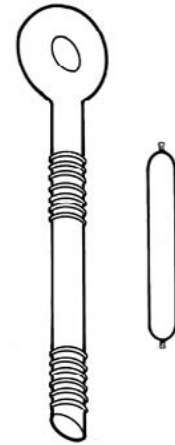
Wedge clamp Number	Fits wire diameter mm <sup>2</sup>	Socket size mm	Torque settings Nm
3419001	25–68	16	45
3419002	89	18	75
3419003	105–142	18	75



# ASSEMBLY INSTRUCTIONS

## ANCHORAGE IN MOUNTAINS

- Drill the hole vertically.
- The hole must be clean of dust, debris and water.
- Check that the anchor can rotate freely in the hole.
- Carefully fill the hole with infusion cartridge(s). Alternatively, cement can be used
- The anchor eye must be mounted close to the rock.
- Wait for the hardening time and test load the anchor before connecting the wire.



Injection cartridge catalog number 3490921

<b>Anchore Nummer</b>	<b>Fits wire diameter max mm<sup>2</sup></b>	<b>Matching holes mm</b>	<b>Hole depth mm</b>	<b>Injection cartridge Quantity</b>
<b>3428211</b>	52	26-29	210	1/2
<b>3428221</b>	142	32-36	310	1
<b>3428222</b>	142	32-36	610	2
<b>3428223</b>	142	32-36	1510	3
<b>3428231</b>	185	39-43	910	3
<b>3428232</b>	185	39-43	1510	3

# PREFORMED SPIRALS

## DEAD END WIRE



### 1. Delivery

The tensioning spirals are delivered in bundles. Each unit is provided with a label indicating the catalogue number and the line dimension for which the tensioning spiral can be used.

### 2. Colour marking

Mark A indicates the location of the wire end when anchored in stay screws and where the loop is relatively small.

Mark B indicates where the stay wire end should be placed when a larger loop is required.

### 3. Instalation

- Stretch the rope with to the desired tension. Then stretch with a few more pulls to compensate for what is lost in the unloaded part of the line. Picture 1.

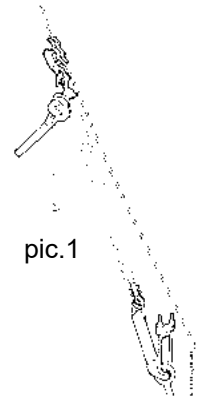
- The wire is taped and cut at a height corresponding to the current mark on the tensioning spiral, which should then be set as when installing in the stay screw. If slack is required for grounding, the wire must not be cut. Picture 2.

- Stretch both tension wire and wire end. Place the wire end in the spiral at the height of the color mark. Picture 3.

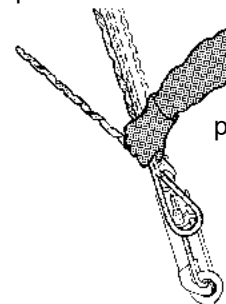
- Wrap one end of the spiral but save the last two turns. Picture 4.

- Pass the other end of the spiral over the yoke. Match the color markings of the two ends and wrap the other end until two turns remain. To facilitate the application of the last part of the spiral, the last turn can be divided into subsets or individual threads. Picture 5.

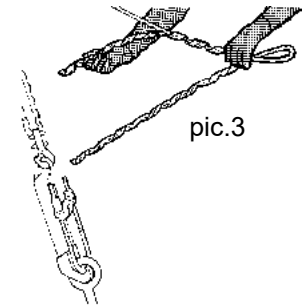
- Complete the winding of the last two rounds. Picture 6.



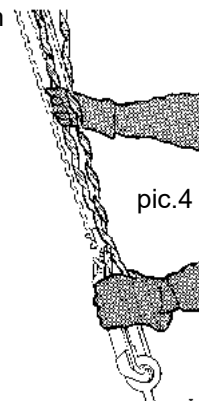
pic.1



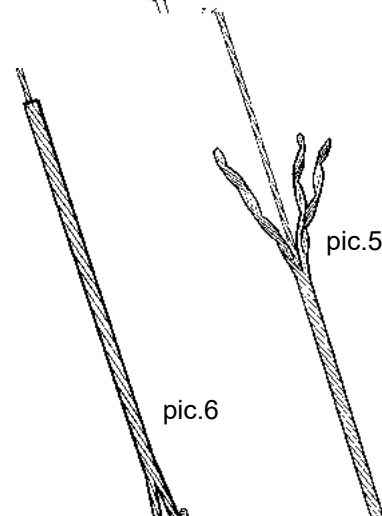
pic.2



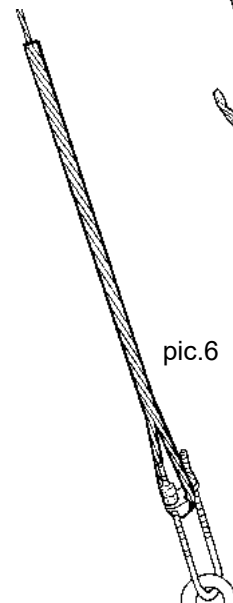
pic.3



pic.4



pic.5



pic.6

