CLEATS AND ACCESSORIES

FASTENING

SUPPORT

HOLDING

SAFE & PRECISE

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NEW PRODUCTS

Universal Shoe - SCS

DESCRIPTION

The shoe is used for installations on the ground or on supports (brackets).
Cables are maintained by an intermediary strap clamp CS2I80.

Cables will be sitting on rubber protection.
For Ø70 to Ø125 cables.

MATERIAL

Aluminium alloy AS7G06

To be ordered separately :

Brass cable clamp (see page 31)
Plan earthing device

Third Hand - SC450

DESCRIPTION

The support allows one or several cable(s) to be kept horizontal when positioning the strap and tightening process.
Fits to our EPOXY brackets (PI-190-A reference, page 28).

MATERIAL

Hot-dip galvanised steel + PVC protection

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NEW PRODUCTS

Hinged Cleat - CNG70

DESCRIPTION

Hinged cleat allows a single cable to be kept horizontal or vertical.
The CNG is composed by 3 parts kept together by 2 screws only.

MATERIAL

Aluminium alloy AS7G06

INFORMATION

Provided with the cleat :

Hinged cleat : Screws for closing and fastening

To be ordered separately :

Wrenches : make closing easier, see page 27

Protection *for single cleat*, see page 20
Assembly paste for screws, page 32

Do not hesitate to contact us for any request

Cleats

Special Cleats

Accessories

CONTENTS

Single Cleats

DESCRIPTION

Single cleats allow a single cable to be kept horizontal or vertical.

There are two systems of single cleats:

⇒ Single cleats intended for fastening MV cables of diameters from 28 mm to 39 mm.

⇒ Hinged single cleats intended for fastening cables of diameters from 42 mm to 142 mm.

MATERIAL

Aluminium alloy AS13 + stainless steel

INFORMATION

Provided with the cleat:
Single cleat: screws for closing and fastening
Hinged cleat: screws for closing

To be ordered separately:
Wrenches: make closing easier, see page 27
Protection *for single cleat*, see page 20
Fastening screws *for single hinged cleat*, see page 32
Assembly paste for screws, page 32

STANDARD

Single hinged cleats:
RTE-approved according to size and application, IEC-certified, see pages 35 and 36

ALSO AVAILABLE:

Threading: For use with medium voltage cables, we can supply you with single hinged cleats of Ø44 to Ø90 with M12 fastenings

CSV**

Single screw version cleat

CSE**

Single nut version cleat

CSCV**

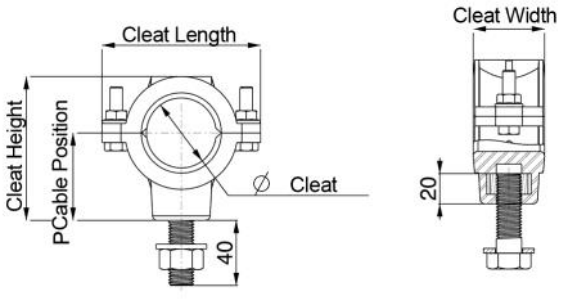
Single screw version hinged cleat

CSE**

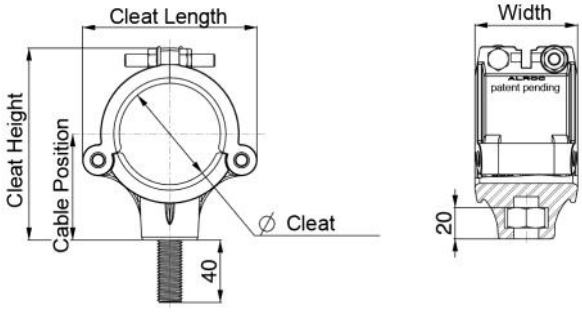
Single nut version hinged cleat

M12 M16

Single cleat



Single hinged cleat



To make your installation diagrams easier, we can provide you with our simplified 3D files on request

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	≤ Ø < Cable in mm	Cleat in mm	Length in mm	Width in mm	Height in mm	Cable position in mm	Protection thickness	Protection reference	Cleat reference	
									M16 screw	M16 nut
Single cleat	28 to 32	44	100	45	91	55	10	PC 10-44	CS 44 V	CS 44 E
	32 to 35	44	100	45	91	55	8	PC 8-44	CS 44 V	CS 44 E
	35 to 37	47,5	100	45	91	55	10	PC 10-47,5	CS 47,5 V	CS 47,5 E
	37 to 39	47,5	100	45	91	55	8	PC 8-47,5	CS 47,5 V	CS 47,5 E
Single hinged cleat	42 to 44	60	112	66	121	68	10	PCA 10-60	CSC 60 V	CSC 60 E
	44 to 47	60	112	66	121	68	8	PCA 8-60	CSC 60 V	CSC 60 E
	47 to 49	65	112	66	121	68	10	PCA 10-65	CSC 65 V	CSC 65 E
	49 to 52	65	112	66	121	68	8	PCA 8-65	CSC 65 V	CSC 65 E
	52 to 54	70	121	66	125	70	10	PCA 10-70	CSC 70 V	CSC 70 E
	54 to 57	70	121	66	125	70	8	PCA 8-70	CSC 70 V	CSC 70 E
	57 to 59	75	126	66	131	71	10	PCA 10-75	CSC 75 V	CSC 75 E
	59 to 62	75	126	66	131	71	8	PCA 8-75	CSC 75 V	CSC 75 E
	62 to 64	80	134	80	138	74	10	PCA 10-80	CSC 80 V	CSC 80 E
	64 to 67	80	134	80	138	74	8	PCA 8-80	CSC 80 V	CSC 80 E
	67 to 69	85	140	80	144	77	10	PCA 10-85	CSC 85 V	CSC 85 E
	69 to 72	85	140	80	144	77	8	PCA 8-85	CSC 85 V	CSC 85 E
	72 to 74	90	145	80	150	80	10	PCA 10-90	CSC 90 V	CSC 90 E
	74 to 77	90	145	80	150	80	8	PCA 8-90	CSC 90 V	CSC 90 E
	77 to 79	95	151	80	158	82	10	PCA 10-95	CSC 95 V	CSC 95 E
	79 to 82	95	151	80	158	82	8	PCA 8-95	CSC 95 V	CSC 95 E
	82 to 84	100	157	100	163	86	10	PCA 10-100	CSC 100 V	CSC 100 E
	84 to 87	100	157	100	163	86	8	PCA 8-100	CSC 100 V	CSC 100 E
	87 to 89	105	163	100	168	88	10	PCA 10-105	CSC 105 V	CSC 105 E
	89 to 92	105	163	100	168	88	8	PCA 8-105	CSC 105 V	CSC 105 E
	92 to 94	110	169	100	175	92	10	PCA 10-110	CSC 110 V	CSC 110 E
	94 to 97	110	169	100	175	92	8	PCA 8-110	CSC 110 V	CSC 110 E
	97 to 99	115	174	100	180	94.5	10	PCA 10-115	CSC 115 V	CSC 115 E
	99 to 102	115	174	100	180	94.5	8	PCA 8-115	CSC 115 V	CSC 115 E
	102 to 104	120	180	100	186	96	10	PCA 10-120	CSC 120 V	CSC 120 E
	104 to 107	120	180	100	186	96	8	PCA 8-120	CSC 120 V	CSC 120 E
	107 to 109	125	186	100	191	99	10	PCA 10-125	CSC 125 V	CSC 125 E
	109 to 112	125	186	100	191	99	8	PCA 8-125	CSC 125 V	CSC 125 E
	112 to 114	130	192	100	194	101,5	10	PCA 10-130	CSC 130 V	CSC 130 E
	114 to 117	130	192	100	194	101,5	8	PCA 8-130	CSC 130 V	CSC 130 E
	117 to 119	135	198	100	205	108	10	PCA 10-135	CSC 135 V	CSC 135 E
	119 to 122	135	198	100	205	108	8	PCA 8-135	CSC 135 V	CSC 135 E
	122 to 124	140	201	100	205	107	10	PCA 10-140	CSC 140 V	CSC 140 E
	124 to 127	140	201	100	205	107	8	PCA 8-140	CSC 140 V	CSC 140 E
	127 to 129	145	206	100	210	109	10	PCA 10-145	CSC 145 V	CSC 145 E
	129 to 132	145	206	100	210	109	8	PCA 8-145	CSC 145 V	CSC 145 E
	137 to 139	155	215	100	220	114	10	PCA 10-155	CSC 155 V	CSC 155 E
	139 to 142	155	215	100	220	114	8	PCA 8-155	CSC 155 V	CSC 155 E

Double Cleats

DESCRIPTION

M16 double cleats are intended for horizontal and vertical fastening of two cables.

There are two systems of double cleats:

⇒ Double cleats intended for fastening MV cables of diameters from 28 mm to 39 mm.

⇒ Double hinged cleats intended for fastening 630² cables of diameter 46 mm to 57 mm. They are reinforced by external ribs, central on the three main parts of the cleat.

MATERIAL

Aluminium alloy AS13 + stainless steel

INFORMATION

Provided with the cleat:
Double cleat: protection + screws for closing and fastening
Hinged double cleat: screws for closing

To be ordered separately:
Wrenches: make closing easier, see page 27
Protection *for triple cleat*, see page 20
Fastening screws *for hinged triple cleat,* see page 32
Assembly paste for screws, page 32

STANDARD

Hinged double cleats: IEC certified, see pages 35 and 36

ALSO AVAILABLE:

Threading: We can provide Ø60 or Ø66 cleat with M12 screw or nut

CDSV**

Double screw version cleat

CDSE**

Double nut version cleat

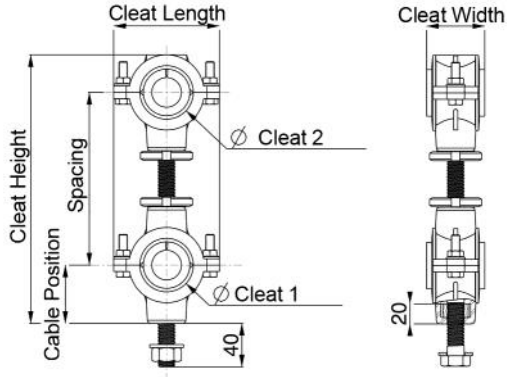
CDCV**

Hinged screw version double cleat

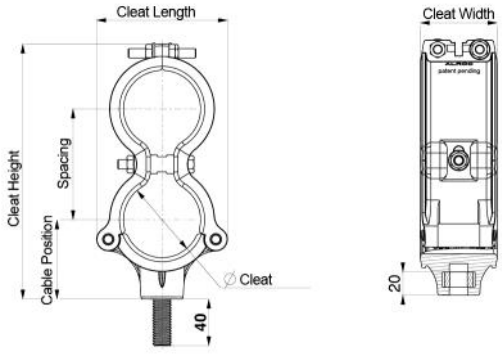
CDCE**

Hinged nut version double cleat

Double cleat



Hinged double cleat



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Type	≤ Ø < Cable in mm	Ø Cleat in mm	Length in mm	Width in mm	Height in mm	Cable position in mm	Pitch in mm	Protection thickness	Protection reference	Cleat reference	
										M16 screw	M16 nut
Double cleat	28 to 32	44	100	55	255	55	165 (possible to change the pitch)	10	**PC 10-44 (supplied)**	**CDS 44 V-F10**	**CDS 44 E-F10**
	32 to 35	44	100	55	255	55	165 (possible to change the pitch)	8	**PC 8-44 (supplied)**	**CDS 44 V-F8**	**CDS 44 E-F8**
	35 to 37	47.5	100	55	255	55	165 (possible to change the pitch)	10	**PC 10-47.5 (supplied)**	**CDS 47.5 V-F10**	**CDS 47.5 E-F10**
	37 to 39	47.5	100	55	255	55	165 (possible to change the pitch)	8	**PC 8-47.5 (supplied)**	**CDS 47.5 V-F8**	**CDS 47.5 E-F8**
Hinged double cleat	46 to 49	60	112	66	217	68	95	10	**PCD 10-60**	**CDC 60 V**	**CDC 60 E**
	49 to 52	60	112	66	217	68	95	8	**PCD 8-60**	**CDC 60 V**	**CDC 60 E**
	52 to 55	66	112	66	215,5	68	95	10	**PCD 10-66**	**CDC 66 V**	**CDC 66 E**
	55 to 57	66	112	66	215,5	68	95	8	**PCD 8-66**	**CDC 66 V**	**CDC 66 E**

Bespoke double cleats

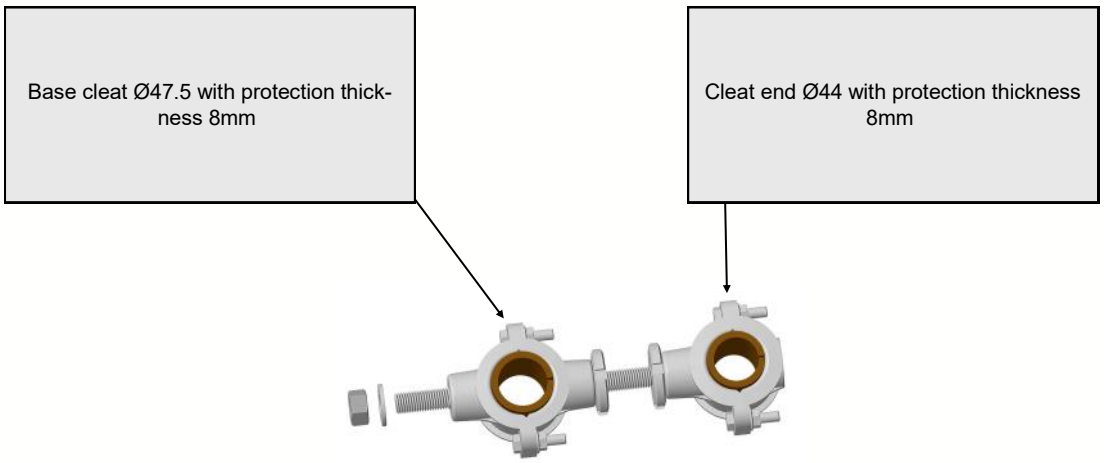
DESCRIPTION

For hinged double cleats, it is possible to choose M12 screw or nut threading.

You can configure double cleats without hinges by changing the size of the cleats or the thickness of the protections.

EXAMPLE

Cleat reference: CDS 47.5-44V-F8



Triple Cleats

DESCRIPTION

Triple cleats allow three cables to be held horizontally or vertically at once. They are used for installations where cables are provided in trefoil arrangement and where each phase is independent.

There are two systems of triple cleats

⇒ Triple cleats without hinges are installed by tightening the 3 cables at the same time. They can be provided in M16 nut or M16 screw version.

⇒ Hinged triple cleats are installed by tightening the cables by phase, which makes it easier to operate and dispenses with the need to install cables temporarily.

MATERIAL

Triple cleat: Aluminium alloy AS13 + stainless steel
Hinged triple cleat: Aluminium alloy AS13 and AS7G06 + stainless steel

INFORMATION

Provided with the cleat:
Triple cleat, hinged or unhinged: screws for closing

To be ordered separately:
Wrenches: make closing easier, see page 27
Protection for triple cleat, see page 20
Fastening screws for hinged triple cleat, see page 32
Assembly paste for screws, page 32

STANDARD

Hinged triples cleats: IEC certified, see pages 35 and 36

CSTE**

Triple nut version cleat without hinge

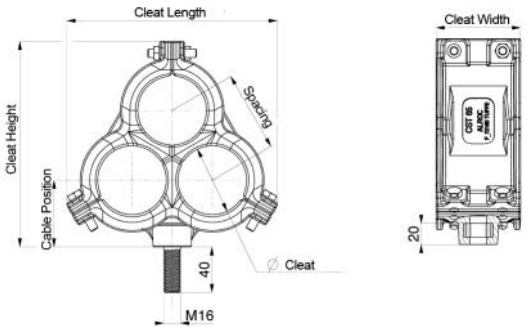
CSTV**

Triple screw version cleat without hinge

CTSI

Hinged triple cleat

Triple cleat without hinge



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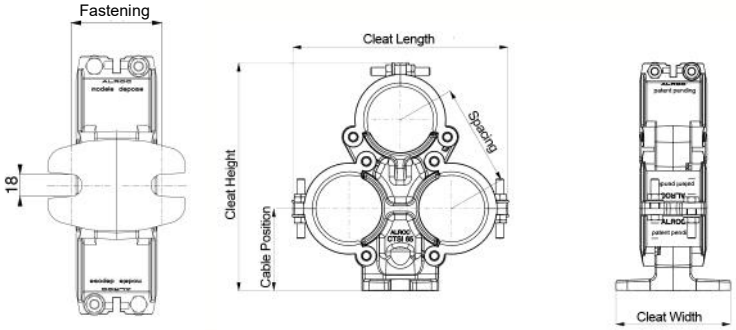
Hinged triple cleat



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Triple cleat without hinge										
≤ Ø < Cable in mm	Ø Cleat in mm	Length in mm	Width in mm	Height in mm	Cable position in mm	Pitch in mm	Protection thickness	Protection reference	Cleat reference	
									M16 screw	M16 nut
42 to 44	60	198	80	194,5	63	66	10	**PCT 10-60**	**CST 60 V**	**CST 60 E**
44 to 47	60	198	80	194,5	63	66	8	**PCT 8-60**	**CST 60 V**	**CST 60 E**
47 to 49	65	198	80	194,5	63	66	10	**PCT 10-65**	**CST 65 V**	**CST 65 E**
49 to 52	65	198	80	194,5	63	66	8	**PCT 8-65**	**CST 65 V**	**CST 65 E**
52 to 54	70	198	80	194,5	63	66	10	**PCT 10-70**	**CST 70 V**	**CST 70 E**
54 to 57	70	198	80	194,5	63	66	8	**PCT 8-70**	**CST 70 V**	**CST 70 E**
57 to 59	75	235	80	231	72	96	10	**PCT 10-75**	**CST 75 V**	**CST 75 E**
59 to 62	75	235	80	231	72	96	8	**PCT 8-75**	**CST 75 V**	**CST 75 E**
62 to 64	80	235	80	231	72	96	10	**PCT 10-80**	**CST 80 V**	**CST 80 E**
64 to 67	80	235	80	231	72	96	8	**PCT 8-80**	**CST 80 V**	**CST 80 E**
67 to 69	85	235	80	231	72	96	10	**PCT 10-85**	**CST 85 V**	**CST 85 E**
69 to 72	85	235	80	231	72	96	8	**PCT 8-85**	**CST 85 V**	**CST 85 E**

Hinged triple cleat										
≤ Ø < Cable in mm	Ø Cleat in mm	Length in mm	Width in mm	Height in mm	Cable position in mm	Pitch in mm	Fastening In mm	Protection thickness	Protection reference	Cleat reference
47 to 49	65	212	112	223	80	100	74	10	**PCA 10-65**	**CTSI 65**
49 to 52	65	212	112	223	80	100	74	8	**PCA 8-65**	**CTSI 65**
67 to 69	85	258	128	275	100	125	88	10	**PCA 10-85**	**CTSI 85**
69 to 72	85	258	128	275	100	125	88	8	**PCA 8-85**	**CTSI 85**
72 to 74	90	270	128	283	100	132	88	10	**PCA 10-90**	**CTSI 90**
74 to 77	90	270	128	283	100	132	88	8	**PCA 8-90**	**CTSI 90**
82 to 84	100	302	140	309	105	145	100	10	**PCA 10-100**	**CTSI 100**
84 to 87	100	302	140	309	105	145	100	8	**PCA 8-100**	**CTSI 100**
92 to 94	110	310	140	336	110	160	100	10	**PCA 10-110**	**CTSI 110**
94 to 97	110	310	140	336	110	160	100	8	**PCA 8-110**	**CTSI 110**
97 to 99	115	330	140	339	115	160	100	10	**PCA 10-115**	**CTSI 115**
99 to 102	115	330	140	339	115	160	100	8	**PCA 8-115**	**CTSI 115**

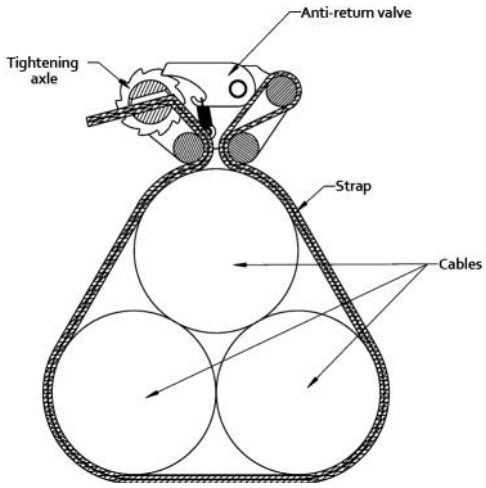
We can make bespoke cleats, please contact us for other sizes

Strap Cleats

DESCRIPTION

Strap cleats are intended for holding one or more cables in a trefoil arrangement when they need to be suspended or installed horizontally. They allow simple and rapid installation.

There are 4 types of strap cleats: intermediary strap cleats, strap cleats suspended on eyelets, spiral suspended strap cleats, capstan-headed screw suspended strap cleats.



INFORMATION

Strap cleats are subjected to numerous internal tests as well as those from a certified laboratory to measure their mechanical strength against heavy loads and short-circuit forces.

These tests allow our cleats to be approved according to standard IEC 61914 and with the RTE.

When ordering your strap cleats, our design office will be at your disposal to calculate the cleat gaps, calculate resistance to ICC or calculate snaking and expansion of cables

Special Strap Cleats

Bracket, page 28

Shoe, page 16

Ground bracket, page 18

Y-cleat, page 17

Fastening a strap cleat to the ceiling, page 33

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Intermediary strap cleats

DESCRIPTION

Intermediary strap cleats are designed to hold 3 cables in a trefoil and to absorb forces generated by a short circuit.

CS2I/***

MATERIAL

Non-corrosive materials
Cleat: aluminium + stainless steel
Strap: HRPE / anti-UV and flame-resistance / crack resistance: 2000daN (40mm) and 4000 daN (80mm)

INFORMATION

The strap is tightened by a ratchet and is locked at the end of fitting.

STANDARD

RTE-approved according to size and application, IEC-certified, see pages 35 and 36

Suspended Strap Cleats
Spiral Strap Cleats

DESCRIPTION

Spiral suspended strap cleats can be fastened to various media (e.g. bracket, joinery, etc.) to support cables and allow a high degree of freedom of movement of the cleat (rotation that is perpendicular and parallel to the axis of the cable).
They absorb the forces generated by a short circuit.

CSI/***-QC**

MATERIAL

Non-corrosive materials
Cleat: aluminium + stainless steel
End: M12 Stainless steel
Strap: HRPE / anti-UV and flame-resistance / crack resistance: 2000daN (40mm) and 4000 daN (80mm)

INFORMATION

The strap is tightened by a ratchet and is locked at the end of fitting.

To be ordered separately:
Fastening bracket, see page 28

STANDARD

RTE-approved according to size and application, IEC-certified, see pages 35 and 36

Strap cleats suspended from capstan-headed screw

DESCRIPTION

Strap cleats suspended from capstan-headed screw can be fastened to various media (e.g.: bracket, joinery etc.) to support the cables and allow a rotation of the cable parallel to the axis of the cable.
They absorb the forces generated by a short circuit.

CSI/***

MATERIAL

Non-corrosive materials
Cleat: aluminium + stainless steel
Capstan-headed screw: M12 Stainless steel
Strap: HRPE / anti-UV and flame-resistance / crack resistance: 2000daN (40mm) and 4000 daN (80mm)

INFORMATION

The strap is tightened by a ratchet and is locked at the end of fitting.

To be ordered separately:
Fastening bracket, see page 28

STANDARD

RTE-approved according to size and application, IEC-certified, see pages 35 and 36

Eyelet suspended strap cleats

DESCRIPTION

Eyelet suspended strap cleats are used to suspend the cables assembled in twisted loom.
These cleats do not bear short circuit forces.

CAO40/***

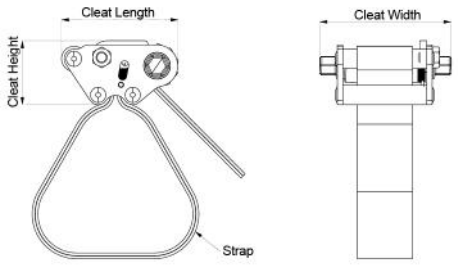
MATERIAL

Non-corrosive materials
Manille : Stainless steel
Strap: HRPE / anti-UV and flame-resistance / crack resistance: 2000daN (40mm)
Max. load = 150 daN

INFORMATION

To allow great resistance, the strap does not contain any seam and is doubled at the level of 4 holes of 10 mm hot drilled.

Strap Cleat References on the Following Page



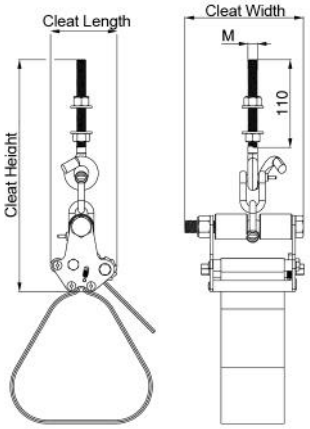
Intermediary Strap Cleats

To make your installation plans easier, we can provide you with our simplified 3D files on request

Ø in mm for each cable (1 phase)	Cleat length in mm	Cleat width in mm	Cleat height in mm	Strap length in cm	Strap length in mm	Cleat reference
10 to 21	83	75	46	100	20	**CS2I20/100**
21 to 30	83	75	46	110	20	**CS2I20/110**
30 to 38	83	95	46	120	40	**CS2I40/120**
38 to 55	83	75	46	140	20	**CS2I20/140**
38 to 55	83	95	46	140	40	**CS2I40/140**
38 to 55	83	130	46	140	80	**CS2I80/140**
55 to 63	83	130	46	150	80	**CS2I80/150**
63 to 71	83	95	46	160	40	**CS2I40/160**
63 to 71	83	130	46	160	80	**CS2I80/160**
71 to 88	83	130	46	180	80	**CS2I80/180**
88 to 105	83	95	46	200	40	**CS2I40/200**
88 to 105	83	130	46	200	80	**CS2I80/200**
105 to 121	83	95	46	220	40	**CS2I40/220**
105 to 121	83	130	46	220	80	**CS2I80/220**
121 to 146	83	95	46	250	40	**CS2I40/250**
121 to 146	83	130	46	250	80	**CS2I80/250**

Spiral-attached suspended strap cleats

Ø in mm for each cable (1 phase)	Cleat length in mm	Cleat width in mm	Cleat height in mm	Strap width in mm	Strap length in mm	Threading (M)	Cleat reference
63 to 71	83	150	300	80	160	M12	**CSI80/160-QC12**
71 to 88	83	150	300	80	180	M12	**CSI80/180-QC12**
88 to105	83	150	300	80	200	M10	**CSI80/200-QC10**
88 to105	83	150	300	80	200	M12	**CSI80/200-QC12**
105 to121	83	150	300	80	220	M12	**CSI80/220-QC12**
121 to145	83	150	300	80	250	M12	**CSI80/250-QC12**



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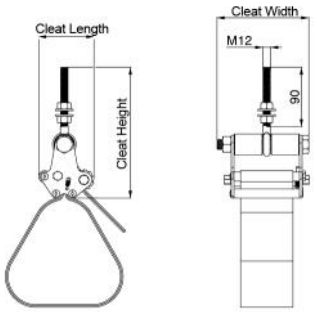


To make your installation plans easier, we can provide you with our simplified 3D files on request

M12 Eyelet Suspended Strap Cleats

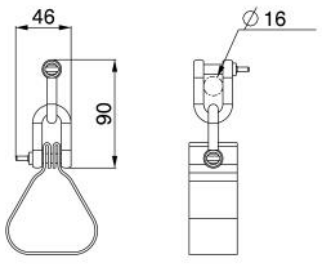
Ø in mm for each cable (1 phase)	Cleat length in mm	Cleat width in mm	Cleat height in mm	Strap length in cm	Strap length in mm	Cleat reference
10 to 21	83	90	200	100	20	**CSI20/100**
10 to 21	83	110	200	100	40	**CSI40/100**
21 to 30	83	110	200	110	40	**CSI40/110**
30 to 38	83	110	200	120	40	**CSI40/120**
38 to 55	83	90	200	140	20	**CSI20/140**
38 to 55	83	110	200	140	40	**CSI40/140**
38 to 55	83	150	200	140	80	**CSI80/140**
55 to 71	83	110	200	160	40	**CSI40/160**
55 to 71	83	150	200	160	80	**CSI80/160**
71 to 88	83	110	200	180	40	**CSI40/180**
71 to 88	83	150	200	180	80	**CSI80/180**
88 to105	83	110	200	200	40	**CSI40/200**
88 to105	83	150	200	200	80	**CSI80/200**
105 to 121	83	110	200	220	40	**CSI80/220**
121 to 146	83	150	200	250	80	**CSI80/250**

We can make bespoke cleats, please contact us for other sizes

Eyelet Strap Cleats

Section for each cable (1 phase)	Cleat length in mm	Cleat height in mm	Strap width in mm	Maximum load	Cleat reference
10² to 95²	46	90	40	150 daN	**CAO40/3x95-2**
95² to 150²	46	90	40	150 daN	**CAO40/3x150-2**
150² to 240²	46	90	40	150 daN	**CAO40/3x240-2**

To make your installation diagrams easier, we can provide you with our simplified 3D files on request



We can make bespoke cleats, please contact us for other sizes

Simplified Intermediary Strap Cleat

DESCRIPTION

The simplified intermediary strap cleat allows 3 cables to be held between them and/or hold one or more cables on a cable ladder.

The simplified intermediary strap cleat has not been subjected to a mechanical strength test, it is therefore advised for applications where there are no mechanical constraints are to be taken into account.

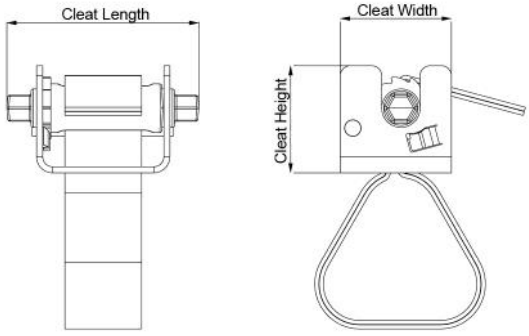
⇒ Without mechanical constraint

CE2I40/*

MATERIAL

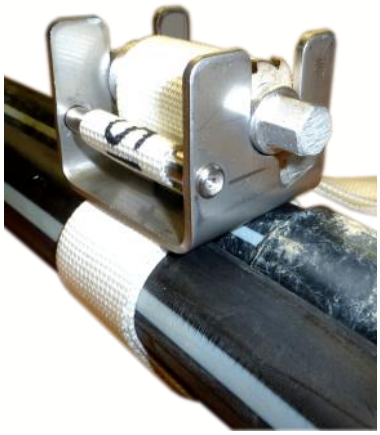
Stainless Steel
Aluminium

Polyester Strap



Ø in mm for each cable (1 phase)	Cleat length in mm	Cleat width in mm	Cleat height in mm	Strap length in cm	Strap length in mm	Cleat reference
30 to 38	95	55	53	120	40	**CE2I40/120**
38 to 55	95	55	53	140	40	**CE2I40/140**
55 to 71	95	55	53	160	40	**CE2I40/160**
71 to 88	95	55	53	180	40	**CE2I40/180**

We can make bespoke cleats, please contact us for other sizes



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Shoe

DESCRIPTION

The shoe is used for installations on the ground where the single phase cables are provided as a trefoil.
The cables rest on a protection and are held in a stainless steel sheet by an intermediary strap cleat provided.

MATERIAL

Stainless steel or HDPE

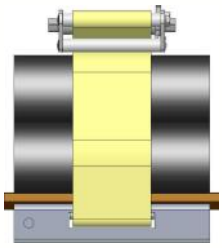
INFORMATION

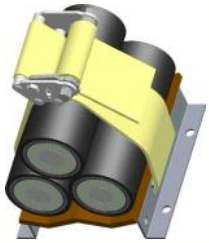
Shoe sized following the diameter of cables

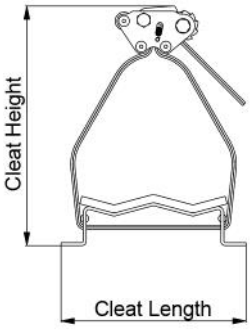
Provided with the cleat:
Protection between the cables and
stainless steel sheet Closing screws

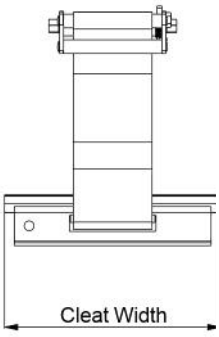
To be ordered separately:
Fastening screws (4 x M10 screws), see page 32
Earthing cable clamp (placement provided), see page 31

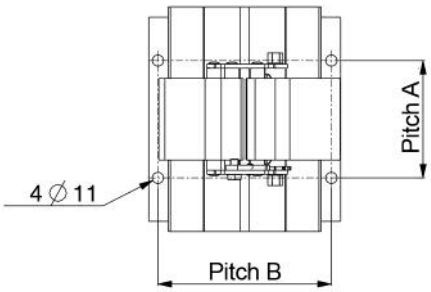
S-CS2I **/***









To make your installation diagrams easier, we can provide you with our simplified 3D files on request

Ø in mm for each cable	Cleat length in mm	Cleat width in mm	Cleat height in mm	Strap length in cm	Strap length in mm	Pitch A	Pitch B	Reference
80	188	200	243	180	80	115	170	**S80-CS2I 80/180**
95	216	200	268	200	80	115	198	**S95-CS2I 80/200**
100	228	200	275	200	40	115	210	**S100-CS2I 40/200**
120	273	200	318	220	80	115	225	**S120-CS2I 80/220**

We can make bespoke cleats, please contact us for other sizes

Y-cleat

DESCRIPTION

The Y-cleat allows cables, junctions or large diameter tubes to be held. It is screwed onto a junction support chassis, on a baseplate or on an end cleat.

CSY80*/*

MATERIAL

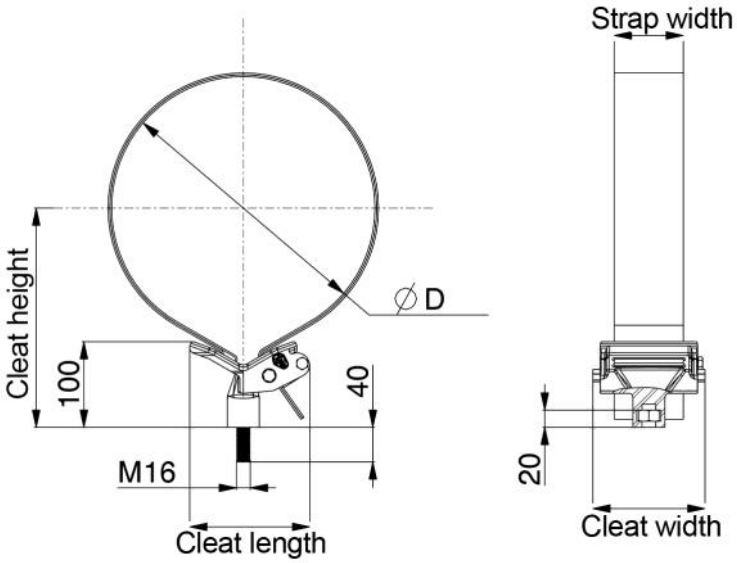
Cleat: aluminium alloy AS13 + parts coated in stainless steel
Strap: HRPE / anti-UV and flame-resistance / crack resistance: 4000 daN

INFORMATION

The strap is tightened by a ratchet and is locked at the end of fitting

Provided with the cleat:
Closing screws

To be ordered separately:
Closing screw, see page 32
Possibility of fastening the Y cleat to a baseplate or an end cleat, see pages 25 and 26



To make your installation plans easier, we can provide you with our simplified 3D files on request

Ø D in mm	Cleat length in mm	Cleat width in mm	Cleat height in mm	Strap length in cm	Strap width in mm	Reference version screw M16	Reference version nut M16
250	140	130	220	180	80	**CSY80V/180**	**CSY80E/180**
430	140	130	320	300	80	**CSY80V/300**	**CSY80E/300**

We can make bespoke cleats, please contact us for other sizes

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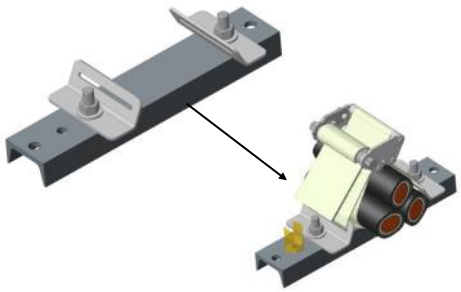
Ground Bracket

EAS-***-*****

DESCRIPTION

The ground bracket is provided to hold two or three cables horizontally in a trefoil. The galvanised steel beam is provided with 2 stainless steel brackets for fastening an intermediary strap cleat that is not provided.



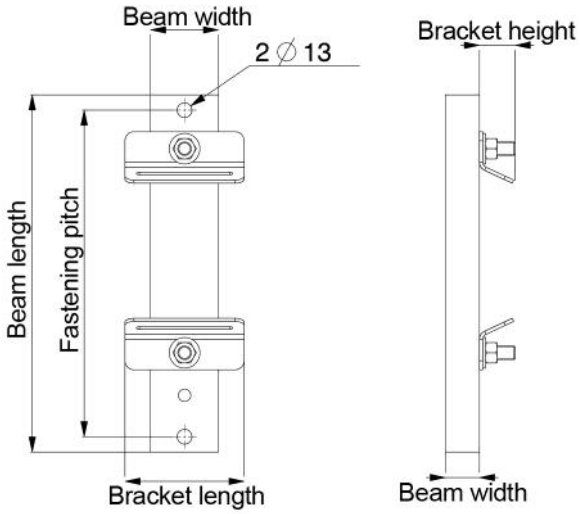
MATERIAL

Beam: hot-dip galvanised steel
Brackets and screws: stainless steel

INFORMATION

Provided with ground bracket:
Screws for fastening the brackets of stainless steel

To be ordered separately:
Intermediary strap cleat, strap width 40mm or 80mm, pages 11, 12 ,13 and 14.
Earthing cable clamp (hole of diameter 11mm), see page 31



To make your installation diagrams easier, we can provide you with our simplified 3D files on request

Ø in mm cable (1 phase)	Beam length in mm	Beam width in mm	Beam height in mm	Brackets length in mm	Brackets height in mm	Strap width in mm	Fastening screw pitch in mm	Combined strap cleat (not supplied)	Reference
45 to 55	315	60	30	65	31.5	40	288	CS2I40/160	**EAS40-110-288**
45 to 55	315	60	30	105	31.5	80	288	CS2I80/160	**EAS80-110-288**
55 to 65	335	60	30	105	31,5	40	308	CS2I40/160	**EAS40-130-308**
55 to 65	335	60	30	105	31.5	80	308	CS2I80/160	**EAS80-130-308**
65 to 75	355	60	30	105	31.5	80	328	CS2I80/180	**EAS80-150-328**
75 to 85	375	60	30	105	31.5	80	348	CS2I80/180	**EAS80-170-348**
85 to 95	395	60	30	105	31.5	80	368	CS2I80/200	**EAS80-190-368**

We can make bespoke cleats, please contact us for other sizes

Articulated Cleat

DESCRIPTION

The articulated cleat is intended for fastening cables in an inclined position.

MATERIAL

Aluminium alloy AS13
Material of the end fastening a choice of aluminium or stainless steel

INFORMATION

Provided with the cleat:
Closing screws
Articulated cleat screw version: closing and fastening screws
(1 nut and 1 stainless steel washer)

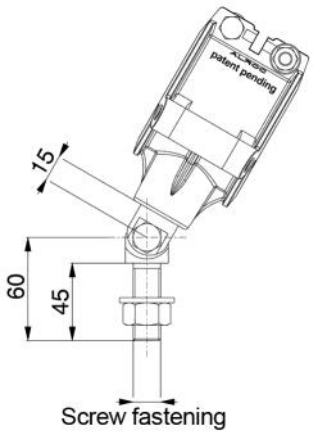
To be ordered separately:
Protection, see page 20 (use the same protection as hinged single cleats of the same Ø)
Assembly paste for screws, page 32

CSC AM***

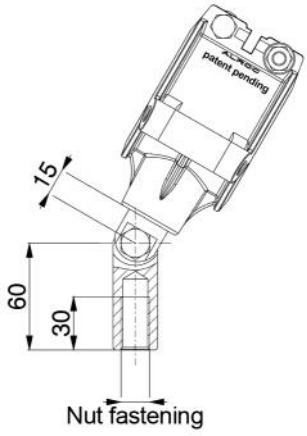
Articulated screw version cleat

CSC AF***

Articulated nut version cleat



Articulated screw version cleat



Articulated nut version cleat

To make your installation diagrams easier, we can provide you with our simplified 3D files on request

Ø Cleat	Thread	Reference			
		Aluminium		Stainless steel	
		Screw fastening	Nut fastening	Screw fastening	Nut fastening
Ø65	M12	**CSC65 AMA-12**	**CSC65 AFA-12**	**CSC65 AMI-12**	**CSC65 AFI-12**
Ø65	M16	**CSC65 AMA**	**CSC65 AFA**	**CSC65 AMI**	**CSC65 AFI**
Ø75	M12	**CSC75 AMA-12**	**CSC75 AFA-12**	**CSC75 AMI-12**	**CSC75 AFI-12**
Ø75	M16	**CSC75 AMA**	**CSC75 AFA**	**CSC75 AMI**	**CSC75 AFI**
Ø80	M12	**CSC80 AMA-12**	**CSC80 AFA-12**	**CSC80 AMI-12**	**CSC80 AFI-12**
Ø80	M16	**CSC80 AMA**	**CSC80 AFA**	**CSC80 AMI**	**CSC80 AFI**
Ø90	M12	**CSC90 AMA-12**	**CSC90 AFA-12**	**CSC90 AMI-12**	**CSC90 AFI-12**
Ø90	M16	**CSC90 AMA**	**CSC90 AFA**	**CSC90 AMI**	**CSC90 AFI**

We can make bespoke cleats, please contact us for other sizes

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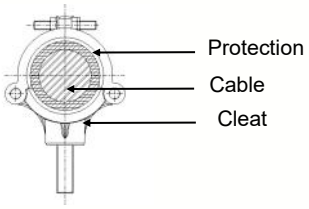
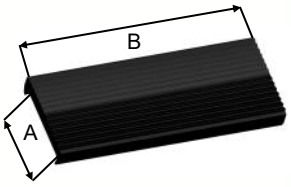
Single Protections

DESCRIPTION

Single protections allow cables to be held and protected, they are compulsory for the proper installation of cleats.
Their shape has been designed especially to make closing the cleat easier and to limit the sliding of the cable as much as possible.
They are precut to the size of each cleat and slide inside the cleat before they are closed.
The cleats are closed as an interference fit or with a maximum tightening torque of 18 N.m on the lubricated M8 screws.



PCA **-***

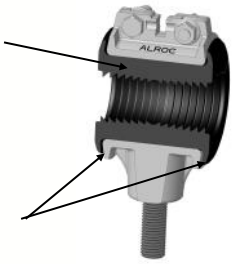


A: Reinforcement inside

MATERIAL

EPDM-PP
We have conducted various laboratory tests to provide a material that meets the demands

The dishing of protection improves tightening and holding onto the cable



The reinforcements allow a simpler installation on the cleat and prevent the protection from sliding into the cleat

INFORMATION

Protection thickness: 8 mm or 10 mm
Thickness tolerance of protections of + or - 0.6 mm (average thickness value at the base of the striations)

To be ordered separately:
Cleat, see pages 5 to 10
Assembly paste for screws, page 32

Type of cleat	Associated cleat	Protection th. 8 mm			Protection th. 10 mm		
		A in mm	B in mm	Reference	A in mm	B in mm	Reference
Single cleat	CS 44	55	120	**PC 8-44**	55	117	**PC 10-44**
	CS 47.5	55	131	**PC 8-47,5**	55	128	**PC 10-47,5**
Single hinged cleat	CSC60	66	172	**PCA 8-60**	66	165	**PCA 10-60**
	CSC 65	66	188	**PCA 8-65**	66	180	**PCA 10-65**
	CSC 70	66	203	**PCA 8-70**	66	196	**PCA 10-70**
	CSC 75	66	219	**PCA 8-75**	66	212	**PCA 10-75**
	CSC 80	80	235	**PCA 8-80**	80	228	**PCA 10-80**
	CSC 85	80	250	**PCA 8-85**	80	243	**PCA 10-85**
	CSC 90	80	266	**PCA 8-90**	80	259	**PCA 10-90**
	CSC 95	80	282	**PCA 8-95**	80	275	**PCA 10-95**
	CSC 100	100	297	**PCA 8-100**	100	290	**PCA 10-100**
	CSC 105	100	313	**PCA 8-105**	100	306	**PCA 10-105**
	CSC 110	100	329	**PCA 8-110**	100	322	**PCA 10-110**
	CSC 115	100	345	**PCA 8-115**	100	337	**PCA 10-115**
	CSC 120	100	360	**PCA 8-120**	100	353	**PCA 10-120**
	CSC 125	100	376	**PCA 8-125**	100	369	**PCA 10-125**
	CSC 130	100	392	**PCA 8-130**	100	385	**PCA 10-130**
	CSC 135	100	407	**PCA 8-135**	100	400	**PCA 10-135**
	CSC 140	100	423	**PCA 8-140**	100	416	**PCA 10-140**
	CSC 145	100	439	**PCA 8-145**	100	432	**PCA 10-145**
	CSC 155	100	470	**PCA 8-155**	100	463	**PCA 10-155**
Hinged double cleat	CDC 60	78	345	**PCD 8-60**	78	340	**PDC 10-60**
	CDC 66	76	387	**PCD 8-66**	76	380	**PCD 10-66**
Triple cleat	CST 60	80	172	**PCT 8-60**	80	165	**PCT 10-60**
	CST 65	80	188	**PCT 8-65**	80	180	**PCT 10-65**
	CST 70	80	203	**PCT 8-70**	80	196	**PCT 10-70**
	CST 75	80	219	**PCT 8-75**	80	212	**PCT 10-75**
	CST 80	80	235	**PCT 8-80**	80	228	**PCT 10-80**
	CST 85	80	250	**PCT 8-85**	80	243	**PCT 10-85**
Hinged triple cleat	CTSI 65	66	188	**PCA 8-65**	66	180	**PCA 10-65**
	CTSI 85	80	250	**PCA 8-85**	80	243	**PCA 10-85**
	CTSI 90	80	266	**PCA 8-90**	80	259	**PCA 10-90**
	CTSI 100	100	297	**PCA 8-100**	100	290	**PCA 10-100**
	CTSI 110	100	329	**PCA 8-110**	100	322	**PCA 10-110**
	CTSI 115	100	345	**PCA 8-115**	100	337	**PCA 10-115**

Protections for 3 Cables

DESCRIPTION

Protections for 3 cables allows 3 cables to be fastened in a hinged single cleat.

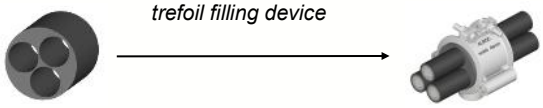
There are two types:

⇒ The trefoil filling device which is intended for fastening three single-phase cables. It separates each cable with a wall of foam.

⇒ The protection for 3 cables which is intended for fastening three single-phase cables or three twisted cables.

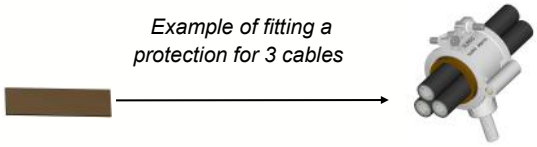
FDT****

Example of fitting a trefoil filling device



PCA***

Example of fitting a protection for 3 cables



MATERIAL

Trefoil filling device: Foam
Protection for 3 cables: EPDM-PP

INFORMATION

To be ordered separately:
Hinged single cleat, see pages 5 and 6

FDT
PCA

Trefoil filling device			
Diameter of each cable	**Pitch of the cables**	**Connected cleat**	**Filling reference**
30 mm	36 mm	**CSC80**	**FDT3080**
37 mm	41 mm	**CSC90**	**FDT3790**
39 mm	43 mm	**CSC90**	**FDT3990**
40 mm	50 mm	**CSC105**	**FDT40105**
47 mm	58 mm	**CSC125**	**FDT47125**
50 mm	58 mm	**CSC125**	**FDT50125**

Protection for 3 cables				
Section of each cable	**Voltage of cables**	**Standard for cables**	**Connected cleat**	**Protection reference**
50 mm²	12/20 kV	C33-226	**CSC 75**	**PCA 8-75**
95 mm²	12/20 kV	C33-226	**CSC 80**	**PCA 8-80**
150 mm²	12/20 kV	C33-226	**CSC 85**	**PCA 10-85**
240 mm²	12/20 kV	C33-226	**CSC 90**	**PCA 8-90**

Do not hesitate to contact us for any other sizes

To fasten 3 cables we also suggest:

Ground bracket page 18

Strap cleats suspended from capstan-headed screws, pages 11, 12, 13 and 14

Strap cleats suspended from spiral, pages 11, 12, 13 and 14

Strap cleats with eyelets, pages 11, 12, 13 and 14

Triple cleat, nut version, pages 9 and 10

Triple cleat, screw version, pages 9 and 10

Hinged triple cleat pages 9 and 10

Shoe page 16

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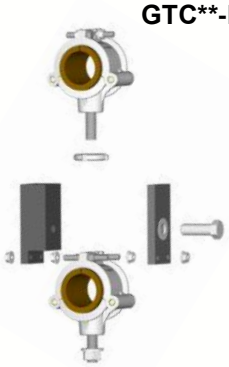
Set of Insulating Connectors

DESCRIPTION

The sets of insulating connectors are intended for fastening cables under transformer substations.

⇒ The sets of insulating connectors (GTC-PCA) are complete sets comprising cleats, protections, screw fittings and the insulating connector (ELI)

GTC-PCA**



MATERIAL

Insulating plastic

INFORMATION

Each cable line is independent to make fitting and work carried out on them easier. Spacing between 2 cables: 230 mm

Supplied:
Assembly screws
Fastening screws
Sets of insulating connectors: protections

To be ordered separately:
Pin wrench: makes it easier to close the cleats and tighten the nuts, see page 27

Sets of insulating connectors	Cable sections 12/20 kV	Reference	Fastening
		**ELI**	
	1 cable of 630 mm²	**GTC 1-PCA**	*M16 screw*
	1 cable of 630 mm² 1 cable of 95 mm²	**GTC 1-95-PCA**	*M16 screw*
	1 cable of 630 mm² 1 cable of 50 mm ²	**GTC 1-50-PCA**	*M16 screw*
	2 cables of 630 mm²	**GTC 2-PCA**	*M16 screw*
	2 cables of 630 mm²	**GTC 2E-PCA**	*M16 nut*
	2 cables of 630 mm² 1 cable of 95 mm²	**GTC 2-95-PCA**	*M16 screw*
	2 cables of 630 mm² 1 câble of 50 mm ²	**GTC 2-50-PCA**	*M16 screw*

Do not hesitate to contact us for any other sizes

Set of Metal Connectors

DESCRIPTION

The sets of metal connectors are intended for fastening cables under transformer substations.
The pitch of the cleats is provided to adapt to the plug adaptor of the substations.

Unlike sets of insulating connectors on the previous pages, the cleats are not insulated between themselves.

⇒ The design of the cleat allows sets of metal connectors in screw version (screw in the cleat) or in nut version (nut in the cleat) to be fitted.

MATERIALS

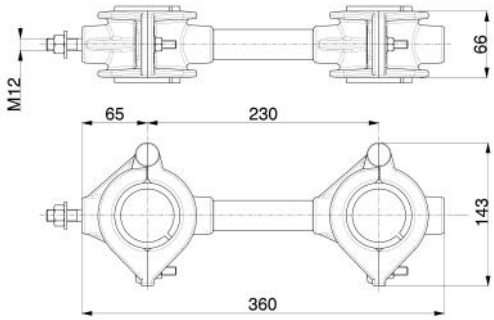
Aluminium and stainless steel
Filling thickness 6mm of CSM

INFORMATION

Each cable line is independent to make fitting and work carried out on them easier.
Spacing between 2 cables 630mm² : 230 mm
Spacing between 1 cable 630mm² and 1 câble 95mm² : 220 mm
Fastening screws: M12

Supplied:
Cleats
Fastening screws
Connecting spacer
Closing screws for cleats

GTC*-*-M12-*****



Set of Metal Connectors	Cable sections 12/20 kV Capacity: Ø53.5 to 55.5 mm for 630² Ø31.5 to 35.5 mm for 95²	Reference
	1 cable of 630 mm²	**GTC1-630-M12-FC6**
	1 cable of 630 mm² 1 cable of 95 mm²	**GTC1-95-M12-FC6**
	2 cables of 630 mm²	**GTC2-630-M12-FC6**
	2 cables of 630 mm² 1 cable of 95 mm²	**GTC2-95-M12-FC6**

Do not hesitate to contact us for any other sizes

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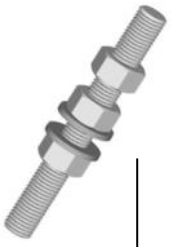
Connectors

LCA-***



DESCRIPTION

Connectors allow cleats to be fastened to supports or surfaces (metal sections, wall with chemical wall plug, etc.).

There are two types:

⇒ The “threaded rod” connectors are used to fasten a single cleat on a surface. They allow direct fastening of the cleat and are particularly used by railway companies.

⇒ The M16 “articulated rod” connectors are intended for fastening cables in an inclined position. They are adapted to hinged single cleats.

MATERIAL

Threaded rod connector: stainless steel

Articulated connector: choice of stainless steel or aluminium

INFORMATION

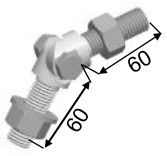
Supplied:
Fastening screws

To be ordered separately:
Baseplates, see page 26
“Threaded rod” connector: single cleat with or without hinges, nut version M16 or M12, see pages 5 and 6
“Articulated rod” connector: M16 hinged single cleat of diameter less than or equal to 90 mm, see pages 5 and 6
Assembly paste for screws, see page 32

Examples of installations of connectors on hinged single cleats

“Threaded rod” connector		
Length	**Thread**	**Reference**
100 mm	M16	**LTF16-100**
140 mm	M16	**LTF16-140**
140 mm	M12	**LTF12-140**
170 mm	M16	**LTF16-170**
220 mm	M16	**LTF16-220**

Do not hesitate to contact us for any other sizes

“Articulated rod” connector			
Connectors with dimensions in mm	**Components**	**Reference M16 stainless steel version**	**Reference Aluminium M16**
	2 male threads	**LCA-MMI**	**LCA-MMA**
	1 thread male and 1 female thread	**LCA-MFI**	**LCA-MFA**
	2 female threads	**LCA-FFI**	**LCA-FFA**

End Cleats

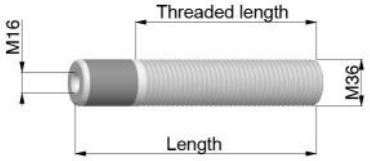
Threaded end cleats

DESCRIPTION

The M36 threaded end cleat allows screw version cleats to be connected to a baseplate or to an articulated end cleat when the cable is a long way from the support.

MATERIAL

Aluminium alloy AU4G



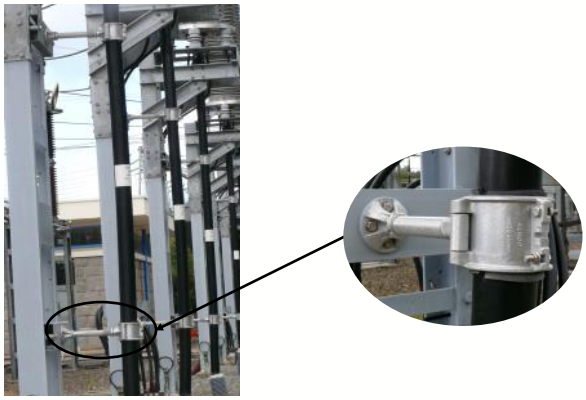
INFORMATION

To be ordered separately:
Cleat, see page 5 and 6
Baseplate, see page 26
Nuts, see page 32
Articulated end cleat, see page 25
Assembly paste for screws, page32

QCF***

STANDARD

IEC tested, see pages 35 and 36



Articulated end cleat

DESCRIPTION

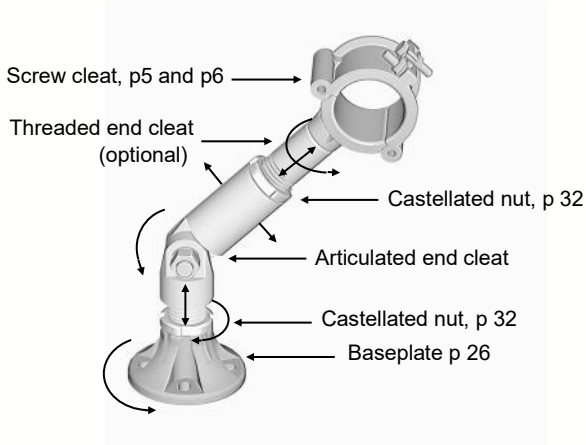
The articulated end cleat allows the cleats to be placed in all positions.

MATERIAL

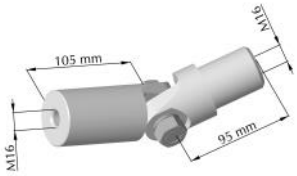
Aluminium alloy AS7G06 + stainless steel

INFORMATION

To be ordered separately:
Cleat, see page 5 and 6
Baseplate, see page 26
Nuts, see page 32
Threaded end cleat, see page 25
Assembly paste for screws, page32



Threaded end cleat		
Length in mm	**Thread length**	**Reference**
70	55	**QCF 70**
100	80	**QCF 100**
120	100	**QCF 120**
130	110	**QCF 130**
150	130	**QCF 150**
200	180	**QCF 200**
250	230	**QCF 250**
300	280	**QCF 300**
350	330	**QCF 350**
380	360	**QCF 380**
400	380	**QCF400**
460	440	**QCF460**
500	480	**QCF500**

Articulated end cleat	
Reference: QCA	**Reference: QCA-M16**
	
	
Reference: QCA-FF16	

Do not hesitate to contact us for any other sizes

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Baseplates

Baseplate for Cleat

DESCRIPTION

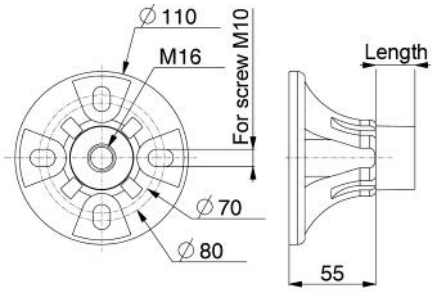
The baseplate for the cleat is adapted to direct fastening of a single, double or triple cleat, or bolted screw type M16.

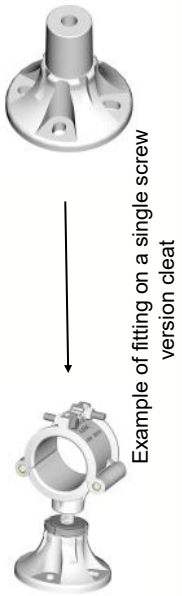
MATERIAL

Aluminium alloy AS13

INFORMATION

To be ordered separately:
Fastening screws: 4 screws M10 + 1 castellated nut M16 + 8 washers M10 + 4 nuts M10, see page 32
Cleat M16, see pages 5 to 10
Assembly paste for screws, page 32





Example of fitting on a single screw version cleat

Baseplate for cleat M16	
Length in mm	**Reference**
00	**EQC 16/00**
25	**EQC 16/25**
50	**EQC 16/50**

Do not hesitate to contact us for any other sizes

Baseplate for end cleat

DESCRIPTION

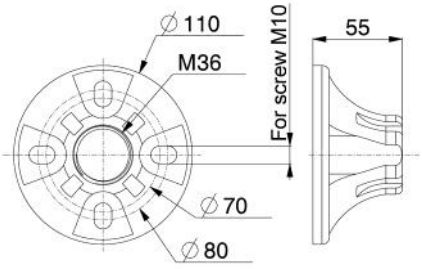
The baseplate for end cleat is suitable for fastening a threaded or articulated end cleat M36 (page 25).

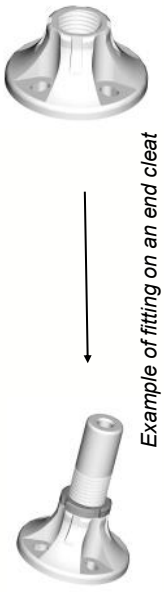
MATERIAL

Aluminium alloy AS13

INFORMATION

To be ordered separately:
Fastening screws: 4 screws M10 + 1 castellated nut M36 + 8 washers M10 + 4 nuts M10, see page 32
Articulated end cleat or threaded end cleat, see page 25
Assembly paste for screws, page 32





Example of fitting on an end cleat

Baseplate for end cleat M36	
Length in mm	**Reference**
55	**EQC 36**

Wrenches

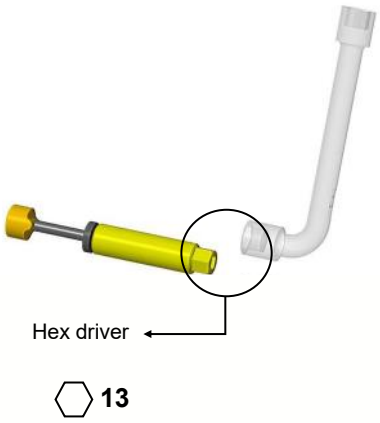
Socket wrench

DESCRIPTION

The socket wrench is designed for all hinged Alroc cleats.
It allows the covers of the hinged cleats to be connected with a minimum force and time.

INFORMATION

The socket wrench is used with a hex wrench of 13 that is fastened on the hex driver.



CAD

CAE

Socket wrench	
Reference	**CAD**

Pin wrench

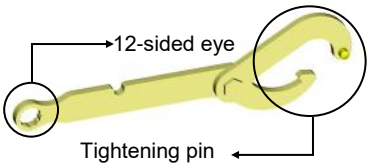
DESCRIPTION

The pin wrench is designed for screws, castellated nuts, sets of insulating connectors as well as for all hinged Alroc cleats less than 80 mm. It allows the covers of the hinged cleats to be connected with a minimum force and time.

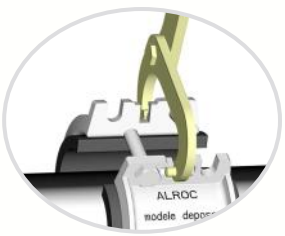
INFORMATION

Used on M8 screws, M8 nuts and castellated M16 or M36 nuts.

For cleats greater than 80 mm, we advise using the CAD socket wrench



Pin wrench	
Reference	**CAE**



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Brackets

Insulating bracket

DESCRIPTION

The insulating bracket allows one or more cables to be suspended, it completes a suspended strap cleat. This bracket is suitable for all environments, particularly corrosive ones and does not need to be earthed.
MV and HV applications.

MATERIAL

Insulating epoxy resin

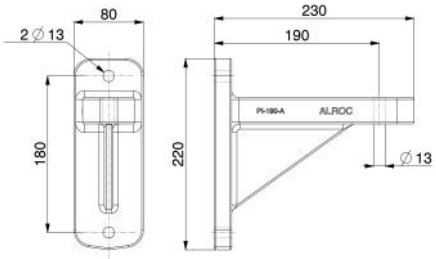
INFORMATION

To be ordered separately:
Suspended strap cleat, not provided, see pages 11 to 14
Closing screw, see page 32

STANDARD

IEC tested, see pages 35 and 36

Reference
PI-190-A



Metal bracket

DESCRIPTION

The metal bracket allows one or more cables to be suspended, it completes a suspended strap cleat or a hinged cleat. This bracket is hot-dip galvanised to protect against corrosion. MV and HV applications.

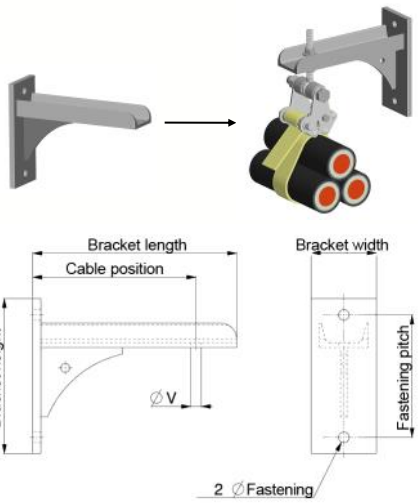
MATERIAL

Hot-dip galvanised steel

INFORMATION

We also make other bespoke brackets and fittings, see page 30

To be ordered separately:
Suspended strap cleat, see pages 11 to 14
Hinged cleat, see pages 5 to 10
Fastening screws, see page 32
Earthing attachment, see page 31



OPTION

Earthing attachment can be added when fastening, see page 31

Metal bracket — Appearance may differ according to reference

Bracket length	Bracket width	Bracket height	Fastening pitch	Cable position	Ø V	Ø Fastening	Reference
210	80	190	150	160	1 hole Ø17	2 holes Ø13	**POS-170-12**
250	80	190	100	210	1 hole Ø17	3 holes Ø13	**POT250-100-12**
250	80	190	150	200	1 hole Ø13	2 holes Ø13	**POT250-150-12**
310	80	190	150	280	2 holes Ø13	2 holes Ø13	**POT300-150-12-2**
310	80	340	300	280	1 hole Ø18	2 holes Ø15	**POT300-300-12**
370	80	190	150	340	1 hole Ø13	2 holes Ø13	**POT370-150-12**
370	80	190	150	340	2 holes Ø13	2 holes Ø13	**POT370-150-12-2**
500	90	240	200	440	2 holes Ø 13	2 holes Ø13	**POT500-200-12-2**
500	90	240	200	440	2 holes Ø15,5	2 holes Ø13	**POT500-200-12**
500	90	240	200	440	2 holes Ø17	2 holes Ø13	**POT500-200-16**

Adjustable Fittings

DESCRIPTION

Alroc adjustable fittings are designed to assemble single or triple cleats or strap cleats to hold single-phase or triple-phase cables.

⇒ Following the models, the width and/or height of the fittings can be adjusted

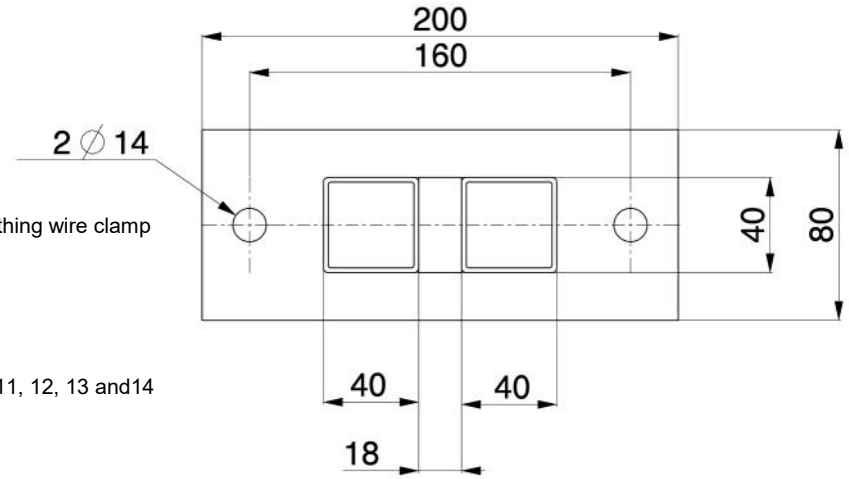
MATERIAL

Trestle: Hot-dip galvanised steel
Screw fittings: Stainless steel

INFORMATION

Provided with the kit:
Screw fittings
Plastic end cap for square tube Earthing wire clamp

To be ordered separately:
Fastening to the ground
Suspended strap cleat, see pages 11, 12, 13 and14
Single cleat, see pages 5 and 6
Triple cleat, see pages 9 and 10



Sizes for the fastening board of the PVR

Examples of complete kits

	Reference	Photo	Dimensions	Weight	Made of	Adjustment
Trestle	**TRV400-RH700**		H 400 mm adjustable W 700 mm adjustable	14.5 kg	2 PVR-400-98 (2 posts) 1 BHR-700-98 (1 beam) 2 EQR-80-60-196 (2 brackets) 6 Boulons M12x80 (screws-nuts-washers) 2 PF50-50 2 PF80-50 1 CSF-120-7 (1 earthing acc)	Height and width adjustable
	TRV700-700-V1		H 700 mm adjustable W 700 mm	14.8 kg	2 PVR-700-98 (2 posts) 1 THR-700-98 (1 beam) 2 EQR-8098 (2 brackets) 4 LTF16-100 (4 screws) 1 CSF-120-7 (1 earthing acc)	Height adjustable
	TRV1200-700-V1		H 1200 mm adjustable W 700 mm	19.2 kg	2 PVR-1200-98 (2 posts) 1 THR-700-98 (1 beam) 2 EQR-8098 (2 brackets) 4 LTF16-100 (4 screws) 1 CSF-120-7 (1 earthing acc)	Height adjustable

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Detailed List of Adjustable Fittings

	Reference	Photo	Dimensions	Thickness and weight	Made of
Post	**PVR-400-98**		H: 400 mm Width: 98 mm	Th: 40mm Weight: 4.2 kg	Tube 40 x 40 m
	PVR-600-98		H: 600 mm Width: 98 mm	Th: 40mm Weight: 4.2 kg	
	PVR-700-98		H: 700 mm Width: 98 mm	Th: 40mm Weight: 4.2 kg	
	PVR1200-98		H: 1200 mm Width: 98 mm	Th: 40mm Weight: 7.0 kg	
Horizontal Beam	**THR-700-98**		L: 700 mm Width: 98 mm	Th: 6 mm Weight: 4.9 kg	Corner 40 x 6 mm
	THR-1000-98		L: 1000 mm Width: 98 mm	Th: 6 mm Weight: 7.0 kg	
	BHR-700-98		L: 700 mm Width: 98 mm	Th: 40 mm Weight: 3.5 kg	Tube 40 x 40 mm
	BHR-1000-98		L: 1000 mm Width: 98 mm	Th: 40 mm Weight: 5.0 kg	
Bracket	**EQR-8098**		W: 98 mm Width: 80 mm	Th: 8 mm Weight: 0.9 kg	Corner 80 x 8 mm
	EQR-80-60-196		L 80x60 mm Width: 196 mm	Th: 8 mm Weight 1.5 kg	
	PF50-50		50x50x5 mm Hole Ø14		
	PF80-50		80x50x5 mm Hole Ø14		
Screw fittings	**LTF16-100**		M16x100		
	LTF16-100 SP1		M16x100 + Washer Ø80x4		
	204223		WASHER Ø80xØ16 Thickness 4		
	Screw H M12x80 115/V099		M12x80 mm		
	Nut M12 115/E033		M12 Stainless steel A4		
	Washer d12 115/R050		M12 Stainless steel A4		
	Tube end 40x40 115/A073		LD Polythene (LDPE)		
	Earthing CSF-120-7		BRASS CABLE CLAMP FOR CABLE 120² Ø7		

DESCRIPTION

Make up your adjustable fittings according to your own requirements:

Mnemonic Guide:

2 vertical posts
1 horizontal beam
2 brackets
Screw fittings
Earthing

Do not hesitate to contact us for any other sizes

Earthing Accessories

DESCRIPTION

We provide the equipment needed to create earthing (see below for a few examples). The accessories allow metal components of cable tunnels or structures to be connected to earth. Do not hesitate to contact us for any other earthing accessory.

Cable

MATERIAL

Annealed red copper 116², 37 strands in a crown arrangement

Reference	CCR120-37

C Terminal

MATERIAL

Red copper for cable 120²

Reference	C-120

Brass Cable Clamp

For cable 120 mm²
Nut M7
Capacity: Ø10 – 14mm

MATERIAL

Washer: bimetal + pin
Cable clamp: brass

Reference	SEF120-7/2RBM

CCR
SEF
ESR
ESB

Flanges

Small bracket

DESCRIPTION

The small bracket is used to fasten intermediary strap cleats to a rail, a beam, a board or the ground.

MATERIAL

Stainless steel

INFORMATION

Sold in pairs

To be ordered separately:
Intermediate strap cleat, see pages 11, 12, 13 and 14
M12 Screw fittings, see page 32

Strap width of the connected cleat	Reference
40 mm	**ESR40**
80 mm	**ESR80**

Do not hesitate to contact us for any other sizes

The flange for the strap cleat on cable conduit

DESCRIPTION

The flange allows the strap of a cleat to be fastened to a perforated cable conduit. We advise putting in 2 flanges for each cleat.

MATERIAL

Aluminium alloy AS13

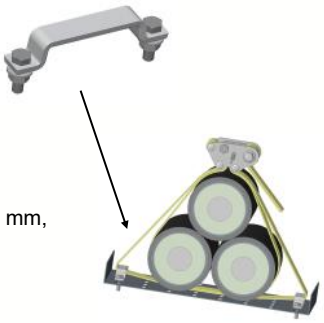
Reference	ESB/40

INFORMATION :

Screw pitch: 80 mm

Supplied:
M6 Fastening screws

To be ordered separately:
Intermediary strap cleat of width 40 mm, see pages11, 12, 13 et 14



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Screw Fittings

Castellated nuts

DESCRIPTION

The castellated nuts are used as lock nuts when fastening a hinged screw version cleat (see p 5 and p 6) or a cleat end (see p 25) on a baseplate (see p 26).

MATERIAL

Aluminium alloy AU4G

Castellated nut	
Thread	**Reference**
M16	**EC16**
M36	**EC36**

Nuts

MATERIAL

Stainless steel
Anti-seizing treatment

Nut	
Thread	**Reference**
M8 (baseplates)	**115/E021**
M10	**115/E032**
M12	**115/E033**
M16	**115/E022**

Special screws

DESCRIPTION

Special screws allow a nut version cleat to be changed to a screw version cleat

MATERIAL

Stainless steel

Special screw		
Length	**Thread**	**Reference**
50	M16	**VIL 16/50**
60	M16	**VIL 16/60**

Washers

MATERIAL

Stainless steel

Standardised stainless steel washer		
Dimensions	**Connected screw**	**Reference**
Ø22 mm	M10	**115/R047**
Ø27 mm	M12	**115/R050**
Ø32 mm	M16	**115/R043**
□50 x 50 mm	M10 / M12	**PF50-50**

Do not hesitate to contact us for any other sizes

Hex screw

MATERIAL

Stainless steel - Anti-seizing treatment

Hex screw		
Length	**Thread**	**Reference**
35 mm	M8	**115/V024**
45 mm	M8	**115/V084**
60 mm	M8	**115/V025**
30 mm	M10	**115/V073**
40 mm	M10	**115/V017**
45 mm	M10	**115/V090**
70 mm	M10	**115/V068**
130 mm	M10	**115/V091**
150 mm	M10	**115/V086**
160 mm	M10	**115/V088**
40 mm	M12	**115/V028**
45 mm	M12	**115/V080**
50 mm	M12	**115/V022**
80 mm	M12	**115/V092**
150 mm	M12	**115/V093**
230 mm	M12	**115/V089**
20 mm	M16	**115/V074**
30 mm	M16	**115/V076**
40 mm	M16	**115/V082**
50 mm	M16	**115/V019**
100 mm	M16	**115/V070**
130 mm	M16	**115/V087**
140 mm	M16	**115/V083**

ASSEMBLY PASTE - PAA

The PAA assembly paste for screw fittings makes screwing easier and avoids seizing. Teflon-based, it is used for all materials.

Packed in tubes of 150 ml

Ceiling Fastening Equipment

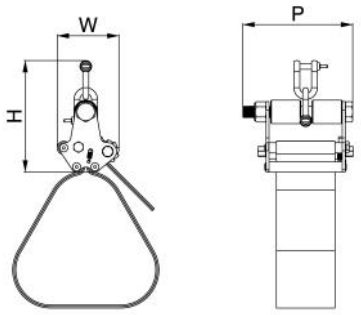
DESCRIPTION

The ceiling fastening equipment allows one or more cables to be supported from the ceiling .

INFORMATION

The accessories are sold separately.

To be ordered separately:
Spiral: **QCE12x110**
Stainless steel chain: **105/CH16528i**
Quick link: **115/AC001**
Tensioner : **T260-M12i**
Strap cleat for chain: table below



To make your installation diagrams easier, we can provide you with our simplified 3D files on request

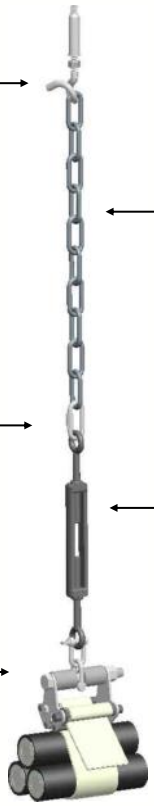
Spiral with M12 expansion wall plug
Reference: QCE12x110

Stainless steel
Chain Links: 52 mm x 16 mm
Wire of diameter 8 mm
The chain can be broken into the length that you wish (sold by linear metre)
Reference: 105/CH16528i

Stainless steel quick link Ø7
Optional
Reference: 115/AC001

M12 tensioner stainless steel rings
Adjustment 260 to 430 mm
Optional
Approximate load: 1,200 kg
Reference: T260-M12i

Strap cleat for chain
Reference in the table below



Ø in mm for each cable (1 phase)	Cleat length W in mm	Cleat width P in mm	Cleat height H in mm	Strap length in cm	Strap width in mm	References for chain cleats
55	83	95	144	140	40	CSI40/140-CH
55	82	140	144	140	80	CSI80/140-CH
88	82	140	144	180	80	CSI80/180-CH
105	82	140	144	200	80	CSI80/200-CH

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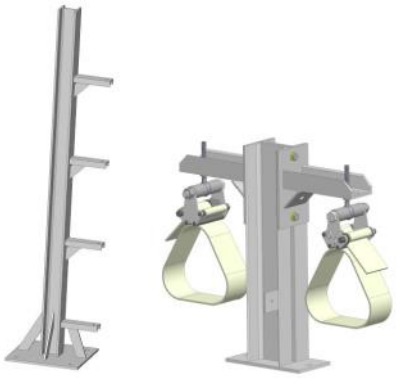
Bespoke Products

For any requests for bespoke products, please contact us on +33 (0)2 43 71 11 80

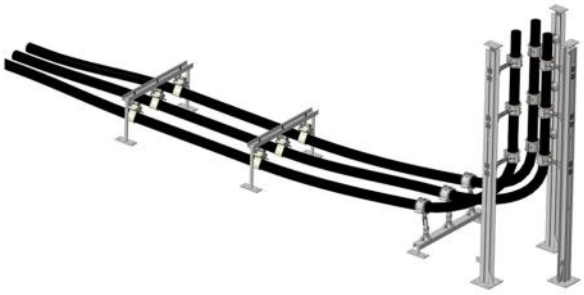
Are you interested in a product that does not appear in our catalogue?

We can produce stainless steel or hot-dip galvanised steel structures to support the entire range of Alroc cleats, as well as casings for structures and cables.

Every year, we design 15 - 30 % new products. Why not yours?



Post for fastening to the ground



Structure under transformer substations

Variable incline bracket

Device for fastening to the ground by junction

Holding support in a tunnel or pit

Multiple-arm bracket

IEC 61914 : 2016

Type	Material	Max. temperature	Min. temperature	Impact resistance	Side load	Axial load	Resistance to UV light	Fire resistan
CSC**	Metal	85°C	-25°C	Very heavy	5 000 N	Not applicable	Not applicable	Yes
CDC**	Metal	85°C	-25°C	Very heavy	7 000 N	Not applicable	Not applicable	Yes
CST**	Metal	85°C	-25°C	Not applicable	Not applicable	Not applicable	Not applicable	Yes
CTSI**	Metal	85°C	-25°C	Not applicable	Not applicable	Not applicable	Not applicable	Yes
CSI 20	Composite	85°C	-25°C	Very heavy	6 000 N	Not applicable	Not applicable	Yes
CS2I 20	Composite	85°C	-25°C	Very heavy	Not applicable	Not applicable	Not applicable	Yes
CSI40	Composite	85°C	-25°C	Very heavy	10 000 N	Not applicable	Not applicable	Yes
CS2I40	Composite	85°C	-25°C	Very heavy	Not applicable	Not applicable	Not applicable	Yes
CSI80	Composite	85°C	-25°C	Very heavy	10 000 N	Not applicable	Not applicable	Yes
CS2I80	Composite	85°C	-25°C	Very heavy	Not applicable	Not applicable	Not applicable	Yes
CSI80-QC12	Composite	85°C	-25°C	Very heavy	5 000 N	Not applicable	Not applicable	Yes
Linings	-	85°C	-25°C	-	-	-	-	Yes
Strap 20 mm	-	85°C	-25°C	-	-	-	-	Yes
Strap 40 mm	-	85°C	-25°C	-	-	-	-	Yes
Strap 80 mm	-	85°C	-25°C	-	-	-	-	Yes

IMPORTANT

Metal cleats are assembled and installed up to complete interference closure of the cleat covers. They can be used with a lining provided by ALROC.
The composite cleats are locked at the level of the coiling unit with a torque of 30 N.m. The M8 locking screws must be tightened once the strap is tensioned.

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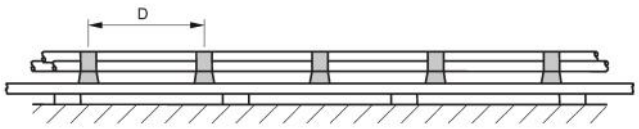
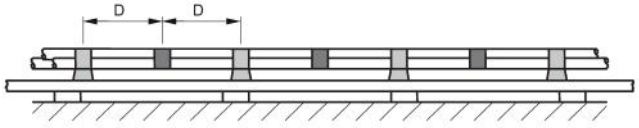
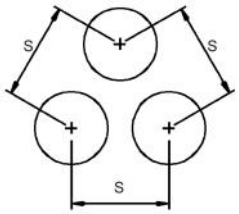
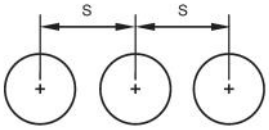
$$F = \frac{0{,}17 \times Ip^2}{5}$$

nce	Corrosion Resistance	Short Circuit Intensity (RMS)	Short Circuit Intensity (peak)	Resistance more than 1 short circuit	Diameter of test cable ICC	Distance S	Distance D	Force per cleat
s	High	29.9 kA	76.1 kA	Yes	51 mm	125 mm	1 m	788 DaN
s	High	29.9 kA	76.1 kA	Yes	51 mm	95 mm	1 m	1036 DaN
s	High	45.3 kA	100 kA	Yes	52 mm	66 mm	1 m	2576 DaN
s	High	31.9 kA	71.5 kA	Yes	52 mm	100 mm	1 m	869 DaN
s	High	29.4 kA	73.1 kA	Yes	51 mm	51 mm	0.5 m	891 DaN
s	High	29.4 kA	73.1 kA	Yes	51 mm	51 mm	0.5 m	891 DaN
s	High	29.4 kA	73.1 kA	Yes	51 mm	51 mm	0.5 m	891 DaN
s	High	29.4 kA	73.1 kA	Yes	51 mm	51 mm	0.5 m	891 DaN
s	High	31.4 kA	70 kA	Yes	52 mm	52 mm	1 m	1602 DaN
s	High	41.4 kA	100 kA	Yes	51 mm	51 mm	1 m	3333 DaN
s	High	41.4 kA	100 kA	Yes	51 mm	51 mm	1 m	3333 DaN
s	-	-	-	-	?	?	?	?
s	-	-	-	-	?	?	?	?
s	-	-	-	-	?	?	?	?
s	-	-	-	-	?	?	?	?









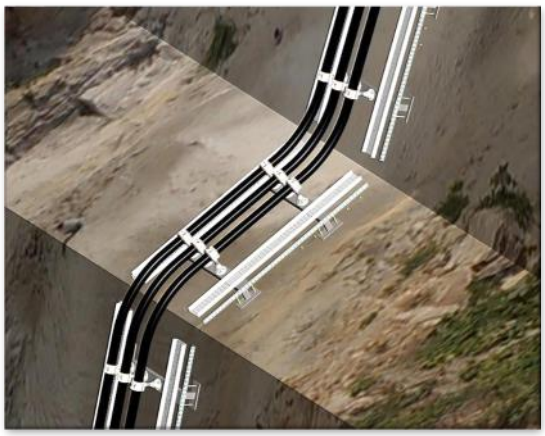
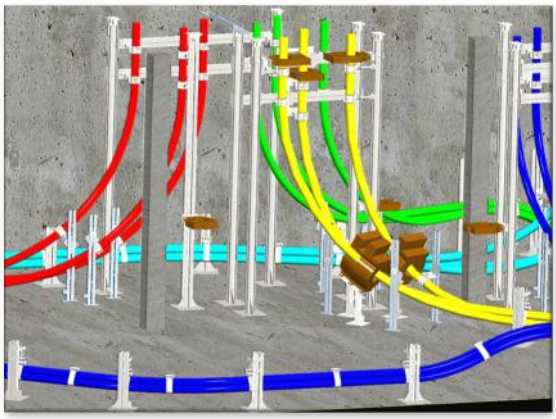
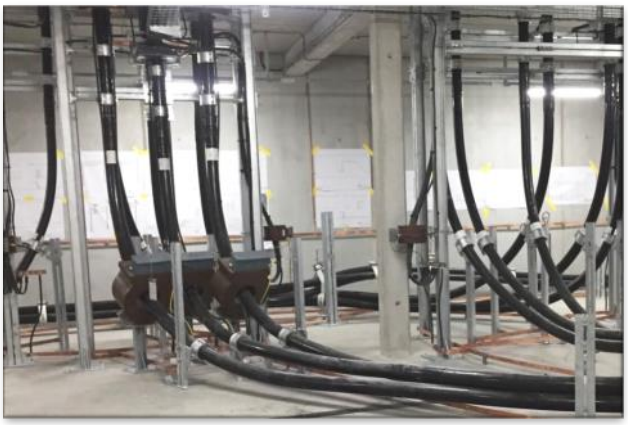
Qualified Engineers

DESCRIPTION

ALROC qualified engineers bring you support in cables implantation and progression, and lead you to adapted supports and accesories.

INFORMATION

Additional documents supplied while respecting the special technical specifications.

3D Realisation	Final result
	
	

Do not hesitate to contact us for any requests

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Services provided

⇒ Reconstruction of the basement of post with 3D pillars and beams

⇒ Laying of cables survey under Substation and/or in Gallery

⇒ Implantation of cables in 3D according to current recommendations

⇒ Respect of cables bending radii in 3 dimensions

⇒ Definition of fixing means of cables depending on short-circuit current

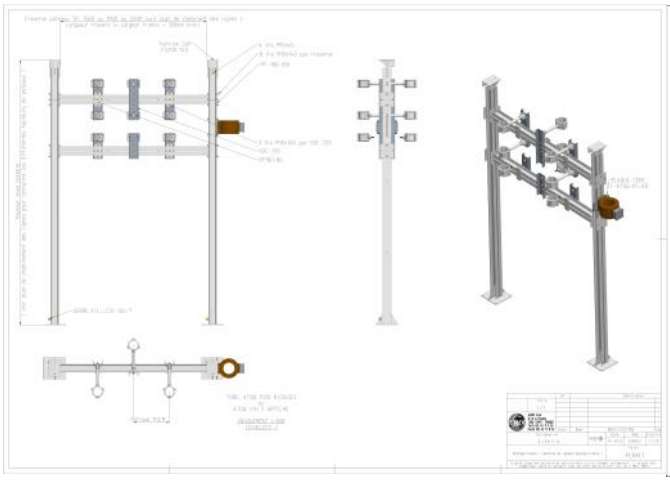
⇒ Fixing locksmithing of cables survey

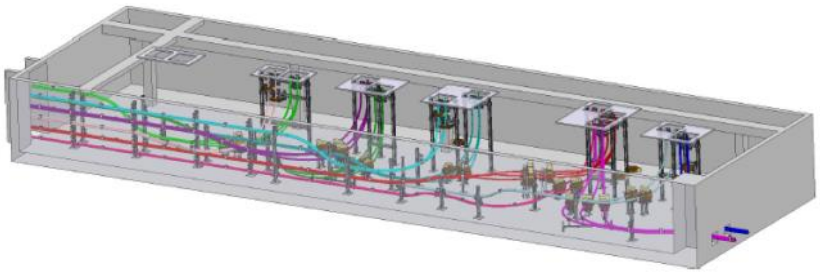
⇒ Engineering solution proposals for the maintenance and passage of cables

⇒ Implantation of Tores

⇒ Achievement of implementation plans

⇒ Achievement of mounting aid plans for structure with nomenclature of screws





Examples of 3D realisation

Do not hesitate to contact us for any requests

1 Tunnel

2 Inspection hole

3 Electricity pylon riser

6 Underground cable tunnel

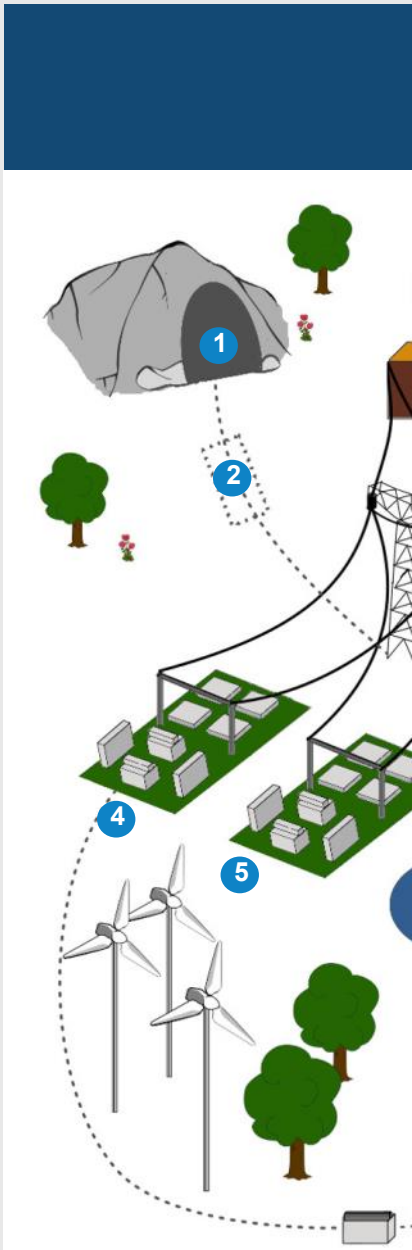
7 Railway network

8 Power supply for a transformer substation

9 Hydro-electric power plant

10 Crossing a bridge

11 Industry



Made in France

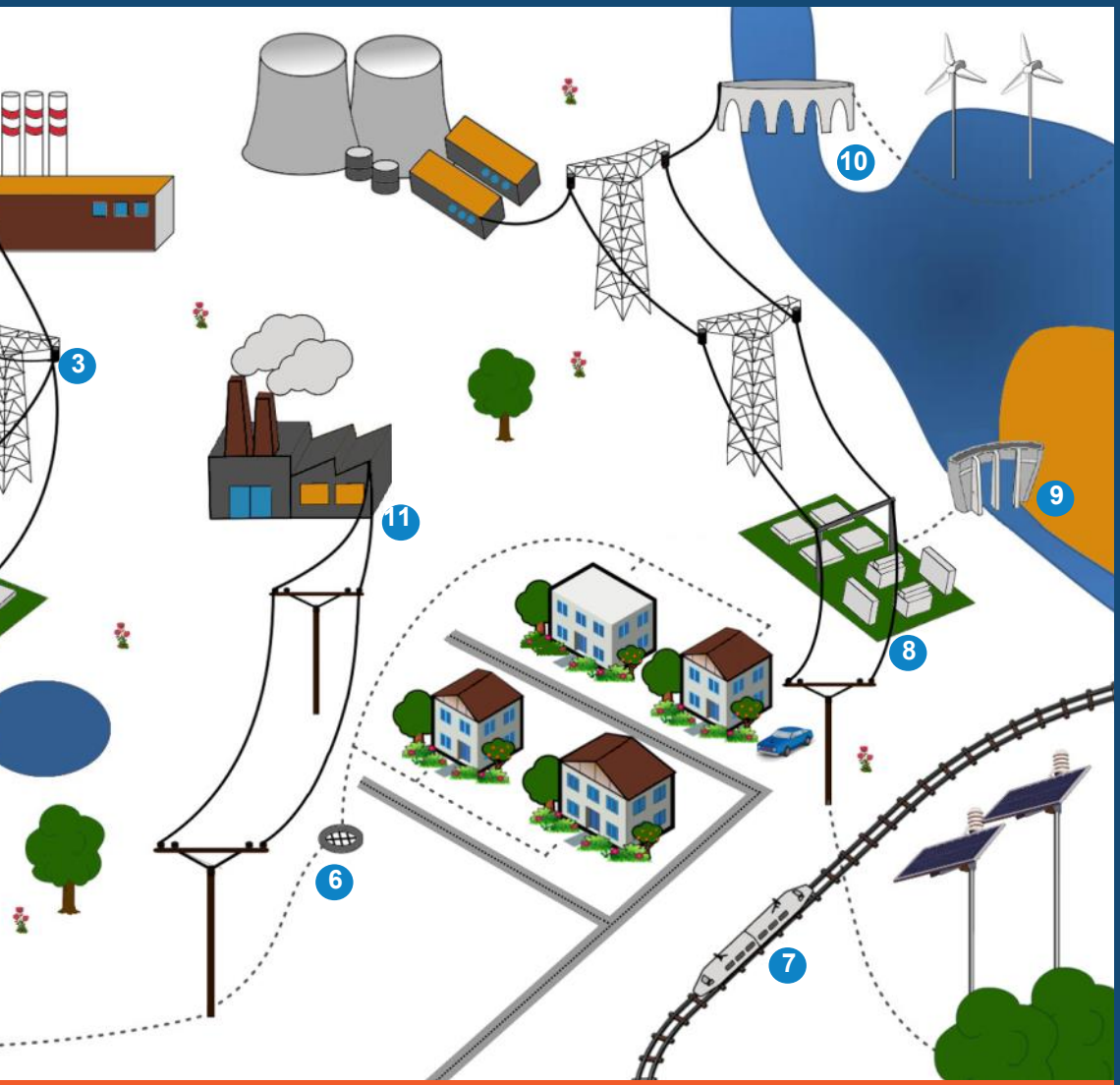
A global presence

> 1500 product references

4 **Transformer substation**

5 **Transformer substation cable tunnel**

Where are ALROC cleats mainly used?



Founded in 1940, the company ALROC has positioned itself as a global leader since the late 1980s in the manufacture of tools and machines for preparing cables. Its tools are designed for all types of cables: electrical, telephone, fibre-optic, coaxial, specialised, etc.

Thanks to its design office and know-how, ALROC can design bespoke products that are easy to use. The company seeks optimum customer satisfaction.

ALROC is ISO 9001 certified and most of its cleats are certified IEC 61914. The company makes its products as strong as possible, most of its cleats are tested at various forces, thermal impacts and loads.

Come and visit ALROC and its foundry, the manager will be pleased to meet you!
www.alroc.fr

> 500 companies put their trust in us

Creating bespoke products

Single cleats (pages 5 and 6)

	≤ Ø < Cable in mm	Ø Cleat in mm	Protection thickness	Protection reference	Cleat reference	
					Screw	Nut
Single cleat	28 to 32	44	10	PC 10-44	CS 44 V	CS 44 E
	32 to 35	44	8	PC 8-44	CS 44 V	CS 44 E
	35 to 37	47.5	10	PC 10-47,5	CS 47,5 V	CS 47,5 E
	37 to 39	47.5	8	PC 8-47,5	CS 47,5 V	CS 47,5 E
Single hinged cleat	42 to 44	60	10	PCA 10-60	CSC 60 V	CSC 60 E
	44 to 47	60	8	PCA 8-60	CSC 60 V	CSC 60 E
	47 to 49	65	10	PCA 10-65	CSC 65 V	CSC 65 E
	49 to 52	65	8	PCA 8-65	CSC 65 V	CSC 65 E
	52 to 54	70	10	PCA 10-70	CSC 70 V	CSC 70 E
	54 to 57	70	8	PCA 8-70	CSC 70 V	CSC 70 E
	57 to 59	75	10	PCA 10-75	CSC 75 V	CSC 75 E
	59 to 62	75	8	PCA 8-75	CSC 75 V	CSC 75 E
	62 to 64	80	10	PCA 10-80	CSC 80 V	CSC 80 E
	64 to 67	80	8	PCA 8-80	CSC 80 V	CSC 80 E
	67 to 69	85	10	PCA 10-85	CSC 85 V	CSC 85 E
	69 to 72	85	8	PCA 8-85	CSC 85 V	CSC 85 E
	72 to 74	90	10	PCA 10-90	CSC 90 V	CSC 90 E
	74 to 77	90	8	PCA 8-90	CSC 90 V	CSC 90 E
	77 to 79	95	10	PCA 10-95	CSC 95 V	CSC 95 E
	79 to 82	95	8	PCA 8-95	CSC 95 V	CSC 95 E
	82 to 84	100	10	PCA 10-100	CSC 100 V	CSC 100 E
	84 to 87	100	8	PCA 8-100	CSC 100 V	CSC 100 E
	87 to 89	105	10	PCA 10-105	CSC 105 V	CSC 105 E
	89 to 92	105	8	PCA 8-105	CSC 105 V	CSC 105 E
	92 to 94	110	10	PCA 10-110	CSC 110 V	CSC 110 E
	94 to 97	110	8	PCA 8-110	CSC 110 V	CSC 110 E
	97 to 99	115	10	PCA 10-115	CSC 115 V	CSC 115 E
	99 to 102	115	8	PCA 8-115	CSC 115 V	CSC 115 E
	102 to 104	120	10	PCA 10-120	CSC 120 V	CSC 120 E
	104 to 107	120	8	PCA 8-120	CSC 120 V	CSC 120 E
	107 to 109	125	10	PCA 10-125	CSC 125 V	CSC 125 E
	109 to 112	125	8	PCA 8-125	CSC 125 V	CSC 125 E
	112 to 114	130	10	PCA 10-130	CSC 130 V	CSC 130 E
	114 to 117	130	8	PCA 8-130	CSC 130 V	CSC 130 E
	117 to 119	135	10	PCA 10-135	CSC 135 V	CSC 135 E
	119 to 122	135	8	PCA 8-135	CSC 135 V	CSC 135 E
	122 to 124	140	10	PCA 10-140	CSC 140 V	CSC 140 E
	124 to 127	140	8	PCA 8-140	CSC 140 V	CSC 140 E
	127 to 129	145	10	PCA 10-145	CSC 145 V	CSC 145 E
	129 à 132	145	8	PCA 8-145	CSC 145 V	CSC 145 E
	137 to 139	155	10	PCA 10-155	CSC 155 V	CSC 155 E
	139 to 142	155	8	PCA 8-155	CSC 155 V	CSC 155 E

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Double cleats (pages 7 and 8)

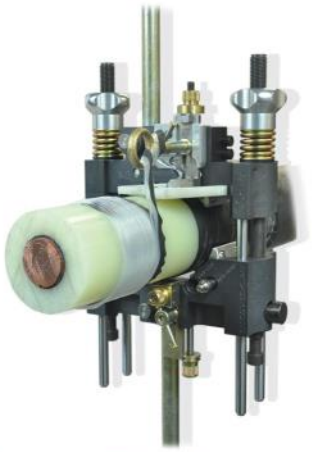
Type	≤ Ø < Cable in mm	Ø Cleat in mm	Protection thickness	Protection reference	Cleat reference	
					Screw	Nut
Single cleat	28 to 32	44	10	PC 10-44	**CDS 44 V**	**CDS 44 E**
	32 to 35	44	8	PC 8-44	**CDS 44 V**	**CDS 44 E**
	35 to 37	47.5	10	PC 10-47.5	**CDS 47.5 V**	**CDS 47.5 E**
	37 to 39	47.5	8	PC 8-47.5	**CDS 47.5 V**	**CDS 47.5 E**
Hinged cleat	46 to 49	60	10	PCD 10-60	**CDC 60 V**	**CDC 60 E**
	49 to 52	60	8	PCD 8-60	**CDC 60 V**	**CDC 60 E**
	52 to 55	66	10	PCD 10-66	**CDC 66 V**	**CDC 66 E**
	55 to 57	66	8	PCD 8-66	**CDC 66 V**	**CDC 66 E**

We can make bespoke cleats, please contact us for other sizes

Triple cleat (pages 9 and 10)

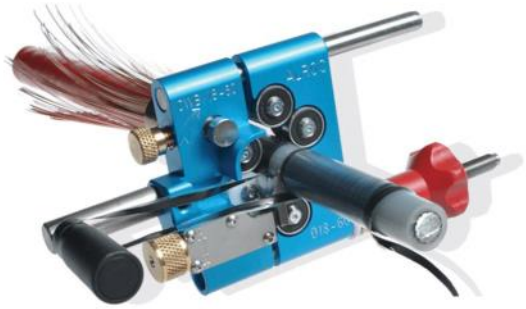
	≤ Ø < Cable in mm	Ø Cleat in mm	Protection thickness	Protection reference	Cleat reference	
					Screw	Nut
Triple cleat	42 to 44	60	10	PCT 10-60	**CST 60 V**	**CST 60 E**
	44 to 47	60	8	PCT 8-60	**CST 60 V**	**CST 60 E**
	47 to 49	65	10	PCT 10-65	**CST 65 V**	**CST 65 E**
	49 to 52	65	8	PCT 8-65	**CST 65 V**	**CST 65 E**
	52 to 54	70	10	PCT 10-70	**CST 70 V**	**CST 70 E**
	54 to 57	70	8	PCT 8-70	**CST 70 V**	**CST 70 E**
	57 to 59	75	10	PCT 10-75	**CST 75 V**	**CST 75 E**
	59 to 62	75	8	PCT 8-75	**CST 75 V**	**CST 75 E**
	62 to 64	80	10	PCT 10-80	**CST 80 V**	**CST 80 E**
	64 to 67	80	8	PCT 8-80	**CST 80 V**	**CST 80 E**
	67 to 69	85	10	PCT 10-85	**CST 85 V**	**CST 85 E**
	69 to 72	85	8	PCT 8-85	**CST 85 V**	**CST 85 E**
Hinged triple cleat	47 to 49	65	10	PCA 10-65	**CTSI 65**	
	49 to 52	65	8	PCA 8-65	**CTSI 65**	
	67 to 69	85	10	PCA 10-85	**CTSI 85**	
	69 to 72	85	8	PCA 8-85	**CTSI 85**	
	72 to 74	90	10	PCA 10-90	**CTSI 90**	
	74 to 77	90	8	PCA 8-90	**CTSI 90**	
	82 to 84	100	10	PCA 10-100	**CTSI 100**	
	84 to 87	100	8	PCA 8-100	**CTSI 100**	
	92 to 94	110	10	PCA 10-110	**CTSI 110**	
	94 to 97	110	8	PCA 8-110	**CTSI 110**	
	97 to 99	115	10	PCA 10-115	**CTSI 115**	
	99 to 102	115	8	PCA 8-115	**CTSI 115**	

See our other product ranges on www.alroc.fr



High voltage (HV) cable tools

Low voltage (LV) cable tools



Medium voltage cable tools (MV)

Gas pipe tools

Soreca cable lugs

12/2021

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