



KAHANGAN

Earth Protection, Our Obligation

Our Services:



CATHODIC
PROTECTION



SURGE
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LIGHTNING
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AND GROUNDING



EXOTHERMIC
WELDING



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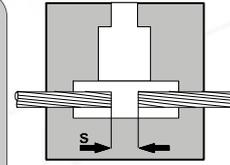
CABLE TO CABLE CONNECTION DETAILS

HORIZONTAL DIRECT CONNECTION

Note:
For 240mm² and larger gap cables (s) 5 - 6mm.
under the center of the tap hole.

MOULD TYPE :

CE-A (Run Cond.)



Handel Clamp KM58

*Use Sleeve 10x25 & 16x35

CE-A

RUN CONNECTOR (mm²)

10*	16*	25	35	50	70	95	120	150	185	240	300
-----	-----	----	----	----	----	----	-----	-----	-----	-----	-----

CARTRIDGE

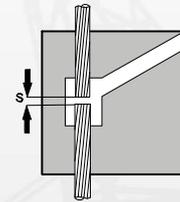
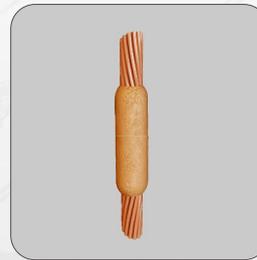
C - 32	C - 32	C - 32	C - 45	C - 45	C - 65	C - 90	C - 115	C - 115	C - 150	C - 200	C - 250
--------	--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------

VERTICAL DIRECT CONNECTION

Note:
For 240mm² and larger gap cables (s) 5 - 6mm.
under the center of the tap hole.

MOULD TYPE :

CE-B (Run Cond.)



Handel Clamp KM58
KM78

*Use Sleeve 10x25 & 16x35

CE-B

RUN CONDUCTOR SECTION (mm²)

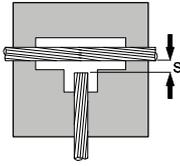
10*	16*	25	35	50	70	95	120	150	185	240	300
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CARTRIDGE

C - 45	C - 45	C - 45	C - 45	C - 65	C - 90	C - 115	C - 150	C - 150	C - 200	C - 250	2XC - 200
--------	--------	--------	--------	--------	--------	---------	---------	---------	---------	---------	-----------

For other size & type, please contact us.

CABLE TO CABLE CONNECTION DETAILS



Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35



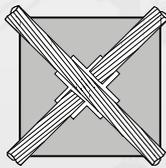
HORIZONTAL TEE CONNECTION

Note:
For 240mm² and larger gap Tap cables (s) 5 - 6mm.
from the run cable

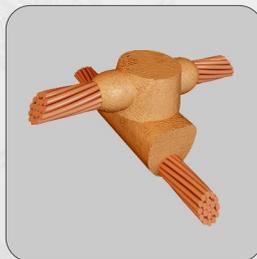
MOULD TYPE :

CT-A (Run Cond.)/(Tab Cond.)

CT-A	TAP CONDUCTOR (mm ²)											
	10*	16*	25	35	50	70	95	120	150	185	240	300
10*	C - 45	C - 45	C - 45									
16*	C - 45	C - 45	C - 45									
25	C - 45	C - 45	C - 45									
35	C - 45	C - 45	C - 45	C - 45								
50	C - 65	C - 65	C - 65	C - 65	C - 90							
70	C - 65	C - 65	C - 65	C - 65	C - 90	C - 90						
95	C - 90	C - 90	C - 90	C - 90	C - 90	C - 90	C - 115					
120	C - 90	C - 90	C - 90	C - 90	C - 90	C - 90	C - 115	C - 150	C - 150	C - 150		
150				C - 115	C - 115	C - 115	C - 150	C - 150	C - 200	C - 200	C - 200	
185				C - 115	C - 115	C - 150	C - 150	C - 200	C - 200	C - 200	C - 200	
240				C - 150	C - 150	C - 150	C - 150	C - 200	C - 200	C - 200	2XC - 150	
300				C - 200	C - 200	C - 200	C - 200	C - 250	C - 250	2XC - 150	2XC - 200	2XC - 200



Handel Clamp KM58S
KM78S



HEAVY DUTY CROSS CONNECTION

Note:
Smaller cable must be placed over the larger one

MOULD TYPE :

CX-A (Run Cond.)/(Tab Cond.)

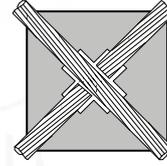
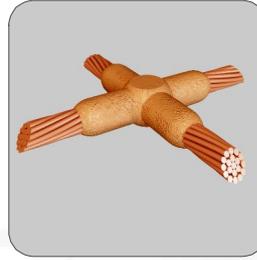
CX-A	TAP CONDUCTOR (mm ²)											
	10	16	25	35	50	70	95	120	150	185	240	300
10	Use XB Connection											
16	Use XB Connection											
25	Use XB Connection											
35	Use XB Connection											
50				C - 90								
70				C - 115	C - 115							
95				C - 150	C - 200	C - 200						
120				C - 200	C - 200	C - 250	C - 250					
150						C - 250	2XC - 150	2XC - 150				
185							2XC - 200	2XC - 200	2XC - 200			

For other size & type, please contact us.

CABLE TO CABLE CONNECTION DETAILS

HORIZONTAL CROSS CONNECTION

Note:
Cut the larger cable and but the ends against the smaller one.



MOULD TYPE :

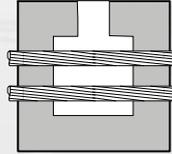
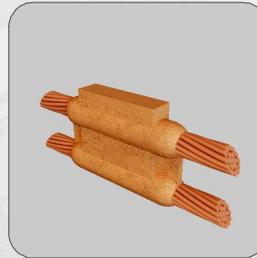
CX-B (Run Cond.)/(Tab Cond.)

Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35

CX-B	TAP CONDUCTOR (mm ²)												
	10*	16*	25	35	50	70	95	120	150	185	240	300	
10*	C - 45	C - 45	C - 45										
16*	C - 65	C - 65	C - 65										
25	C - 45	C - 45	C - 45										
35	C - 65	C - 65	C - 65	C - 65									
50	C - 90	C - 90	C - 90	C - 90	C - 90								
70				C - 115	C - 115	C - 115							
95				C - 115	C - 115	C - 150	C - 150						
120				C - 115	C - 150	C - 150	C - 200	C - 200					
150				C - 150	C - 150	C - 150	C - 200	C - 250	C - 250				
185					C - 200	C - 200	C - 200	C - 250	C - 250	C - 250			
240						C - 250	2XC - 150	2XC - 150	2XC - 200	2XC - 200	2XC - 250		
300							2XC - 150	2XC - 150	2XC - 200	2XC - 200	2XC - 200	2XC - 250	2XC - 250

AL TOGETHER PARALLEL CONNECTION

Note:
Smaller cable must be placed over the larger one
Cut smaller cable & gap 3-4 mm -For heavy duty type dont cut cable.



MOULD TYPE :

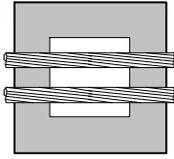
CD-A (Run Cond.)/(Tab Cond.)

Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35

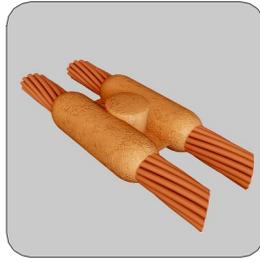
CD-A	TAP CONDUCTOR (mm ²)												
	10*	16*	25	35	50	70	95	120	150	185	240	300	
10*	C - 45												
16*	C - 65	C - 65											
25	C - 45	C - 65	C - 45										
35	C - 65	C - 65	C - 65	C - 65									
50	C - 65	C - 90	C - 65	C - 90	C - 90								
70				C - 90	C - 115	C - 115							
95				C - 115	C - 115	C - 150	C - 150						
120				C - 150	C - 150	C - 150	C - 200	C - 250					
150				C - 150	C - 150	C - 150	C - 200	C - 250	2XC - 150				
185				C - 150	C - 150	C - 150	C - 200	C - 250	2XC - 150	2XC - 150			
240					C - 200	C - 200	C - 250	C - 250	2XC - 150	2XC - 150	2XC - 200		
300					C - 250	C - 250	C - 250	2XC - 150	2XC - 150	2XC - 200	2XC - 250	2XC - 250	

For other size & type, please contact us.

CABLE TO CABLE CONNECTION DETAILS



Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35



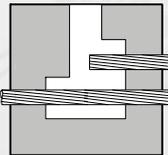
SIDE BY SIDE PARALLEL CONNECTION

Note:
Place cable according to the sketch on view.

MOULD TYPE :

CD-B (Run Cond.)/(Tab Cond.)

CD - B		TAP CONDUCTOR (mm ²)												
		10*	16*	25	35	50	70	95	120	150	185	240		
RUN CONDUCTOR (mm ²)	10*	C - 45												
	16*		C - 65											
	25			C - 45										
	35			C - 65	C - 65									
	50			C - 90	C - 90	C - 90								
	70			C - 90	C - 90	C - 115	C - 115							
	95				C - 115	C - 150	C - 150	C - 150						
	120				C - 150	C - 200	C - 200	C - 200	C - 200	C - 200				
	150				C - 150	C - 200	C - 200	C - 200	C - 200	C - 250	C - 250			
	185				C - 150	C - 200	C - 250	C - 250	C - 250	C - 250	C - 250	2XC - 150		
	240					C - 200	C - 250	2XC - 150	2XC - 150	2XC - 200	2XC - 200	2XC - 200	2XC - 250	



Handel Clamp KM-58
*Use Sleeve 10x25 & 16x35



UNILATERAL PARALLEL CONNECTION

Note:
Smaller cable must be place over the larger one & its end should be exactly in the center of tap hole

MOULD TYPE :

CD-C (Run Cond.)/(Tab Cond.)

CD - C		TAP CONDUCTOR (mm ²)							
		10*	16*	25	35	50	70	95	120
RUN CONDUCTOR (mm ²)	10*	C - 45							
	16*		C - 65						
	25			C - 45					
	35			C - 65	C - 65				
	50			C - 65	C - 65	C - 90			
	70			C - 90	C - 90	C - 115	C - 115		
	95				C - 115	C - 115	C - 115	C - 150	
	120					C - 115	C - 150	C - 200	C - 200

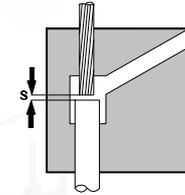
CABLE TO GROUND ROD CONNECTION DETAILS

END TO END VERTICAL CONNECTION

Note:
Gap rod and cable (s) 5-6mm.
at the axis of the tap hole. Use a clamp on
rod below mould

MOULD TYPE :

CR-V (Cable.)/(Rod.)



Handel Clamp KM58

*Use sleeve 10x25 & 16x35

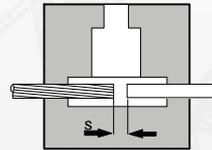
ROD DIA. mm	CR-V	CABLE SECTION. mm ²										
		10*	16*	25	35	50	70	95	120	150	185	240
12/7		C-65	C-65	C-65	C-65					C-90	C-115	C-150
14/2		C-65	C-65	C-65	C-65					C-90	C-115	C-150
17/2		C-90	C-90	C-90	C-90					C-90	C-115	C-150
18/2		C-90	C-90	C-90	C-90					C-90	C-115	C-150

END TO END HORIZONTAL CONNECTION

Note:
Gap of 3-4mm is required between the rod & the cable exactly
under the tap hole.

MOULD TYPE :

CR-H (Cable.)/(Rod.)



Handel Clamp KM58

*Use sleeve 10x25 & 16x35

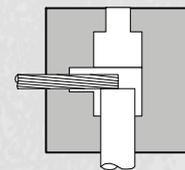
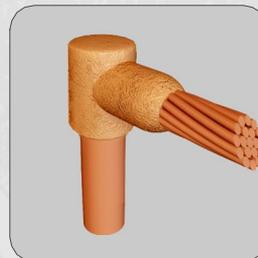
ROD DIA. mm	CR-H	CABLE SECTION. mm ²									
		10*	16*	25	35	50	70	95	120	150	185
12/7		C-65							C-90	C-115	C-150
14/2		C-65							C-90	C-115	C-150
17/2		C-90							C-90	C-115	C-150
18/2		C-90							C-90	C-115	C-150

END TO END PERPENDICULAR CONNECTION

Note:
Place end of cable at the axis of the tap
hole and rod butted against the cable
Use a clamp on rod below mould

MOULD TYPE :

CR-L (Cable.)/(Rod.)



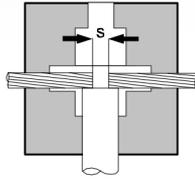
Handel Clamp KM58

*Use Sleeve 10x25 & 16x35

ROD DIA. mm	CR-L	CABLE SECTION. mm ²									
		10*	16*	25	35	50	70	95	120	150	185
12/7		C-65							C-90	C-115	C-150
14/2		C-65							C-90	C-115	C-150
17/2		C-90							C-90	C-115	C-150
18/2		C-90							C-90	C-115	C-150

For other size & type, please contact us.

CABLE TO GROUND ROD CONNECTION DETAILS



Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35



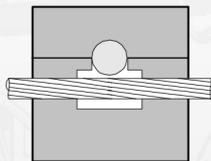
VERTICAL TEE CONNECTION

Note:
For 120mm² and larger cut run cable and gap it (s) 5-6mm under center of tap hole.
Use a clamp on rod below mould. Don't cut cable for heavy duty (CR-TS)

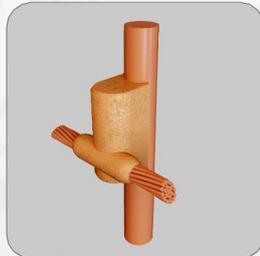
MOULD TYPE :

CR-T (Cable.)/(Rod.)

CR-T		CABLE SECTION .mm ²											
		10*	16*	25	35	50	70	95	120	150	185	240	300
ROD DIA. mm	12/7	C - 90	C - 90	C - 90	C - 90	C - 90	C - 115	C - 115	C - 150	C - 200	C - 200	C - 250	2XC - 150
	14/2	C - 90	C - 90	C - 90	C - 90	C - 90	C - 115	C - 115	C - 150	C - 200	C - 200	C - 250	2XC - 150
	17/2	C - 90	C - 90	C - 90	C - 90	C - 115	C - 115	C - 115	C - 150	C - 200	C - 200	C - 250	2XC - 150
	18/2	C - 90	C - 90	C - 90	C - 90	C - 115	C - 115	C - 115	C - 150	C - 200	C - 200	C - 250	2XC - 150



Handel Clamp KM58
KM78



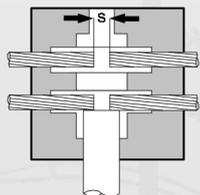
HEAVY DUTY CROSS CONNECTION

Note:
Insert cable into the mould and secure it to rod with backing plate attachment.
Use another clamp on rod below mould.

MOULD TYPE :

CR-X (Cable.)/(Rod.)

CR-X		CABLE SECTION .mm ²								
		35	50	70	95	120	150	185	240	300
ROD DIA. mm	12/7	C - 90	C - 115	C - 115	C - 115	C - 150	C - 150	C - 250	2XC - 200	2XC - 250
	14/2	C - 90	C - 115	C - 115	C - 115	C - 150	C - 150	C - 250	2XC - 200	2XC - 250
	17/2	C - 90	C - 115	C - 150	C - 150	C - 200	C - 250	2XC - 200	2XC - 250	2XC - 250
	18/2	C - 90	C - 115	C - 150	C - 150	C - 200	C - 250	2XC - 200	2XC - 250	2XC - 250



Handel Clamp KM58
KM78



PARALLEL CONNECTION TO GROUND ROD

Note:
For 120mm² and larger cut run cable and gap it (s) 5-6mm under centre of tap hole.
Use a clamp on rod below mould. Don't cut cable for heavy duty type CR-D

MOULD TYPE :

CR-D (Cable.)/(Rod.)

CR-D		CABLE SECTION .mm ²								
		35	50	70	95	120	150	185	240	300
ROD DIA. mm	12/7	C - 115	C - 115	C - 150	C - 200	C - 250	2XC - 150	2XC - 150	2XC - 200	2XC - 250
	14/2	C - 115	C - 115	C - 150	C - 200	C - 250	2XC - 150	2XC - 150	2XC - 200	2XC - 250
	17/2	C - 115	C - 150	C - 150	C - 200	C - 250	2XC - 150	2XC - 150	2XC - 250	2XC - 250
	18/2	C - 115	C - 150	C - 150	C - 200	C - 250	2XC - 150	2XC - 150	2XC - 250	2XC - 250

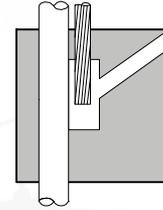
CABLE TO GROUND ROD CONNECTION DETAILS

TAP VERTICAL PARALLEL CONNECTION

Note:
Insert cable until the axis of the tap hole.
Use a clamp on rod below mould.

MOULD TYPE :

CR-R (Cable.)/(Rod.)



Handel Clamp

KM58
KM78

*Use Sleeve 10x25 & 16x35

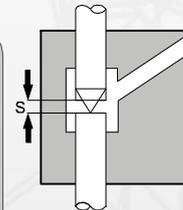
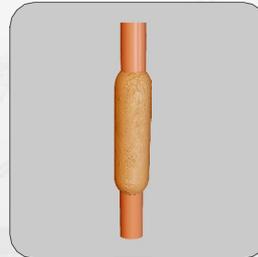
CR-R		CABLE SECTION.mm ²											
		10	16	25	35	50	70	95	120	150	185	240	
ROD DIA.mm	12/7	C -90	C -90	C -90	C -90	C -115	C -150	C -150	C -200	C -250	2 xC-150	2 xC-200	
	14/2	C -90	C -90	C -90	C -90	C -115	C -150	C -150	C -200	C -250	2 xC-150	2 xC-200	
	17/2	C -90	C -90	C -90	C -90	C -115	C -150	C -200	C -200	C -250	2 xC-150	2 xC-250	
	18/2	C -90	C -90	C -90	C -90	C -115	C -150	C -200	C 200	C -250	2 xC-150	2 xC-250	

VERTICAL LINEAR CONNECTION

Note:
Upper pointed rod is butted against lower rod and blunt rod is gapped (s) 10mm. at the axis of the tap hole. Use a clamp on lower rod below mould.

MOULD TYPE :

RE-A (Rod.)/(Rod.)



Handel Clamp

KM58

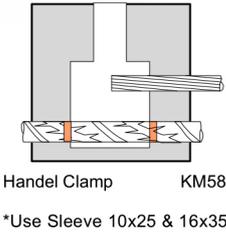
*Use Sleeve 10x25 & 16x35

RE-A		CABLE SECTION.mm ²
ROD DIA.mm	12/7	C -200
	14/2	C -200
	17/2	2XC - 150
	18/2	2XC - 150

For other size & type, please contact us.

CABLE TO REBAR KADWELD CONNECTION DETAILS

Note: Remove oxids from connection point of armator surface perfectly with metallic brush or chemical compound.



Handel Clamp KM58
*Use Sleeve 10x25 & 16x35



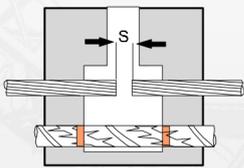
C/RB UNILATERAL - HORIZONTAL

Note:
Warp around steel re-bar with mastic, leaving space between the mastic larger than weld cavity. Place cable end at center of tap hole.

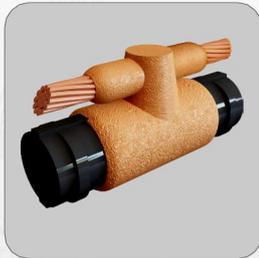
MOULD Type :

CA-D (Cable.)/(Arm.)

ARM DIA mm	CABLE SECTION.mm ²										
	10*	16*	25	35	50	70	95	120	150	185	240
10*	F-90	F-90	F-90	F-90	F-115	F-115	F-150				
16*	F-90	F-90	F-90	F-90	F-115	F-115	F-150	F-150	F-200		
20	F-90	F-90	F-90	F-90	F-115	F-115	F-150	F-150	F-200	F-250	F-250



Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35



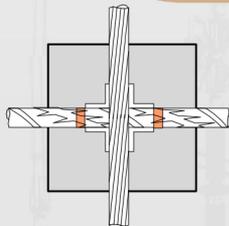
C/RB PARALLEL - HORIZONTAL LAP

Note:
Warp around steel re-bar with mastic, leaving space between the mastic larger than weld cavity. Cut cable and gap it (s) 3-4mm under center of tap hole.

MOULD Type :

CA-DR (Cable.)/(Arm.)

ARM DIA mm	CABLE SECTION.mm ²										
	10*	16*	25	35	50	70	95	120	150	185	240
10*	F-115	F-115	F-115	F-115	F-115	F-150	F-200				
16*	F-115	F-115	F-115	F-115	F-115	F-150	F-200	F-200	F-250		
20	F-115	F-115	F-115	F-115	F-115	F-150	F-200	F-200	F-250	F-300	F-300



Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35



C/RB HORIZONTAL - UNCUT CROSS

Note:
Warp around steel re-bar with mastic, leaving space between the mastic larger than weld cavity. Place cable over top of re-bar.

MOULD Type :

CAX-A (Cable.)/(Arm.)

ARM DIA mm	CABLE SECTION.mm ²										
	10*	16*	25	35	50	70	95	120	150	185	240
10	F-90	F-90	F-90	F-90	F-115	F-115	F-150				
16	F-115	F-115	F-115	F-115	F-150	F-150	F-200	F-200	F-200		
20	F-115	F-115	F-115	F-115	F-150	F-150	F-200	F-200	F-250	F-250	F-150

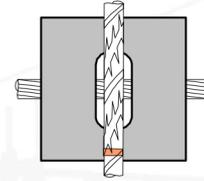
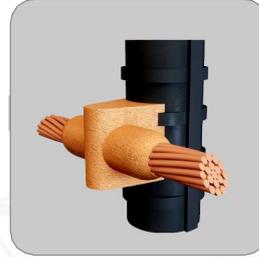
CABLE TO REBAR KADWELD CONNECTION DETAILS

C/RB VERTICAL AND UNCUT CROSS

Note:
Wrap around steel re-bar with mastic below the weld cavity.
Insert cable into the mould and secure it to re-bar with backing
Plate attachment. Use a clamp on re-bar below mould.

MOULD Type :

CAX-B (Cable.)/(Arm.)



Handel Clamp **KM58R**
KM78R
*Use Sleeve 10x25 & 16x35

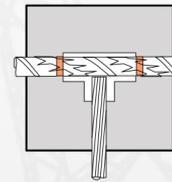
CAX-B		CABLE SECTION.mm ²										
		10*	16*	25	35	50	70	95	120	150	185	240
ARM DIA mm	10	F - 90	F - 90	F - 90	F - 90	F - 115	F - 115	F - 150				
	16	F - 90	F - 90	F - 90	F - 90	F - 115	F - 115	F - 150	F - 150	F - 200		
	20	F - 90	F - 90	F - 90	F - 90	F - 115	F - 115	F - 150	F - 150	F - 200	F250	2XF - 200

C/RB HORIZONTAL "T"

Note:
Wrap around steel re-bar with mastic, leaving space between the
mastic larger than weld cavity. Butt tap cable against re-bar.

MOULD Type :

CAT-A (Cable.)/(Arm.)



Handel Clamp **KM58**
KM78
*Use Sleeve 10x25 & 16x35

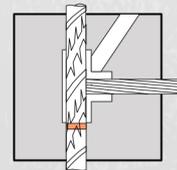
CAT-A		CABLE SECTION.mm ²										
		10*	16*	25	35	50	70	95	120	150	185	240
ARM DIA mm	10	F - 90	F - 90	F - 90	F - 90	F - 115	F - 115	F - 115				
	16	F - 150	F - 150	F - 150	F - 150	F - 150	F - 150	F - 200	F - 200	F - 250		
	20	F - 150	F - 150	F - 150	F - 150	F - 200	F - 200	F - 200	F - 250	F - 250	2XF - 250	2XF - 150

C/RB VERTICAL "T"

Note:
Wrap around steel re-bar with mastic, below
the weld cavity. butt tap cable against re-bar.
Use a clamp on re-bar below mould.

MOULD Type :

CAT-B (Cable.)/(Arm.)



Handel Clamp **KM58**
KM78
*Use Sleeve 10x25 & 16x35

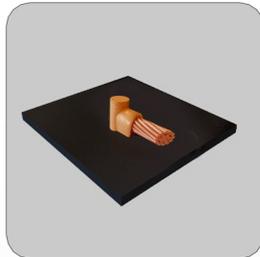
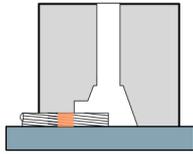
CAT-B		CABLE SECTION.mm ²										
		10*	16*	25	35	50	70	95	120	150	185	240
ARM DIA mm	10	F - 90	F - 90	F - 90	F - 90	F - 115	F - 115	F - 150				
	16	F - 150	F - 150	F - 150	F - 150	F - 150	F - 150	F - 200	F - 200	F - 250		
	20	F - 150	F - 150	F - 150	F - 150	F - 200	F - 200	F - 200	F - 250	F - 250	2XF - 150	2XF - 200

Note: Remove oxids from connection point of armator surface perfectly with metallic brush or chemical compound.

For other size & type, please contact us.

CABLE TO FLAT SURFACE CONNECTION DETAILS

This reference codes refer to flat surfaces and thick wall cylinders & tubs (above 3mm thickness) with Dia. above 30". If connecting to copper surface a cartridge one size larger is required.



Handel Clamp KM58
KM78
*Use Sleeve 10x25 & 16x35

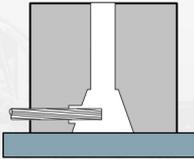
TAP CABLE ON SURFACE CONNECTION

Note:
Place cable end at centre of tap hole. Fill the gap between cable and steel surface with mastic outside the weld cavity. Hold mould down carefully to prevent from its slip.

MOULD TYPE :

CS-A (Cable)/(FlatSurf.)

CS-A	CABLE SECTION.mm ²											
	25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 45	F - 45	F - 45	F - 45	F - 65	F - 65	F - 90	F - 115	F - 150	F - 200	F - 200	F - 250



Handel Clamp KM58
KM78

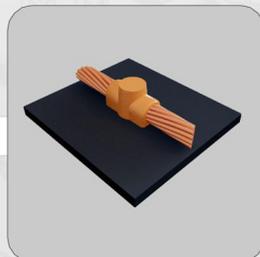
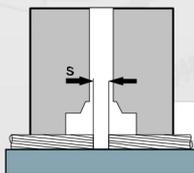
TAP CABLE OFF SURFACE CONNECTION

Note:
Place cable end at center of tap hole. hold down on mould cover to prevent mould from tipping.

MOULD TYPE :

CS-B (Cable)/(FlatSurf.)

CS-B	CABLE SECTION.mm ²											
	10, 16, 25, 35	8mm	50	10mm	70	95	120	150	185	240	300	
CARTRIDGE	Use CS-A Connection	F - 90	F - 90	F - 90	F - 90	F - 115	F - 150	F - 150	F - 200	F - 200	F - 250	



Handel Clamp KM-58
KM-78
Use sleeve for Cable Under 25mm² : 10x25 & 16x35

RUN CABLE ON SURFACE CONNECTION

Note:
Cut cable and gap it (s)3-4mm under center of tap hole. Fore cross sec. above 50mm² fill the gap between cable and steel with mastic. Hold down on mould cover to prevent mould from tipping.

MOULD TYPE :

CS-AR (Cable)/(FlatSurf.)

CS-AR	CABLE SECTION.mm ²											
	25	35	8mm	50	10mm	70	95	120	150	185	240	
CARTRIDGE	F - 45	F - 45	F - 90	F - 90	F - 115	F - 115	F - 115	F - 150	F - 200	F - 250	2XF - 150	

Note: Remove oxids from connection point of steel surface perfectly with electrical grindstone.

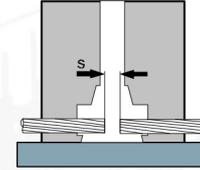
CABLE TO FLAT SURFACE CONNECTION DETAILS

RUN CABLE OFF SURFACE CONNECTION

Note:
Cut cable and gap it (s)3-4mm under center of tap hole. Hold mould down carefully to prevent from its slip.

MOULD TYPE :

CS-BR (Cable)/(FlatSurf.)



Handel Clamp KM58
KM78
Use sleeve for Cable Under
25mm² : 10x25 & 16x35

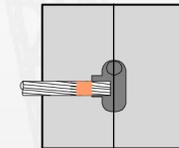
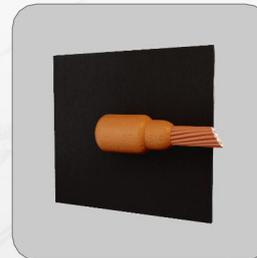
CS-BR	CABLE SECTION.mm ²											
	10 16 25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 65	F - 90	F - 90	F - 90	F - 115	F - 115	F - 115	F - 150	F - 200	F - 250	2XF - 150	2XF - 200

TAP CABLE TO VERTICAL SURFACE.right direction

Note:
Place cable end at center of tap hole.For cross sec. above 50mm² fill the gap between cable and steel with mastic outside the weld cavity. Secure mould to the steel surface with a clamp, if possible.

For left direction mould type is CS-HB MOULD TYPE :

CS-HA,CS-HB (Cable)/(FlatSurf.)



Handel Clamp KM58
KM78
Use sleeve for Cable Under
25mm² : 10x25 & 16x35

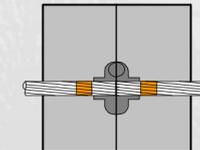
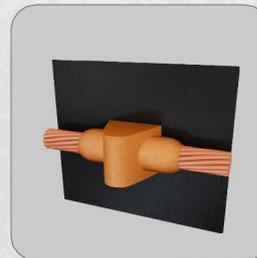
CS-HA CS-HB	CABLE SECTION.mm ²											
	25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 65	F - 65	F - 90	F - 90	F - 115	F - 90	F - 115	F - 110	F - 150	F - 200	F - 200	F - 250

RUN CABLE TO VERTICAL SURFACE.

Note:
Fill the gap between cable and steel surface with mastic outside the weld cavity. Secure mould to the steel surface with a clamp, if possible.

MOULD TYPE :

CS-HR (Cable)/(FlatSurf.)



Handel Clamp KM58
KM78
Use Sleeve for Cable Under
25mm² : 16 x25 & 16 x35

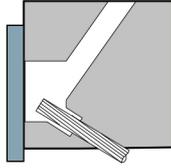
CS-HR	CABLE SECTION.mm ²											
	25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 65	F - 90	F - 115	F - 115	F - 150	F - 115	F - 150	F - 150	F - 200	F - 250	2XF - 150	2XF - 200

Note: Remove oxids from connection point of steel surface perfectly with electrical grindstone.

For other size & type, please contact us.

CABLE TO FLAT SURFACE CONNECTION DETAILS

Note: Remove oxids from connection point of steel surface perfectly with electrical grindstone.



Handel Clamp KM58
KM78
Use Sleeve for Cable Under
25mm²: 16 x25 & 16 x35



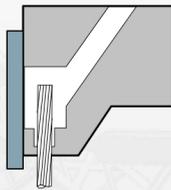
TRAP CABLE TO VERTICAL SURFACE.

Note:
The cable end should make contact with the steel surface
secure mould to the steel surface with a clamp, if possible.

MOULD TYPE :

CS-V (Cable)/(FlatSurf.)

CS-V	CABLE SECTION.mm ²											
	25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 45	F - 45	F - 90	F - 90	F - 90	F - 90	F - 115	F - 115	F - 150	F - 200	F - 200	F - 250



Handel Clamp KM58
KM78
Use Sleeve for Cable Under
25mm²: 16 x25 & 16 x35



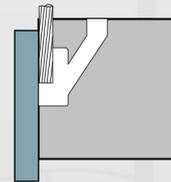
TRAP CABLE TO VERTICAL SURFACE.

Note:
Cable end must be positioned as show above.
Fill the gap between cable and steel with
mastic below the weld cavity. Secure mould to
the steel surface with a clamp, if possible.

MOULD TYPE :

CS-VA (Cable)/(FlatSurf.)

CS-VA	CABLE SECTION.mm ²											
	25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 45	F - 65	F - 90	F - 90	F -115	F - 90	F - 115	F - 115	F - 150	F - 200	F - 200	F - 250



Handel Clamp KM58
KM78
Use Sleeve for Cable Under
25mm²: 16 x25 & 16 x35



TRAP CABLE TO VERTICAL SURFACE.

Note:
Cable end must be positioned as shown above
Secure mould to the steel surface with a clamp,
if possible.

MOULD TYPE :

CS-VB (Cable)/(FlatSurf.)

CS-VB	CABLE SECTION.mm ²											
	10 16 25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 65	F - 90	F - 90	F - 115	F - 115	F - 115	F - 115	F - 200	F - 150	F - 200	F - 250	2XF -150

For other size & type, please contact us.

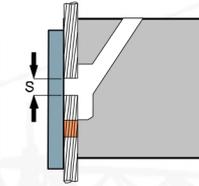
CABLE TO FLAT SURFACE CONNECTION DETAILS

RUN CABLE TO VERTICAL SURFACE CONNECTION

Note:
Cut cable and gap it (s)5-6mm as show above. Fill the gap between cable and steel with mastic below the weld cavity. Secure mould to the steel surface with a clamp, if possible

MOULD TYPE :

CS-VR (Cable)/(FlatSurf.)



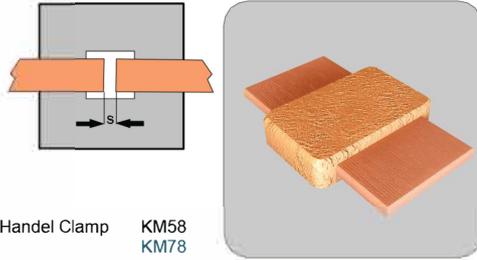
Handel Clamp KM58
KM78
Use Sleeve for Cable Under
25mm² : 16 x25 & 16 x35

CS-VR	CABLE SECTION.mm ²											
	25	35	8mm	50	10mm	70	95	120	150	185	240	300
CARTRIDGE	F - 90	F - 115	F - 115	F - 150	F - 150	F - 200	F - 250	F - 250	2XF - 150	2XF - 150	2XF - 200	2XF - 200

Note: Remove oxids from connection point of steel surface perfectly with electrical grindstone.

For other size & type,please contact us.

BUSBAR TO BUSBAR CONNECTION DETAILS



Handel Clamp KM58
KM78

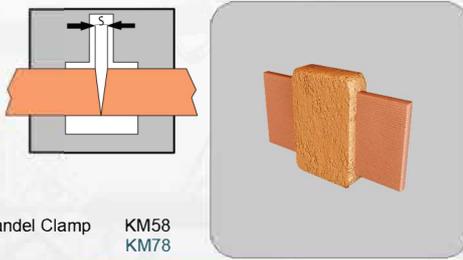
HORIZONTAL FLAT LINEAR CONNECTION

Note:
Busbar 3mm thick and thinner is gapped (S) 3mm under center of tap hole.
Busbar thicker than 3mm is gapped (S) 5-6mm.

MOULD TYPE :

BE-A (BusBar / BusBar)

BE-A	MAIN CONDUCTOR (Belt)											
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5	80*5	80*10
CARTRIDGE	C -45	C - 65	C - 65	C - 90	C - 90	C - 115	C -115	C - 150	C -200	2XC - 150	2XC - 200	3XC - 200



Handel Clamp KM58
KM78

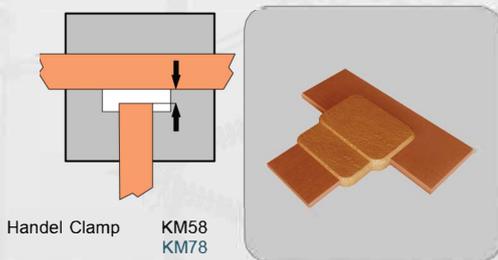
HORIZONTAL EDGE LINEAR CONNECTION

Note:
Ends of bus bar less than 30 mm wide must be cut as shown above under centre tap hole (S) 5-6mm.
Busbar wider than 30mm (S) 10-12mm.

MOULD TYPE :

BE-B (BusBar / BusBar)

BE-B	MAIN CONDUCTOR (Belt)											
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5	80*5	80*10
CARTRIDGE	C -45	C - 65	C - 65	C - 90	C - 90	C - 115	C -115	C - 150	C -200	2XC - 150	2XC - 200	3XC - 200



Handel Clamp KM58
KM78

HORIZONTAL TEE CONNECTION

Note:
Tap bus bar 6mm thick and thinner is gapped (S) 5-6mm from the edge of the run busbar
Busbar thicker than 6mm is gapped (S) 10mm.

MOULD TYPE :

BT-A (BusBar / BusBar)

BT-A	MAIN CONDUCTOR (Belt)											
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5	80*5	80*10
CARTRIDGE	C -45	C - 65	C - 65	C - 90	C - 65	C - 115	C - 90	C - 150	C -200	2XC - 150	2XC - 200	3XC - 200

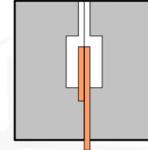
BUS BAR TO BUS BAR CONNECTION DETAILS

VERTICAL TREE CONNECTION

Note:
Insert end of tap bus bar even with upper edge of run busbar

MOULD TYPE :

BT-B (BusBar / BusBar)



Handel Clamp KM58
KM78

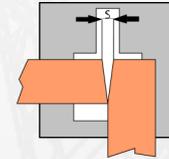
BT-B	MAIN CONDUCTOR (Belt)											
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5	80*5	80*10
CARTRIDGE	C - 45	C - 65	C - 65	C - 90	C - 90	C - 90	C - 115	C - 150	C - 200	2XC - 150	2XC - 200	3XC - 200

VERTICAL ANGLED CONNECTION

Note:
Ends of busbar less than 30 mm wide must be cut as shown . above under center tap hole (S) 5-6mm. bus bar wider than 30mm (S) 10-12mm.

MOULD TYPE :

BB-L (BusBar / BusBar)



Handel Clamp KM58
KM78

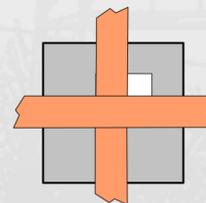
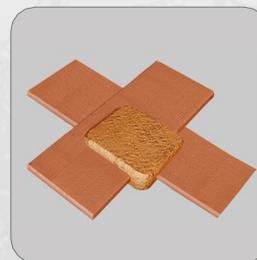
BB-L	MAIN CONDUCTOR (Belt)											
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5	80*5	80*10
CARTRIDGE	C - 65	C - 65	C - 65	C - 90	C - 90	C - 115	C - 115	C - 150	C - 200	2XC - 150	2XC - 200	2XC - 200

HORIZONTAL CROSS CONNECTION

Note:
Place BusBar into the mould in their respective places.

MOULD TYPE :

BX-A (BusBar / BusBar)

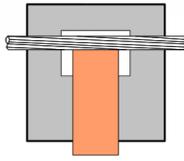


Handel Clamp KM58
KM78

BX-A	MAIN CONDUCTOR (Belt)									
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	50*10
CARTRIDGE	C - 65	C - 90	C - 65	C - 90	C - 115	C - 115	C - 115	C - 150	C - 200	2XC - 150

For other size & type, please contact us.

CABLE TO BUS BAR CONNECTION DETAILS



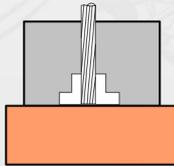
RUN CABLE TO TAP BUS-BAR TREE CONNECTION

Note:
The busbar should make contact with the cable.

MOULD TYPE :
CB-T (Cable)(Bus-bar)

Handel Clamp KM58
KM78
Use Sleeve 10 x25 & 16 x35

CB-T	TAP CONDUCTOR (Belt)												
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5	60*10	80*10	
10	C - 45	C - 45	C - 45										
16	C - 45	C - 45	C - 45										
25	C - 45	C - 45	C - 45										
35	C - 65	C - 65	C - 65	C - 90									
50	C - 65	C - 65	C - 90	C - 115	C - 115								
70			C - 90	C - 115	C - 115	C - 150							
95				C - 115	C - 150	C - 150	C - 150	C - 200					
120					C - 150	C - 200	C - 200	C - 200	C - 250				
150					C - 200	C - 200	C - 250	C - 250	2XC-150				
185					C - 200	C - 200	C - 200	C - 250	2XC-150				
240							C - 250	C - 250	2XC-150	2XC-200			
300										2XC-200	2XC-250		



RUN BUS-BAR TO TAP CABLE TREE CONNECTION

Note:
Run busbar is inserted to seat in mould. Tap cable should make contact with the upper edge of run bar.

MOULD TYPE :
BC-T (Bus-Bar)(Cable)

Handel Clamp KM58
Use Sleeve 10 x25 & 16 x35

BC-T	TAP CONDUCTOR (Belt)											
	25	35	50	70	95	120	150	185	240	300		
RUN BUS BAR	20x3											
	Upto 60x5	90	65	65	90	115	115	115	150	200	200	
	40x10											
	Upto 80x10	90	90	90	115	150	150	150	200	250	250	

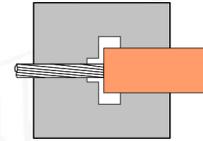
CABLE TO BUS BAR CONNECTION DETAILS

HORIZONTAL CABLE TO BUS BAR SPICE

Note:
The cable and the busbar should make contact under the center of tap hole.

MOULD TYPE :

CB-E (Cable)(Bus-bar)



Handel Clamp KM58
KM78
Use Sleeve 10 x25 & 16 x35

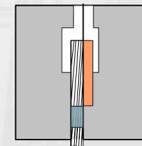
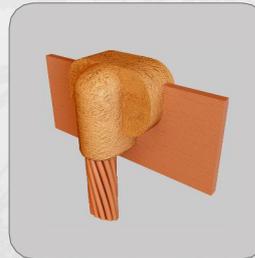
CB-E	TAP CONDUCTOR (mm ²)										
	10	16	25	35	50	70	95	120	150	185	240
20*3	C-45	C-45	C-45	C-45	C-45						
20*5			C-45	C-45	C-65						
25*3			C-45	C-45	C-60	C-65					
25*5				C-65	C-90	C-90	C-90	C-115	C-115	C-150	C-200
30*3						C-90	C-90	C-90	C-115	C-150	C-200
30*5							C-90	C-115	C-115	C-150	C-200
40*3							C-115	C-115	C-115	C-150	C-200
40*5							C-115	C-115	C-115	C-150	C-200
50*5								C-150	C-150	C-200	C-250
60*5										2XC-150	2XC-150

CABLE TO RUN BUS BAR VERTICAL TEE CONNECTION

Note:
Insert end of tap cable even with upper edge of run busbar.
Fill the gap between cable and mould with mastic below weld cavity.

MOULD TYPE :

BC-TV (Cable)(Bus-bar)

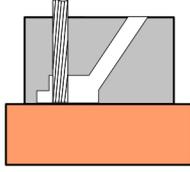


Handel Clamp KM58
KM78
Use Sleeve 10 x25 & 16 x35

BC-TV	TAP CONDUCTOR (mm ²)										
	10	16	25	35	50	70	95	120	150	185	240
20*3	C - 90	C - 90	C - 90	C - 115	C - 115	C - 115	C - 150				
20*5			C - 90	C - 115	C - 115	C - 150	C - 150	C - 200			
25*3			C - 90	C - 115	C - 115	C - 150	C - 150	C - 200			
25*5			C - 115	C - 115	C - 115	C - 150	C - 150	C - 200	C - 200	C - 250	C - 250
30*3			C - 115	C - 115	C - 115	C - 150	C - 200	C - 200	C - 200	C - 250	C - 250
30*5				C - 115	C - 115	C - 150	C - 200	C - 200	C - 200	C - 250	C - 250
40*3				C - 115	C - 115	C - 150	C - 200	C - 250	C - 250	2XC-150	2XC-150
40*5				C - 115	C - 115	C - 150	C - 200	C - 250	C - 250	2XC-150	2XC-150
50*5					C - 150	C - 200	C - 250	2XC-150	2XC-150	2XC-150	2XC-150
60*5						C - 150	C - 250	2XC-150	2XC-150	2XC-200	2XC-200

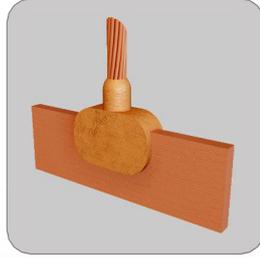
For other size & type, please contact us.

CABLE TO BUS BAR CONNECTION DETAILS



Handel Clamp KM58

Use Sleeve 10 x25 & 16 x35



UP CABLE TO RUN BUS BAR VERTICAL TREE CONNECTION

Note:

Run busbar is inserted to seat in mould. butt tap cable against upper edge of run bus bar.

MOULD TYPE :

BC-TU (Cable)(Bus-bar)

BC-TU		TAP CONDUCTOR (mm ²)											
		10	16	25	35	50	70	95	120	150	185	240	
MAIN CONDUCTOR (Bell)	20*3												
	20*5												
	25*3												
	25*5					C-90		C-115		C-150			C-200
	30*3												C-200
	30*5												C-200
	40*3												C-250
	40*5					C-90	C-115	C-115	C-150	C-150	C-200	C-200	C-250
	50*5					C-90	C-115	C-115	C-150	C-150	C-200	C-200	C-250
	60*5					C-90	C-115	C-115	C-150	C-150	C-200	C-200	C-250

For other size & type, please contact us.

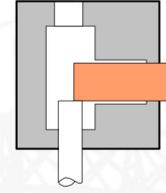
ROD TO BAS BAR CONNECTION DETAILS

TRAP BUS BAR TO GROUND ROD CONNECTION

Note:
Butt ends of cable and bus bar under center of tap hole

MOULD TYPE :

BR-L (Rod)(Bus-bar)



Handel Clamp KM58

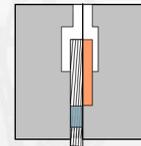
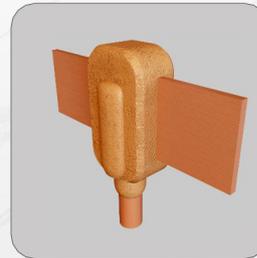
BR-L		CABLE SECTION.mm ²								
		20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5
ROD .DIA mm	12/7	C-90	C-115	C-90	C-115	C-90	C-115	C-115	C-150	C-150
	14/2	C-90	C-115	C-90	C-115	C-115	C-150	C-115	C-150	C-150
	17/2	C-115	C-115	C-150	C-150	C-115	C-150	C-150	C-200	C-200

RUN BUS BAR TO GROUND ROD ,TEE CONNECTION

Note:
Insert end of tap rod even with upper edge of run busbar.
Fill the gap between rod and mould with mastic below weld cavity.

MOULD TYPE :

BR-T (Rod)(Bus-bar)



Handel Clamp KM58
KM78

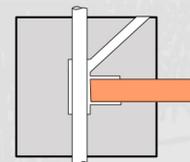
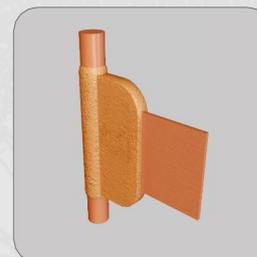
BR-T		CABLE SECTION.mm ²									
		20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5
ROD .mm	12/7	C-90	C-90	C-90	C-90	C-90	C-150	C-115	C-150	C-200	
	14/2	C-90	C-90	C-90	C-115	C-115	C-150	C-150	C-150	C-200	C-250
	17/2	C-115	C-150	C-150	C-150	C-150	C-200	C-200	C-200	2XC-150	2XC-150

ROD TO TRAP BUS VERTICAL TEE CONNECTION

Note:
Tap busbar is inserted to seat in mould. Gap busbar 5-6 mm Under tap hole.

MOULD TYPE :

BR-R (Rod)(Bus-bar)



Handel Clamp KM58

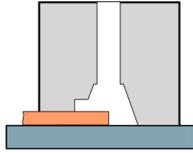
BR-R		CABLE SECTION.mm ²								
		20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5
ROD .DIA mm	12/7	C-115	C-115	C-115	C-115	C-115	C-150	C-115		
	14/2	C-115	C-115	C-115	C-150	C-150	C-200	C-150	C-200	C-200
	17/2	C-150	C-150	C-200	C-200	C-200	C-200	C-200	C-250	C-250

For other size & type, please contact us.

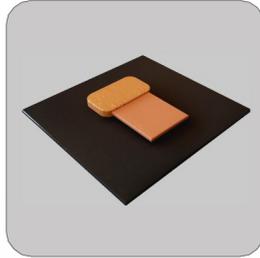
BUSBAR TO SURFACE CONNECTION DETAILS

These reference codes refer to flat surface with Min 3mm thickness.

Note: Remove oxids from connection point of steel surface perfectly with electrical grindstone.



Handel Clamp KM58
KM78



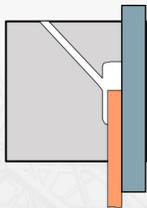
TAP BUS BAR TO HORIZONTAL SURFACE CONNECTION

Note:
Place bus bar end in center of tap hole & Hole down mould to prevent mould from tipping.

MOULD TYPE :

BS-A (Flat Surf.)/(Bus-Bar)

BS-A	SECTION mm ²								
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5
CARTRIDGE	F-90	F-115	F-90	F-150	F-115	F-200	F-115	F-200	2xF-250



Handel Clamp KM58



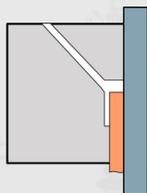
DOWN BUS BAR TO VERTICAL SURFACE CONNECTION

Note:
Place bus bar end in center of tap hole & Secure mould to the surface with clamp if possible.

MOULD TYPE :

BS-B (Flat Surf.)/(Bus-Bar)

BS-B	BELT SECTION mm ²								
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5
CARTRIDGE	F-90	F-115	F-90	F-150	F-115	F-150	F-150	F-200	F-250



Handel Clamp KM58



HORIZONTAL RUN BUS BAR TO VERTICAL SURFACE CONNECTION

Note:
Secure mould to the surface with clamp if possible.

MOULD TYPE :

BS-C (Flat Surf.)/(Bus-Bar)

BS-C	BELT SECTION mm ²									
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5
CARTRIDGE	F-90	F-150	F-115	F-150	F-115	F-150	F-150	F-200	F-250	F-250

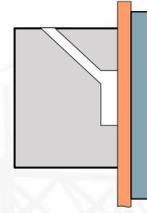
ROD TO SURFACE CONNECTION DETAILS

VERTICAL RUN BUS BAR TO VERTICAL SURFACE CONNECTION

Note:
Secure mould to the surface with clamp if possible

MOULD TYPE :

BS-E (Flat Surf.)/(Bus-Bar)



Handel Clamp KM58

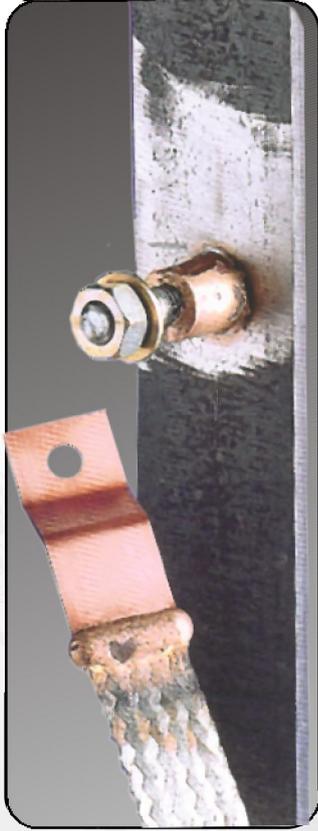
BS-E	BELT SECTION mm ²									
	20*3	20*5	25*3	25*5	30*3	30*5	40*3	40*5	50*5	60*5
CARTRIDGE	F-90	F-150	F-115	F-150	F-115	F-150	F-150	F-200	F-250	F-250

Note: Remove oxids from connection point of steel surface perfectly with electrical grindstone.

For other size & type, please contact us.

STUD TO SURFACE CONNECTION DETAILS

Note: Remove oxids from connection point of steel surface perfectly with electrical grindstone.



Handel Clamp KM58

STUD TO HORIZONTAL SURFACE CONNECTION

Note:
Place screw and surface perpendicularly.
Remove surface to oxide perfectly with electrical grind stone

MOULD TYPE :

SS-H (STUD)/(FlatSurf.)

SS-H		CARTRIDGE
STUD DIA. mm	M12	F-65
	M14	F-90
	M16	F-115
	M20	F-150

STUD TO VERTICAL SURFACE CONNECTION

Note:
Place stud and surface perpendicularly.

MOULD TYPE :

SS-V (SUTFACE)/(FlatSurf.)



Handel Clamp KM58

SS-V		CARTRIDGE
STUD DIA. mm	12/7	F-65
	14/2	F-90
	17/2	F-115
	18/2	F-150

CABLE TO RAIL CONNECTION DETAILS

TAP CABLE TO RAIL WEB CONNECTION

Note:
Use mastic for cable above 50mm²

MOULD TYPE :

CI-A , CI-AL , CI-AR (Cable)/(Rail)

CI-A



CI-AL



CI-AR



CI-A CI-AR CI-AL	TAP CONDUCTOR								
	10	16	25	35	50	70	95	120	
UIC RAIL	UIC-49								
	UIC-54	F-45		F-65		F-90		F-115	
	UIC-60								
CI-A	F-65		F-90		F-115		F-150		

Handel Clamp: KM50

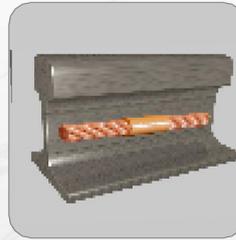
Sample code : CI-AR 10/UIC60

WEB CONNECTION

Note:
Use mastic for cable above 50mm²

MOULD TYPE :

CI-B (Cable)/(Rail)



Handel Clamp RKM58

CI-B	TAP CONDUCTOR								
	10	16	25	35	50	70	95	120	
UIC RAIL	UIC-49								
	UIC-54	F-90		F-115		F-150		F-200	
	UIC-60								

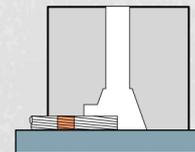
Sample code : CI-C 10/UIC60

CABLE TO PIPE CONNECTION FOR CATHODIC PROTECTION

Note:
Place cable end at centre of tap hole. Fill the gap between cable and steel with mastic outside the weld cavity. Hold down on mould cover to prevent mould from tipping.

MOULD TYPE :

CP-A (Cond.)



Handel Clamp PKM58

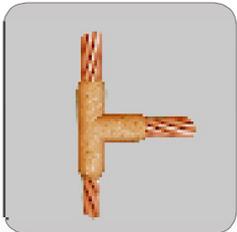
Sleeve for Cable Under 35mm²

CP-A	TAP CONDUCTOR					
	2.5 , 4,6,10,16	25	35	50	70	95
PIP DIA. mm	30-60	F-25	F-32	F-45	F-65	F-90
	60-120	F-25	F-32	F-45	F-65	F-90
	120-170	F-25	F-32	F-45	F-65	F-90
	ABOVE 170	F-25	F-32	F-45	F-56	F-90

Sample code : CP-A 10/Ø35

For other size & type, please contact us.

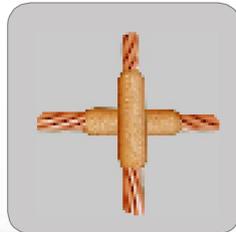
MORE CONNECTIONS



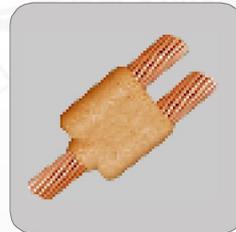
CT-BV



CX-BV



CX-AV



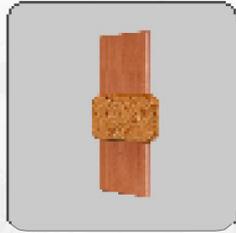
CD-E



CT-D



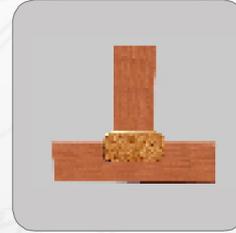
CT-AV



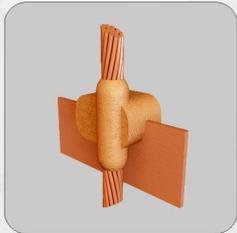
BE-C



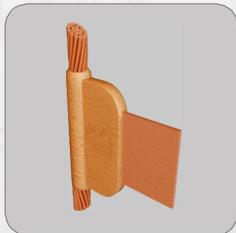
BT-E



BT-C



CBX-V



CBT-C



CBT-E



CBT-D



CAD-V



CAX-C



CAT-C



CI-BL & CI-BR



RI-A



BI-A



CI-DL & CI-DR

For other size & type, please contact us.

EARTH ROD & ACCESSORIES

COPPER BONDED EARTH ROD

CBR (Earth Rod)

Note:

Manufactured from high tensile low carbon steel by molecularly bonding 99,9% pure electrolytic copper by diffusion welding process, these earth rods confirm to UL 467 standard, the threads are formed by roll threading process which ensure strength and maintain the molecularly bonded copper along the full length of the threads, the rods can be deep driven manually or by using power hammer.

SOLID COPPER EARTH ROD (EXTERNALLY THREADED)

ECR (Earth Rod)

Note:

Kahangan offer pure copper earth rods for use where extreme soil condition such as high salt or moisture content demands high corrosion resistance and exceptionally long life of rods.

Kahangan solid copper earth rods are made from high conductivity hard drawn copper to BS2874 C101. Threads are formed by roll threading process to ensure extra strength and avoid the risk of chipping while driving the rods in the ground.

COUPLING

CPB (Coupling)

Note:

Made of high grade silicon Bronze for higher strength with counted bore for protecting the rod threads from damage

DRIVING STUD

DST (Driving stud)

Note:

Made of re-usable high tensile steel, suitable for both manual and power hammering

SEMI THREADED STEEL COUPLING

GST (Coupling)

Note:

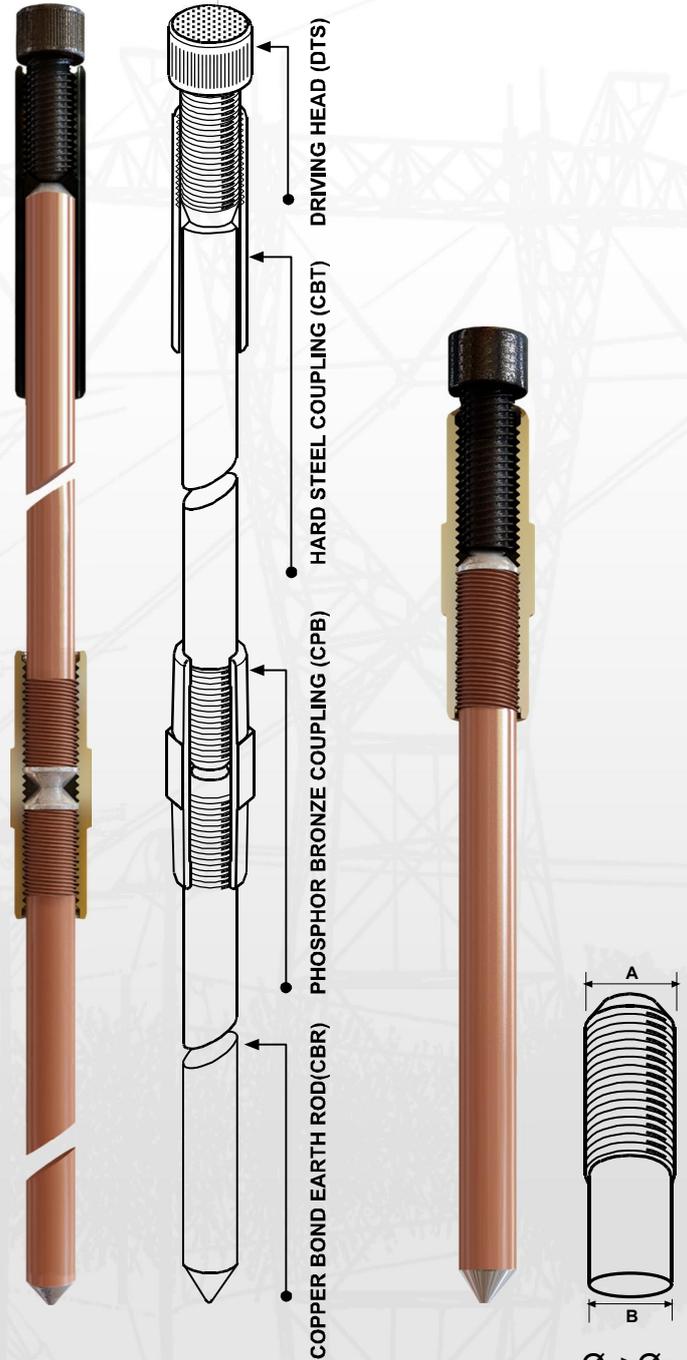
Made of re-usable high tensile steel for coupling driving head (DST) & non threaded head of earth rod

EYE BOLT

EBT (Eye Bolt)

Note:

Made of gunmetal, these Eye Bolts can be directly screwed on to earth rods thereby offering a static discharge unit.



CPB



GST



DST



EBT

EARTH ROD & ACCESSORIES DETAILS

SOLID COPPER EARTH ROD (INTERNALLY THREADED)

ICR (Earth Rod)

Note:
Manufactured from high conductivity hard drawn copper to BS2874 C101 standard

INTERNAL COUPLING DOWEL

DWP (Dowel)

Note:
Made of Brass

DRIVING HEAD

DST (Driving Head)

Note:
Made of re-usable high tensile steel, suitable for both manual and power hammering

DRIVING SPIKE

DSP (Spike)

Note:
Made of high tensile steel.

STAINLESS STEEL EARTH ROD (INTERNALLY THREADED)

SSR (Earth Rod)

Note:
Stainless steel earth rods are used where galvanic corrosion is likely to affect earth rods due to dissimilar metals buried in close proximity as copper earth rods are more vulnerable to galvanic corrosion. Stainless steel rods are more anodic than copper and are more effective against corrosion problem. These rods are manufactured from austenitic stainless steel to BS 970, grade 316S12.

HOT DIP GALVANIZED STEEL EARTH ROD

HDR (Earth Rod)

Note:
As a cost effective option for earthing kahangan offers Hot dip galvanized steel earth rods which are made of high strength low carbon steel. These are hot dip galvanized to BS729.



Earth Rod		EARTH ROD DIMENSION		
		Accessories	DIA. ØA	Leangth
Earth rod Code	CBR	CPB,CST,DST	1/2"(12mm) 5/8"(16mm) 3/4"(19mm)	1.2 m 1.5 m 2.0 m 3.0 m
	HDR			
	SSR			
	ECR	16 mm 18 mm 20 mm		
	ICR	DWP,DST,DSP		

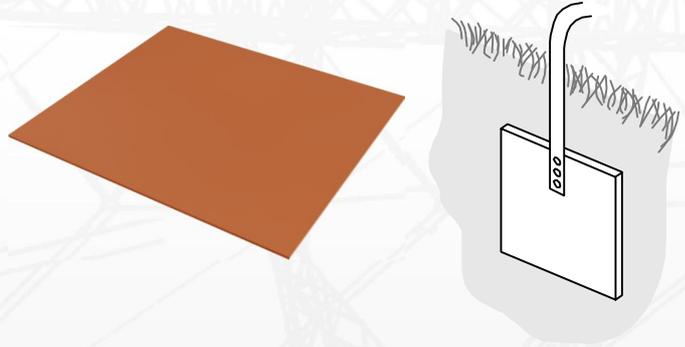
Sample Code: CBR 16 x 1500

EARTH PLATE / LATTICE DETAILS

SOLID COPPER & COPPER COATED STEEL EARTH PLATES

CPL-SPL (Earth Plate)

Note:
Earth plates are used where earth rods are unsuitable.
Kahangan earth plates are manufactured from electrolytic grade solid copper(CPL). Steel earth plates made of steel electroplated with electrolytic copper are also available(SPL).



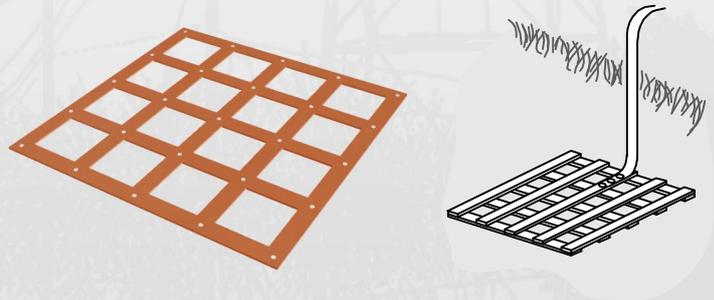
EARTH PLATE	EARTH PLATE DIMENSION (mm)			
	Length x Width x Thickness (L x W x T)			
CPL	330 x 330 x 3	660 x 660 x 3	330 x 330 x 5	660 x 660 x 5
SPL	330 x 330 x 5	660 x 660 x 5		

■ Sample Code: CPL 33x33x3

EARTH LATTICE

EL (Earth LATTICE)

Note:
Kahangan earth lattices are usable as an alternative to earth Plates, which are made of electrolytic grade copper strips of various sizes.

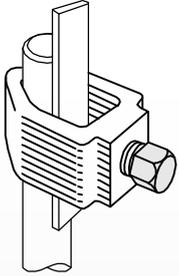


EARTH LATTICE	EARTH LATTICE DIMENSION (mm)		
	Lattice Size	CU Type Size	Mesh Size
Earth Lattice Code EL	500 x500	3 x25	70 x70
	600 x600		
	900 x900	5 x 25	
	1000 x 1000		

■ Sample Code: EL 60x60x3

CABLE TO GROUND ROD CLAMP DETAILS

Kahangan offers a variety of earth rod clamps suitable for different applications of earthing . Clamp bodies are manufactured from hard copper Alloys /silicon Aluminum Bronze / Gunmetal and bolts are manufactured from stainless steel /phosphor Bronze/HD galvanized Steel

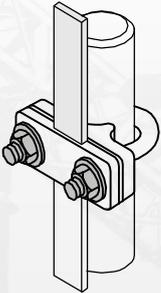


ROD TO TAPE CLAMP

ERT (Rod/Tape Clamp)

Note:

Used for joining earth rods to cable, these clamps are available to suit different sizes of earth rods and cable. The clamp bodies, made of hard copper alloy / Gunmetal /Aluminum Bronze, and bolts made of phosphor Bronze / stainless steel / HD galvanized Steel ensure perfect fit and lasting connection.

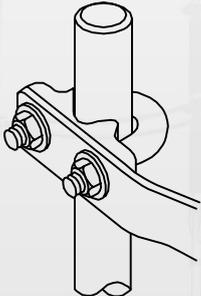


U BOLT ROD TO TAPE CLAMP (VERTICALLY)

URV (Rod/Tape Clamp)

Note:

These clamps are used to connect tape to the earth rod vertically. Available in single plate and double plate, application being the same but suitable for fixing in different angles, made of strong copper alloy / Gunmetal

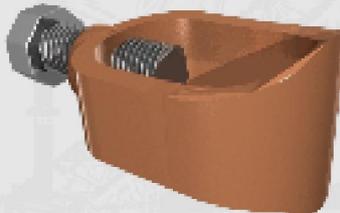
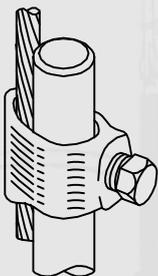


U BOLT ROD TO TAPE CLAMP (HORIZONTALY)

URT (Rod/Tape Clamp)

Note:

These clamps are used to connect tape to the earth rod horizontally. Material and characteristics same as type URV



ROD TO CABLE CLAMP

ERC (Rod/Cable Clamp)

Note:

These clamps are used for joining earth rods to copper cables. Material and characteristics same as type 'ERT' clamps.

EARTH ROD CLAMP		ROD / CONDUCTOR DIMENSION (mm)		
		Max. Rod Dia.(mm) / Max. Cond. Size		
Earth Rod Clamp Code	ERT	20 /30 x 10mm		
	URV	20 /30 x3mm	20 /30 x5mm	
	URT	20 /30 x 5mm		
	ERC	20 /70mm ²	20 / 120mm ²	20 / 185mm ²

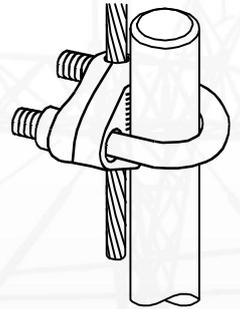
Sample Code:ERC 20/70

CABLE TO GROUND ROD CLAMP DETAILS

ROD TO CABLE CLAMP

URC (Rod/Cable Clamp)

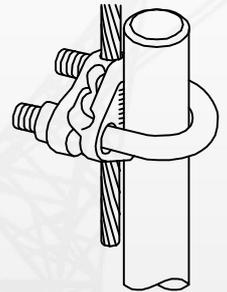
Note:
These special Heavy Duty copper alloy Double plated clamps are suitable for connecting earth rod with cables / round conductors vertically.



ROD TO CABLE CLAMP

URX (Rod/Cable Clamp)

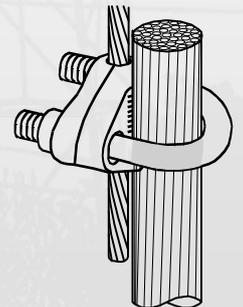
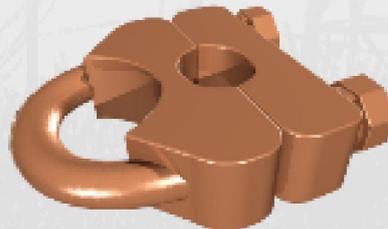
Note:
Heavy duty copper double plated clamps are suitable for connecting earth rod with cables/round conductors, vertically or horizontally.



ROD/WIRE ROPE TO CABLE CLAMP

URW (Wire Rope/Cable Clamp)

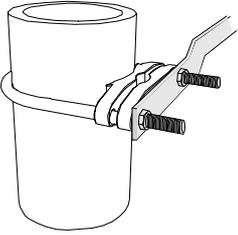
Note:
Made of Gunmetal, these clamps are used for connecting earth rod to cables



U BOLT CLAMP		DIAMETER / CONDUCTOR SIZE	
		Max. Rod Dia.(mm) / Max. Cond. Size	
Earth Clamp Code	URC	20 / 70mm ²	20 / 185mm ²
	URX	20 / 70mm ²	20 / 185mm ²
	URW	20mm / 70mm ²	

■ Sample Code: URC 20/70

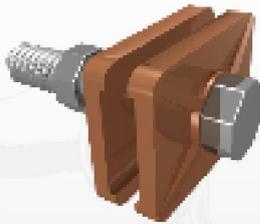
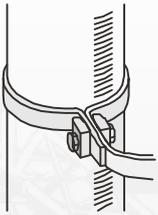
CABLE/TAPE TO PIPE CLAMP DETAILS



PIPE TO CABLE / TAPE CLAMP

URP (Pipe/Cable Clamp)

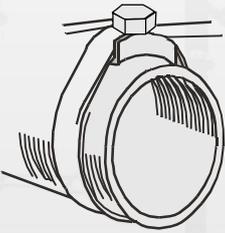
Note:
These u bolts, made of gunmetal, are used for universal parallel cable or 90° tape connection to pipe.



TAPE TO PIPE BOND

RBP (Bond Clamp)

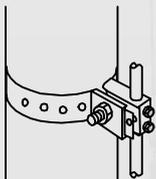
Note:
Rainwater pipes Bonds, made of gunmetal, are used for bonding tapes to rainwater pipes. Bolts are made of Phosphor Bronze / Stainless Steel /HD galvanized steel.



TAPE TO PIPE BOND

TPB (Bond Clamp)

Note:
These types of bonds are used for bonding pipes in to earthing or lightning protection system. Made of gunmetal, bolts are made of Phosphor Bronze / Stainless Steel /HD galvanized steel.



CABLE TO PIPE BOND

HBP (Bond Clamp)

These bonds is used for bonding to handrails, reinforcing bars, pipes etc,

PIPE CLAMP		EARTH CLAMP DIMENSION (mm)	
		Max. Pipe Dia.(mm) / Cable (mm ²)	
Earth Clamp Code	URP	25 / 70mm ²	50 / 120mm ²
	Max. Tape Dim.(mm)		
	TPB	3 x 30 mm	
	RBP		
		Min.Pipe Dia.(mm)/Cable (mm ²)	
	HBP	60 / 50mm ²	60 / 70mm ²

Sample Code: URP 25/70

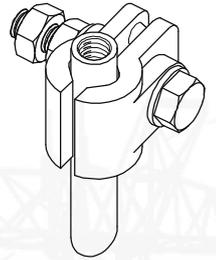
CABLE LOG TO GROUND ROD CONNECTION DETAILS

ROD TO CABLE LUG CLAMP

DCT (Rod / Cable Clamp)

Note:

These clamps are used to connect tape to the earth rod. Made of strong copper alloy / gunmetal, bolts are made of phosphor Bronze/ stainless steel /HD galvanized steel.

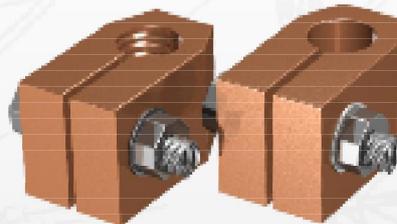


SPLIT CONNECTOR

SCT & SCC (Rod/Cable Clamp)

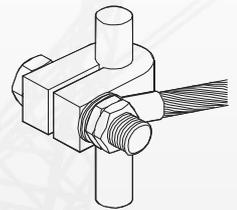
Note:

Used with threaded and unthreaded rods, suitable for connecting earth rod with cable lugs, supplied with or without threads, bolts are made of Phosphor Bronze / Stainless Steel /HD galvanized steel.



SCT

SCC



EARTH CLAMP		SPLIT CONNECTION DIMENSION					
		Max. Rod Dia.(mm) / Max Cable Lug Size					
Earth Clamp Code	DCT	18/120	18/240	20/120	20/240		
	SCC	16/120	16/240	18/120	18/240	220/120	20/240
		Thread Size / Max Cable Lug Size					
Earth Clamp Code	SCT	5/8" / 120	5/8" / 240	3/4" / 120	3/4" / 240		

Sample Code: EL 60x60x3

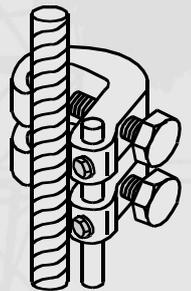
RE-BAR CLAMP

REC (Armature/Cable Clamp)

These clamps are used for bonding to handrails, reinforcing bars, pipes etc. Bolts are made of Bronze / Stainless Steel /HD galvanized Steel.

REC		EARTH CLAMP DIMENSION (mm)	
		Max. Armatur Dia.(mm)	
Cond. Dia.	Ø10	Ø8-Ø20 mm	Ø20-Ø40 mm

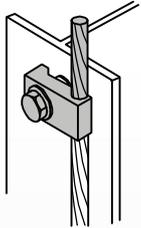
Sample Code: REC 8-20



BARE WIRE TO STRUCTURE CONNECTION DETAILS

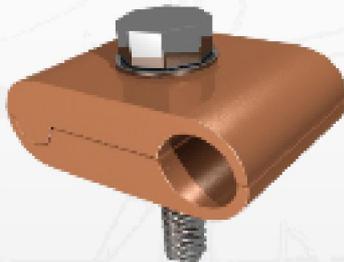
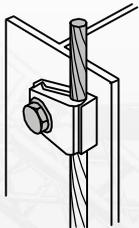
TOWER EARTH CLAMP

KAHANGAN Tower Earth Clamps are manufactured from Brass alloy (Forging) designed for bonding copper Bare wire (conductor) to metal surfaces. Bolts are made of Phosphor Bronze / Stainless Steel /HD galvanized steel.



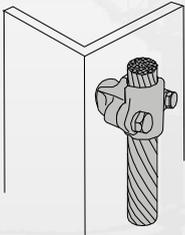
SINGLE PLATE

TEC (Tower Earth Clamp)



DOUBLE PLATE

DTEC (Tower Earth Clamp)

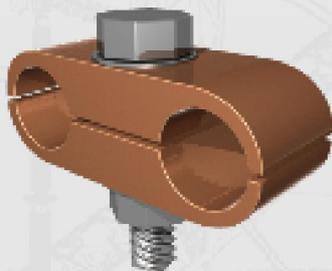
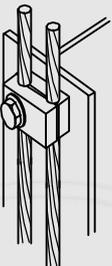


HEAVY DUTY - DOUBLE PLATE

HEC (Tower Earth Clamp)

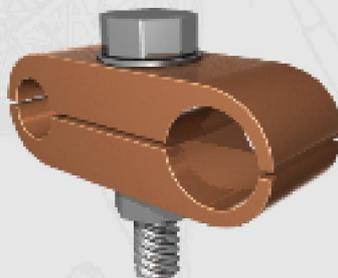
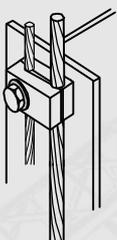
2WAY EARTH CLAMP

Are manufactured from brass alloy (Forging), designed for bonding two copper conductors with equal or close dia. to metal surfaces. Bolts are made of Bronze / Stainless Steel /HD galvanized Steel.



FOR EQUAL OR CLOSE BARE WIRE DIA .

ECC (Tower Earth Clamp)



FOR DIFFERENT CLOSE WIRE DIA .

ECC (Tower Earth Clamp)

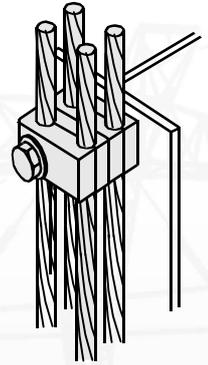
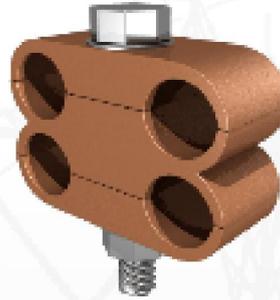
CABLE TO STRUCTURE CONNECTION DETAILS

4WAY EARTHING CABLE CLAMP

DEC (Tower Earth Clamp)

Note:

Are manufactured from brass alloy (Forging), designed for bonding four copper conductors with equal or close dia. to metal surfaces. Bolts are made of Bronze / Stainless Steel /HD galvanized Steel.

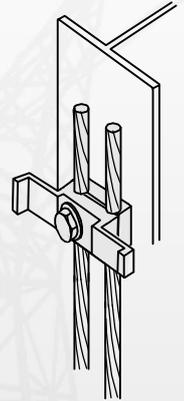
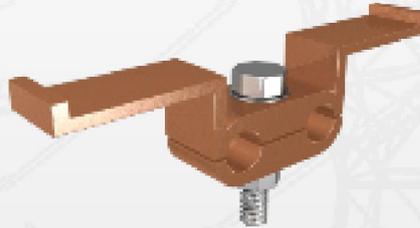


TEMPORARY EARTHING -FIX POINT- CONNECTION

FCC (Armed Clamp)

Note:

Are manufactured from brass alloy, designed as a fixed point for connecting earth clamp of temporary earthing system.



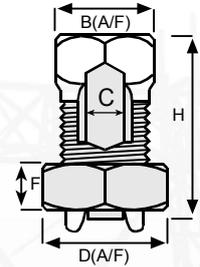
TOWER EARTH CLAMP		STRUCTURE CLAMP				
		CONDUCTOR SIZE. (mm2)			SAMPLE CODE	
Earth Clamp Code	TEC	35,50 (Bolt: M10x40)	70,95,120 (Bolt: M12x60)	150,185,240 (Bolt: M12x60)	TEC35,TEC150	
	DTEC				DTEC 50,DTEC 120	
	HEC	150,185,240 (Bolt: M10x30)			HEC150	
	ECC	(35,50)/(35,50) (Bolt: M10x40)	(70-185)/(70-185) (Bolt: M12x60)	(240,300)/(240,300) (Bolt: M14x60)	(70,185)/(35,50) (Bolt: M12x60)	ECC 35/35 ,ECC 120/95
	FCC				FCC (120-150) /(120-35)	
	DEC	(35,50)/(35,50) (Bolt: M10x50)	(70-185)/(70-185) (Bolt: M12x60)	(240,300)/(240,300) (Bolt: M14x80)	DEC (120-150) /(120-35)	

BARE WIRE TO STRUCTURE CONNECTION DETAILS

SPLIT BOLT CONNECTOR

SBU (Split Clamp)

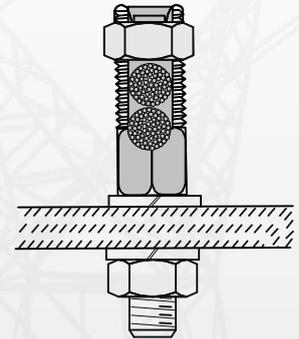
Note:
Made of high tensile copper alloy and brass bolt .Split Connectors are used for copper to copper stranded or solid circular conductors.



BOLTED SPLIT BOLT CONNECTOR

BSU (Split Clamp)

Note:
Same as above but for connecting one or two conductors to structure.
Bolts are made of Phosphor Bronze / Stainless Steel /HD galvanized steel.



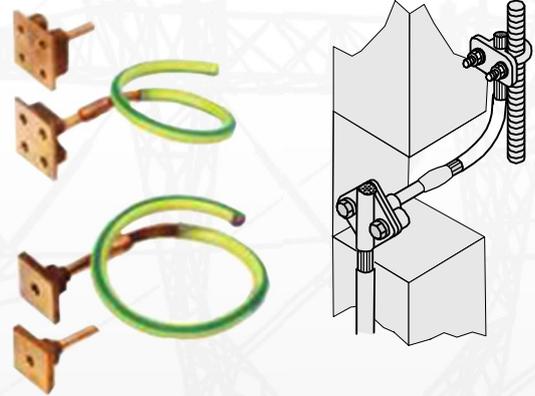
SPLIT BOLT	SPLIT BOLT CONNECTOR					SAMPLE CODE
	CONDUCTORS SIZE (mm ²)					
SBU	25,35	50,70	95,120	150,185	240	SBU 120/70
BSU	25,35 (Bolt: M10x30)	50,70 (Bolt: M10x30)	95,120 (Bolt: M10x30)	150,185 (Bolt: M12x30)	240 (Bolt: M12x30)	BSU 240/35 - BSU 185

BARE WIRE CONNECTION DETAILS

EARTH BONDING POINT

BP & MBP (Earth Bond Point)

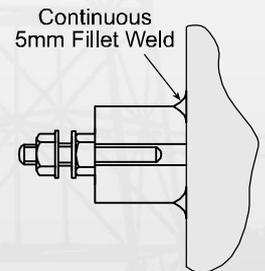
Note:
For providing continuity and a multiple bonding point, and are available with one, two and four hole connection .These are made of gunmetal.



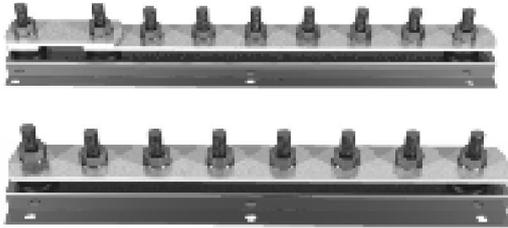
EARTH BOSS

EBS (Earth Boss)

Note:
KAHANGAN Earth Boss are manufactured from High tensile mild steel zinc plated to avoid corrosion .Supplied with SS bolts, spring and plain washers.



EARTH TERMINALS & DISCONNECTING LINK DETAILS



EARTH TERMINALS

LIK (Earth Terminal)

Note:

Earth Bars which are made of hard drawn copper (bare or tin plated) conforming to BS1432 with brass/phosphor bronze/ Stainless steel or HD galvanized fittings and supported with reinforcing polyester insulators fitted on channel base of HD galvanized / Stainless Steel, Available in various size and specifications with or without disconnecting links.

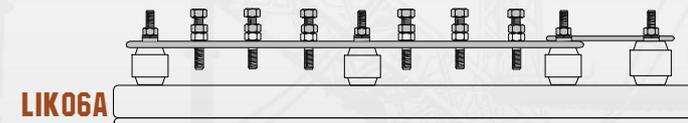
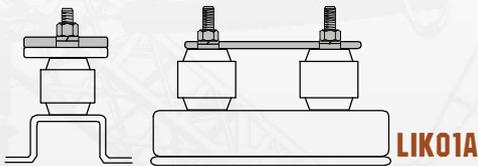


DISCONNECTING LINK

LIK01 (Earth)

Note:

Comprising of solid copper earth bar (bare or tin plated) mounted on HD galvanized / Stainless Steel bracket and supported with reinforcing polyester insulators, these links are used for temporary disconnection of the circuit for inspection and testing of the lightning protection system network.



Type	Cat.no
Six way Earth Bar with Single Disconnecting	LIK 06A
Six way Earth Bar with Tow Disconnecting Link	LIK06B
Six way Earth Bar	LIK06

EARTH BARS - FLAT OR BRIDGE

BSF & BSB (Earth Bar)

Note:

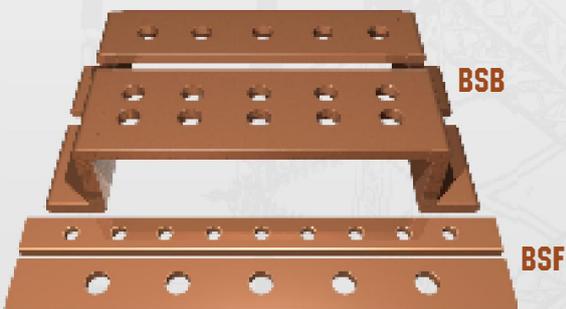
Earth Bars made of hard drawn copper (tin coated if requested) are used as earth terminal mounted on the wall, steel structure or earth pit with or without insulator.

BSB: Available in various Hole with following size:

Size	Cat.no
50x5x200 mm	BSF50x5x200
100x5x200 mm	BSF100x5x200

BSF: Available in various length & Hole with following cross sec:

25x3 , 25x5 , 30x3 , 30x5 , 40x5 , 50x5	BSB25x5x300
50x10 , 100x5 , 100x10 , 120x10	

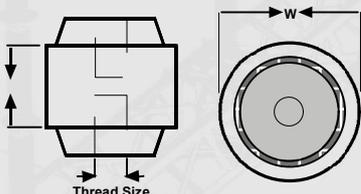


INSULATOR

ISL (Earth Clamp)

Note:

Made of reinforcing polyester with metal inserts, for various uses, including insulating conductors from each other or against a wall.



ØD x h	Thread Size
ISL 50 x 50	M12
ISL 45 x 45	M8
ISL 40 x 40	M8

AIR ROD AND AIR ROD BASE DETAILS

SOLID COPPER TAPER OR MULTIPLE POINTED AIR RODS

Air Rod (AR & MAR)

KAHANGAN taper pointed air rods are manufactured from Electrolytic grade copper with Ni-Cr coating. One side taper pointed and the other side with suitable threads for fixing to saddles/ air terminal bases. Rods made of stainless steel also can be supplied for specific requirements. Rods can be installed with or without multiple points. However researches conducted in this regard suggest use of multi points with taper pointed air rods are more effective than taper pointed air rods.

AIR ROD		DIMENSION (mm)		
		Dia.(mm)	Length.(mm)	Sample Code
Air Rod Code	AR &	16,18	1000,1500	AR 16 / 1
	MAR	20	2000	
		30	3000,4500	

for stainless steel air rod use AR-SS & MAR-SS

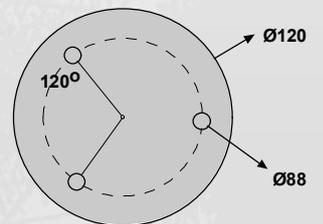


AIR TERMINAL BASE

KAHANGAN air terminal bases are made from gunmetal in several types for installing air rods in different roofs & positions.

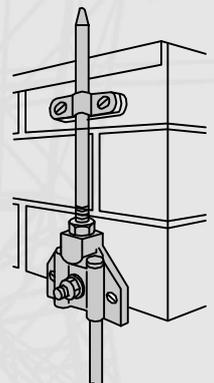
SIMPLE FLATBASE

Terminal Base (RB)

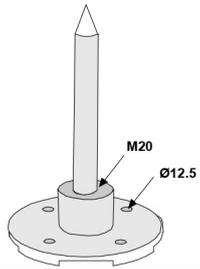


VERTICAL /HORIZONTAL BASE

Terminal Base (HRB)

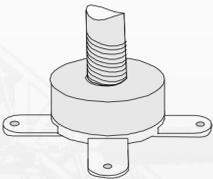


AIR ROD BASE AND SADDLE DETAILS



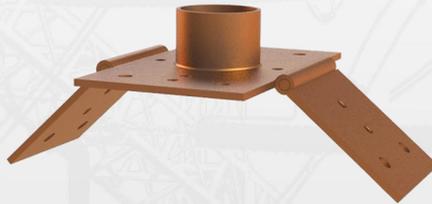
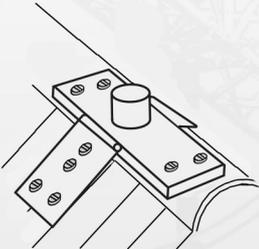
LINEAR / CROSS BUSBAR BASE

Terminal Base (XRB)



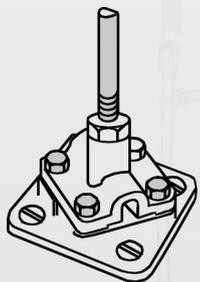
LINEAR / CROSS BUSBAR BASE

Terminal Base (XRB*)



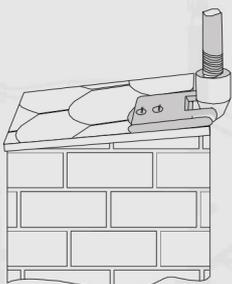
RIDGE ROOF BASE

Terminal Base (GRB)



MULTI PURPOSE BASE

Terminal Base (MRB)



SLOPING ROOF BASE

Terminal Base (SRB)

AIR ROD BASE AND SADDLE DETAILS

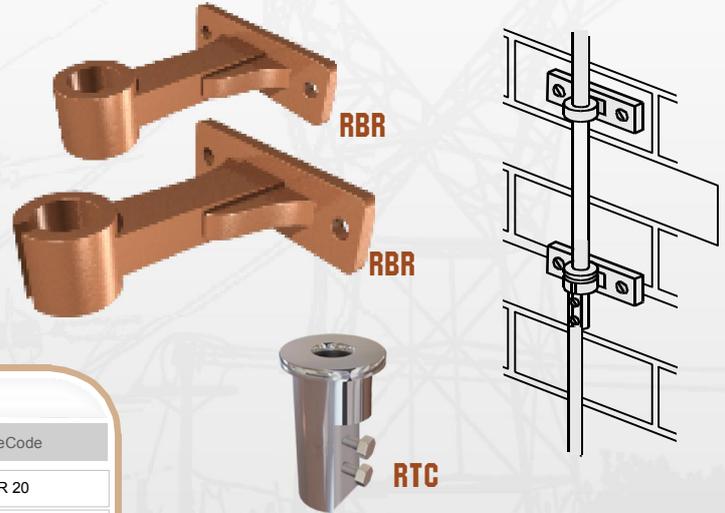
Air Rod BASE		ROD / CONDUCTOR DIMENSION		
		Max Rod Dia.(mm)	Max Conductor Size	Sample Code
Air Rod Base Code	RB	Ø30	95 mm ² (Round)	RB 30
	HRB	Ø16	70 mm ² (Round)	HRB 16
	XRB & XRB ⁺	Ø30	30 x 5	XRB 30
	GRB	Ø20	30 x 5	BRB 20
	MRB	Ø20	30 x 5 / 95 mm ² (Round)	MRB 20
	SRB	Ø20	30 x 5	SRB 20

ROD BRACKETS & COUPLING

Terminal Base & COUPLING (RBR/RTC)

Note:

These are manufactured from gunmetal and being used for providing projection from the building wall or face. Rod brackets are mainly used with rod to tape(lug) coupling where it is not possible to fit a saddle on the roof and the air rod has to be fitted on the side of the building.



Rod COUPLING		ROD / CONDUCTOR DIMENSION (mm)		
		Dia.(mm)	Length.(mm)	SampleCode
RBR		20	30 x 5	RBR 20
RTC		16, 18 , 20	30 x 10	RTC 16

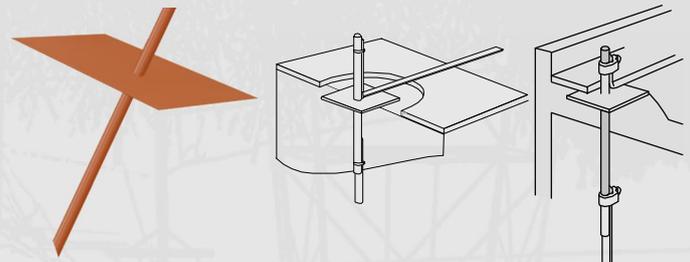
PUDDLE FLANGE

Note:

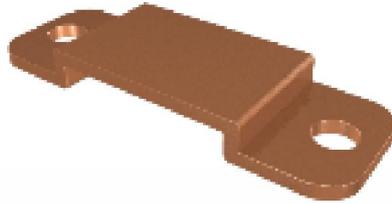
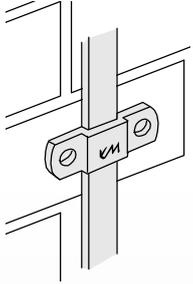
Puddle Flanges, made of copper or aluminum, are used where the waiting down conductors have to pass through water proof covering, roof, etc.

Preferred dimention: 66x66x3 mm

Flang (FLG)



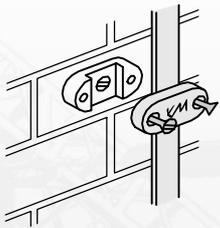
BUS BAR TO BUS BAR CONNECTION DETAILS



TAPE CLIP

TC (Tape Clip)

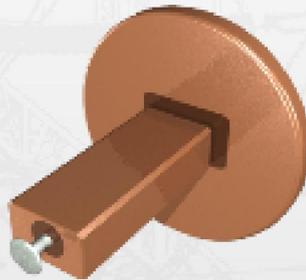
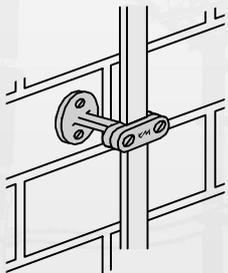
Note:
Tape clips are used to hold the tape to wall and being manufactured from copper and brass strip. These are fixed to the surface by using screw and plug.



DC TAPE CLAMP

LTC (Tape Clamp)

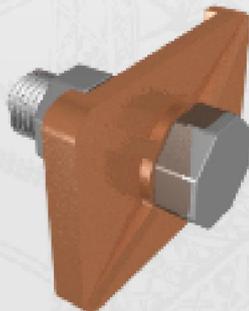
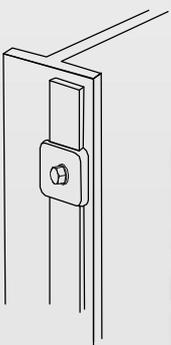
Note:
These heavy duty clamps are used to secure copper tap to building. Made of brass alloy (Forging), the clamp has a hole in the base for fixing to building with an appropriate screw and plug.



BASE DC TAPE CLAMP

STM (LTC Base)

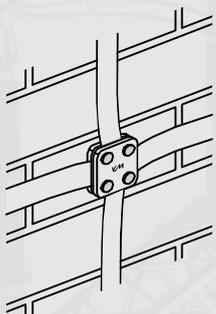
Note:
These heavy duty clamps are used to secure copper tap to building. Made of brass alloy (Forging), the clamp has a hole in the base for fixing to building with an appropriate screw and plug.



BOUND TAPE CLAMP

BTC (Tape Clamp)

Note:
Made of Gunmetal and these bonds are used for bonding tape to metal structure. Bolts are made of Phosphor Bronze / Stainless Steel /HD galvanized steel.



SQURE TAPE CLAMP

XTC (Tape Clamp)

Note:
KAHANGAN Square Tape / Junction clamp are made from brass alloy (forging) and are used for crossing over tapes, or for T joints or for making straight through joints in a network of tapes.

BUS BAR TO BUSBAR CONNECTION DETAILS

OBLONG TEST OR JUNCTION CLAMP

RJC (Test Clamp)

Note:

Manufactured from gunmetal, these clamps are used for straight through connection of tapes. Being joints, these can also effectively be used as testing Point for the network by disconnecting the joints. Bolts are made of phosphor Bronze / Stainless Steel / HD galvanized Steel.

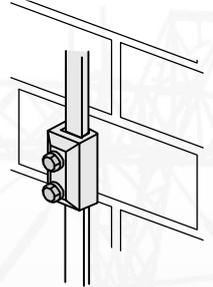
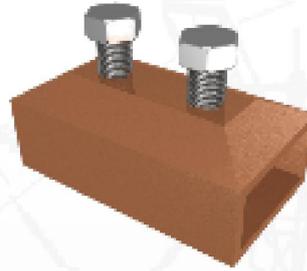
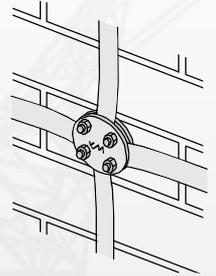


PLATE TYPE TEST CLAMP

XJC+ (Test Clamp)

Note:

These plate type test clamp, made of gunmetal or aluminum can be used as T joints or straight through joints of tapes. Being joints, these can also effectively be used as testing points for the network by disconnecting the joints. Plate test clamp can also be used for heavy duty up to 50x6 tape connections.

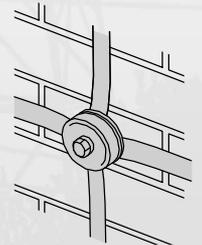


SCREW DOWN TEST CLAMP

XJC (Test Clamp)

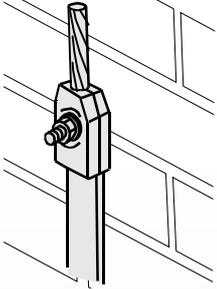
Note:

These clamps, made of gunmetal, provide easy access to copper tapes / conductors for inspection or testing.



TAPE CLAMPS		TAPE CLAMP & CONNECTORS						
		Tape Dim.(mm) - Width -Thickness					Sample Code	
Tape Clamp Code	TC	25x3	25x5	30x3	30x5	40x5	TC 25x3	
	LTC	25x5,30x	25x5,30x5	40x5	50x5,50x6	60x3	60x5,80x6	LTC 25x3
	BTC	25 x3 , 30 x 3			25 x 5,30x5		BTC 30x3	
	XTC	25x3,30x3		25x3,30x5		40x5,50x5,50x6		XTC 30x3
	RJC	25x3,30x3		25x3,30x5		40x5,50x5,50x6		JC 30x3
	XJC	25x3,30x3,25x5,30x5			40x5,50x5,50x6		XJC 30x3	
	XJC+	25x3,30x3,25x5,30x5					XJC+ 30x3	

CABLE TO BAS BAR CONNECTION DETAILS

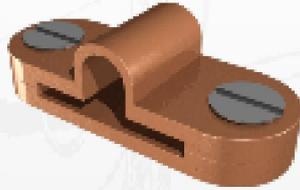
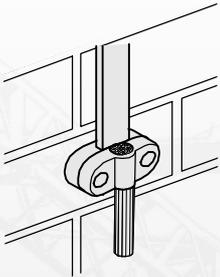


TAPE TO CABLE CONNECTOR

CTC (Tape/Cable Clamp)

Note:

These connector are suitable making straight through joint of tapes & cables made off brass alloy forging.

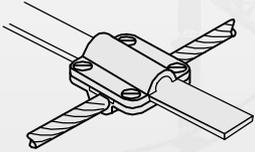


TAPE TO CABLE CONNECTOR

CJC (Tape/Cable Clamp)

Note:

These connector are suitable making straight through joint of tapes & cables made off brass alloy forging.



TAPE TO CABLE CONNECTOR

MPC (Tape/Cable Clamp)

Note:

These connector are suitable making straight through joint of tapes & cables made off brass alloy forging.

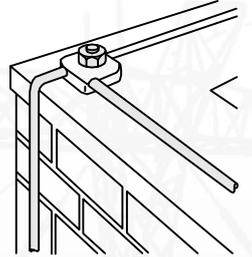
TAPE /CABLE CONNECTOR	TAPE & CABLE DIMENSION		
	MAX. Tape Dia.(mm)	MAX. Conductor Size	Sample Code
CTC	30x3,30x5,40x5,50x6 60x5,80x5	35,50,70,95,120,150	CTC 35 / 30 x 3
CJC	3 x 30	50,95	CJC 50 / 30 x 3
MPC			MPC 50 / 30 x 3

BARE WIRE CONNECTION DETAILS

SQUARE CLAMP

SC (Cable Clamp)

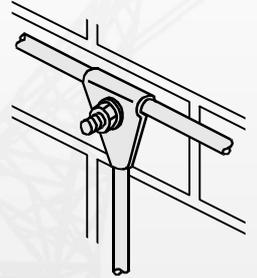
Note:
These clamps are suitable for forming & bonding Tee and cross joints for round conductors and are manufactured from Gunmetal. Bolts are made of Bronze / Stainless Steel /HD galvanized Steel.



TREE CLAMP

TAC (Cable Clamp)

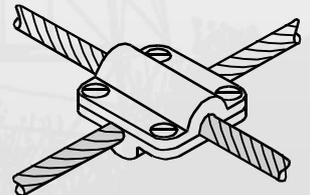
Note:
These clamps are suitable for forming & bonding Tee joints for round conductors and are manufactured from Gunmetal. Bolts are made of Bronze / Stainless Steel /HD galvanized Steel.



SQUARE CONDUCTOR CLAMP

XCC (Cable Clamp)

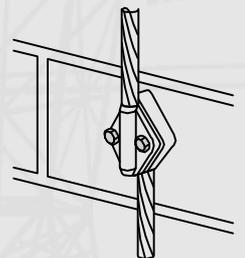
Note:
Made from Gunmetal, these are meant to be used for cross ,tee or straight connection of round conductors.



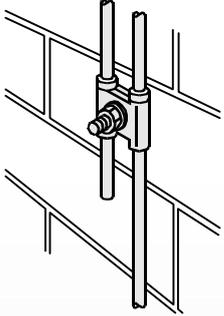
TEST CLAMP

ETC (Cable Clamp)

Note:
These clamps are suitable for test and overlapping joints, and are manufactured from Gunmetal.



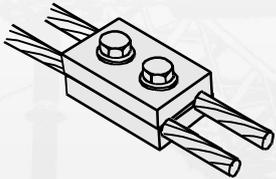
BARE WIRE CONNECTION DETAILS



JOINTING CLAMP

DJC (Cable Clamp)

Note:
These clamps are suitable for forming straight through joints, and are manufactured from Gunmetal. Bolts are made of Bronze / Stainless Steel /HD galvanized Steel.



2WAY STRAIGHT CONDUCTOR CLAMP

ECW (Connector Clamp)

Note:
Are manufactured from brass alloy (Forging), are used for copper to copper stranded or solid circular conductors.

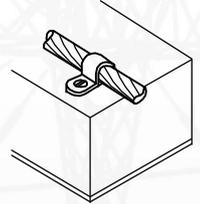
BARE WIRE Connector		BARE WIRE CONNECTION	
		Cable Size (mm ²)	Sample Code
Cable Clamp Code	SC		SC 35,35
	TAC	(35,35)	TAC 35,35
	XCC	(50,50)	XCC 35,35
	ETC	(70,70)	ETC 35,35
	DJC		DJC 35,35
	ECW		ECW 35,35

ONE & TWO HOLE CABLE CLIPS

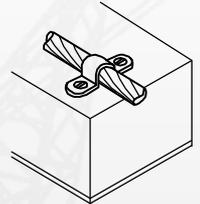
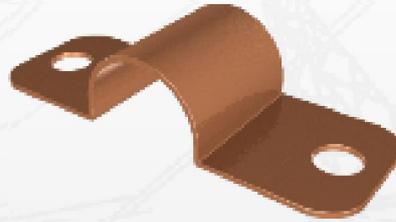
ONE & TWO HOLE CABLE CLIPS (SUPPORT)

These are used for fixing bare or PVC coated cable conductors or PG pipe on wall (or structures) manufactured from high quality copper / Brass / Stainless Steel / HD galvanizes Steel.

1HWC (CABLE CLIP)



2HWC+ (CABLE CLIP)



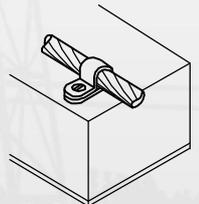
DWC (CABLE CLIP)



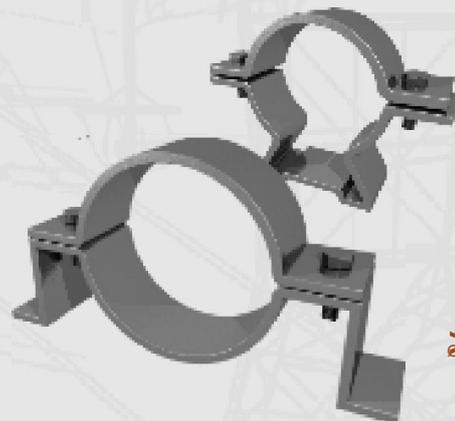
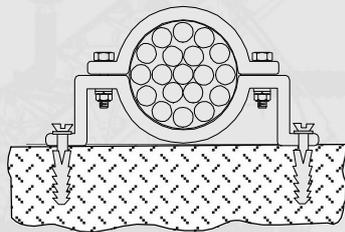
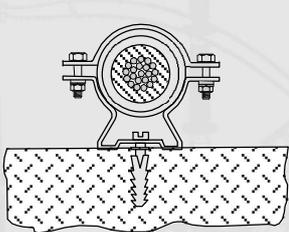
95mm²



95mm²



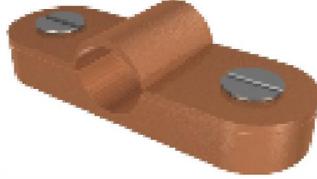
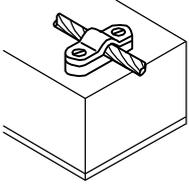
UWC (CABLE CLIP)



37mm

37mm

ONE & TWO HOLE CABLE CLIPS



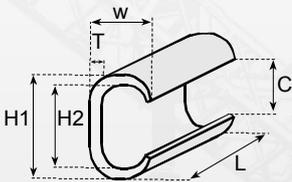
HEAVY DUTY CABLE SADDLE

HWC (Cable Saddle)

Note:

Manufactured from brass alloy (Forging) these are being used for either as a support for air rod or as a DC clip for bare or PVC covered copper cable

CABLE TO WALL CLIP	
Conductor Size (mm or mm ²)	
CLIP Code	Sample Code
TWC	TWC 35
DWC	35, 50, 70, 95, 120, 150, 185, 240 mm ² DWC 35
HWC	HWC 35
TWC+	Ø16 -Ø60 mm TWC+ Ø20
UWC	Ø16 -Ø65 mm UWC Ø61



C CRIMP CONNECTORS

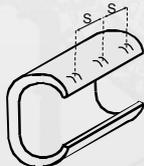
C (C Clamp)

Note:

Crimp Connectors are made of extruded electrolytic copper with thick walls, used for parallel or tap connection of copper. Appropriate tools may be used for installation of C Crimp Connectors.

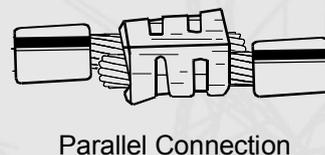
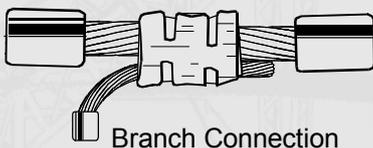


(C-11~T-122)
except C-20,C-26,C-44

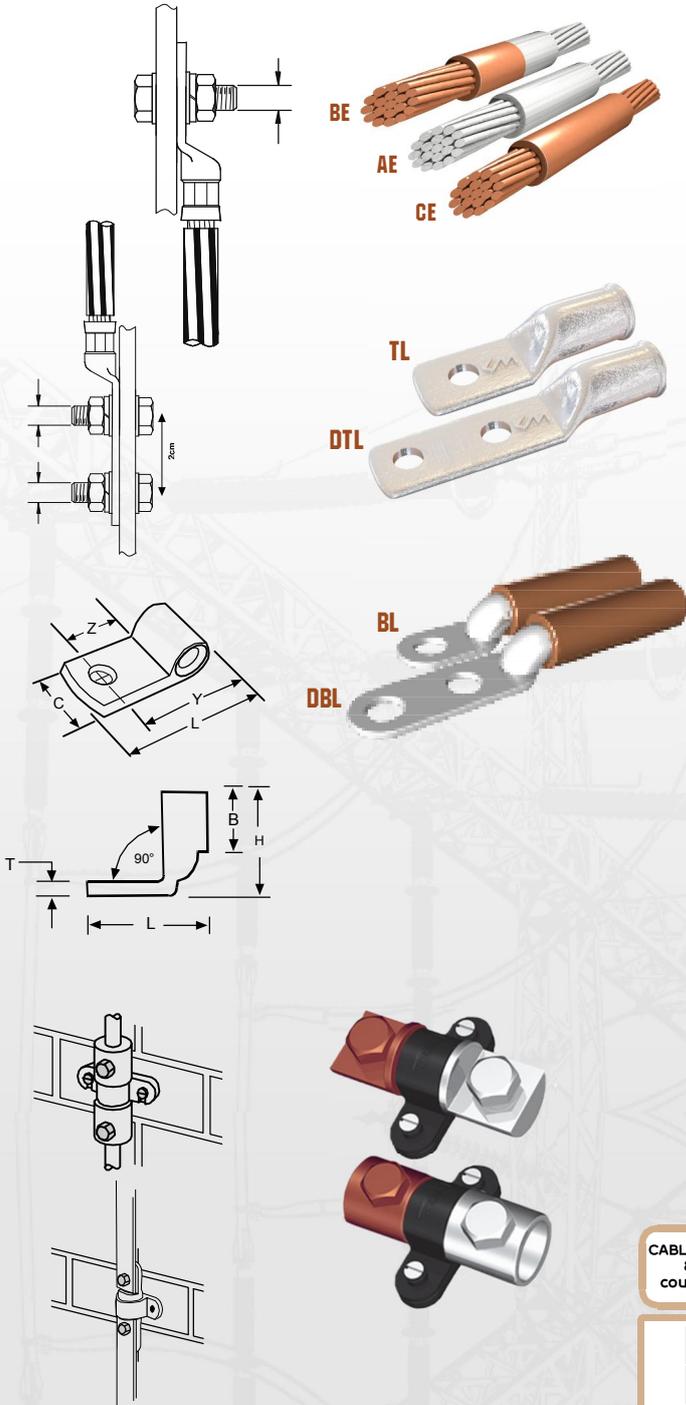


(C-154~T-700)

C Clamp	Dimensions(mm)						Installation		
	H ₁	H ₂	W	L	T	C	# of Crimps	S	Total sectional area of applicable wire
C 44	19.0	13.4	14.4	20	4.0	8.5	1	--	27~44
C 60	21.0	15.4	15.1	22	4.0	9.7	2	11	45~60
C 76	24.4	17.3	17.6	22	5.0	10.8	2	11	61~76
C 98	27.8	20.8	18.8	25	5.0	13.8	2	11	77~98
C154	34.0	25.7	24.4	28	6.0	17.0	3	8.5	123~154
C 190	37.0	28.5	25.4	35	6.0	17.4	3	10.5	155~190
C 240	40.0	30.2	28.5	40	7.0	19.0	3	13	191~240
C 365	47.5	37.7	34.0	50	7.0	24.8	3	16	289~365
C 450	57.0	42.5	41.0	60	10.0	28.0	3	18.5	366~450
C 560	62.0	46.0	45.0	65	11.0	31.0	3	20	451~560
C 700	68.0	51.0	49.0	70	12.0	34.0	3	21	561~700



CABLE LUG & BIMETALIC WASHERS DETAILS



CRIMP TYPE STRIGHT COUPLING

CE,AE,BE (Coupling)

Note:

Made from high purity, copper/aluminum thick wall tube, bimetallic couplings used for connecting CU conductors to AL conductors, produced by diffusion welding process.

CABLE LUG

TL & DTL (Bimetallic Cable LUG)

Note:

Cable lugs are made of high conductivity pure copper (BS1432-C101) and are tin plated to improvement corrosion resistance properties. The Dims are as din standard. Cen. To Cen. of DTL holes are 25 mm (other dist. can be ordered).

BIMETALIC CABLE LUG

BL & DBL (Bimetallic Cable LUG)

Note:

Bimetallic cable lugs are manufactured from bimetallic CU-AL Friction welded tubes. In routine types, cable hole part is from CU & bolt hole part from AL.

METALLIC CONNECTOR - CABLE TO CABLE & TYPE TO TYPE

BIC & BIT (Coupling)

Note:

These connectors are made of copper and aluminum, are meant to be used where aluminum lightning protection system and copper earthing network. An inhibiting compound is normally recommended to use with this assembly.

CABLE LUG & coupling

CONNECTIONS SIZE

CONNECTIONS TYPE	CONNECTIONS SIZE	
	Wire Size.(mm ²)	SampleCode
TL	16,25,35,50,70,95,120,150,185,240,300	TL 120
DTL		DTL 120
BL		BL 120
DBL		DBL 120
CE	16,25,35,50,70,95,120,150,185,240,300	CE 120 /35
AE		AE 150 / 185
BE		BE 240 / 300
BIC	35,50,70	BIC 120/35
BIT	20x3,25x3,30x3,20x5,15x5,30x5	BIT 120/35

OTHER EARTHING ACCESSORIES DETAILS

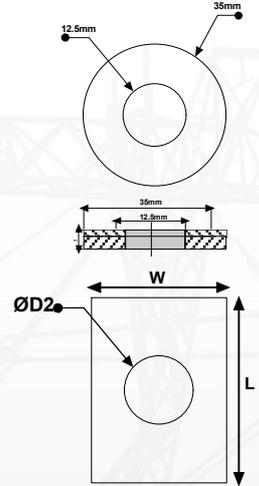
METALLIC PLATE & WASHER

BIW (BIW CLAMP)

Note:

These washers are made of AL & CU by diffusion welding process to protect from galvanic corrosion between copper and brass alloys & galvanized steel structures.

Routine Thickness :1.5mm (Lengths & Width must be ordered) for other thicknesses please call



FLEXIBLE CONNECTORS

FC (Copper Bonds)

Note:

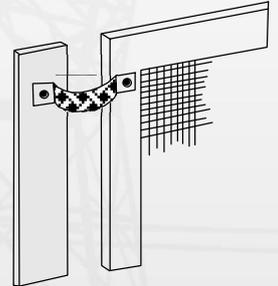
These flexible tinned copper Braids can be effectively used for bonding metallic doors, gates etc.

made with new manufacturing process: the contact areas are pressure soldered before punching and cutting.

This Results in:

- direct contact without interface(no need to lug)
- excellent performance under vibration and fatigue
- higher tensile strength

Routine Dim: 3x20,3x25,3x30 with length free for other thicknesses please call



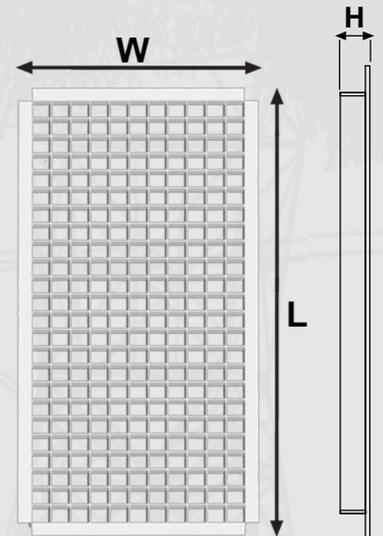
HD GALVANIZED EARTH EQUIPOTENTIAL MAT

EM (Earth Mat)

Note:

These mats are used on top of finish level and directly below the operators normal standing position for manually operating disconnect switches.

Routine Dim: 1000x500x30 & 800x500x30 mm with 40x40 mesh for other Dimension please call



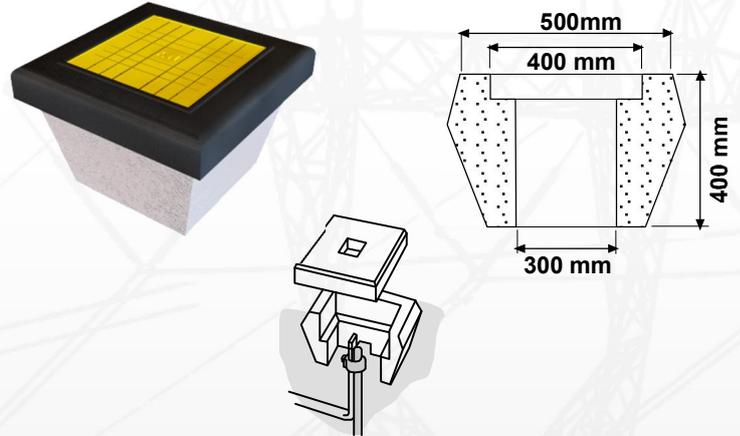
OTHER EARTHING ACCESSORIES DETAILS

CONCRETE INSPECTION PIT

EP (Earth Pit)

Note:
This earth pit is made of concrete body and cast iron lid. Being used for making available inspection and testing connections.

Available Dim: 500x500x400 mm



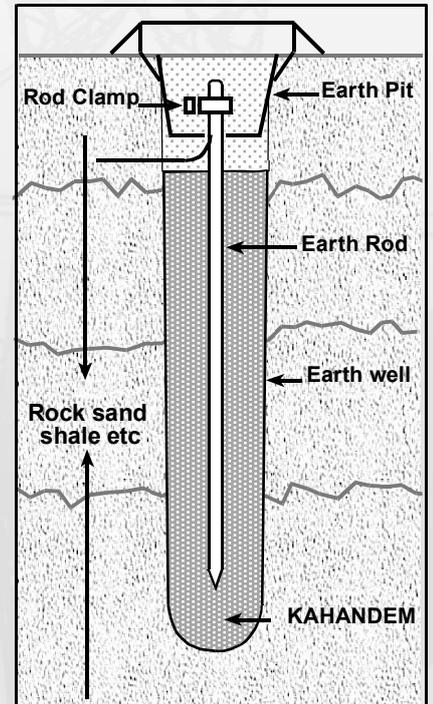
KAHANGAN OHM-DECREASING MATERIAL

KOM

Note:
-Carbon base (high conductivity)
-Non corrosive
-For dry & wet condition
-Fixed electrical resistance in long time
-Without any need to periodic water injection



Spec.Resistance(Ω cm)	Net weight	Spec.Weight
<2.7	30kg	1 ton/m ³



CABLE & CONDUCTOR DETAILS



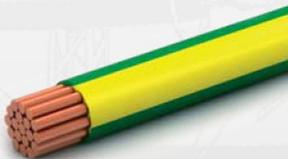
PVC COVERED COPPER TAPE

Made of copper, conforming to BS 1432 C101, and used in lightning protection system network these conductors are available both bare as well as with PVC covering.



BARE STRANDED COPPER CONDUCTOR

KAHANGAN stranded copper conductors are made from soft drawn copper to BS6360.



PVC COVERED STRANDED COPPER

Stranded Copper Conductors covered by yellow - green PVC to BS6004 Standard.



HARD DRAWN COPPER BAR

High conductivity copper bars, hard drawn, manufactured to BS2874 C101 / C103



BARE COPPER TAPE

KAHANGAN bare copper tapes are manufactured from High conductivity EC grade copper to BS1432 C101/C103

CABLE & CONDUCTOR DETAILS

PVC COVERED COPPER TAPE

High conductivity EC Grade copper Tapes.PVC Covered to BS6746 Standard



TINNED COPPER TAPE

High conductivity EC Grade Copper Tapes, with tin plating.PVC covered also available



BARE ALUMINUM TAPE

Bare Aluminum Tapes, conforming to BS2898-1350 are also used for lightning protection conductors.



PVC COVERED ALUMINIUM

KAHANGAN High conductivity Aluminium tapes, PVC covered confirming to BS 6746.





TEMPORARY EARTHING

SHORT CIRCUITING & EARTHING CABLES

Copper cables

Extra flexible braided multi-strand cables.

Transparent PVC sheath, with cable section identification.

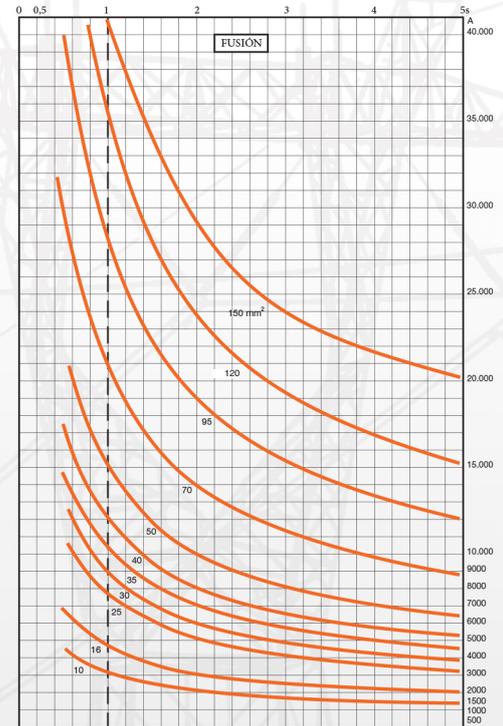


Section (mm ²)	Rating (kA/1s)	Cable	
		Weight (kg/m)	Ø (mm)
35	8	390	10.6
50	12	550	12.9
70	16	760	16.2
95	20	1000	18.2
120	30	1300	19.2
150	36	1600	20.2

For Cu: $A_{mm^2} = 2.5 I$ for $t_c = 0.5$ sec

$A_{mm^2} = 3.6 I$ for $t_c = 1$ sec

Copper cables only:
Heating curves (Gut & Grundberg method)



Aluminium cables

Extra flexible braided multi-strand cables.

Transparent PVC sheath. with cable section identification.



Section (mm ²)	Rating (kA/1s)	Cable	
		Weight (kg/m)	Ø (mm)
150	20.0	0.650	22.5
185	31.5	0.820	27.0

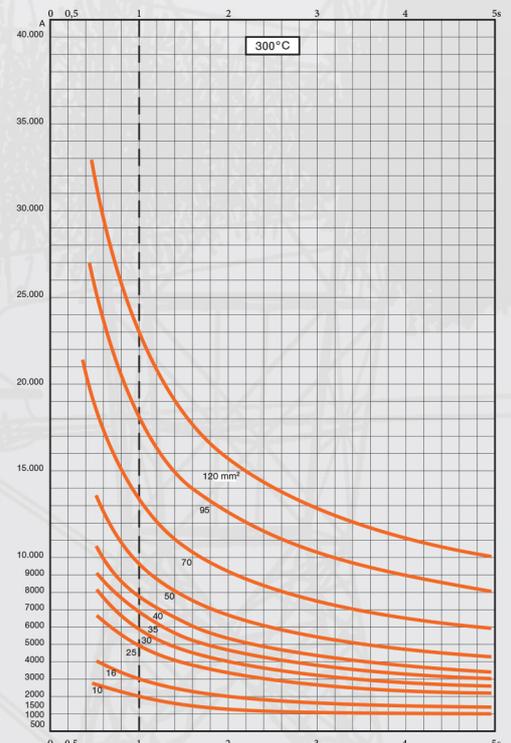
For Al: $A_{mm^2} = 4.4 I$ for $t_c = 0.5$ sec

$$A_{kcmil} = I \cdot K_f \sqrt{t_c}$$

I = rms fault current (KA)

K_f = material constant Acc to table 2 IEEE80

t_c = current time duration (sec.)



Carring & Storage Metallic Box

Coating: Epoxy Paint (Anti-static, Anti-scratch)



INSULATING HOLLOW TUBE

(FOR USE IN TEMPORARY EARTHING & SHORT CIRCUITING DEVICE)

NOTE:

- 46 mm dia. single type elements, yellow colour
- These elements allow "long length" assemblies which can support short-circuit systems with large cross-section cables.

Reference	Length (kg/m)	Weight (kg)
PR2000	2.0	2.250
PR2500	2.5	2.650



SHORT CIRCUITING & EARTHING CLAMPS

Earth clamps,

Body in bronz alloy (as BS standard)

Reference	Rating (kA/1s)	Clamp Capacity	
CATO 22	25	●	5-22
		■	0-20
CATO 45	40	●	8-40
		■	0-35



KATO 45



KATO 22

Line end clamps:

Body in alumnium alloy (as BS standard)

Reference	Rating (kA/1s)	Clamp Capacity	
KATO 57	30	●	5-45
		■	0-60
KATO 67	40	●	5-60
		■	0-55



KATO 67



KATO 57



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