

NEW WELD

Exothermic Welding System

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Pars joosh

In January 1997, Novin Joosh Co. was established with regard to the understanding the needs in industry in order to providing and producing equipment of Earthing system, Exothermic welding system and lightning protection system. Novin Joosh as a Iranian Co with the expert employees has taken all its effort in order to using possibilities, equipment and high-quality raw material from the beginning of establishment and notice to acceptable level standard in the mentioned industry and creation the quality management could get ISO 9002 International Standard certificate, and by new design and innovation in work and its production could have effective role in order to satisfying customers.

Novin Joosh managers for developing their activity with regard to a good competition and having better quality proceeding well and has added Cathodic protection system into their activity in order to be as a complet producer bank and the only system that has ISO 9001:2000 quality management about all the above mentioned systems in Iran responses to the needs of customers.

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Goals:

The major goal of Novin Joosh understanding of technical and performing The needs of customers as well as to provide all their needs by supporting the activities of research and development department. Also, in order to attract customer's attention and make them satisfied, it tries to give desirable services with considering technical pirnciples and quick delivery with the best quality of customers'orders. therefore , staff , contractors and the customers' opinion are the most valuable possessions of company and their participating is our basic program in order to raising the quality level of products.

Field of activities:

The activities of this company is designing and producing of Exothermic welding system, Earthing system,Lightning protection system, Cathodic protection syetem and Installation material system equipment . If there is on suitable connection in Co. Produces, contact us.

Exothermic welding system (NEW WELD):

Exothemic welding (NEW WELD) is a process that provid connection between two conductors with different size, shape and kind. Major connection that is used in earthing latices, is connection between copper conductors or steel plates. In this method, there is no need to temperature or external energy. Created connection is between the molecules therefore is resistant against corrosion, also it doesn't have ordinary welding destructive effects, such as clear tensions or metal defomation during increasing temprature. In this method special connection powder is fused and flowed, then connect two conductors.

1- Advantages of exothermic welding connections.

1-1 High electrical conductivity.

Since cross section of welding place is about one to two times of the conductor, also the used alloy in connection site is equal or more than the conductor itself. The welding is produced by molecular bond between fragments therefore contact spaces between and the conductors tension center is destroyed.

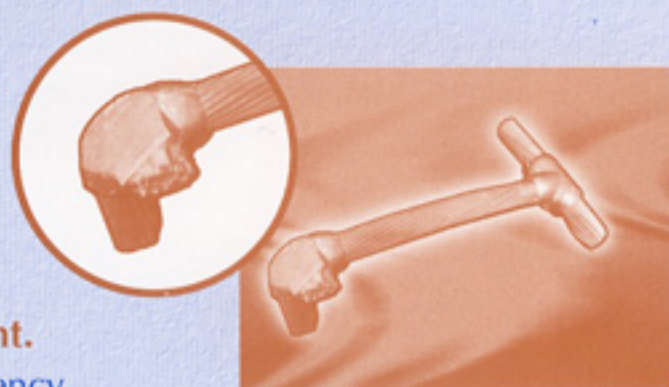
1-2 Dont corrosion by electrical pile.

Since in this welding system , connection site has molecular bond, no electrolyte is able to penetrate in connection site,so it has corrosion resistance in the earth and against chemical material .



2- Exothermic welding connection technical properties.

- Stable form during high current flow.
- High speed reaction.
- Stable connection with passing time.
- Few application price.
- Statistic and reality.

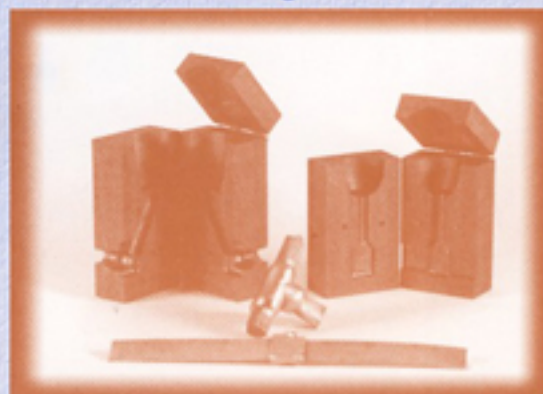


3- Exothermic welding system equipment.

Necessaries and equipment that have efficiency in this system are :

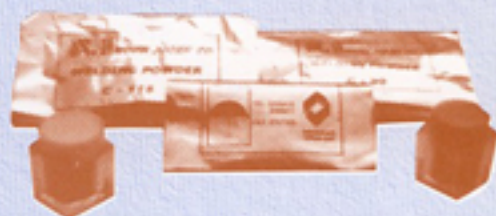
3-1- Exothermic welding mould.

This mould makes from industrial coal and is the main site for welding treatment. the fragments that must be connected are put in the mould,then the product of welding treatment that is broken out ,is moulded on the fragments and gets mould geometrical shape. All of this Co. products mould are brilliant and have 70 welding capacities shape. (If equipments are used correctly).



3-2-Exothermic welding powder.

Exothermic welding powder with "C" code is the main reaction material that cause molecular bond between fragments. All of The welding powder produce are packed in Aluminum, plastic foils and is used multy layer Nylon. with regard to its sensitivity against the humour during packing. welding powders are produceable in different weights that usual and standard weights are 15,25,32,45,65,90,115,150,200,250g



3-3- Starter.

Starter whit "CS" code is a sensitive and special compound that provide primary temperature for burning welding powder. Starters are one time service that are given with one powder package .

3-4- Disk .

Disk is a barrier for entry powder prohibition into the welding tank before reaction



DC-1



DC- 2

3-5- Mould support handle clamp.

Mould support handle with simple locked mechanisms used for fragments stable keeping beside each other.

Three types of handles TCS-50 , TCS-80 , TCS-100 are able to use in major moulds

TCS-50



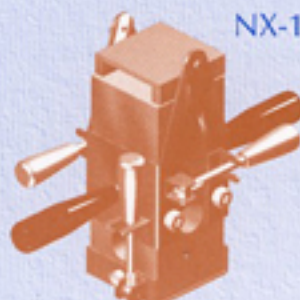
TCS-80



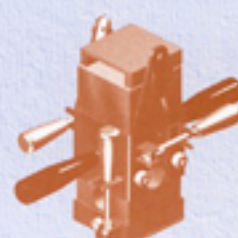
TCS-100

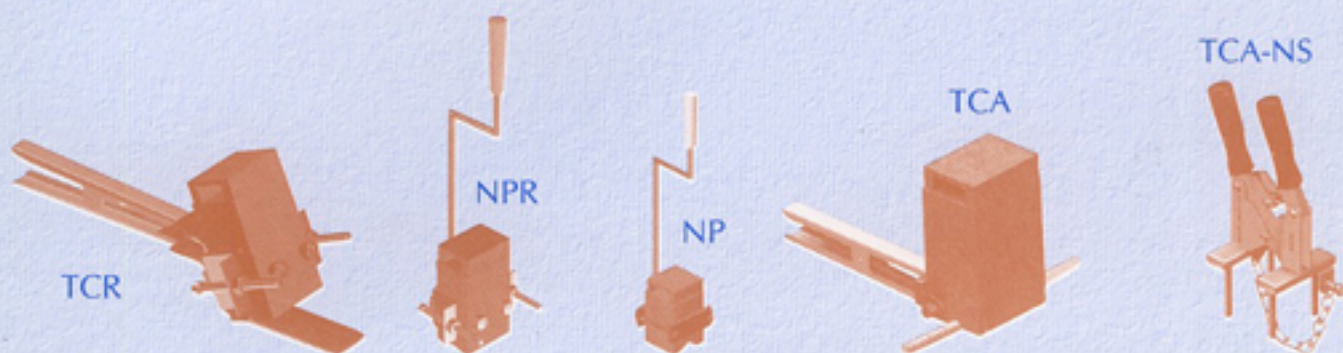


NX-100



NX-80





3-6- Wire support handle clamp.

During exothermic welding treatment on tension or hard copper cables, wire support handle is used for prohibition of cable motion and mould damage.



3-7- Exothermic gun.

Exothermic gun is used for warming the mould before the first moulding and activating starter.



3-8- Cleaner kit.

Cleaner equipment as a complete set are used in order to comfortable and easy work during exothermic welding treatment. The main aim of using these equipment are increasing quality level during welding.



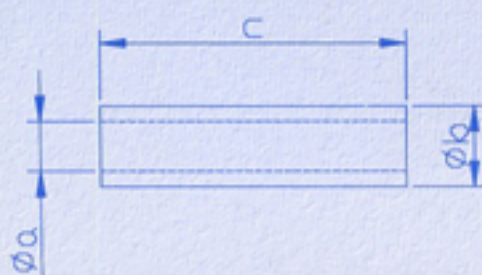
3-9- Temperature insulator.

Temperature insulator is used for prohibition from wasting melted during welding on pipe or armator and whenever that wasting melted is possible.



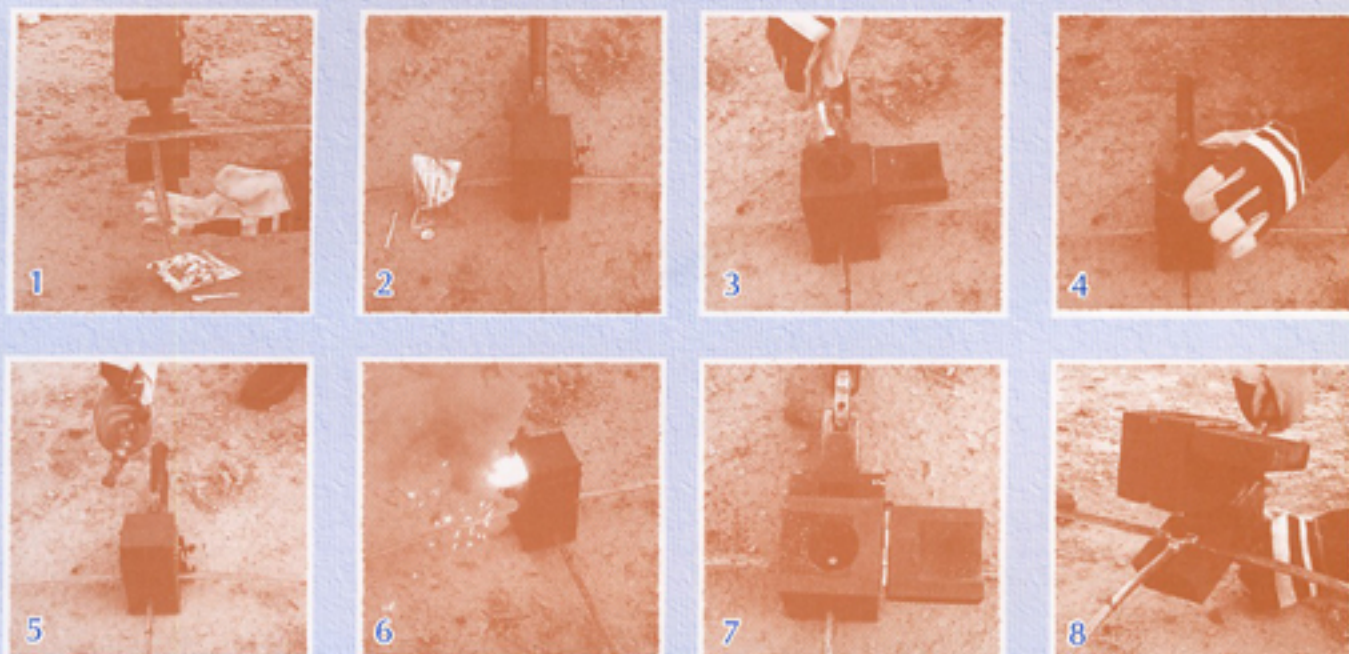
3-10- Copper Sleeves.

During connecting cables with cross sections lesser than 35 mm Since conductor cross section is small and it is possible that during welding treatment the cable is cut, therefore suitable copper sleeves is used.



	a	b	c
NBC-10	4.5	8	30
NBC-16	5.5	8	30
NBC-25	6.5	8	30

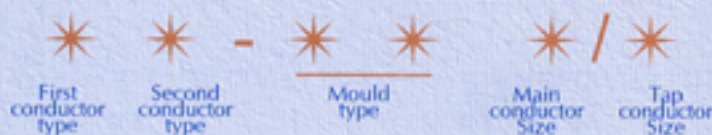
4- Exothermic welding connection manner.



Note: Exothermic welding connection treatment completely and exothermic welding system equipment correct using is explained in guide book No.: F-P06 and given with productions.

5- Exothermic welding connections.

All connections in Exothermic welding systems, their recognition and coding manner are:



































Example:

C C - T 95 / 50
Cable Cable Type T Main Conductor Tap Conductor













C A - XS 15 / 70
Cable Armator Type XS Main Conductor Tap Conductor

شماره فرم F-P06/01	نوع استفاده از تجهیزات	S.J
موضوع: ۱ از ۱	سیستم جوش آلومینیوم	فصلت: نوع سیگار
<p>نوع استفاده از تجهیزات: آلومینیوم جوش</p> <p>شرکت تولید جوش (با مسئولیت محدود)</p>		
<p>نسخه شماره: ۰۱</p> <p>تاریخ: ۱۳۸۵/۰۵/۰۱</p> <p>مکان: تهران</p>		
<p>تولید کننده:</p> <p>تولید کننده:</p> <p>تولید کننده:</p>	<p>تولید کننده:</p> <p>تولید کننده:</p> <p>تولید کننده:</p>	<p>تولید کننده:</p> <p>تولید کننده:</p> <p>تولید کننده:</p>



















5-1- Cable to Cable connection , "CC" specific code.

Description	Mould Type				
Common Types					
	CC-I	CC-T	CC-X	CC-XO	CC-SV
Page	12	12	12	12	13
Other Types					
	CC-L	CC-ELL	CC-EVD	CC-EVU	CC-FSV
					
	CC-FSU	CC-TL	CC-TU	CC-TD	CC-TR
					
	CC-TUE	CC-TEU	CC-TED	CC-FSC	CC-FSU
					
	CC-FSD	CC-FVC	CC-FSR	CC-FVU	CC-FVD
					
	CC-ST	CC-TS	CC-TVO	CC-XV	CC-XOV
					
	CC-SL	CC-TSS			












5-2- Cable to Earth Rod connections, "CR" specific code.

Description	Mould Type				
Common Types					
	CR-EVD	CR-T			
Page	13	13			
Other Types					
	CR-L	CR-TOU	CR-TOD	CR-FVD	CR-SLV
					
	CR-TR	CR-TED	CR-XV	CR-XO	CR-TS




5-3-Cable to Armator connections, "CA" specific code.

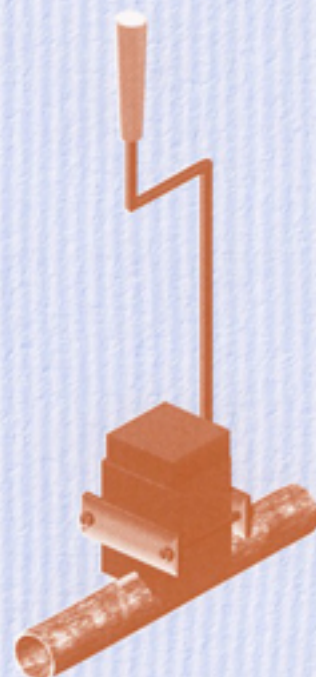
Description	Mould Type				
Common Types					
	CA-TVO	CA-XOV	CA-TT		
Page	13	13	14		
Other Types					
	CA-I	CA-L	CA-SV	CA-SLV	CA-TOD
					
	CA-TOU	CA-XV	CA-X	CA-TUU	CA-TDD
					
	CA-TD	CA-TR	CA-TU	CA-T	CA-SR

5-4- Cable to Surface connctions "CS" specific code.































Description	Mould Type				
Common Types					
	CS-VU	CS-VD	CS-VL	CS-OL	
Page	14	14	14	14	
Other Types					
	CS-OLF	CS-VR	CS-VL	CS-VIF	CS-VE
					
	CS-OLX	CS-VI			

5-5- Cable to Pipe connections , "CP" specific code.























Description	Mould Type	
Common Types		
	CP-S	
Page	15	
Other Types		
	CP-XV	CP-LF










5-6- Cable to Bus Bar connections , "CB" specific code.

Description	Mould Type				
Common Types					
	CB-I	CB-LT	CB-T		
Page	15	15	15		
Other Types					
	CB-IU	CB-ID	CB-IV	CB-IE	CB-ERU
					
	CB-ERD	CB-EL	CB-EU	CB-ED	CB-EUI
					
	CB-EOI	CB-EVU	CB-EL	CB-EVD	CB-ES
					
	CB-VT	CB-TUU	CB-TDD	CB-TDF	CB-TX
					
	CB-TDB	CB-TU	CB-TD	CB-TL	CB-IO
					
CB-IS	CB-IOS				

















5-7- Bus Bar to Bus Bar connections , "BB" specific code.

Description	Mould Type				
Common Types					
	BB-I	BB-L	BB-V	BB-T	
Page	16	16	16	16	
Other Types					
	BB-EL	BB-EV	BB-TR	BB-TU	BB-TD
					
	BB-TE	BB-TDF	BB-VE	BB-TVE	BB-X
					
	BB-XV	BB-XO	BB-XVE	BB-IO	BB-LO
					
BB-VO	BB-TO	BB-XX			







5-8- Bus Bar to Earth Rod connections , "BR" specific code.

Description	Mould Type				
Other Types					
	BR-L	BR-EVD	BR-EU	BR-TDV	BR-TDO
					
BR-TDD	BR-TR				




5-9- Bus Bar to Surface connections, "BS" specific code.

Description	Mould Type				
Other Types					
	BS-I	BS-VR	BS-VU	BS-VD	BS-V
					
	BS-VUU	BS-VVU	BS-VVD	BS-OVE	BS-VVR
					
	BS-VVI	BS-VI	BS-VH	BS-OU	BS-OVU
					
BS-OVR					

5-10- Cable or Bus Bar to Railroad connections "CI" specific code.

Description	Mould Type				
Other Types					
	CI-S	CI-C	CI-T	CI-LF	BI-T
					
CI-C					

5-11- Different connections:

Description	Mould Type				
Other Types					
	TS-L	TS-V	RR-L		

6 - Required tables for other connetions powder.

CC - I



Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	CC - I 35	C - 45	TCS - 50
50	CC - I 50	C - 45	TCS - 50
70	CC - I 70	C - 65	TCS - 80
95	CC - I 95	C - 90	TCS - 80
120	CC - I 120	C - 115	TCS - 80
150	CC - I 150	C - 115	TCS - 80
185	CC - I 185	C - 150	TCS - 80
235	CC - I 235	C - 200	TCS - 80
300	CC - I 300	C - 250	TCS - 80

CC - X



Sq.mm		MOULD TYPE	CARTRIDGE	HANDEL CLAMP
Main	Tap			
35	35	CC - X 35/35	C - 65	TCS - 50
50	35	CC - X 50/35	C - 90	TCS - 50
50	50	CC - X 50/50	C - 90	TCS - 50
70	35	CC - X 70/35	C - 115	TCS - 80
70	50	CC - X 70/50	C - 115	TCS - 80
70	70	CC - X 70/70	C - 115	TCS - 80
95	35	CC - X 95/35	C - 115	TCS - 80
95	50	CC - X 95/50	C - 115	TCS - 80
95	70	CC - X 95/70	C - 150	TCS - 80
95	95	CC - X 95/95	C - 150	TCS - 80
120	35	CC - X 120/35	C - 115	TCS - 80
120	50	CC - X 120/50	C - 150	TCS - 80
120	70	CC - X 120/70	C - 150	TCS - 80
120	95	CC - X 120/95	C - 200	TCS - 80
120	120	CC - X 120/120	C - 200	TCS - 80
150	35	CC - X 150/35	C - 150	TCS - 80
150	50	CC - X 150/50	C - 150	TCS - 80
150	70	CC - X 150/70	C - 150	TCS - 80
150	95	CC - X 150/95	C - 200	TCS - 80
150	120	CC - X 150/120	C - 250	TCS - 80
150	150	CC - X 150/150	C - 250	TCS - 80
185	50	CC - X 185/50	C - 200	TCS - 80
185	70	CC - X 185/70	C - 200	TCS - 80
185	95	CC - X 185/95	C - 250	TCS - 80
185	120	CC - X 185/120	C - 250	TCS - 80
185	150	CC - X 185/150	C - 250	TCS - 80
185	185	CC - X 185/185	C - 250	TCS - 80
235	70	CC - X 235/70	C - 250	TCS - 80
235	95	CC - X 235/95	2*C-150	TCS - 80
235	120	CC - X 235/120	2*C-150	TCS - 100
235	150	CC - X 235/150	2*C-200	TCS - 100
235	185	CC - X 235/185	2*C-200	TCS - 100
235	235	CC - X 235/235	2*C-250	TCS - 100
300	70	CC - X 300/70	2*C-150	TCS - 100
300	95	CC - X 300/95	2*C-150	TCS - 100
300	120	CC - X 300/120	2*C-200	TCS - 100
300	150	CC - X 300/150	2*C-200	TCS - 100
300	185	CC - X 300/185	2*C-200	TCS - 100
300	235	CC - X 300/235	2*C-250	TCS - 100
300	300	CC - X 300/300	2*C-250	TCS - 100

CC - T



Sq.mm		MOULD TYPE	CARTRIDGE	HANDEL CLAMP
Main	Tap			
35	35	CC - T 35/35	C - 45	TCS - 50
50	35	CC - T 50/35	C - 65	TCS - 50
50	50	CC - T 50/50	C - 90	TCS - 50
70	35	CC - T 70/35	C - 65	TCS - 80
70	50	CC - T 70/50	C - 90	TCS - 80
70	70	CC - T 70/70	C - 90	TCS - 80
95	35	CC - T 95/35	C - 90	TCS - 80
95	50	CC - T 95/50	C - 90	TCS - 80
95	70	CC - T 95/70	C - 90	TCS - 80
95	95	CC - T 95/95	C - 115	TCS - 80
120	35	CC - T 120/35	C - 90	TCS - 80
120	50	CC - T 120/50	C - 90	TCS - 80
120	70	CC - T 120/70	C - 90	TCS - 80
120	95	CC - T 120/95	C - 115	TCS - 80
120	120	CC - T 120/120	C - 150	TCS - 80
150	35	CC - T 150/35	C - 115	TCS - 80
150	50	CC - T 150/50	C - 115	TCS - 80
150	70	CC - T 150/70	C - 115	TCS - 80
150	95	CC - T 150/95	C - 150	TCS - 80
150	120	CC - T 150/120	C - 150	TCS - 80
150	150	CC - T 150/150	C - 200	TCS - 80
185	35	CC - T 185/35	C - 115	TCS - 80
185	50	CC - T 185/50	C - 115	TCS - 80
185	70	CC - T 185/70	C - 150	TCS - 80
185	95	CC - T 185/95	C - 150	TCS - 80
185	120	CC - T 185/120	C - 200	TCS - 80
185	150	CC - T 185/150	C - 200	TCS - 80
185	185	CC - T 185/185	C - 200	TCS - 80
235	50	CC - T 235/50	C - 150	TCS - 80
235	70	CC - T 235/70	C - 150	TCS - 80
235	95	CC - T 235/95	C - 150	TCS - 80
235	120	CC - T 235/120	C - 200	TCS - 80
235	150	CC - T 235/150	C - 200	TCS - 80
235	185	CC - T 235/185	C - 250	TCS - 80
235	235	CC - T 235/235	2*C-150	TCS - 80
300	50	CC - T 300/50	C - 200	TCS - 80
300	70	CC - T 300/70	C - 200	TCS - 80
300	95	CC - T 300/95	C - 200	TCS - 80
300	120	CC - T 300/120	C - 250	TCS - 80
300	150	CC - T 300/150	C - 250	TCS - 80
300	185	CC - T 300/185	2*C-150	TCS - 80
300	235	CC - T 300/235	2*C-200	TCS - 100
300	300	CC - T 300/300	2*C-200	TCS - 100

CC - XO



Sq.mm		MOULD TYPE	CARTRIDGE	HANDEL CLAMP
Main	Tap			
35	35	CC - XO 35/35	C - 90	TX - 80
50	35	CC - XO 50/35	C - 115	TX - 80
50	50	CC - XO 50/50	C - 150	TX - 80
70	35	CC - XO 70/35	C - 150	TX - 80
70	50	CC - XO 70/50	C - 200	TX - 80
70	70	CC - XO 70/70	C - 200	TX - 80
95	35	CC - XO 95/35	C - 200	TX - 80
95	50	CC - XO 95/50	C - 200	TX - 80
95	70	CC - XO 95/70	C - 250	TX - 80
95	95	CC - XO 95/95	C - 250	TX - 80
120	50	CC - XO 120/50	C - 250	TX - 100
120	70	CC - XO 120/70	C - 250	TX - 100
120	95	CC - XO 120/95	2*C-150	TX - 100
120	120	CC - XO 120/120	2*C-150	TX - 100
150	70	CC - XO 150/70	C - 250	TX - 100
150	95	CC - XO 150/95	2*C-150	TX - 100
150	120	CC - XO 150/120	2*C-200	TX - 100
150	150	CC - XO 150/150	2*C-200	TX - 100
185	70	CC - XO 185/70	2*C-200	TX - 100
185	95	CC - XO 185/95	2*C-200	TX - 100
185	120	CC - XO 185/120	2*C-250	TX - 100
185	150	CC - XO 185/150	2*C-250	TX - 100
185	185	CC - XO 185/185	2*C-250	TX - 100

CC - SV



Sq. mm		MOULD TYPE	CARTRIDGE	HANDEL CLAMP
Main	Tap			
35	35	CC - SV 35/35	C - 65	TCS - 50
50	35	CC - SV 50/35	C - 90	TCS - 50
50	50	CC - SV 50/50	C - 90	TCS - 50
70	35	CC - SV 70/35	C - 90	TCS - 80
70	50	CC - SV 70/50	C - 115	TCS - 80
70	70	CC - SV 70/70	C - 115	TCS - 80
95	35	CC - SV 95/35	C - 115	TCS - 80
95	50	CC - SV 95/50	C - 115	TCS - 80
95	70	CC - SV 95/70	C - 150	TCS - 80
95	95	CC - SV 95/95	C - 150	TCS - 80
120	35	CC - SV 120/35	C - 150	TCS - 80
120	50	CC - SV 120/50	C - 150	TCS - 80
120	70	CC - SV 120/70	C - 150	TCS - 80
120	95	CC - SV 120/95	C - 200	TCS - 80
120	120	CC - SV 120/120	C - 250	TCS - 80
150	35	CC - SV 150/35	C - 150	TCS - 80
150	50	CC - SV 150/50	C - 150	TCS - 80
150	70	CC - SV 150/70	C - 150	TCS - 80
150	95	CC - SV 150/95	C - 200	TCS - 80
150	120	CC - SV 150/120	C - 250	TCS - 80
150	150	CC - SV 150/150	2°C-150	TCS - 80
185	35	CC - SV 185/35	C - 150	TCS - 80
185	50	CC - SV 185/50	C - 150	TCS - 80
185	70	CC - SV 185/70	C - 150	TCS - 80
185	95	CC - SV 185/95	C - 200	TCS - 80
185	120	CC - SV 185/120	C - 250	TCS - 80
185	150	CC - SV 185/150	2°C-150	TCS - 80
185	185	CC - SV 185/185	2°C-150	TCS - 80
235	50	CC - SV 235/50	C - 200	TCS - 80
235	70	CC - SV 235/70	C - 200	TCS - 80
235	95	CC - SV 235/95	C - 250	TCS - 80
235	120	CC - SV 235/120	C - 250	TCS - 80
235	150	CC - SV 235/150	2°C-150	TCS - 80
235	185	CC - SV 235/185	2°C-150	TCS - 100
235	235	CC - SV 235/235	2°C-200	TCS - 100
300	50	CC - SV 300/50	C - 250	TCS - 80
300	70	CC - SV 300/70	C - 250	TCS - 80
300	95	CC - SV 300/95	C - 250	TCS - 80
300	120	CC - SV 300/120	2°C-150	TCS - 80
300	150	CC - SV 300/150	2°C-150	TCS - 80
300	185	CC - SV 300/185	2°C-200	TCS - 100
300	235	CC - SV 300/235	2°C-250	TCS - 100
300	300	CC - SV 300/300	2°C-250	TCS - 100

CA - TVO



ROD	Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
10	35	CA - TVO 10/35	C-90	TCA
	50	CA - TVO 10/50	C-115	TCA
	70	CA - TVO 10/70	C-115	TCA
	95	CA - TVO 10/95	C-150	TCA
16	35	CA - TVO 16/35	C-90	TCA
	50	CA - TVO 16/50	C-115	TCA
	70	CA - TVO 16/70	C-115	TCA
	95	CA - TVO 16/95	C-150	TCA
	120	CA - TVO 16/120	C-150	TCA
20	150	CA - TVO 16/150	C-200	TCA
	35	CA - TVO 20/35	C-90	TCA
	50	CA - TVO 20/50	C-115	TCA
	70	CA - TVO 20/70	C-115	TCA
	95	CA - TVO 20/95	C-150	TCA
	120	CA - TVO 20/120	C-150	TCA
	150	CA - TVO 20/150	C-200	TCA
	185	CA - TVO 20/185	C-250	TCA
	235	CA - TVO 20/235	C-250	TCA
	300	CA - TVO 20/300	C-250	TCA

CR - EVD



ROD	Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
1	35	CR - EVD 1 / 35	C - 65	TCS - 80
	50	CR - EVD 1 / 50	C - 90	TCS - 80
	70	CR - EVD 1 / 70	C - 90	TCS - 80
	95	CR - EVD 1 / 95	C - 90	TCS - 80
	120	CR - EVD 1 / 120	C - 90	TCS - 80
	150	CR - EVD 1 / 150	C - 115	TCS - 80
	185	CR - EVD 1 / 185	C - 115	TCS - 80
	235	CR - EVD 1 / 235	C - 150	TCS - 80
	300	CR - EVD 1 / 300	C - 200	TCS - 80
	2	35	CR - EVD 2 / 35	C - 90
50		CR - EVD 2 / 50	C - 90	TCS - 80
70		CR - EVD 2 / 70	C - 90	TCS - 80
95		CR - EVD 2 / 95	C - 90	TCS - 80
120		CR - EVD 2 / 120	C - 90	TCS - 80
150		CR - EVD 2 / 150	C - 115	TCS - 80
185		CR - EVD 2 / 185	C - 115	TCS - 80
235		CR - EVD 2 / 235	C - 150	TCS - 80
300		CR - EVD 2 / 300	C - 200	TCS - 80

1 = ROD 14 ~ ROD 16

2 = ROD 18 ~ ROD 22

CR - T



ROD	Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
16	35	CR - T 1 / 35	C - 90	TCS - 80
	50	CR - T 1 / 50	C - 90	TCS - 80
	70	CR - T 1 / 70	C - 115	TCS - 80
	95	CR - T 1 / 95	C - 115	TCS - 80
	120	CR - T 1 / 120	C - 150	TCS - 80
	150	CR - T 1 / 150	C - 200	TCS - 80
	185	CR - T 1 / 185	C - 200	TCS - 80
20	235	CR - T 1 / 235	C - 250	TCS - 80
	300	CR - T 1 / 300	2°C-150	TCS - 80
	35	CR - T 2 / 35	C - 90	TCS - 80
	50	CR - T 2 / 50	C - 115	TCS - 80
	70	CR - T 2 / 70	C - 115	TCS - 80
	95	CR - T 2 / 95	C - 115	TCS - 80
	120	CR - T 2 / 120	C - 150	TCS - 80
	150	CR - T 2 / 150	C - 200	TCS - 80
	185	CR - T 2 / 185	C - 200	TCS - 80
	235	CR - T 2 / 235	C - 250	TCS - 80
300	CR - T 2 / 300	2°C-150	TCS - 80	

1 = ROD 14 ~ ROD 16

2 = ROD 18 ~ ROD 22

CA - XOY



ROD	Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
10	35	CA - XOY 10/35	C-90	TCA-NS
	50	CA - XOY 10/50	C-115	TCA-NS
	70	CA - XOY 10/70	C-115	TCA-NS
	95	CA - XOY 10/95	C-150	TCA-NS
16	35	CA - XOY 16/35	C-90	TCA-NS
	50	CA - XOY 16/50	C-115	TCA-NS
	70	CA - XOY 16/70	C-115	TCA-NS
	95	CA - XOY 16/95	C-150	TCA-NS
	120	CA - XOY 16/120	C-150	TCA-NS
	150	CA - XOY 16/150	C-200	TCA-NS
20	35	CA - XOY 20/35	C-90	TCA-NS
	50	CA - XOY 20/50	C-115	TCA-NS
	70	CA - XOY 20/70	C-115	TCA-NS
	95	CA - XOY 20/95	C-150	TCA-NS
	120	CA - XOY 20/120	C-150	TCA-NS
	150	CA - XOY 20/150	C-200	TCA-NS
	185	CA - XOY 20/185	C-250	TCA-NS
	235	CA - XOY 20/235	2°C-200	TCA-NS
	300	CA - XOY 20/300	2°C-250 3°C-200	TCA-NS

CA - TT



ROD	Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
10	35	CA - TT 10/35	C-90	TCS - 80
	50	CA - TT 10/50	C-115	TCS - 80
	70	CA - TT 10/70	C-115	TCS - 80
	95	CA - TT 10/95	C-115	TCS - 80
16	35	CA - TT 16/35	C-150	TCS - 80
	50	CA - TT 16/50	C-150	TCS - 80
	70	CA - TT 16/70	C-150	TCS - 80
	95	CA - TT 16/95	C-200	TCS - 80
	120	CA - TT 16/120	C-200	TCS - 80
	150	CA - TT 16/150	C-250	TCS - 80
20	35	CA - TT 20/35	C-150	TCS - 80
	50	CA - TT 20/50	C-200	TCS - 80
	70	CA - TT 20/70	C-200	TCS - 80
	95	CA - TT 20/95	C-200	TCS - 80
	120	CA - TT 20/120	C-250	TCS - 80
	150	CA - TT 20/150	C-250	TCS - 80
	185	CA - TT 20/185	2°C-150	TCS - 80
	235	CA - TT 20/235	2°C-200	TCS - 80
	300	CA - TT 20/300	2°C-200	TCS - 80

CS - VD



Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	CS - VD 35	C-65	TCA - NS
50	CS - VD 50	C-90	TCA - NS
70	CS - VD 70	C-90	TCA - NS
95	CS - VD 95	C-115	TCA - NS
120	CS - VD 120	C-115	TCA - NS
150	CS - VD 150	C-150	TCA - NS
185	CS - VD 185	C-150	TCA - NS
235	CS - VD 235	C-200	TCA - NS
300	CS - VD 300	C-250	TCA - NS

CS - VU



Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	CS - VU 35	C-90	TCA - NS
50	CS - VU 50	C-115	TCA - NS
70	CS - VU 70	C-150	TCA - NS
95	CS - VU 95	C-200	TCA - NS
120	CS - VU 120	C-200	TCA - NS
150	CS - VU 150	C-250	TCA - NS
185	CS - VU 185	2°C-150	TCA - NS
235	CS - VU 235	2°C-150	TCA - NS
300	CS - VU 300	2°C-200	TCA - NS

CS - VLL



Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	CS - VLL 35	C-90	TCA-NS
50	CS - VLL 50	C-115	TCA-NS
70	CS - VLL 70	C-115	TCA-NS
95	CS - VLL 95	C-150	TCA-NS
120	CS - VLL 120	C-150	TCA-NS
150	CS - VLL 150	C-200	TCA-NS
185	CS - VLL 185	C-250	TCA-NS
235	CS - VLL 235	2°C-150	TCA-NS
300	CS - VLL 300	2°C-150	TCA-NS

CS - OL



Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	CS - OL 35	C-90	NP
50	CS - OL 50	C-90	NP
70	CS - OL 70	C-115	NP
95	CS - OL 95	C-115	NP
120	CS - OL 120	C-150	NP
150	CS - OL 150	C-200	NP
185	CS - OL 185	C-250	NP
235	CS - OL 235	2°C-150	NP
300	CS - OL 300	2°C-200	NP

CP - S



Sq. mm	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
10	CP-S 10/...	C - 15	NP
16	CP-S 16/...	C - 15	NP
25	CP-S 25/...	C - 25	NP
35	CP-S 35/...	C - 32	NP
50	CP-S 50/...	C - 45	NP
70	CP-S 70/...	C - 65	NP

CB - LT



Sq. mm	BUS BAR	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	20*3	CB-LT 35/20*3	C - 65	TCS - 80
50	20*3	CB-LT 50/20*3	C - 65	TCS - 80
70	40*3	CB-LT 70/20*3	C - 90	TCS - 80
95	40*3	CB-LT 95/20*3	C - 115	TCS - 80
35	20*5	CB-LT 35/20*5	C - 65	TCS - 80
50	20*5	CB-LT 50/20*5	C - 65	TCS - 80
70	60*5	CB-LT 70/20*5	C - 90	TCS - 80
95	60*5	CB-LT 95/20*5	C - 115	TCS - 80
95	40*10	CB-LT 95/40*10	C - 150	TCS - 80
120	40*10	CB-LT 120/40*10	C - 150	TCS - 80
150	40*10	CB-LT 150/40*10	C - 150	TCS - 80
185	60*10	CB-LT 185/40*10	C - 200	TCS - 80
235	60*10	CB-LT 235/40*10	C - 250	TCS - 80
300	60*10	CB-LT 300/40*10	C - 250	TCS - 80
95	80*10	CB-LT 95/80*10	C - 150	TCS - 80
120	80*10	CB-LT 120/80*10	C - 150	TCS - 80
150	80*10	CB-LT 150/80*10	C - 150	TCS - 80
185	80*10	CB-LT 185/80*10	C - 200	TCS - 80
235	80*10	CB-LT 235/80*10	C - 250	TCS - 80
300	80*10	CB-LT 300/80*10	C - 250	TCS - 80

RR - L



ROD	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
1	RR - L 1	C - 200	TCS - 80
2	RR - L 2	2*C - 150	TCS - 80

CB - I



Sq. mm	BUS BAR	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	20*3	CB-I 35/20*3	C - 45	TCS - 50
	20*3	CB-I 35/20*3	C - 45	TCS - 50
	25*3	CB-I 35/25*3	C - 45	TCS - 50
50	20*3	CB-I 50/20*3	C - 45	TCS - 80
	20*5	CB-I 50/20*5	C - 65	TCS - 80
	25*3	CB-I 50/25*3	C - 90	TCS - 80
70	25*3	CB-I 70/25*3	C - 65	TCS - 80
	25*5	CB-I 70/25*5	C - 90	TCS - 80
	30*3	CB-I 70/30*3	C - 90	TCS - 80
95	30*3	CB-I 95/30*3	C - 90	TCS - 80
	30*5	CB-I 95/30*5	C - 90	TCS - 80
	40*3	CB-I 95/40*3	C - 115	TCS - 80
120	30*5	CB-I 120/30*5	C - 115	TCS - 80
	40*3	CB-I 120/40*3	C - 115	TCS - 80
	40*5	CB-I 120/40*5	C - 115	TCS - 80
150	30*5	CB-I 150/30*5	C - 115	TCS - 80
	40*5	CB-I 150/40*5	C - 115	TCS - 80
	50*5	CB-I 150/50*5	C - 150	TCS - 80
185	40*5	CB-I 185/40*5	C - 150	TCS - 80
	50*5	CB-I 185/50*5	C - 200	TCS - 80
235	50*5	CB-I 235/50*5	2*C-150	TCS - 80
	60*5	CB-I 235/60*5	2*C-150	TCS - 100
300	60*5	CB-I 300/60*5	2*C-150	TCS - 100
	60*10	CB-I 300/60*10	2*C-200	TCS - 100

CB - T



Sq. mm	BUS BAR	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
35	20*2	CB-T 35/20*2	C - 45	TCS - 50
	20*3	CB-T 35/20*3	C - 45	TCS - 50
	25*3	CB-T 35/25*3	C - 65	TCS - 50
50	20*3	CB-T 50/20*3	C - 65	TCS - 80
	20*5	CB-T 50/20*5	C - 65	TCS - 80
	25*3	CB-T 50/25*3	C - 90	TCS - 80
70	25*3	CB-T 70/25*3	C - 90	TCS - 80
	25*5	CB-T 70/25*5	C - 115	TCS - 80
	30*3	CB-T 70/30*3	C - 115	TCS - 80
95	30*3	CB-T 95/30*3	C - 150	TCS - 80
	30*5	CB-T 95/30*5	C - 150	TCS - 80
	40*3	CB-T 95/40*3	C - 150	TCS - 80
120	30*5	CB-T 120/30*5	C - 200	TCS - 80
	40*3	CB-T 120/40*3	C - 200	TCS - 80
	40*5	CB-T 120/40*5	C - 200	TCS - 80
150	30*5	CB-T 150/30*5	C - 200	TCS - 80
	40*5	CB-T 150/40*5	C - 250	TCS - 80
	50*5	CB-T 150/50*5	2*C-150	TCS - 80
185	40*5	CB-T 185/40*5	C - 250	TCS - 80
	50*5	CB-T 185/50*5	2*C-150	TCS - 100
235	50*5	CB-T 235/50*5	2*C-150	TCS - 100
	60*5	CB-T 235/60*5	2*C-200	TCS - 100
300	60*5	CB-T 300/60*5	2*C-200	TCS - 100
	60*10	CB-T 300/60*10	2*C-250	TCS - 100

BB - I



BUS BAR	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
20*2 20*3 20*5	BB - I 20*2 BB - I 20*3 BB - I 20*5	C - 45 C - 45 C - 65	TCS - 50 TCS - 50 TCS - 50
25*3 25*5	BB - I 25*3 BB - I 25*5	C - 65 C - 90	TCS - 80 TCS - 80
30*3 30*5	BB - I 30*3 BB - I 30*5	C - 65 C - 115	TCS - 80 TCS - 80
40*3 40*5 40*10	BB - I 40*3 BB - I 40*5 BB - I 40*10	C - 90 C - 150 2*C-150	TCS - 80 TCS - 80 TCS - 80
50*5 50*10	BB - I 50*5 BB - I 50*10	C - 200 2*C-200	TCS - 80 TCS - 100
60*5 60*10	BB - I 60*5 BB - I 60*10	2*C-150 2*C-250	TCS - 100 TCS - 100
80*5 80*10	BB - I 80*5 BB - I 80*10	2*C-200 3*C-200	TCS - 100 TCS - 100

BB - L



BUS BAR	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
20*2 20*3 20*5	BB - L 20*2 BB - L 20*3 BB - L 20*5	C - 65 C - 65 C - 90	TCS - 50 TCS - 50 TCS - 50
25*3 25*5	BB - L 25*3 BB - L 25*5	C - 90 C - 115	TCS - 80 TCS - 80
30*3 30*5	BB - L 30*3 BB - L 30*5	C - 115 C - 150	TCS - 80 TCS - 80
40*3 40*5 40*10	BB - L 40*3 BB - L 40*5 BB - L 40*10	C - 150 C - 200 2*C-150	TCS - 80 TCS - 80 TCS - 80
50*5 50*10	BB - L 50*5 BB - L 50*10	C - 250 2*C-200	TCS - 80 TCS - 100
60*5 60*10	BB - L 60*5 BB - L 60*10	2*C-150 2*C-250	TCS - 100 TCS - 100
80*5 80*10	BB - L 80*5 BB - L 80*10	2*C-200 3*C-200	TCS - 100 TCS - 100

BB - V



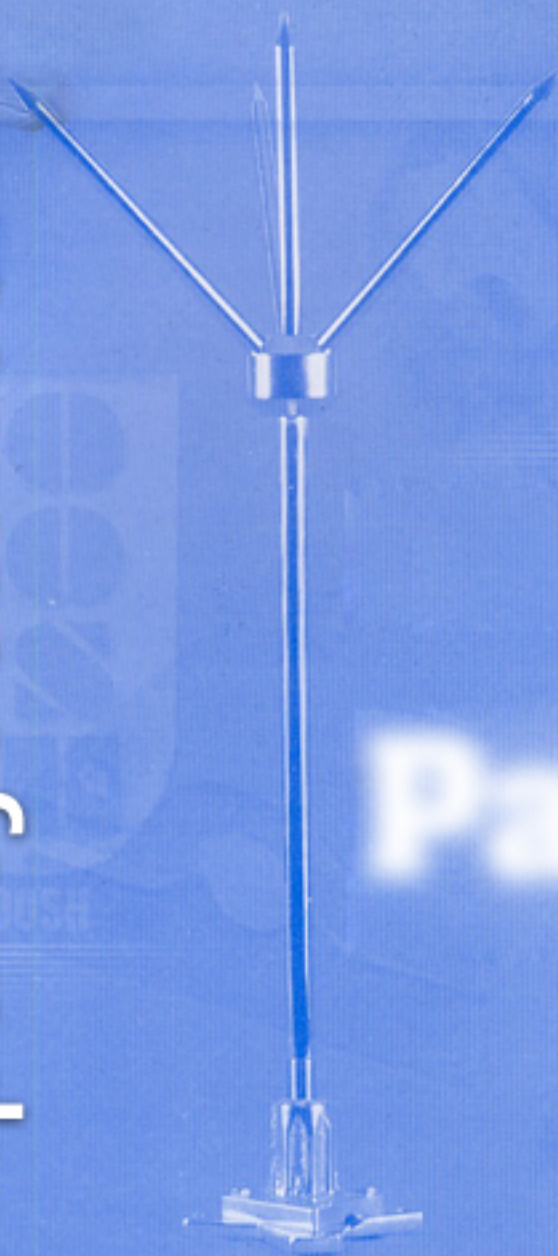
BUS BAR	MOULD TYPE	CARTRIDGE	HANDEL CLAMP
20*2 20*3 20*5	BB - V 20*2 BB - V 20*3 BB - V 20*5	C - 45 C - 45 C - 65	TCS - 50 TCS - 50 TCS - 50
25*3 25*5	BB - V 25*3 BB - V 25*5	C - 65 C - 90	TCS - 80 TCS - 80
30*3 30*5	BB - V 30*3 BB - V 30*5	C - 90 C - 115	TCS - 80 TCS - 80
40*3 40*5 40*10	BB - V 40*3 BB - V 40*5 BB - V 40*10	C - 115 C - 150 C - 250	TCS - 80 TCS - 80 TCS - 80
50*5 50*10	BB - V 50*5 BB - V 50*10	C - 200 2*C-200	TCS - 80 TCS - 100
60*5 60*10	BB - V 60*5 BB - V 60*10	2*C-150 2*C-250	TCS - 100 TCS - 100
80*5 80*10	BB - V 80*5 BB - V 80*10	2*C-200 3*C-200	TCS - 100 TCS - 100
100*5 100*10	BB - V 100*5 BB - V 100*10	2*C-250 3*C-250	TCS - 100 TCS - 100

BB - T



BUS BAR		MOULD TYPE	CARTRIDGE	HANDEL CLAMP
Main	Tap			
20*2 20*3 20*5	20*2 20*3 20*5	BB - T 20*2 BB - T 20*3 BB - T 20*5	C - 45 C - 45 C - 65	TCS - 50 TCS - 50 TCS - 50
25*3 25*5	25*3 25*5	BB - T 25*3 BB - T 25*5	C - 65 C - 90	TCS - 80 TCS - 80
30*3 30*5	30*3 30*5	BB - T 30*3 BB - T 30*5	C - 65 C - 115	TCS - 80 TCS - 80
40*3 40*5 40*10	40*3 40*5 40*10	BB - T 40*3 BB - T 40*5 BB - T 40*10	C - 90 C - 115 2*C-150	TCS - 80 TCS - 80 TCS - 80
50*5 50*10	50*5 50*10	BB - T 50*5 BB - T 50*10	C - 200 2*C-200	TCS - 80 TCS - 100
60*5 60*10	60*5 60*10	BB - T 60*5 BB - T 60*10	2*C-150 2*C-250	TCS - 100 TCS - 100
80*5 80*10	80*5 80*10	BB - T 80*5 BB - T 80*10	2*C-200 3*C-200	TCS - 100 TCS - 100

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