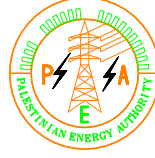


Rehabilitation of Electricity Power Distribution Network in three areas in the Gaza strip (GS)



من الشعب الياباني
From the People of Japan



50
YEARS

Empowered lives. Resilient nations.

Bill of Quantity : Package1 - Lot 4 - Supply of Switches and Accessories

Bill of Quantity : Package1 - Lot 4

Supply the listed below items (Switches and Accessories)

Item	Description	Unit	Quantity	Unit Rate (US\$)	Total Cost (US\$)
	<p>The Contract entails supply of the listed below items (22 kV Distribution Line & 0.4 kV Low Voltage Electrical Components)</p> <p>All Materials must Adhere to technical specifications and drawings as per the international standards subject to engineer's approval.</p> <p>All items will be approved through submittal of material approval from substantiated by brochures , factory specifications and sample according to approved material supply schedule.</p>				
C1	M.V Isolating Switch				
C1.1	36 kV, 3Phase Switch Disconnecter with built-in arc interrupter , Complete including Key Lock , (According to the M.V Switches General Specifications and Technical Guarantees No.IS_36)	No.	30		
Total of M.V Isolating SwitchCarried to the main summary					
C2	L.V Disconnecter				
C2.1	LTL Horizontal NH Fuse-Switch Disconnecter with Fuse Base 630 A including Cabinet, Cables and 355A Fuses , (According to the Technical Guarantees No. LTL_630B)	No.	90		
Total of L.V Manual DisconnecterCarried to the main summary					
E1	Fuse Holders , Fuses and Surge Arrestors				
E1.1	Fuse Holder Model , K1750/1 Include Surge Arrestors (Set for three Phase) , (According to the Technical Guarantees No. FH_1750_1)	Set	30		
E1.2	22 kV Glass Fuse 35 A , (According to the Technical Guarantees No. GF_35)	No.	60		
E1.3	22 kV Glass Fuse 50 A , (According to the Technical Guarantees No. GF_50)	No.	36		
E1.4	Outdoor Metal Oxide Surge Arrestor M.C.O.V 19.5 KV with Ground Lead Disconnecter included Brackets and Cable (Set for one Phase) , (According to Surge Arrestor General Specifications and Technical Guarantees No. SA_19)	No.	120		
Total of Fuse Holders , Fuses and Surge ArrestorsCarried to the main summary					

Bill of Quantity : Package1 - Lot 4

Supply the listed below items (Switches and Accessories)

Item	Description	Unit	Quantity	Unit Rate (US\$)	Total Cost (US\$)
E2	Insulators				
E2.1	Suspension Polymeric Composite Pin Insulator , Min. Creepage Distance 800 mm (Set for one Phase) , (According to Insulators General specifications and Technical Guarantees No. PPYI_800)	Set	170		
E2.2	22kv Toughened Tension Glass Disk Insulator with Ball and Socket with Creepage Distance 320 mm , (According to Insulators General specifications and Technical Guarantees No. GDI_320)	No.	170		
E2.3	Tension Polymeric Composite Insulator , with Ball and Socket with Min. Creepage Distance 1050 mm , (According to Insulators General specifications and Technical Guarantees No. TPYI_1050)	Set	33		
E2.4	Fork Ball Hook 16mm (SOCKET EYES-TYPE-A) , (According to the Technical Guarantees No. FBH_16)	No.	33		
E2.5	Steel Twisted Clamp with Ball Eyes K151/11 , (According to the Technical Guarantees No. STC_151)	Set	33		
E2.6	Strain Thimbles with Socket (Half Moon Clamp) , (According to the Technical Guarantees No. HMC_01)	No.	65		
E2.7	Low Tension Shackle Insulator Unit Complete for Earth line , Including Hot Galvanized Steel Bolt ,Washer ,Nut to Connect with the Pole (According to Insulators General specifications and Technical Guarantees No. LTPI_01)	Unit	40		
Total of InsulatorsCarried to the main summary					
E3	Clamps				
E3.1	Strain Clamp for ACSR Wire 150/25 mm ² , (According to Overhead line General specifications and Technical Guarantees No. SCT_150)	No.	33		
E3.2	Aluminium Dead End Clamp , 50/70 mm ² , (According to Overhead line General specifications and Technical Guarantees No. ADEC_70)	No	30		
E3.3	Copper Parallel Groove Clamp 10-95 mm ² / 10-95 mm ² , (According to Overhead line General specifications and Technical Guarantees No. .CPGC_95)	No	230		
E3.4	Copper Split-Bolt Connector with Hexagonal Head For Conductor 6/35 mm ² CU , (According to Overhead line General specifications and Technical Guarantees No. No. SBC_35)	No.	80		

Bill of Quantity : Package1 - Lot 4

Supply the listed below items (Switches and Accessories)

Item	Description	Unit	Quantity	Unit Rate (US\$)	Total Cost (US\$)
E3.5	Aluminium Parallel Groove Clamp 16-120 mm2 / 16-120 mm2 , (According to Overhead line General specifications and Technical Guarantees No. APMC_120)	No.	90		
E3.6	Aluminium Parallel Groove Clamp 16-70 mm2 / 16-70 mm2 , (According to Overhead line General specifications and Technical Guarantees No. APMC_70)	No.	35		
E3.7	Aluminium Parallel Groove Clamp 35-300 mm2 / 35-300 mm2 , (According to Overhead line General specifications and Technical Guarantees No. APMC_300)	No	200		
E3.8	Bimetallic Parallel Groove Clamp 35-185 mm2 AL /35-185 mm2 CU , (According to Overhead line General specifications and Technical Guarantees No. BPMC_185)	Pcs	40		
E3.9	Tension Clamp for ABC AL Cable with insulated Neutral Messenger 1x95 mm2 , (According to ABC Accessories General Specifications and Technical Guarantees No. ABT_95)	Pcs	250		
E3.10	Suspension Clamp for ABC AL Cable with insulated Neutral Messenger 1x95 mm2 , (According to ABC Accessories General Specifications and Technical Guarantees No. ABS_95)	Pcs	160		
E3.11	Tap Connector 25-95/25-95 mm2 for ABC Cable , (According to ABC Accessories General Specifications and Technical Guarantees No. TAB_95)	No	50		
E3.12	Tap Connector 35-150/35-150 mm2 for ABC Cable , (According to ABC Accessories General Specifications and Technical Guarantees No. TAB_150)	No	250		
E3.13	ABC Cables Insulation Piercing type Connectors with Simultaneous 35/150 - 6/35 mm2 , (According to ABC Accessories General Specifications and Technical Guarantees No. PTAB_150)	Pcs	50		
E3.14	Sealing Cap for ABC Cable 150 mm2 , (According to ABC Accessories General Specifications and Technical Guarantees No. EC_150)	No	200		
E3.15	Sealing Cap for ABC Cable 95 mm2 , (According to ABC Accessories General Specifications and Technical Guarantees No. EC_95)	No	100		
E3.16	Sealing Cap for ABC Cable 25 mm2 , (According to ABC Accessories General Specifications and Technical Guarantees No. EC_25)	No	150		
	Total of ClampsCarried to the main summary				

Bill of Quantity : Package1 - Lot 4

Supply the listed below items (Switches and Accessories)

Item	Description	Unit	Quantity	Unit Rate (US\$)	Total Cost (US\$)
E4	Compression Lugs				
E4.1	Compression Terminal Lug For 35 mm ² CU With 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLC_35)	No	750		
E4.2	Compression Terminal Lug For 70 mm ² CU With 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLC_70)	No	200		
E4.3	Compression Terminal Lug For 95 mm ² CU With 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLC_95)	No	10		
E4.4	Aluminium Compression Terminal Lug For 70 mm ² AL With 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLA_95)	Pcs	40		
E4.5	Aluminium/Copper Compression Terminal Lug For 70 mm ² AL with 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLAC_70)	No	90		
E4.6	Aluminium/Copper Compression Terminal Lug For 95 mm ² AL with 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLAC_95)	No	100		
E4.7	Aluminium/Copper Compression Terminal Lug For 150 mm ² AL with 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLAC_150)	No	270		
E4.8	Aluminium/Copper Compression Terminal Lug For 185 mm ² AL with 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. CLAC_185)	No	40		
E4.9	24kv Mechanical lug with Shear-Head Bolts 95-240 mm ² for AL & Cu Conductors with 13 mm Hole , (According to Overhead line General specifications and Technical Guarantees No. BTL_240)	Pcs	25		
E4.10	24 Kv Mechanical Lug with Shear Head Screw For 185-400 mm ² CU or AL Conductors , (According to Overhead line General specifications and Technical Guarantees No. BTL_400)	Pcs	25		
E4.11	24 Kv Mechanical Lug with Shear Head Screw For 500-630 mm ² CU or AL Conductors , (According to Overhead line General specifications and Technical Guarantees No. BTL_630)	Pcs	10		
Total of Compression LugsCarried to the main summary					

Bill of Quantity : Package1 - Lot 4

Supply the listed below items (Switches and Accessories)

Item	Description	Unit	Quantity	Unit Rate (US\$)	Total Cost (US\$)
E5	Earthing				
E5.1	Earth Rod 15mm Diameter 1.5 m Long , (According to the Technical Guarantees No. ER_15)	No	200		
E5.2	Earth Rod Connection Clamp , (According to the Technical Guarantees No. ERC_15)	No	100		
E5.3	Earth Rod Joint 15 mm Diameter , (According to the Technical Guarantees No. ERJ_15)	No	120		
	Total of Earthing & StayCarried to the main summary				
E6	Accessories				
E6.1	Cable Clamp to Fastening of single-conductor cable (Cable Outer Dia. 26-38 mm) , (According to the Technical Guarantees No. CC_51)	Pcs	220		
E6.2	Cable Clamp to Fastening of single-conductor cable (Cable Outer Dia. 36-52 mm) , (According to the Technical Guarantees No. CC_52)	Pcs	50		
E6.3	Cable Clamp to Fastening of single-conductor cable (Cable Outer Dia. 50-80mm) , (According to the Technical Guarantees No. CC_80)	Pcs	50		
E6.4	Flame Retardant Heat Shrinkable Tube 39/13 mm Color , (According to the Technical Guarantees No. HST_39)	m	100		
E6.5	Flame Retardant Heat Shrinkable Tube 50/16 mm , (According to the Technical Guarantees No. HST_50/16)	m	50		
E6.6	Stainless Steel Band 12.7mm width , (According to the Technical Guarantees No. STB_204)	m	250		
E6.7	Stainless Steel Ear-Lokt Buckle 12.7mm width , (According to the Technical Guarantees No. STB_254)	No	250		
E6.8	Low Density Polyethylene Warning Tape (250 m Long) , (According to the Technical Guarantees No. WT_250)	Roll	50		
	Total of AccessoriesCarried to the main summary				

Bill of Quantity : Package1 - Lot 4

Supply the listed below items (Switches and Accessories)

Item	Description	Unit	Quantity	Unit Rate (US\$)	Total Cost (US\$)
<i>C1</i>	Total of M.V Isolating Switch				
<i>C2</i>	Total of L.V Manual Disconnecter				
<i>E1</i>	Total of Fuse Holders , Fuses and Surge Arrestors				
<i>E2</i>	Total of Insulators				
<i>E3</i>	Total of Clamps				
<i>E4</i>	Total of Compression Lugs				
<i>E5</i>	Total of Earthing				
<i>E6</i>	Total of Accessories				
	Transportation of goods to Gaza area (GEDCO Warehouses)				
	Total Total EXCLUDING VAT (US\$)				

NET TOTAL SUM EXCLUDING VAT (in words) :

SIGNED AND SEALED :

AUTHORIZED :

TITLE :

SIGNATURE :

DATE :

	Transportation items:(Optional)	QTY	Total in US\$
1.1	Transportation of goods to Toulkarem area	job	
1.2	Transportation of goods from Toulkarem to Gaza.	job	

Technical Guarantees No. IS_36**36 Kv, 3-phase Outdoor Isolating Switch With Built-In Arc Interruption**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Standards		IEC60129 & IEC60265-1			
4	Rated Voltage	kV	36			
5	Design and Operating		Manual Isolating Switch under load having capability of frequent switching			
6	All Ferrous Parts Material		Hot Galvanized Steel			
7	Pole No.		3			
8	Safe Operating Zone Temperature	°C	-10 to +55			
9	Rated Frequency	Hz	50			
10	Arc Interruption					
	Name of Manufacturer					
	Country of Origin					
	Type		Heavy Duty			
	Operating		without an External Arc or Flame Conforming to IEC 60265			
	Installation		Hard Fixed and not Able to Rotate			
11	Insulators					
	Name of Manufacturer					
	Country of Origin					
	a) Material		Polymer			

Technical Guarantees No. IS_36**36 Kv, 3-phase Outdoor Isolating Switch With Built-In Arc Interruption**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
	b) Creepage Distance	mm	1050			
12	Continuous Current Capacity	A	630			
13	Rated Peak withstand Current	KA	31.5			
14	Rated Short Time Current (1 sec Duration)	KA	12.5			
15	Rated Lightning Impulse withstand Voltage					
	a) Standard Impulse with Stand Voltage to Earth (1.2/50 μ s Full Wave)	kV	170			
	b) Between Poles Across Isolating Distance	kV	190			
16	Rated One Minute Power Frequency withstand Voltage in Dry and Wet Conditions					
	a) Power Frequency Test Voltage to Earth	kV	75			
	b) Between Poles Across Isolating Distance	kV	100			
17	Minimum Clearance Between Phase and earth	mm	shall be filled by manufacturer			
18	Minimum Clearance Between Phases	mm	shall be filled by manufacturer			
19	Mechanical Operations	C/O	≥ 1000			
20	Electrical Operations Under 400A load	C/O	shall be filled by manufacturer			
21	Short Circuit Electrical Operations	C/O	shall be filled by manufacturer			
22	Installation and operating accessories		Required			
23	Hardened Steel Key Lock with master Key for isolating switch hand					
23.1	Key Lock Body		Hard Steel			

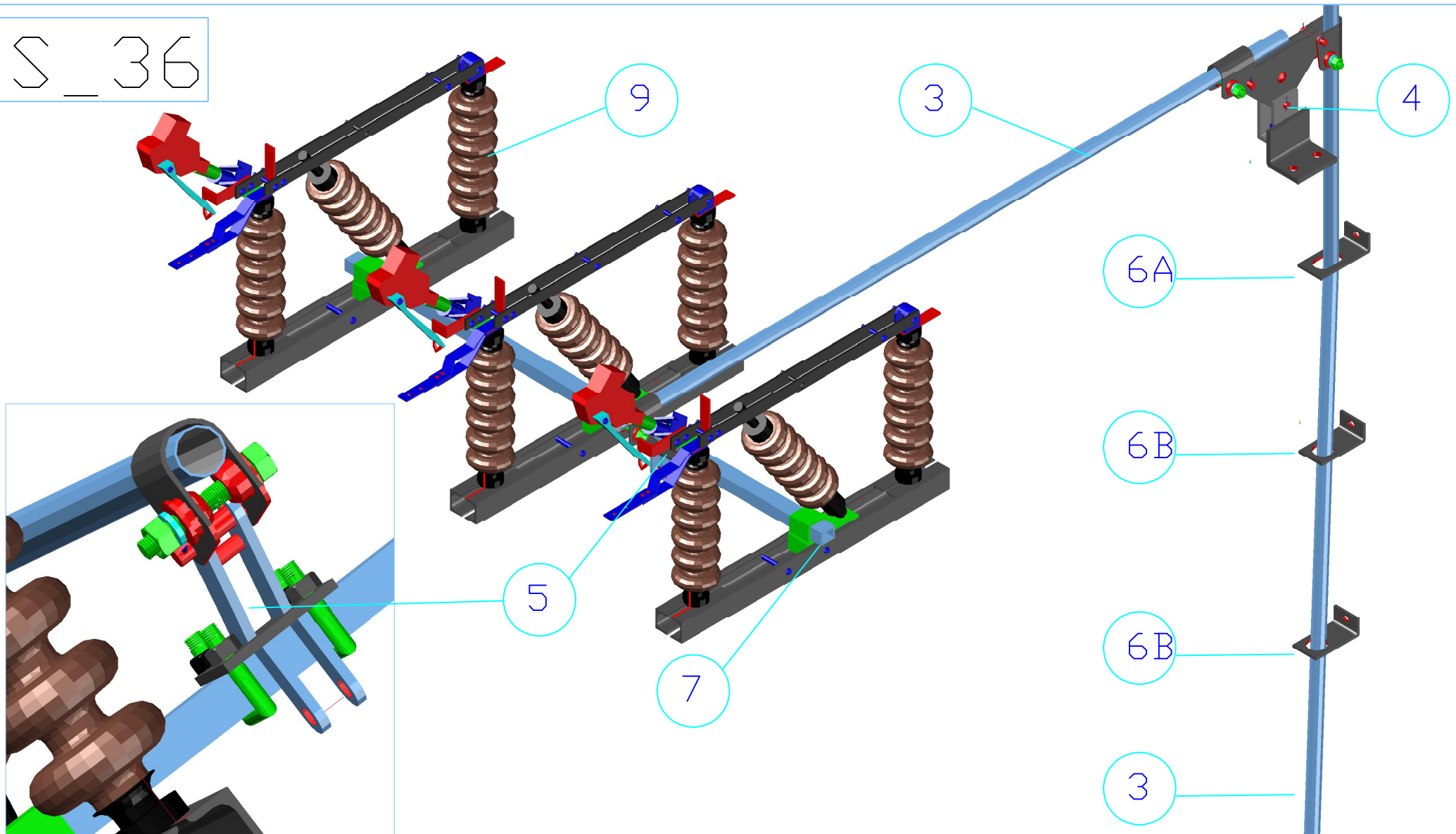
Technical Guarantees No. IS_36**36 Kv, 3-phase Outdoor Isolating Switch With Built-In Arc Interruption**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
23.2	Lock U-Shackle Material		Boron-steel alloy			
23.3	Cylinder Mechanism		High precision telescopic pin tumbler system. Pick and drill resistant for high security needs			
23.4	Lock U-Shackle Dimension		40 mm, Ø10			
23.5	Master Key		included			
24	Type Test Certificates/Reports from internationally reputed testing agency (According IEC 694 and IEC 265-1)		Required			
25	Routine tests		Required			
26	Switch Parts, Accessories and All Dimensions		As Attached Drawing No IS_36			

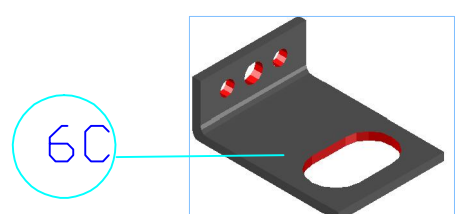
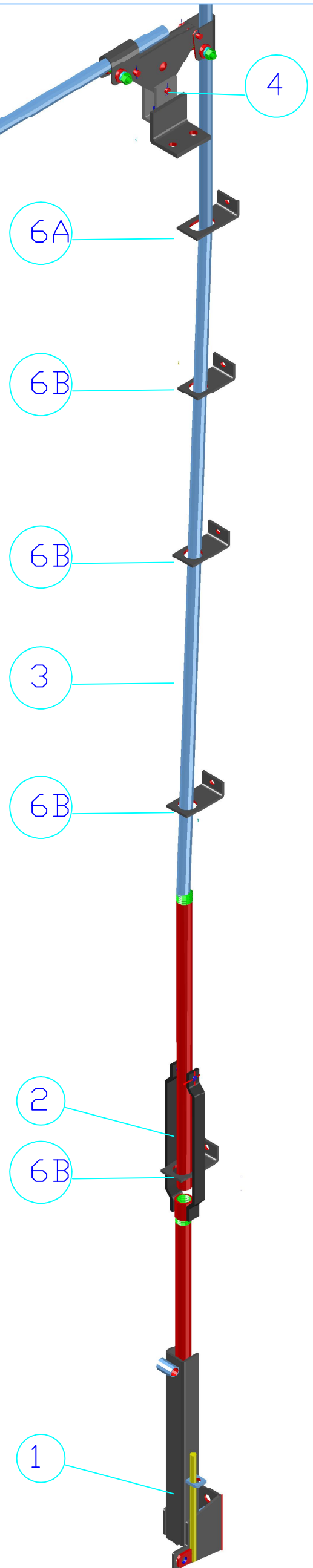
Tenderer's Signature :

Date:

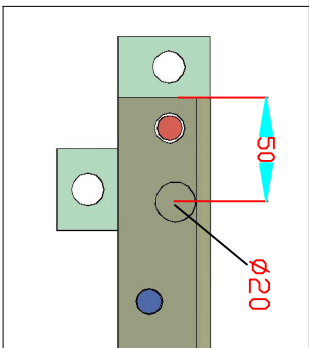
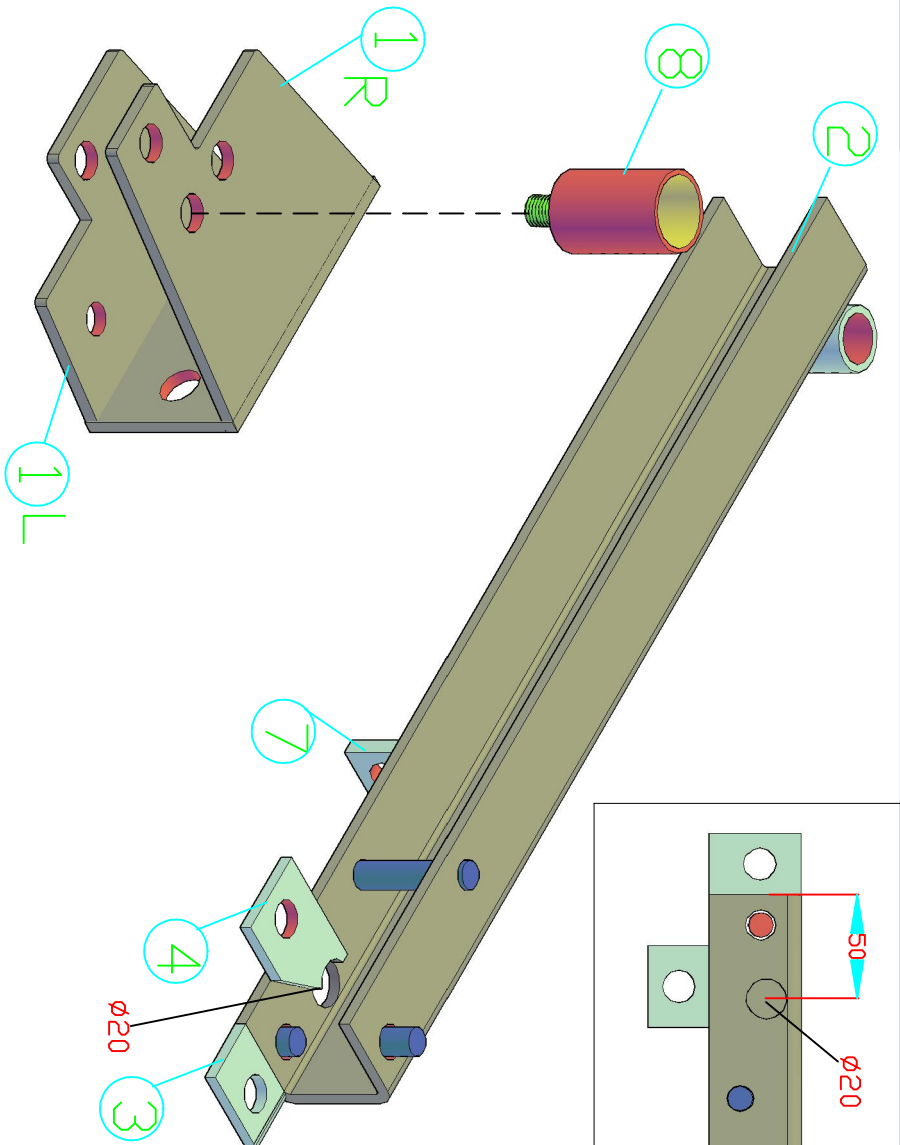
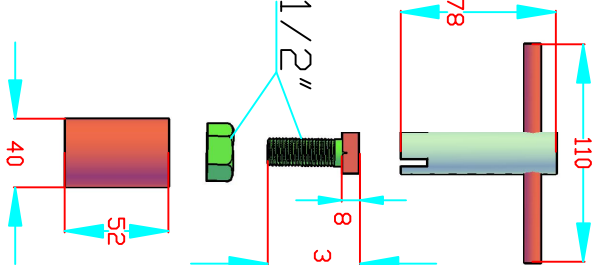
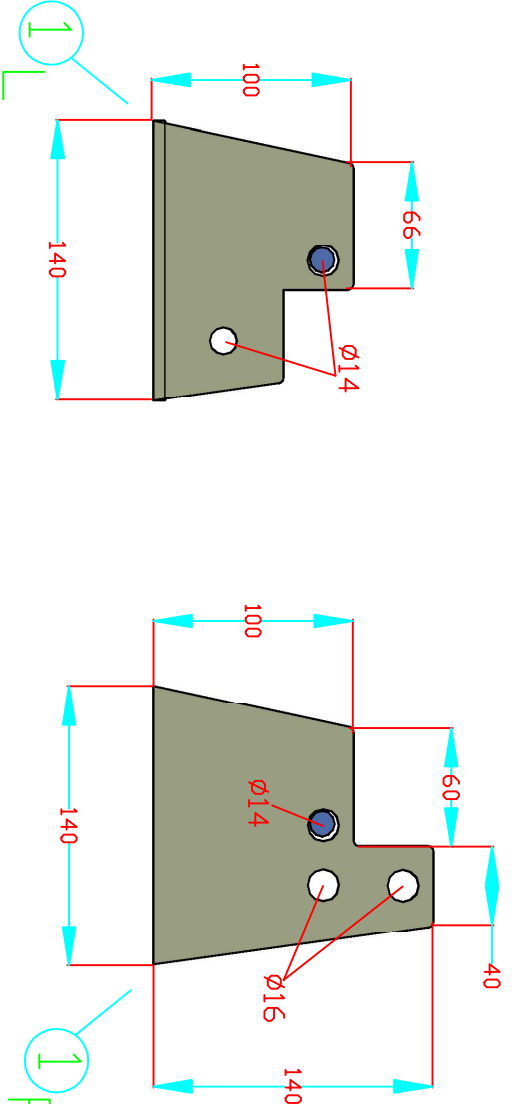
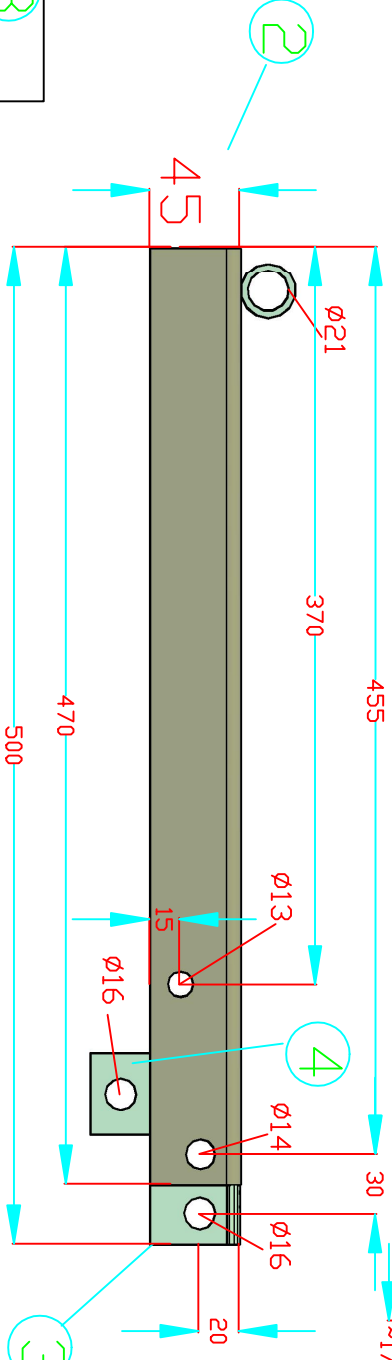
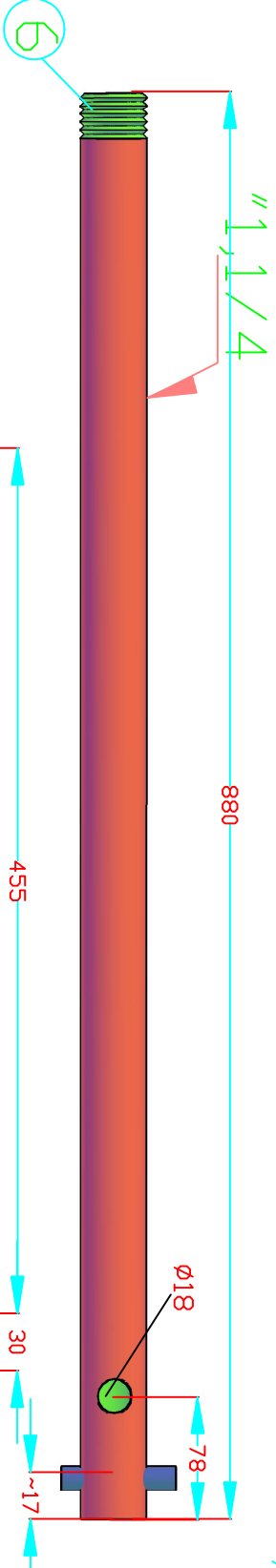
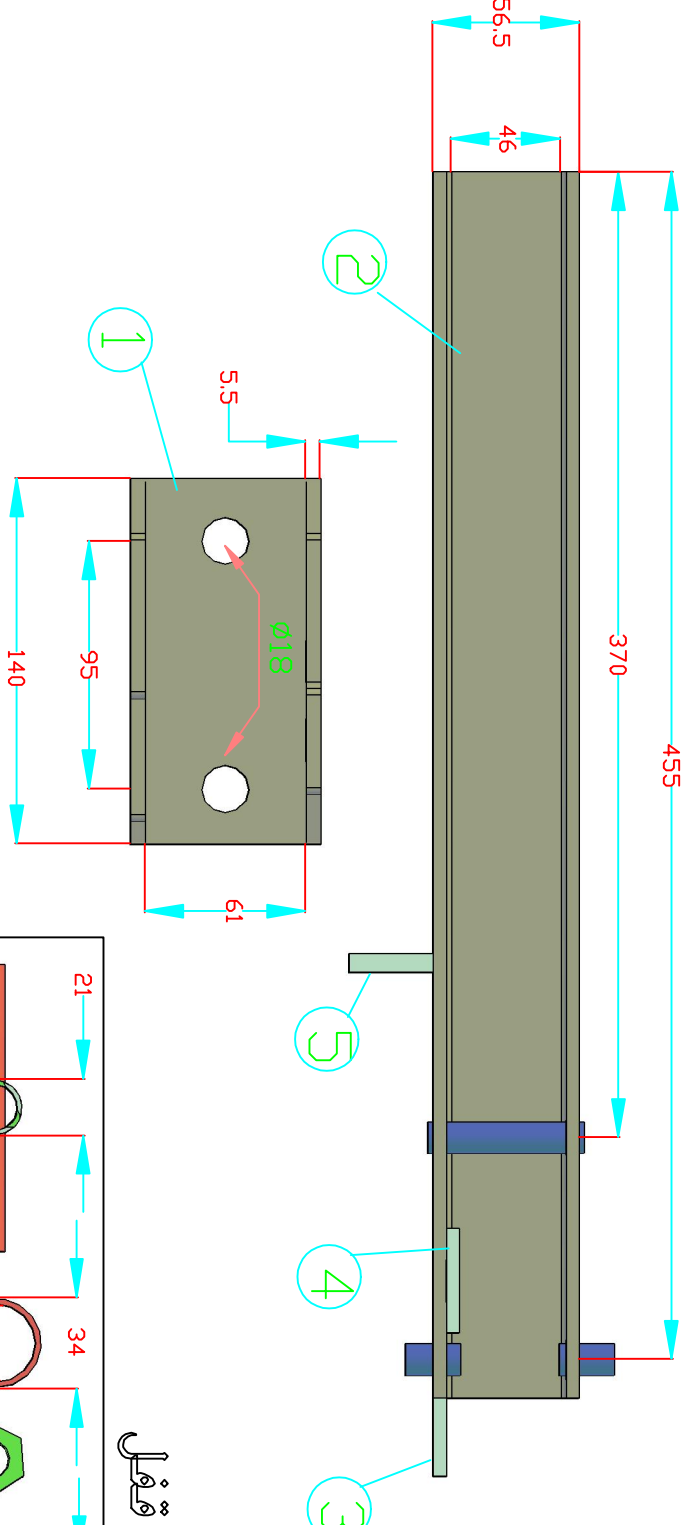
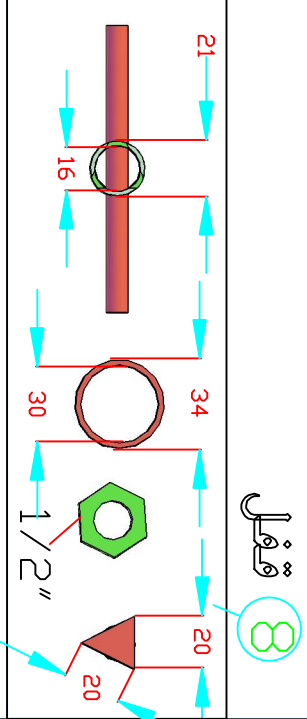
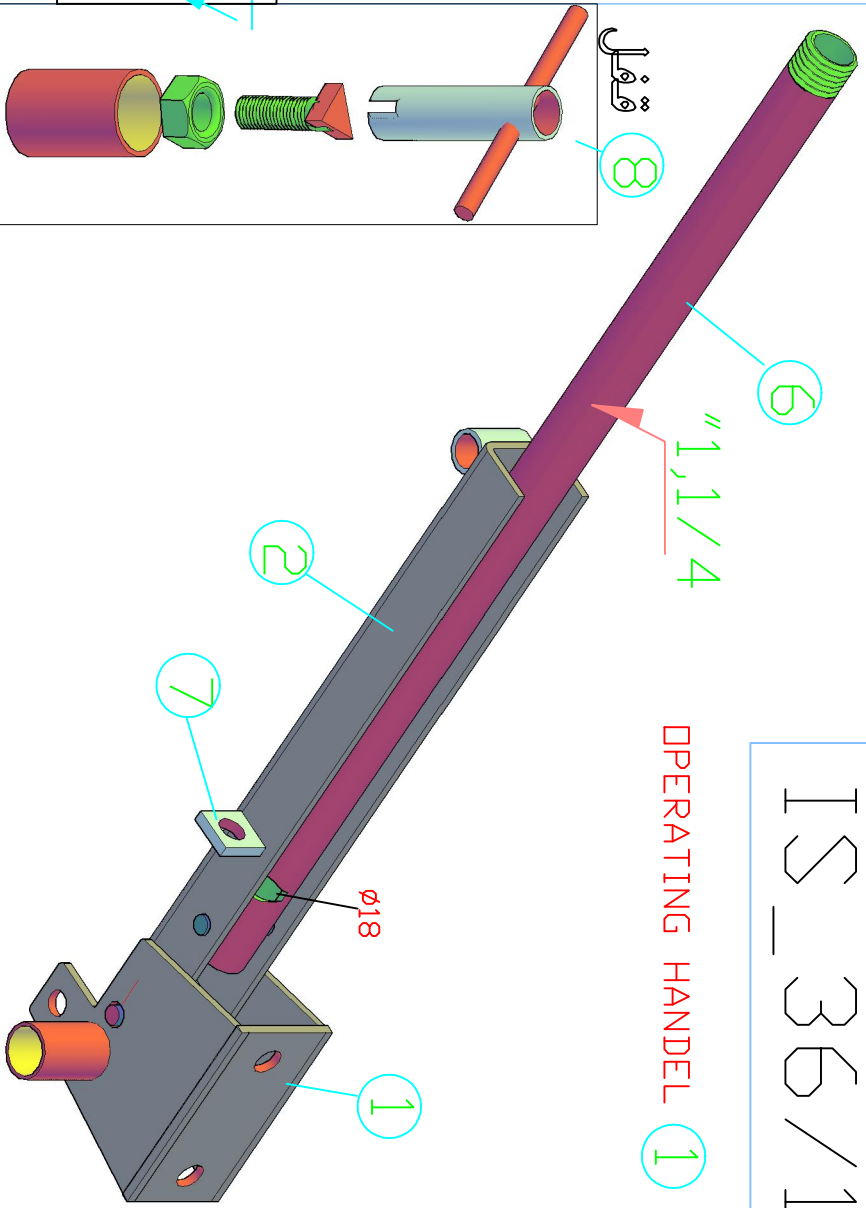
IS_36



Itm	Description	Q.
1	Operating Handle	1
2	Adjusting Device	1
3	Glav. operating Pipe 1 1/4"	12m
4	Crank	1
5	Control Operating Lever	1
6A	Pipe guide model A	1
6B	Pipe guide model B	4
6C	Pipe guide model C	1
7	Interphase Shaft 35*35*3.5mm	3m
8	'U' Bolt Clamps 1/2"	12
9	36Kv Insulator Polymer	9



OPERATING HANDEL 1



شركة توزيع كهرباء محافظات غزة

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Prepared: Eng. and Al-Hussaini

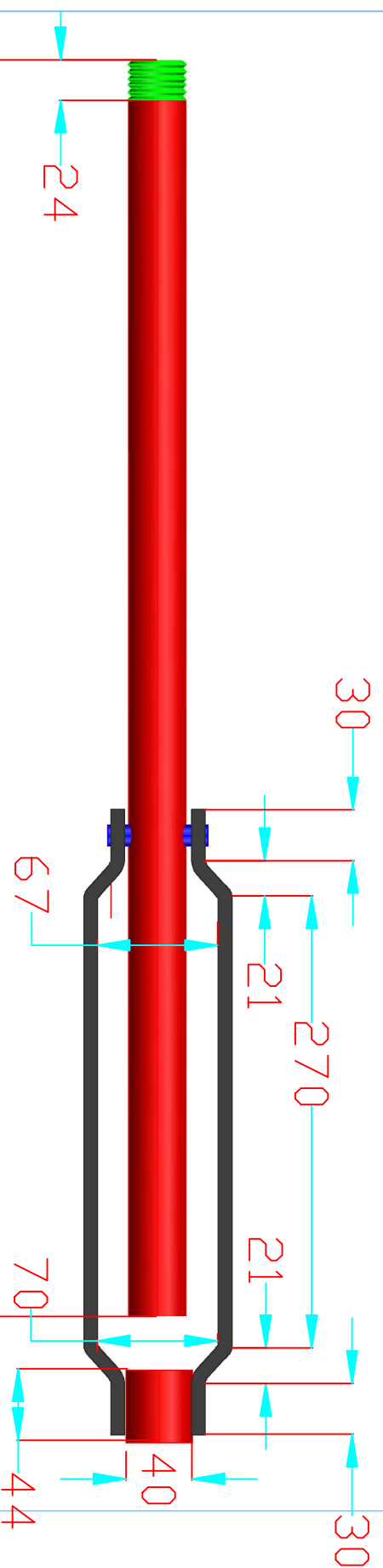
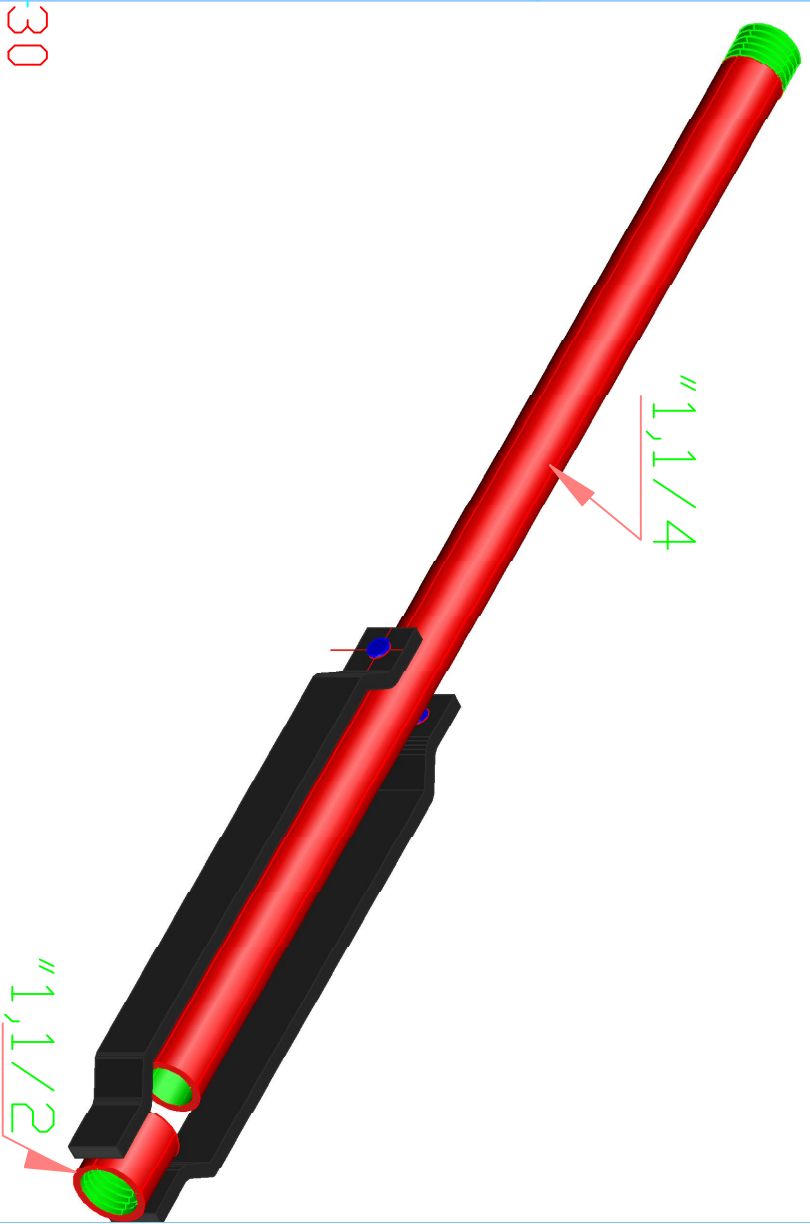
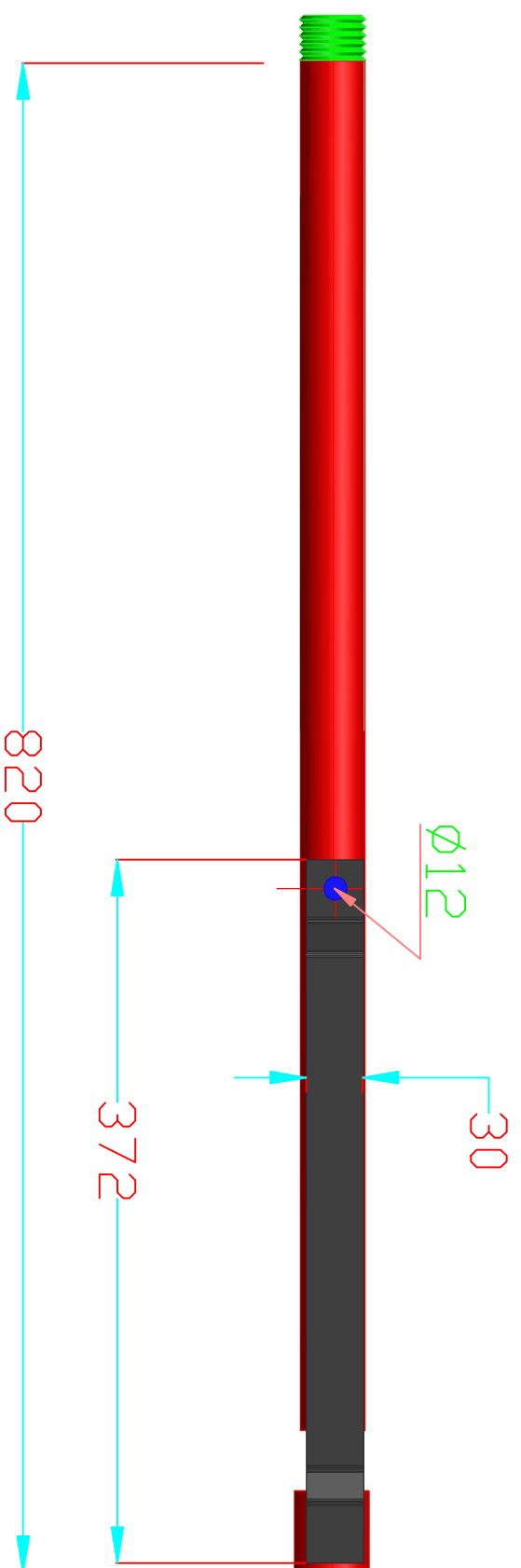
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OPERATING HANDEL

IS_36/2

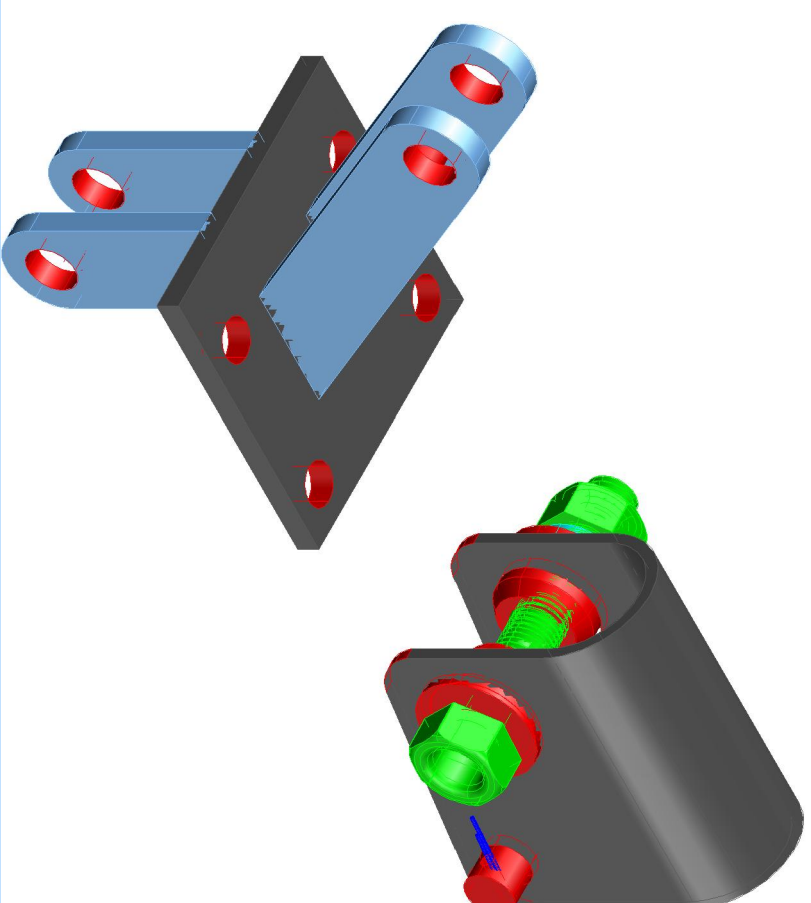
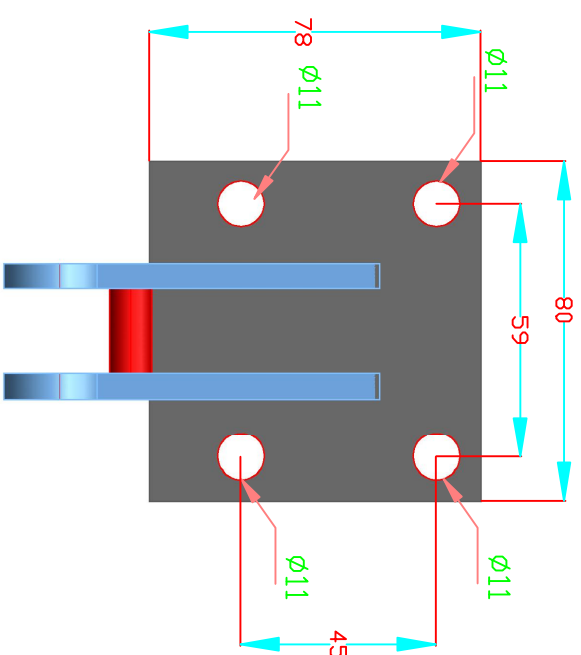
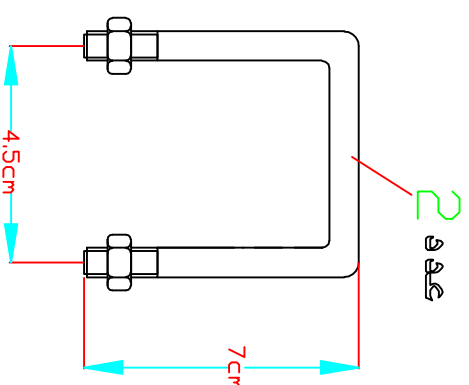
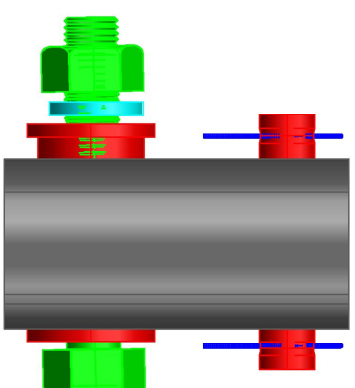
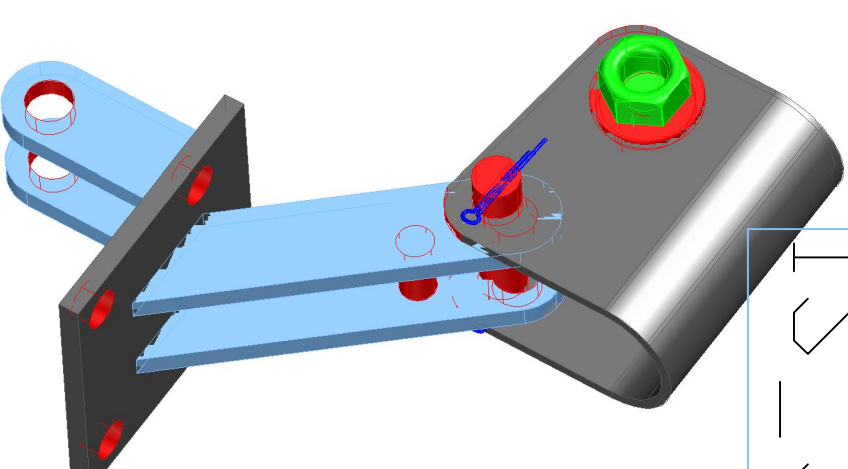
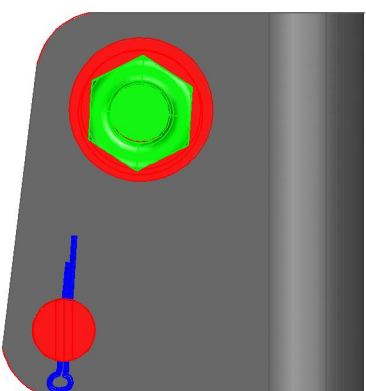
ADJUSTING DEVICE

2



Prepared By: Eng. Ahmed Al-Hussaini
Checked By: Eng. Kamel Rashed

ADJUSTING DEVICE



Control Operating lever



مركز الدراسات والبحوث
MARC

01106

Prepared: Eng.riad AL-Hussaini

Checked By: Eng. Karim Rabab

Technical Guarantees No. LTL_630B**LTL Horizontal NH Fuse-Switch Disconnecter with Fuse Base 630 A including Cabinet, Cables and 355A Fuses**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	NH Fuse-Switch Disconnecter					
1.1	Name of Manufacturer		Jean Muller or Equivalent			
1.2	Country of Origin					
1.3	Reference Manufacturing Standards		IEC 60947-3 and IEC 60269			
1.4	Utilization Category		AC 22A or AC22B			
1.5	Material		Resistant to Abnormal heat and Non Flammable			
1.6	Poles No		3 Pole			
1.7	Rated Operation Voltage	V	500			
1.8	Rated Insulation Voltage	V	800-1000			
1.9	Rated Impulse Withstand Voltage	kV	8			
1.10	Rated Conventional Free Air Thermal Current With Fuses	A	630			
1.11	Minimum Rated Conventional Free Air Thermal Current With Solid Link	A	630			
1.12	Permissible Power Loss Per Fuse Link	Watt				
1.13	Rated conditional short-circuit current with Fuse Links	kA	80			
1.14	Rated Frequency	Hz	50			
1.15	Rated Operation Mode		Continuous			
1.16	Mechanical Life	Operation				

Technical Guarantees No. LTL_630B**LTL Horizontal NH Fuse-Switch Disconnecter with Fuse Base 630 A including Cabinet, Cables and 355A Fuses**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1.17	Electrical Life	Operation				
1.18	Safe Operating Zone Temperature	°C	-10 to +55			
1.19	Switch Protection Degree		IP20			
1.20	Base Casting		The Bases shall be non-inflammable, non-hygroscopic and manufactured from high grade Ceramic			
1.21	Contacts		The Current carrying parts of the holders shall made from precisely pressed copper/brass material and have extruded brass base contacts			
2	Cables					
2.1	Name of Manufacturer					
2.2	Country of Origin					
2.3	Reference Manufacturing Standards		IEC60228, IEC60502-1			
2.4	Rated Voltage	KV	0.6/1			
2.5	Type		Single Core			
2.6	Conductor		Stranded Compacted Circular Copper 1x185 mm ² (N2X2Y)			

Technical Guarantees No. LTL_630B**LTL Horizontal NH Fuse-Switch Disconnecter with Fuse Base 630 A including Cabinet, Cables and 355A Fuses**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
2.7	Insulation Material		Cross Linked Polyethylene (XLPE)			
2.8	Over Sheath Material		LDPE ST7 with Chemical			
2.9	Nominal Insulation thickness	mm	1.6			
2.10	Nominal Sheath thickness	mm	1.8			
2.11	Cables No x Length		4 x 3.75m			
3	Cable Termination Lugs					
3.1	Name of Manufacturer					
3.2	Country of Origin					
3.3	Reference Manufacturing Standards		DIN 46235			
3.4	Description		Copper Compression Lug with 13mm Hole			
3.5	Material		E-Cu, DIN 40500/2, F-25			
3.6	Surface		Tin-plated			
3.7	Conductor Cross Section	mm ²	185			
3.8	Number of Termination Lugs		8			
4	Cabinet					
4.1	Name of Manufacturer					
4.2	Country of Origin					

Technical Guarantees No. LTL_630B**LTL Horizontal NH Fuse-Switch Disconnecter with Fuse Base 630 A including Cabinet, Cables and 355A Fuses**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
4.3	Reference Manufacturing Standards					
4.4	Material		Steel			
4.5	Minimum Sheet Thickness	mm	2			
4.6	Coating		Corrosion Resistance Electrostatic Powder Coated			
4.7	Door Protection		Rubber Seal			
4.8	Protection Degree		IP65			
4.9	Dimensions		As Attached Drawing			
5	HRC Fuses:					
5.1	Name of Manufacturer					
5.2	Country of Origin					
5.3	Standards		IEC 60269-1 , DIN 0636-2			
5.4	Fuses No		3			
5.5	Rated current	A	355			
5.6	Utilization category		„gG“			
5.7	Type		Blade Contacts NH2			
5.8	Rated Operation Voltage	V	500			
5.9	rated breaking capacity AC	KA	120			
5.10	Rated Frequency	Hz	50			
5.11	Fuse Element Construction		Silver Plated Copper			
5.12	Design		Resistant to rusting			

Technical Guarantees No. LTL_630B**LTL Horizontal NH Fuse-Switch Disconnecter with Fuse Base 630 A including Cabinet, Cables and 355A Fuses**

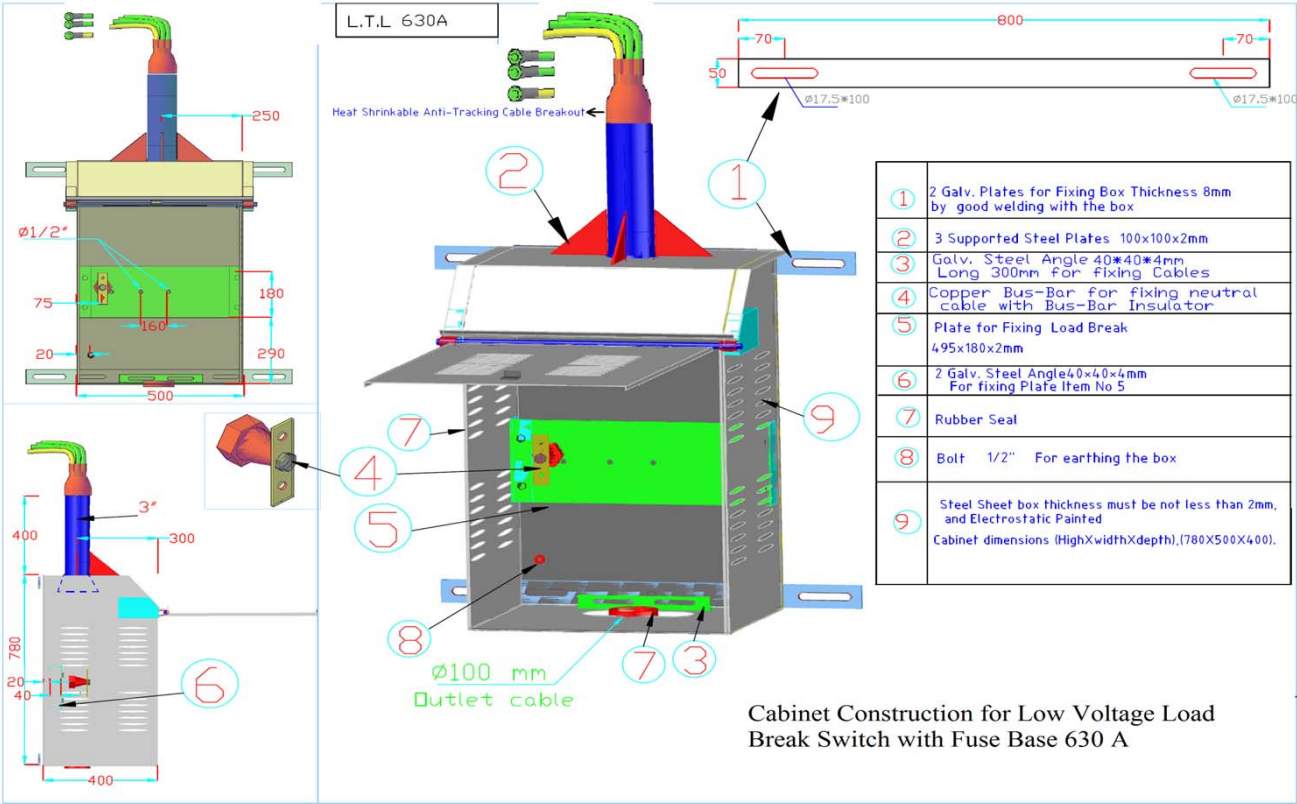
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
5.13	Power losses	Watt				
5.14	Current value, which is expected to burn Fuses	A				

6	Additional equipment & fittings:					
6.1	Neutral Link		Required			
6.2	Terminal Covers		Required			
6.3	Fuse Link Covers		Required			
6.4	2 Heat Shrinkable Anti-Tracking Cable Breakout (4" 4 outlet)		Required			
6.5	Rubber Seal Mounted to Protect Outlet Cables (Mounted in under hole of Cabinet)		Required			

Technical Guarantees No. LTL_630B

LTL Horizontal NH Fuse-Switch Disconnecter with Fuse Base 630 A including Cabinet, Cables and 355A Fuses

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
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Tenderer's Signature :

Date:

Technical Guarantees No. ABS_95**Suspension Clamp for ABC AL Cable with insulated Neutral Messenger 1x95 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Standards		NFC 33040			
4	Rated Voltage (Uo/U)	kV	0.6/1			
5	Body		Weather resistant aluminium alloy			
6	Body Coating and Keeper		Weather and UV resistant Glass Fibre Reinforced Polymer			
7	Design		Suspension Clamp with Movable Link			
8	Cable Type		3x150+1x95+2x25			
9	Messenger Conductor Cross Sectional Area	mm ²	95			
10	Bundle Diameter	mm	15.5 / 16.5			
11	Min. Clamp Breaking Load	KN	20			
12	Hole Diameter	mm	24			
13	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			

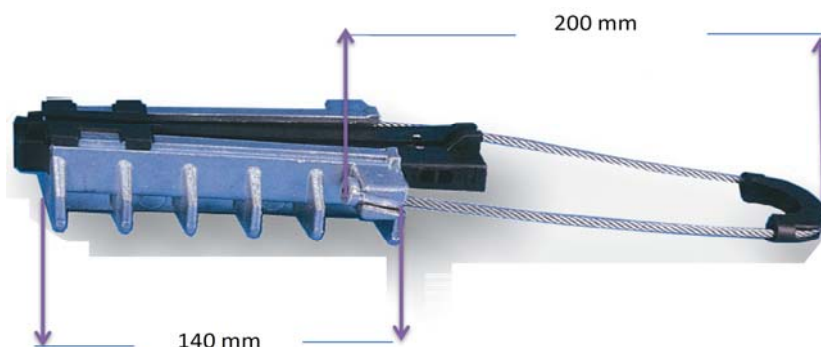


Tenderer's Signature :

Date:

Technical Guarantees No. ABT_95**Tension Clamp for ABC AL Cable with insulated Neutral Messenger 1x95 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Standards		NFC 33041 and 33042			
4	Rated Voltage (Uo/U)	kV	0.6/1			
5	Clamp Wedges and Thimble Material		Weather and UV resistant Glass Reinforced Polymer			
6	Clamp Body Material (Straps)		Corrosion Resistant Aluminium Alloy			
7	Bail		Stainless steel with insulation wear_resistant Saddle			
8	Design		Tension Messenger Cable only			
9	Cable Type		3x150+1x95+2x25			
10	Messenger Conductor Cross Sectional Area	mm ²	95			
11	Min / Max Messenger Diameter Over Insulation	mm	15.5 / 16.5			
12	Min. Breaking Load	KN	20			
13	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			

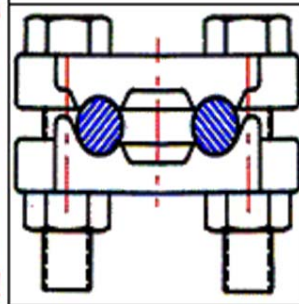
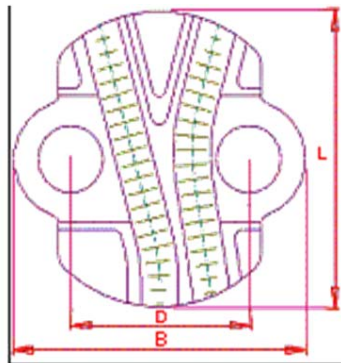


Tenderer's Signature :

Date:

Technical Guarantees No. ADEC_70**Aluminium Dead End Clamp , 50/70 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Standards					
4	Material					
	a) Body		High strength, corrosion-resistant, aluminium alloy (AlMgSi1)			
	b) Bolts		Steel, 8.8,DIN 933 hot-dip galvanized			
	c) Nuts		Steel, 8, DIN 934 hot-dip galvanized			
5	Conductor Cross Sectional Area	mm ²	50-70 AL and 50/8 ACSR			
6	Conductor Diameter	mm	9-11.7			
7	Bolts (No. x Size x Length)		2 x M10 x 35			
8	Bolt Torque Moments		46Nm			
9	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			
10	Total Weight	gr	200			



L = 60 mm

D = 42 mm

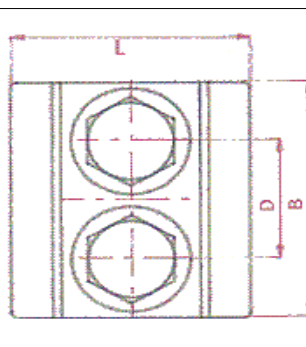
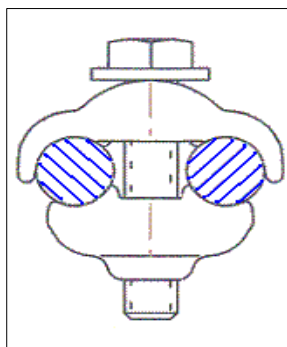
B = 64 mm

Tenderer's Signature :

Date:

Technical Guarantees No. APGC_70**Aluminium Parallel Groove Clamp 16-70 mm² / 16-70 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Manufacturing Standards		DIN 48072-1			
4	Material					
	a) Body		High strength, corrosion-resistant, aluminium alloy (AlMgSi1)			
	b) Bolts		DIN 933, steel 8.8, hot-dip galvanized			
	c) Nuts		DIN 934, steel hot-dip galvanized, pressed into lower clamp body			
	d) Washers (6 each)		DIN 6796, corrosion-protected			
5	Conductor Cross Sectional Area	mm ²	16-120 AL , 16/2.5- 70/12 ACSR			
6	Conductor Diameter	mm	5.1-11.7			
7	Bolts (No. x Size x Length)		2 x M8 x 40			
8	Bolt Torque Moments		23Nm			
9	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			
10	Total Weight	gr	90			



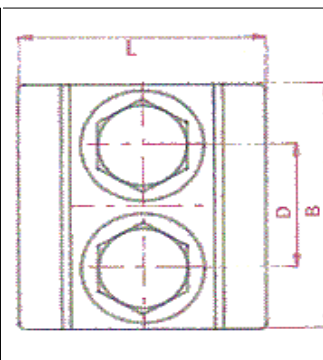
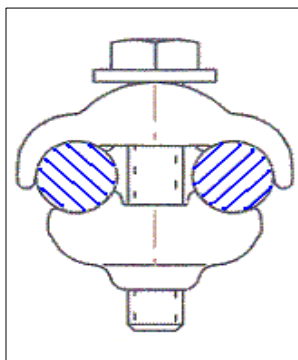
L = 36 mm
D = 20 mm
B = 40 mm

Tenderer's Signature :

Date:

Technical Guarantees No. APGC_120**Aluminium Parallel Groove Clamp 16-120 mm² / 16-120 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Manufacturing Standards		DIN 48072-1			
4	Material					
	a) Body		High strength, corrosion-resistant, aluminium alloy (AlMgSi1)			
	b) Bolts		DIN 933, steel 8.8, hot-dip galvanized			
	c) Nuts		DIN 934, steel hot-dip galvanized, pressed into lower clamp body			
	d) Washers (6 each)		DIN 6796, corrosion-protected			
5	Conductor Cross Sectional Area	mm ²	16-120 AL and 16/2.5-95/15 ACSR			
6	Conductor Diameter	mm	5.1-14			
7	Bolts (No. x Size x Length)		2 x M8 x 50			
8	Bolt Torque Moments		23Nm			
9	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			
10	Total Weight	gr	145			



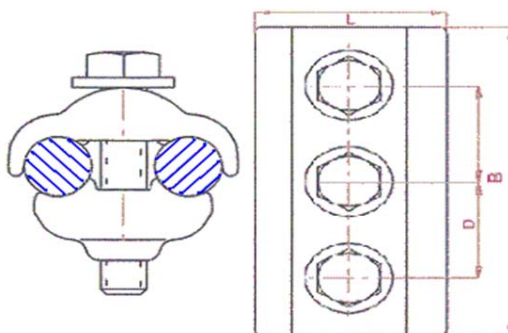
L = 45 mm
D = 25 mm
B = 50 mm

Tenderer's Signature :

Date:

Technical Guarantees No. APGC_300**Aluminium Parallel Groove Clamp 35-300 mm² / 35-300 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Manufacturing Standards		DIN 48072-1			
4	Material					
	a) Body		High strength, corrosion-resistant, aluminium alloy (AlMgSi1)			
	b) Bolts		DIN 933, steel 8.8, hot-dip galvanized			
	c) Nuts		DIN 934, steel hot-dip galvanized, pressed into lower clamp body			
	d) Washers (6 each)		DIN 6796, corrosion-protected			
5	Conductor Cross Sectional Area	mm ²	35-240 AL and 35/6-265/35 ACSR			
6	Conductor Diameter	mm	7.5-21.6			
7	Bolts (No. x Size x Length)		3 x M10 x 70			
8	Bolt Torque Moments		46Nm			
9	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			
10	Total Weight	gr	520			



L = 67 mm
D = 35 mm
B = 105 mm

Tenderer's Signature :

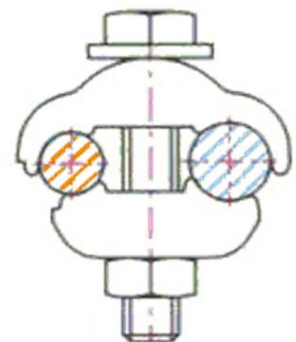
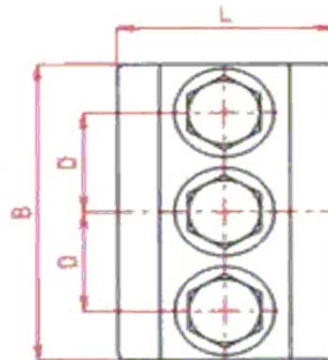
Date:

Technical Guarantees No. BPGC_185**Bimetallic Parallel Groove Clamp 35-185 mm² AL /35-185 mm² CU**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachm or Equivalent			
2	Country of Origin					
3	Reference Standards					
4	Material					
	a) Body		High strength, corrosion-resistant, aluminium alloy (AlMgSi1) with hot forged bimetallic sheet, for copper tap-off			
	b) Bolts		Steel 8.8, DIN 933, hot-dip galvanized			
	c) Nuts		Steel 8, DIN 934 hot-dip galvanized			
	d) Conical Washers		According to DIN 6796 corrosion-protected			
5	ACSR or Aluminium Conductor Diameter	mm	7.5-17.5			
6	Copper Conductor Diameter	mm	7.5-17.5			
7	Bolts (No. x Size x Length)		3 x M10 x 60			
8	Bolt Torque Moments		46Nm			
9	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			



L = 97mm
D = 33 mm
B = 58 mm

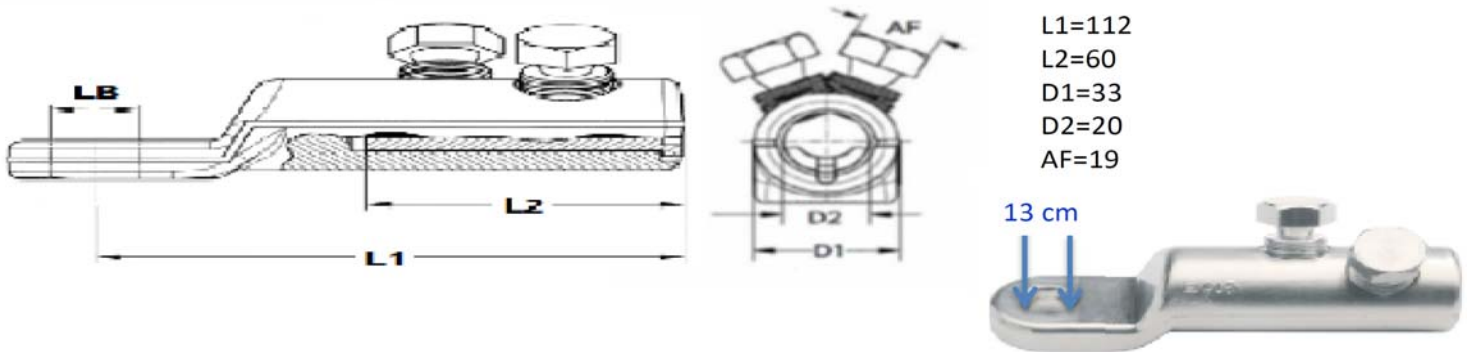


Tenderer's Signature :

Date:

Technical Guarantees No. BTL_240**Bimetallic Mechanical Terminal Lug 95 - 240 mm² With 13 mm Hole**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Tyco or Equivalent			
2	Country of Origin					
3	Reference Standards		CENELEC HD 629.1 S2 , IEC61238-1			
4	Nominal Voltage System	kv	24			
5	Description		Bimetallic Mechanical Terminal Lug Suitable for Copper and Aluminium Conductors			
6	Body		high-tensile, tin-plated Aluminium alloy			
7	Bolts		Aluminium alloy 2 each Shear Head Bolt			
8	Inserts or Central Ring		Required			
9	Conductor Cross Sectional Range	mm ²	95 - 240			
10	Conductor Diameter	mm	11 - 19.2			
11	Dimensions		as below Drawing			

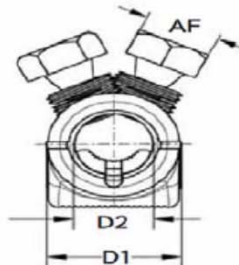
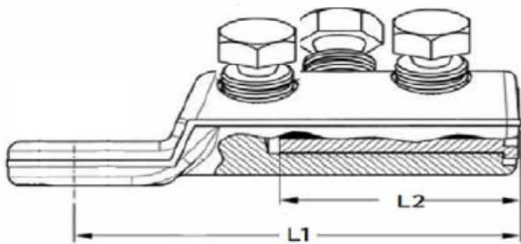


Tenderer's Signature :

Date:

Technical Guarantees No. BTL_400**Bimetallic Mechanical Terminal Lug 185 - 400 mm² With 13 mm Hole**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Tyco or Equivalent			
2	Country of Origin					
3	Reference Standards		CENELEC HD 629.1 S2 , IEC61238-1			
4	Nominal Voltage System	kv	24			
5	Description		Bimetallic Mechanical Terminal Lug Suitable for Copper and Aluminium Conductors			
6	Body		high-tensile, tin-plated Aluminium alloy			
7	Bolts		Aluminium alloy 3 each Shear Head Bolt			
8	Inserts or Central Ring		Required			
9	Conductor Cross Sectional Range	mm ²	185 - 400			
10	Conductor Diameter	mm	15.5 - 24.6			
11	Dimensions		as below Drawing			



L1= 137 mm
 L2= 80 mm
 D1= 42 mm
 D2= 25.5 mm
 AF= 22 mm

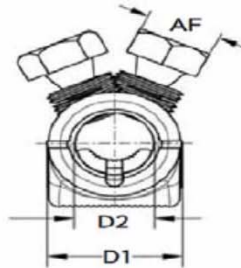
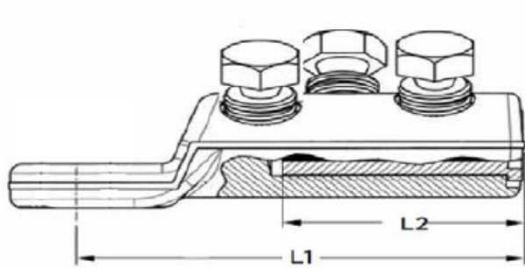


Tenderer's Signature :

Date:

Technical Guarantees No. BTL_630**Bimetallic Mechanical Terminal Lug 500 - 630 mm² With 13 mm Hole**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Tyco or Equivalent			
2	Country of Origin					
3	Reference Standards		CENELEC HD 629.1 S2 , IEC61238-1			
4	Nominal Voltage System	kv	24			
5	Description		Bimetallic Mechanical Terminal Lug Suitable for Copper and Aluminium Conductors			
6	Body		high-tensile, tin-plated Aluminium alloy			
7	Bolts		Aluminium alloy 3 each Shear Head Bolt			
8	Inserts or Central Ring		Required			
9	Conductor Cross Section	mm ²	500 - 630			
10	Conductor Diameter	mm	25.3 - 32.5			
11	Dimensions		as below Drawing			



L1= 150 mm
 L2= 95 mm
 D1= 50 mm
 D2= 33 mm
 AF= 27 mm



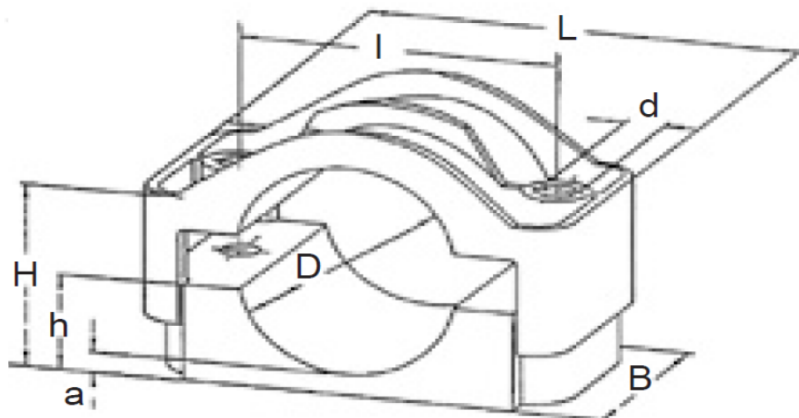
Tenderer's Signature :

Date:

Technical Guarantees No. CC_51**Clamp to Holder the Cable (Single , Small)**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Description		Cable Clamps			
4	Cable Outer Diameter	mm	26-38			
5	No. of Cables		1			
6	Material		Polyamide, Glass Fiber Reinforced			
7	Tensile strength	N/mm ²	120			
8	Flexural Strength	N/mm ²	200			
9	Thermal Expansion		0.02% / 1°C			
10	Fire Resistance		UL 94 , VDE 0304, Part 3			
11	Accessories		2 Hot Galvanized Bolt with nuts and washers			
12	Dimensions		As Drawing			

Including 2 Hot Galvanized Bolts for fixing with the Plate



DIMENSIONS mm				
L	B	I	Ød	H
92	60	60	12.4	32 - 44

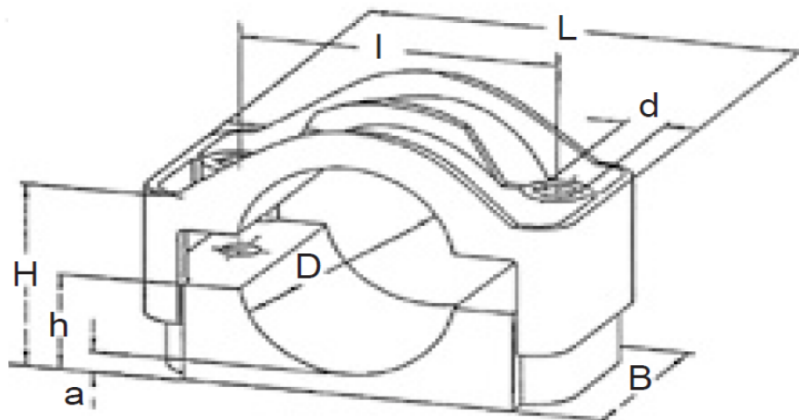
Tenderer's Signature :

Date:

Technical Guarantees No. CC_52**Clamp to Holder the Cable (Single , Large)**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Description		Cable Clamps			
4	Cable Outer Diameter	mm	36-52			
5	No. of Cables		1			
6	Material		Polyamide, Glass Fiber Reinforced			
7	Tensile strength	N/mm ²	120			
8	Flexural Strength	N/mm ²	200			
9	Thermal Expansion		0.02% / 1°C			
10	Fire Resistance		UL 94 , VDE 0304, Part 3			
11	Accessories		2 Hot Galvanized Bolt with nuts and washers			
12	Dimensions		As Drawing			

Including 2 Hot Galvanized Bolts for fixing with the Plate



DIMENSIONS
mm

L	B	I	Ød	H
108	60	75	12.4	40 - 57

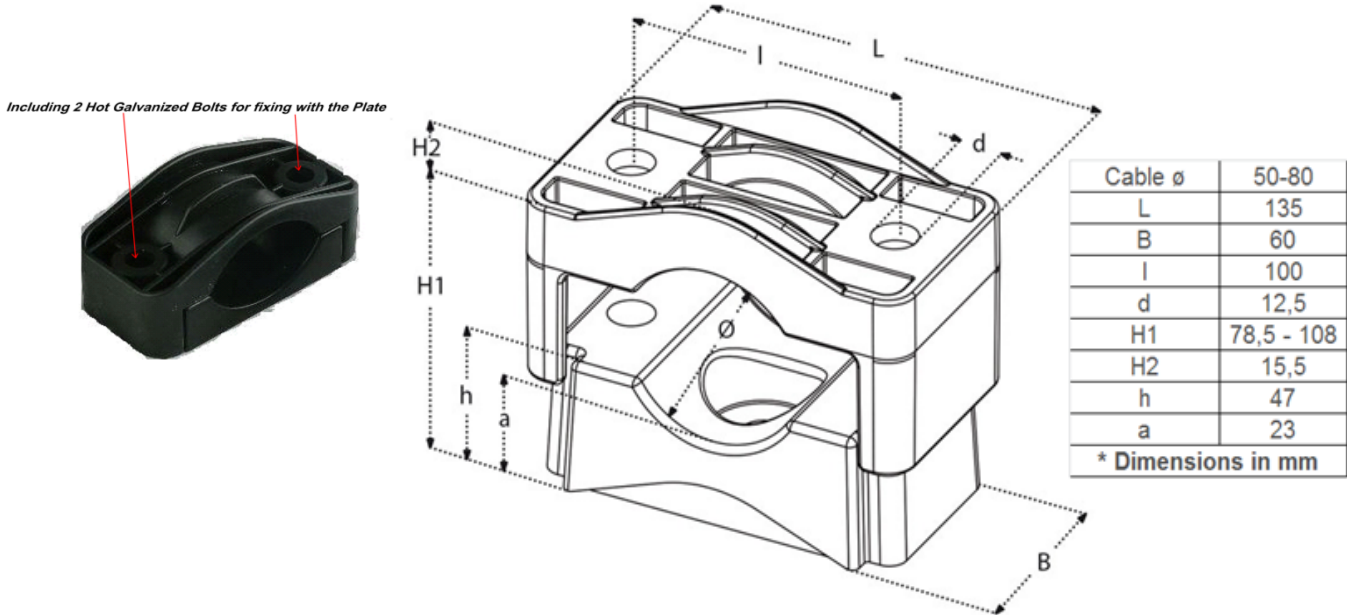
Tenderer's Signature :

Date:

Technical Guarantees No. CC_80

Clamp to Holder the Cable (Extra Single , Large)

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Description		Cable Clamps			
4	Cable Outer Diameter	mm	50-80			
5	No. of Cables		1			
6	Material		Polyamide, Glass Fiber Reinforced			
7	Tensile strength	N/mm ²	120			
8	Flexural Strength	N/mm ²	200			
9	Thermal Expansion		0.02% / 1°C			
10	Fire Resistance		UL 94 , VDE 0304, Part 3			
11	Accessories		2 Hot Galvanized Bolt with nuts and washers			
12	Dimensions		As Drawing			



Tenderer's Signature : Date:

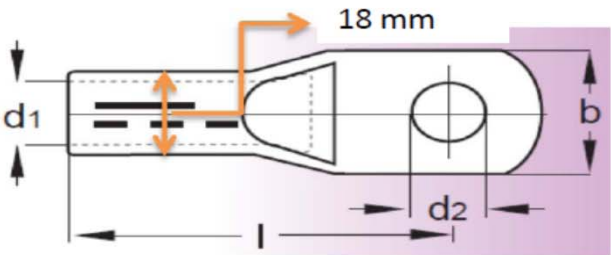
Technical Guarantees No. CLA_70

Compression Terminal Lug with 13 mm Hole for 70 mm2 Aluminium Conductor

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		DIN 46329			
4	Description		Aluminium Compression Lug with 13mm Hole			
5	Material		Al 99.5			
6	Surface		Tin-plated			
7	Type		Compression, Longitudinally Sealed			
8	Conductor Cross Section	mm ²	70			
9	Conductor Diameter	mm	10.5			
10	Barrel		Capped and Filled with Grease to Avoid Oxidation			
11	No. of Mech. Compression		6			
12	Dimensions		as Below Drawing			



d1= 11.2 mm
d2= 13 mm
b= 28 mm
l = 88 mm



Tenderer's Signature :

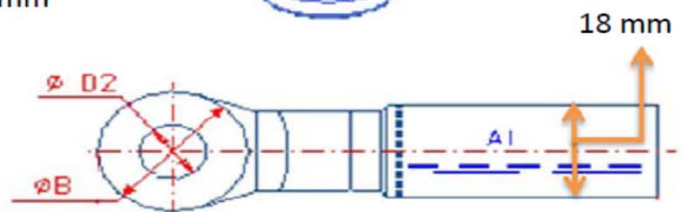
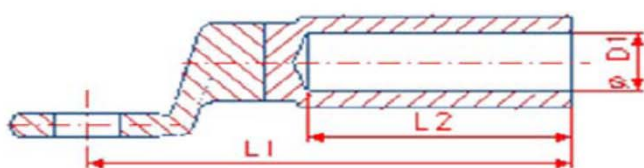
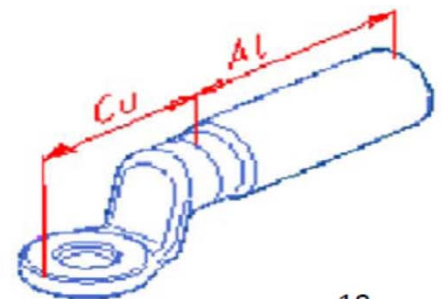
Date:

Technical Guarantees No. CLAC_70**Aluminium / Copper Compression Terminal Lug with 13 mm Hole for 70 mm² Aluminium Conductor**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Material					
	a) Barrel Part		Aluminium of Purity Equal to or Greater than 99.5%			
	b) Palm Part		Electrolytic Copper			
	c) Barrel		Capped and Filled with Grease to Avoid Oxidation			
5	Surface		Uncoated			
6	Type		Resistant to high temperature Connection Between CU and AL sides and the Barrel Compression, Longitudinally Sealed			
7	Conductor Cross Section	mm ²	70			
8	Conductor Diameter	mm	10.5			
9	Dimensions		as below Drawing			



D1= 11.5 mm
 D2= 13 mm
 B = 25 mm
 L1= 81 mm
 L2= 60 mm



Tenderer's Signature :

Date:

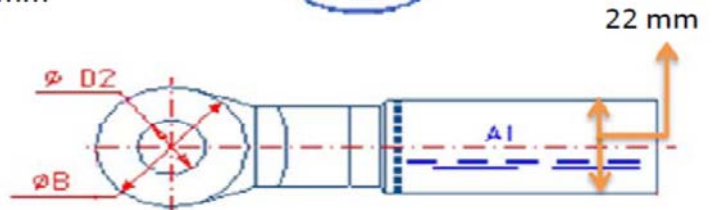
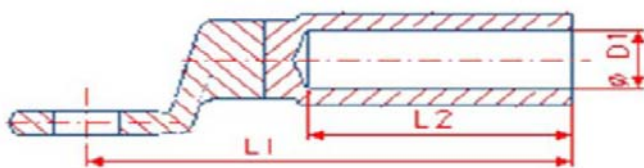
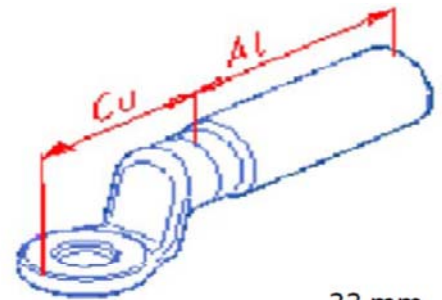
Technical Guarantees No. CLAC_95

Aluminium / Copper Compression Terminal Lug with 13 mm Hole for 95 mm² Aluminium Conductor

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Material					
	a) Barrel Part		Aluminium of Purity Equal to or Greater than 99.5%			
	b) Palm Part		Electrolytic Copper			
	c) Barrel		Capped and Filled with Grease to Avoid Oxidation			
5	Surface		Uncoated			
6	Type		Resistant to high temperature Connection Between CU and AL sides and the Barrel Compression, Longitudinally Sealed			
7	Conductor Cross Section	mm ²	95			
8	Conductor Diameter	mm	12.6			
9	Dimensions		as below Drawing			



D1= 13.5 mm
 D2= 13 mm
 B = 25 mm
 L1= 81 mm
 L2= 60 mm



Tenderer's Signature :

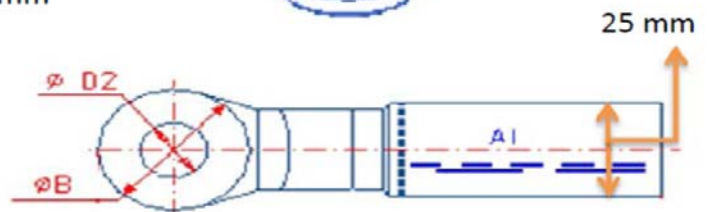
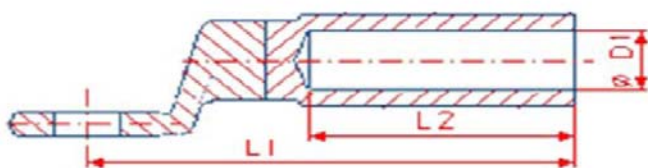
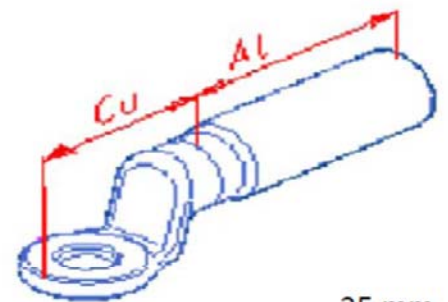
Date:

Technical Guarantees No. CLAC_150**Aluminium / Copper Compression Terminal Lug with 13 mm Hole for 150 mm² Aluminium Conductor**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Material					
	a) Barrel Part		Aluminium of Purity Equal to or Greater than 99.5%			
	b) Palm Part		Electrolytic Copper			
	c) Barrel		Capped and Filled with Grease to Avoid Oxidation			
5	Surface		Uncoated			
6	Type		Resistant to high temperature Connection Between CU and AL sides and the Barrel Compression, Longitudinally Sealed			
7	Conductor Cross Section	mm ²	150			
8	Conductor Diameter	mm	15.5			
9	Dimensions		as below Drawing			



D1= 16.5 mm
 D2= 13 mm
 B = 25 mm
 L1= 91 mm
 L2= 70 mm



Tenderer's Signature :

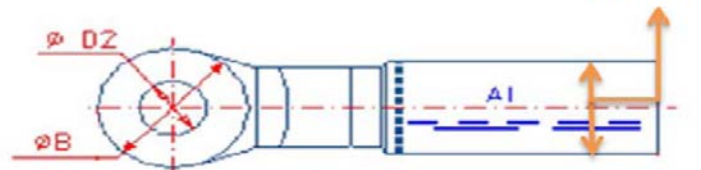
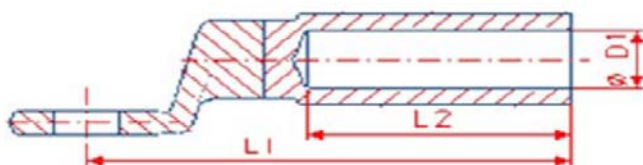
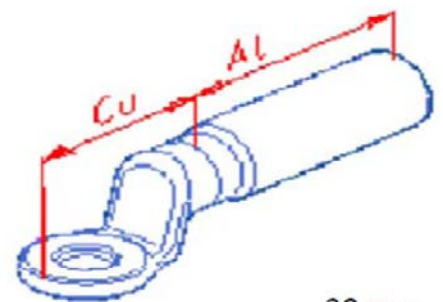
Date:

Technical Guarantees No. CLAC_185**Aluminium / Copper Compression Terminal Lug with 13 mm Hole for 185 mm² Aluminium Conductor**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Material					
	a) Barrel Part		Aluminium of Purity Equal to or Greater than 99.5%			
	b) Palm Part		Electrolytic Copper			
	c) Barrel		Capped and Filled with Grease to Avoid Oxidation			
5	Surface		Uncoated			
6	Type		Resistant to high temperature Connection Between CU and AL sides and the Barrel Compression, Longitudinally Sealed			
7	Conductor Cross Section	mm ²	185			
8	Conductor Diameter	mm	17.5			
9	Dimensions		as below Drawing			



D1= 18.5 mm
 D2= 13 mm
 B = 25 mm
 L1= 91 mm
 L2= 70 mm



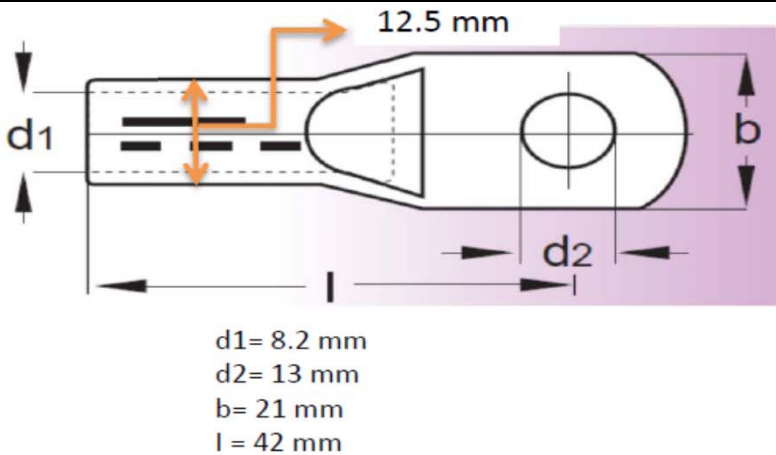
Tenderer's Signature :

Date:

Technical Guarantees No. CLC_35

Compression Terminal Lug with 13 mm Hole for 35 mm² Copper Conductor

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		DIN 46235			
4	Description		Copper Compression Lug with 13mm Hole			
5	Material		E-Cu, DIN 40500/2, F-25			
6	Surface		Tin-plated			
7	Type		Compression, Longitudinally Sealed			
8	Conductor Cross Section	mm ²	35			
9	Conductor Diameter	mm	7.5			
10	No. of Mech. Compression		2			
11	Dimensions		as Below Drawing			



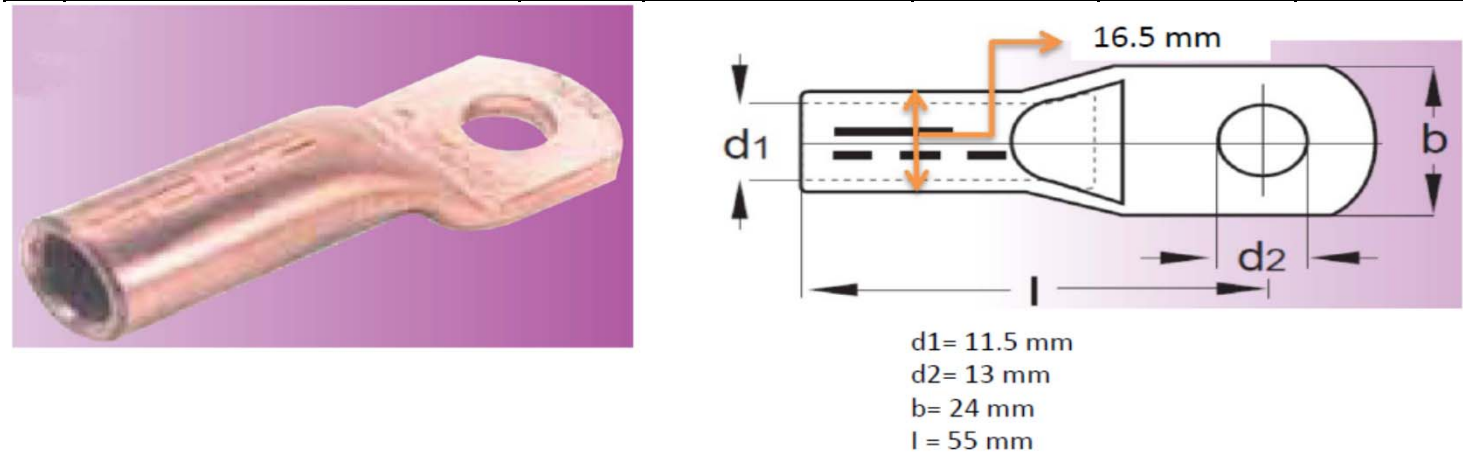
Tenderer’s Signature :

Date:

Technical Guarantees No. CLC_70

Compression Terminal Lug with 13 mm Hole for 70 mm² Copper Conductor

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		DIN 46235			
4	Description		Copper Compression Lug with 13mm Hole			
5	Material		E-Cu, DIN 40500/2, F-25			
6	Surface		Tin-plated			
7	Type		Compression, Longitudinally Sealed			
8	Conductor Cross Section	mm ²	70			
9	Conductor Diameter	mm	10.7			
10	No. of Mech. Compression		3			
11	Dimensions		as Below Drawing			

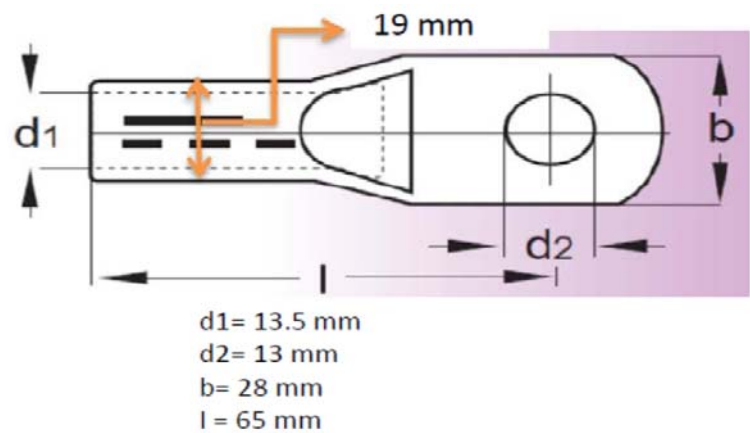


Tenderer's Signature :

Date:

Technical Guarantees No. CLC_95**Compression Terminal Lug with 13 mm Hole for 95 mm² Copper Conductor**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		DIN 46235			
4	Description		Copper Compression Lug with 13mm Hole			
5	Material		E-Cu, DIN 40500/2, F-25			
6	Surface		Tin-plated			
7	Type		Compression, Longitudinally Sealed			
8	Conductor Cross Section	mm ²	95			
9	Conductor Diameter	mm	12.6			
10	No. of Mech. Compression		4			
11	Dimensions		as Below Drawing			



Tenderer's Signature :

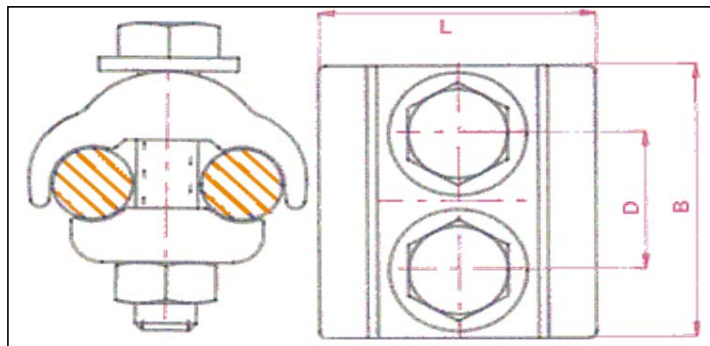
Date:

Technical Guarantees No. CPGC_95**Copper Parallel Groove Clamp 10-95 mm² / 10-95 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Standards					
4	Material					
	a) Body		High Strength Copper Alloy (Cu Ni 2 Si)			
	b) Bolts		High Strength Copper Alloy, F-60, DIN 933			
	c) Nuts		Copper, DIN 934			
	d) Washers (4 each)		Steel, DIN 6796, Copper Plated			
5	Surface		Uncoated			
6	Conductor Cross Sectional Area	mm ²	10-95 CU			
7	Conductor Diameter	mm	3.5-12.5			
8	Bolts (No. x Size x Length)		2 x M8 x 45			
9	Bolt Torque Moments		20Nm			
10	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			
11	Total Weight	gr	270			



L = 42.5mm
D = 22.5 mm
B = 42 mm



Tenderer's Signature :

Date:

Technical Guarantees No. EC_25**Sealing Cap for ABC Cable 25 mm² (Elastomeric End Cap)**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Description		Elastomeric End Cap for ABC Cable 25 mm ²			
5	Material		Thermoplastic , UV Resistant			
6	Voltage Test	mm	6 kv Under_water According NFC 33020			
7	Recommended Cross Section	mm ²	25			
8	Nominal Cable Diameter over Insulation (Min. - Max)	mm	8.3-8.7			



Tenderer's Signature :

Date:

Technical Guarantees No. EC_95

Sealing Cap for ABC Cable 95 mm2 (Elastomeric End Cap)

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Description		Elastomeric End Cap for ABC Cable 95 mm2			
5	Material		Thermoplastic , UV Resistant			
6	Voltage Test	mm	6 kv Under_water According NFC 33020			
7	Recommended Cross Section	mm2	95			
8	Nominal Cable Diameter over Insulation (Min. - Max)	mm	14.5-16			



Tenderer's Signature :

Date:

Technical Guarantees No. EC_150

Sealing Cap for ABC Cable 150 mm2 (Elastomeric End Cap)

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Description		Elastomeric End Cap for ABC Cable 150 mm2			
5	Material		Thermoplastic , UV Resistant			
6	Voltage Test	mm	6 kv Under_water According NFC 33020			
7	Recommended Cross Section	mm2	150			
8	Nominal Cable Diameter over Insulation (Min. - Max)	mm	17.5-18.6			

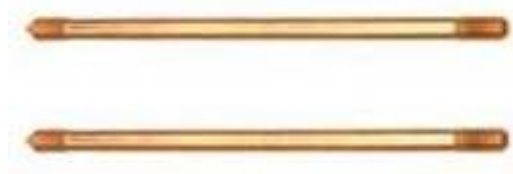
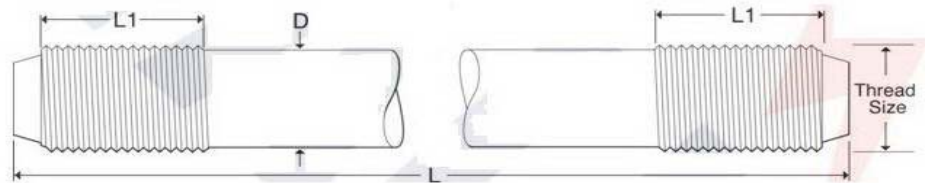
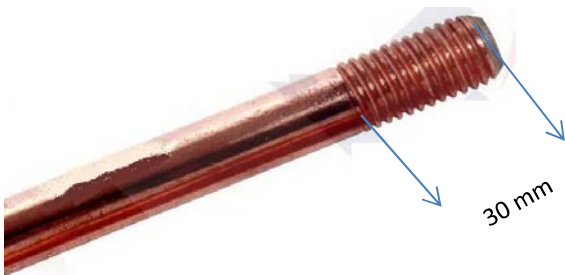


Tenderer's Signature :

Date:

Technical Guarantees No. ER_15**Earth Rod 15 mm Diameter , 1.5 m**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Material		low carbon steel core St-60			
5	Coating		Copper shrink jacket			
6	Coating thickness		Min. 0.3 mm			
7	Threaded Size		5/8"			
8	Threaded Part Length (L1)	mm	30			
9	Length (L)	mm	1500			
10	Shank Diameter (D)	mm	15			
11	Quality Certification		Required			

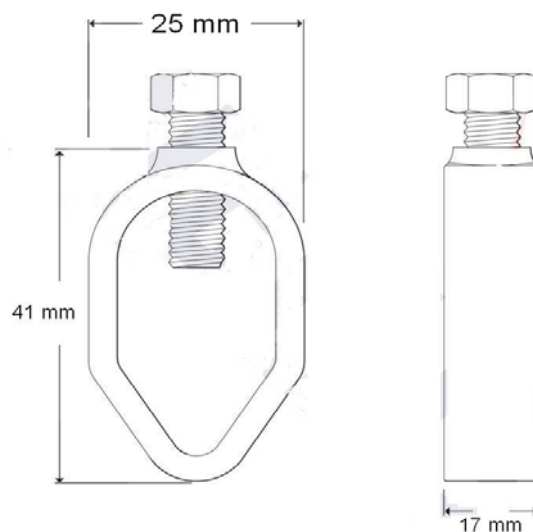


Tenderer's Signature :

Date:

Technical Guarantees No. ERC_15**Earth Rod Connection Clamp**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards					
5	Design		Suitable for earth rod 15 mm Dia to used for connection between Rod and cable			
4	Material		Brass			
6	Earth Rod Diameter	mm	15			
7	Copper Cable Cross Section	mm ²	35-70			

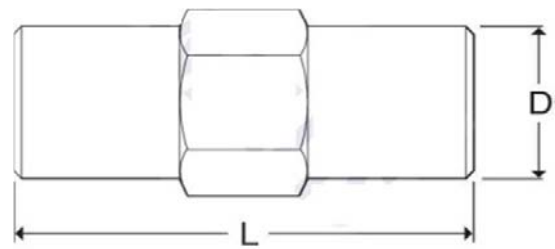


Tenderer's Signature :

Date:

Technical Guarantees No. ERJ_15**Earth Rod Joint**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Standards					
4	Material		high strength copper content Aluminium Bronze alloy			
5	Size		5/8"			
6	Length (L)	mm	70			
7	Outside Diameter (D)	mm	20			



Tenderer's Signature :

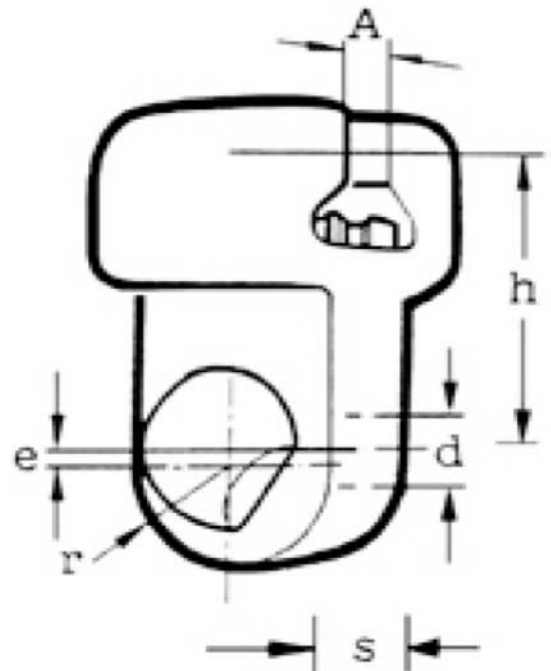
Date:

Technical Guarantees No. FBH_16**Fork Ball Hook 16mm (SOCKET EYES-TYPE-A)**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Connecting Dimensions Standards		DIN 48064			
4	Material Standards		DIN 1692			
5	Surface Standards		DIN 50976			
6	Material		Malleable cast iron GTS-45			
7	Surface		Hot-dip Galvanized			
8	Upper Slot Dimension (A)	mm	16			
9	Nominal Load	KN	160			
10	Ball Eyes thermal overload current	KA	14			
11	Construction and Dimensions	mm	As Below Drawing			



DIMENSIONS mm				
d	e	h	r	s
20	3	69	28	19



Tenderer's Signature :

Date:

Technical Guarantees No. FH_1750_1**Fuse Holder Model , K1750/1 include Surge Arrestor**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	System Voltage	kV	24			
4- Fuse Holder Construction						
A- Surge Arrestor (3 Each)						
A.1	Name of Manufacturer					
A.2	Country of Origin					
A.3	Standards		IEEE62.11 (2005) / IEC60099_4			
A.4	Surge arrester Type		10kA Heavy Zinc Oxide Duty Polymer Gap-Less			
A.4- Service Conditions						
A.4.1	Ambient air temperature		-10 °C to 55°C			
A.4.2	Temperature with solar radiation		65 °C			
A.4.3	Type of installation		Phase to earth			
A.4.4	Nominal syst. Voltage between phases	kV	22			
A.4.5	Max. syst. Voltage between phases	kV	24			
A.4.6	Rated Frequency	Hz	50			
A.4.7	Impulse withstand Voltage 1,2/50 µs	kV	125			
A.4.8	Maximum continues operating voltage (M.C.O.V)	kV	19.5			

Technical Guarantees No. FH_1750_1

Fuse Holder Model , K1750/1 include Surge Arrestor

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
A.5- Temporary overvoltages: Utov						
A.5.1	a) For 1 sec.	kV				
A.5.2	b) For 10 sec.	kV				
A.6	Nominal discharge current (8/20μs) In	kA peak	10			
A.7	Partial discharge at 1.05 Uc		≤5 pc			
A.8	Arrester housing Material		High quality Silicon-Polymeric			
A.9	Creepage Distance	mm	910			
A.10	Equivalent Front-of-Wave (maximum discharge voltage for a 10 kA impulse current wave which produces a voltage wave cresting in 0.5 μs.)	kV Crest	≤88			
A.11- Max. Discharge Voltage Using an 8/20 μs Current Impulse						
A.11.1	a) 2.5 KA	kV	≤65			
A.11.2	b) 5 KA	kV	≤70			
A.11.3	c) 10 KA	kV	≤75			
A.11.4	d) 20 KA	kV	≤80			
A.12- Discharge current withstand						
A.12.1	a) High current impulse 4/10μs	KA _{peak}	100			
A.12.2	b) Long duration current 200μs	A _{peak}	250			
A.13	Type Test Certificates /Reports from internationally reputed testing agency (According IEC 60099-4)		should be submitted			
A.14- Additional equipment & fittings:						
A.14.1	a) Disconnecter		Required			
A.14.2	b) Brackets		Required			

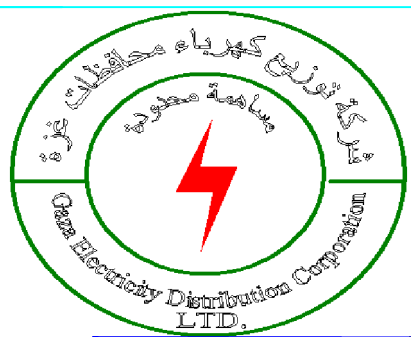
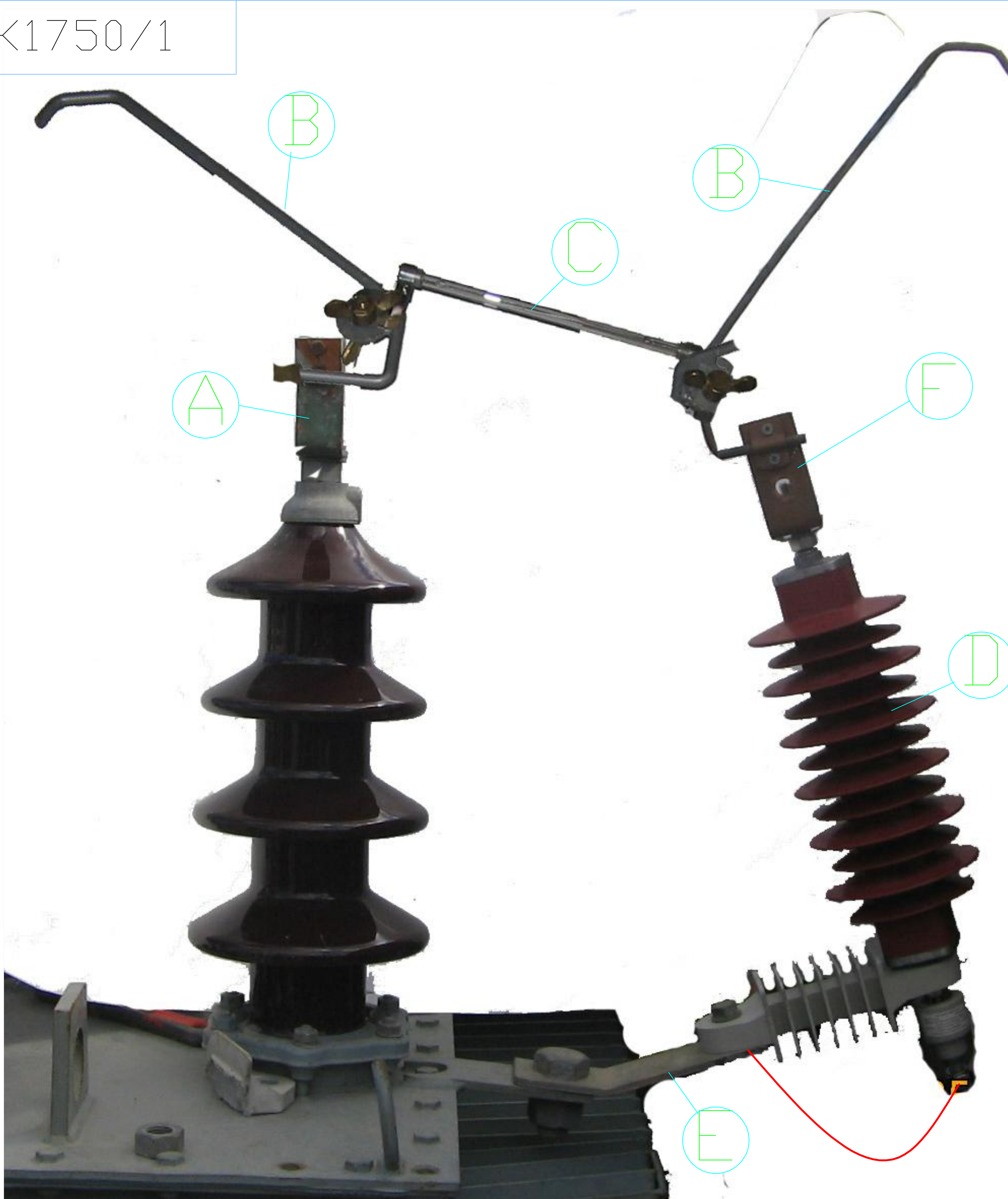
Technical Guarantees No. FH_1750_1**Fuse Holder Model , K1750/1 include Surge Arrestor**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
A.14.3	c) Bird cap		Required			
A.14.4	d) Earth lead		Required			
A.14.4.1	Earth lead Cable Material		Extra Flexible PVC Insulated Copper (Multi Stranded Wires according to DIN VDE 0295 Class5)			
A.14.4.2	Earth lead Cable Length	m	0.5			
A.14.4.3	Earth lead Cable Cross Section	mm ²	70			
A.14.4.4	Suitable 2 Each Compression lug with 13 mm Hole for Earth Lead		Required			
B- Horn (6 Each)						
B.1	Name of Manufacturer					
B.2	Country of Origin					
B.3	a) Material		Electrolytic Copper			
B.4	b) Dimensions and Accessories		As Drawing			
C- Connection Part Between Horn and Surge arrestor (3 Each) - As Drawing						
D- Connection Part Between Horn and H.V Bushing (3 Each) - As Drawing						
E- Connection Part Between Surge Arrestor and Transformer Body (3 Each) - As Drawing						
5	Attached Drawing		Drawing No K1750/1			

Tenderer's Signature :

Date:

K1750/1



شركة توزيع كهرباء محافظات غزة
GEDCo

Prepared: Eng. ziad ALHoussaini

Checked By: Eng. Kamil Rabah

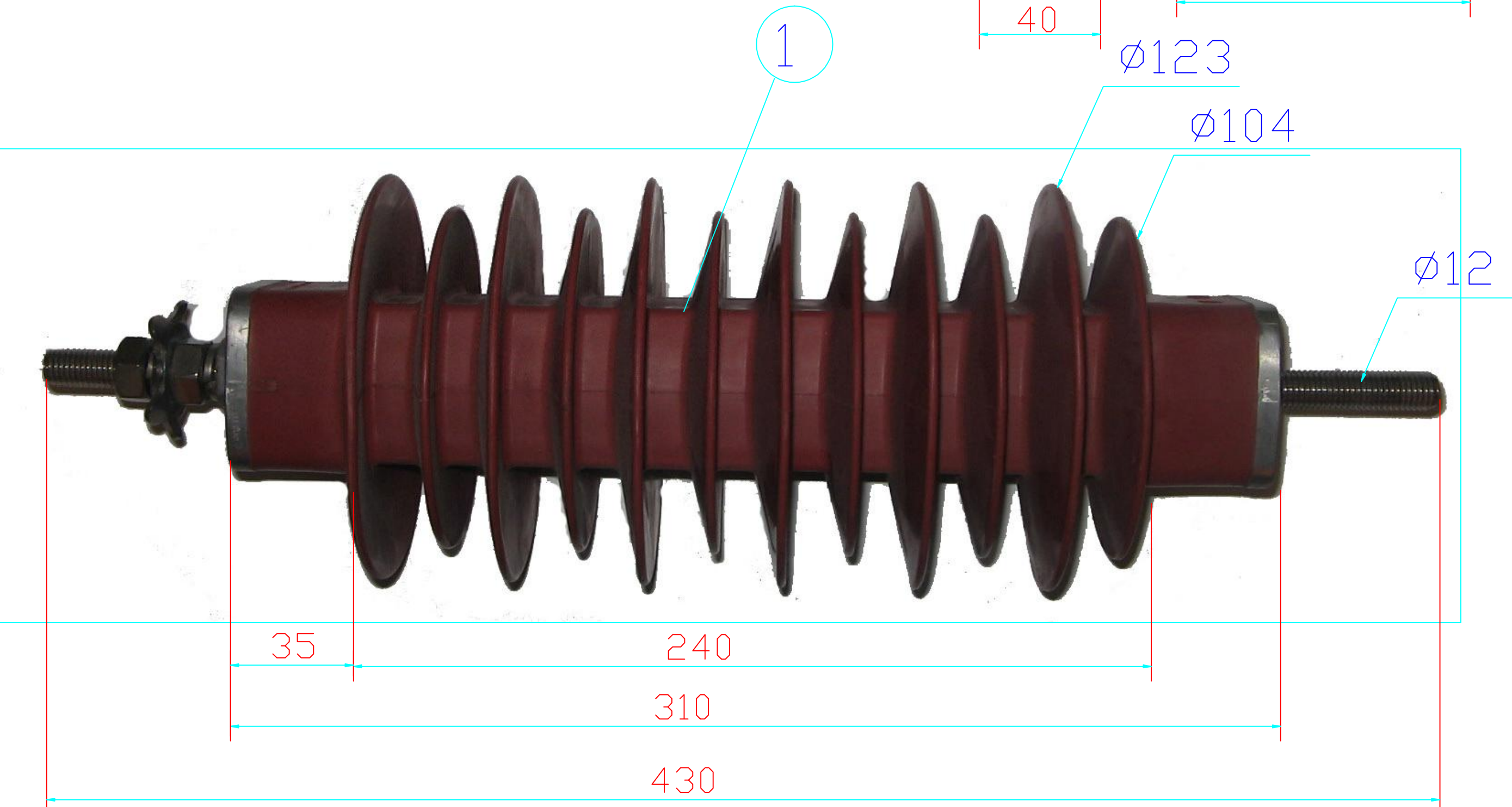
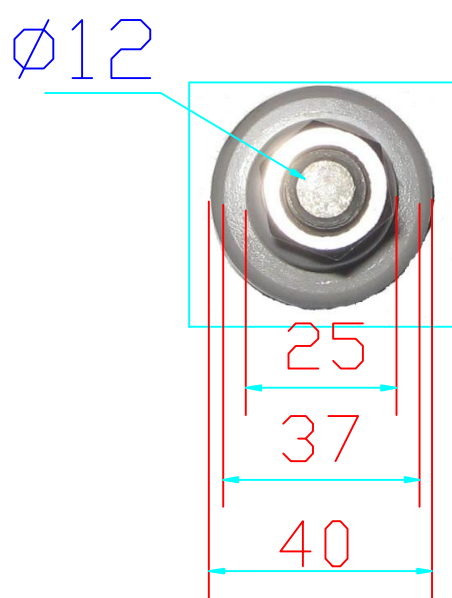
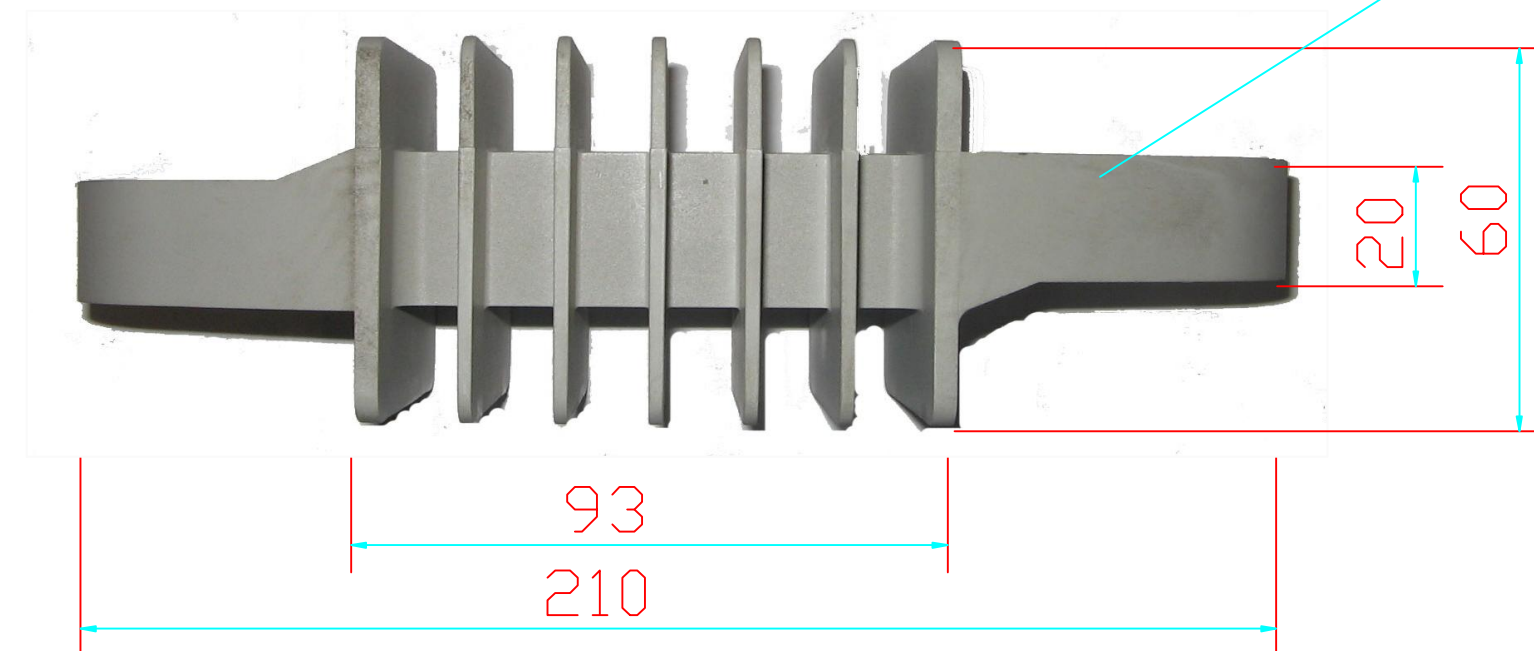
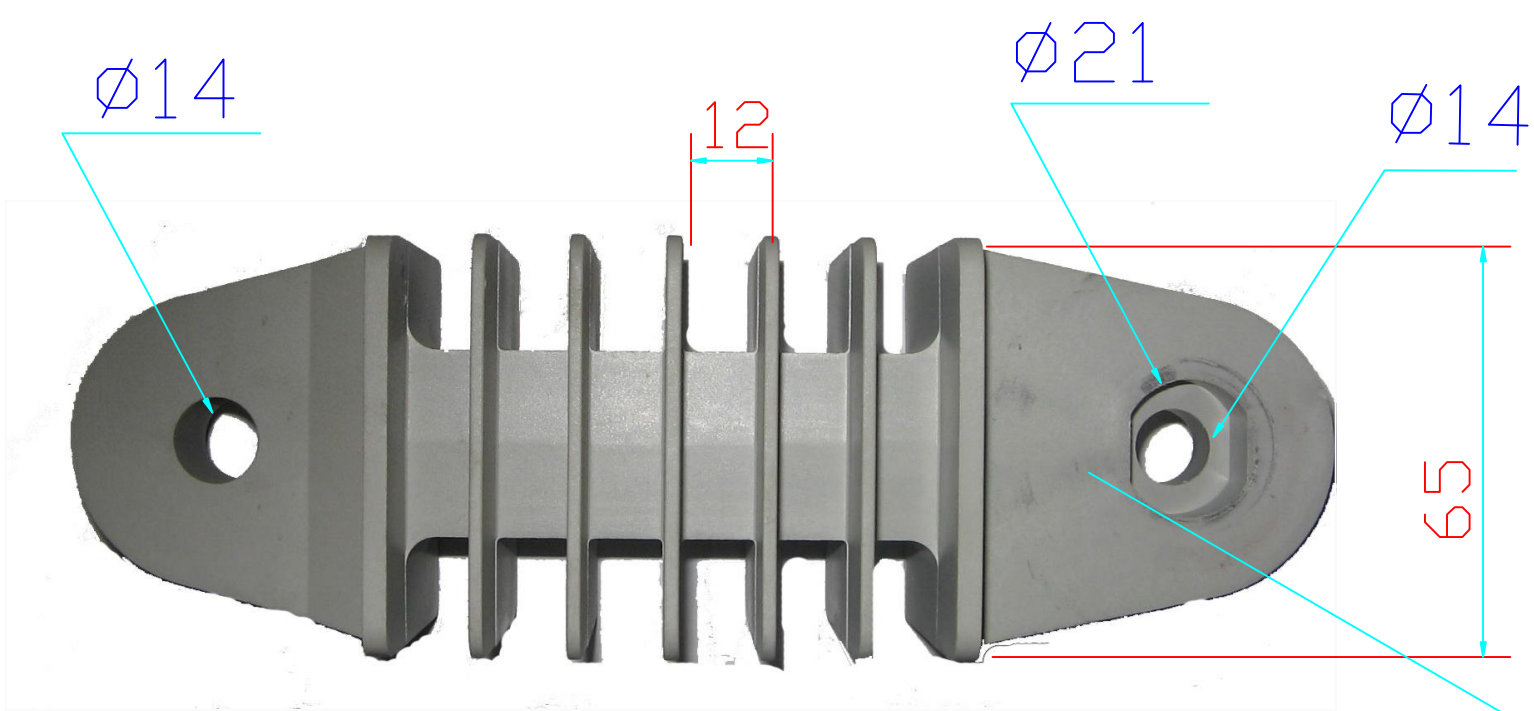
Fuse Holder Model K1750/1 Include Surge Arrestor

Note: All quantities for one phase

Item	Quant.	Description
A	1	Fuse Holder Elbow Plate
F	1	Fuse Holder Elbow Plate
B	2	Horn
C	1	Glass Fuse
D	1	Surge arrestor
E	1	Steel plate holding surge arristor

Description of Fuse Holder Model K1750/1 Components

Component	D
-----------	---



شركة توزيع كهرباء محافظات غزة
GEDCo

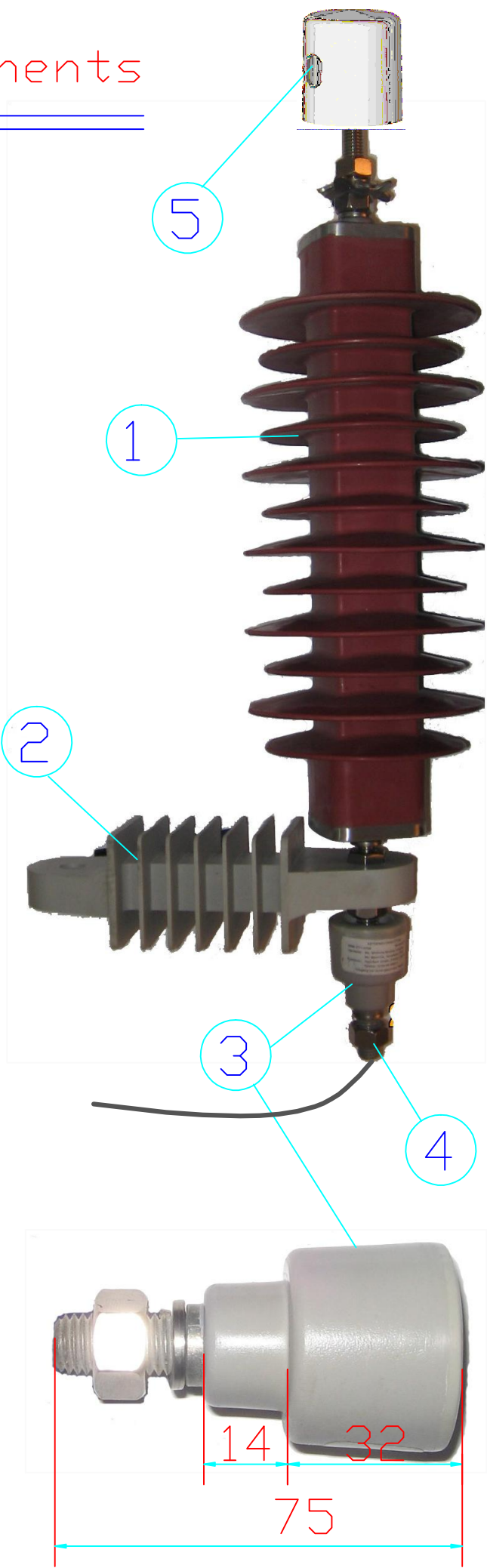
Prepared: Eng. ziad ALHoussaini

Checked By: Eng. Kamil Rabah

Outdoor Metal Oxide
Surge Arrestor

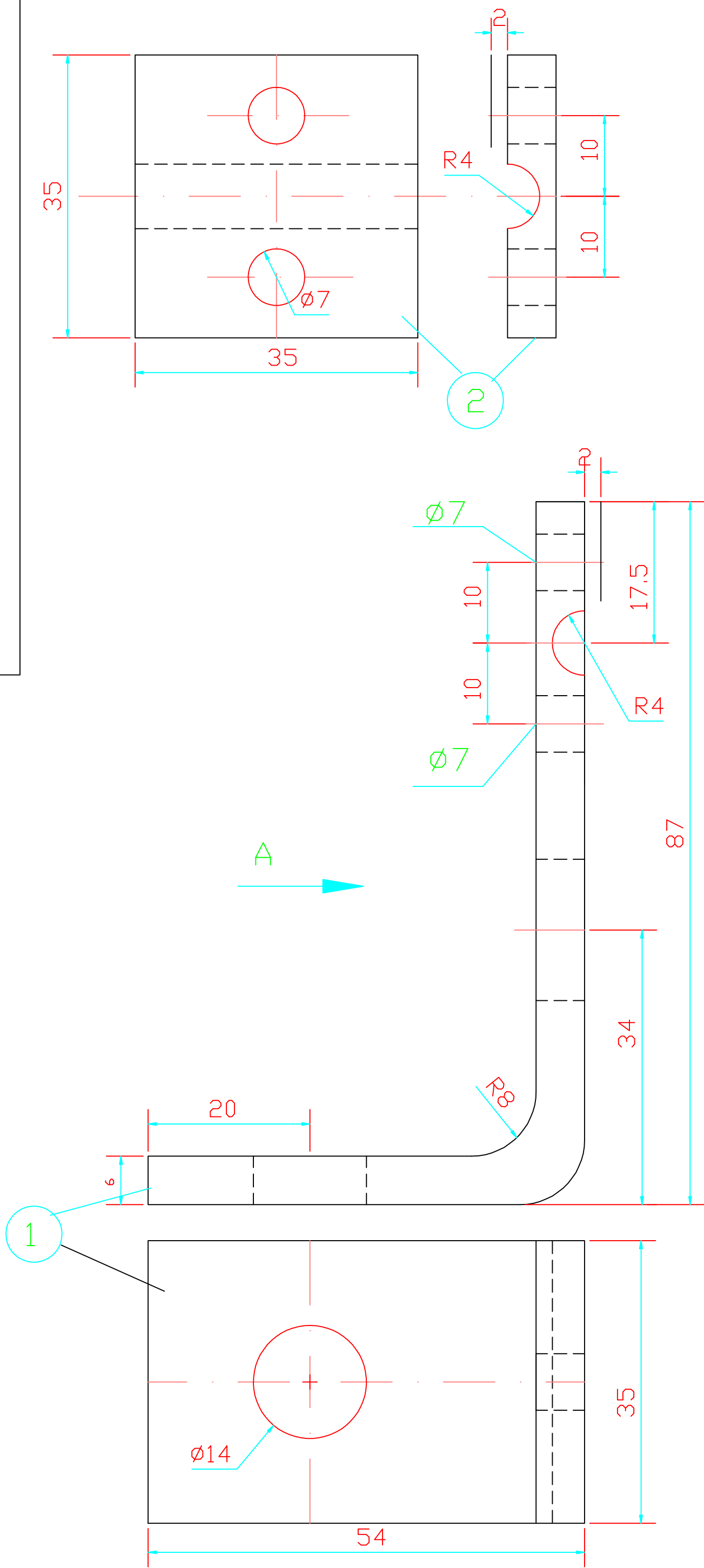
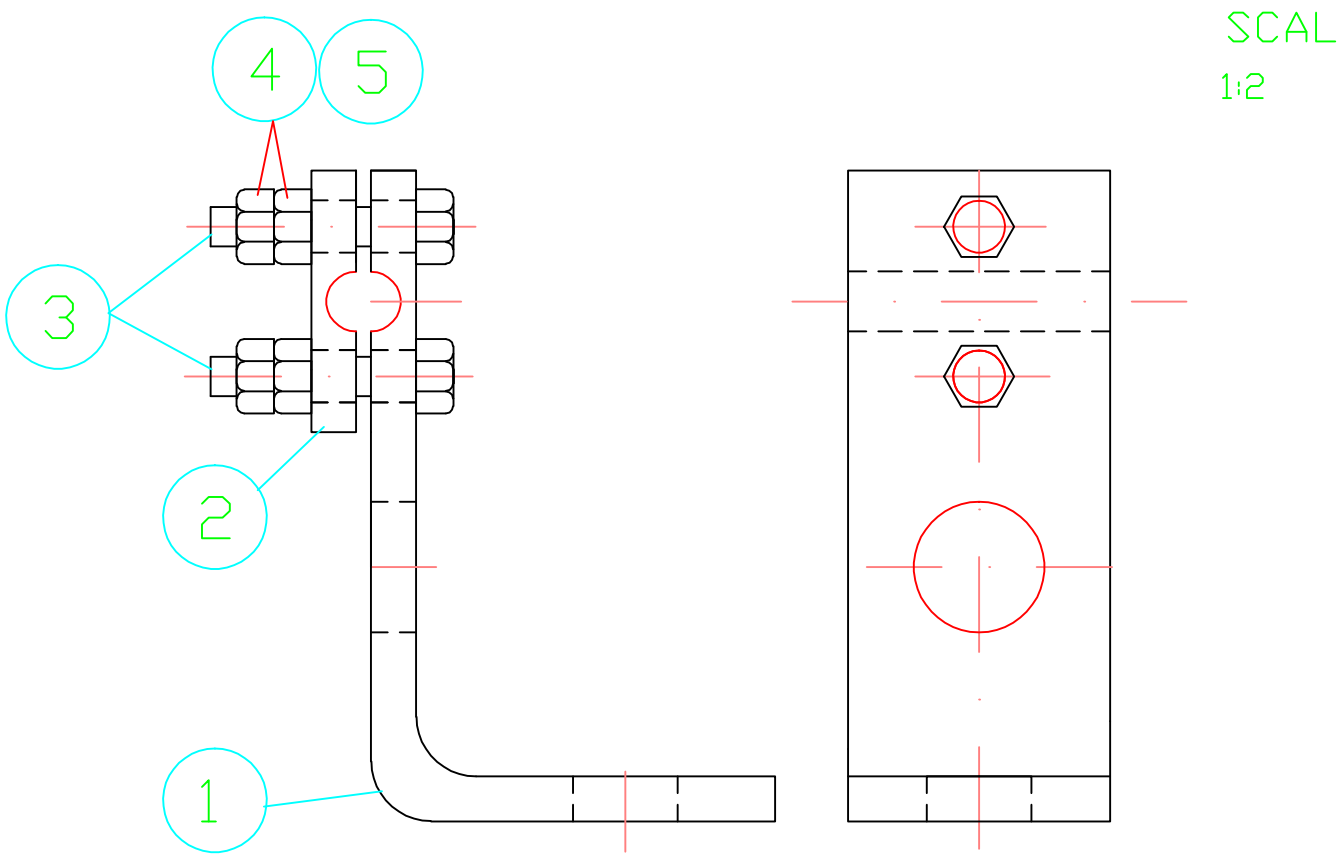
Note: According to the attached specification

1	Surge Arrestor
2	Bracket
3	Disconnecter
4	Earth lead
5	Bird Cap



Description of Fuse Holder Model K1750/1 Components

Component	F
-----------	---



شركة توزيع كهرباء محافظات غزة
GEDCo

Prepared: Eng. ziad ALHoussaini

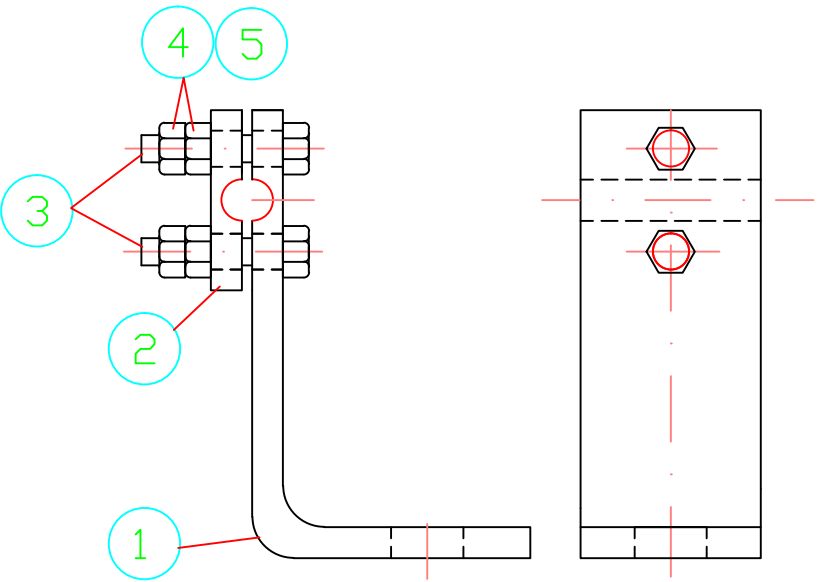
Checked By: Eng. Kamil Rabah

Fuse Holder
Elbow Plate

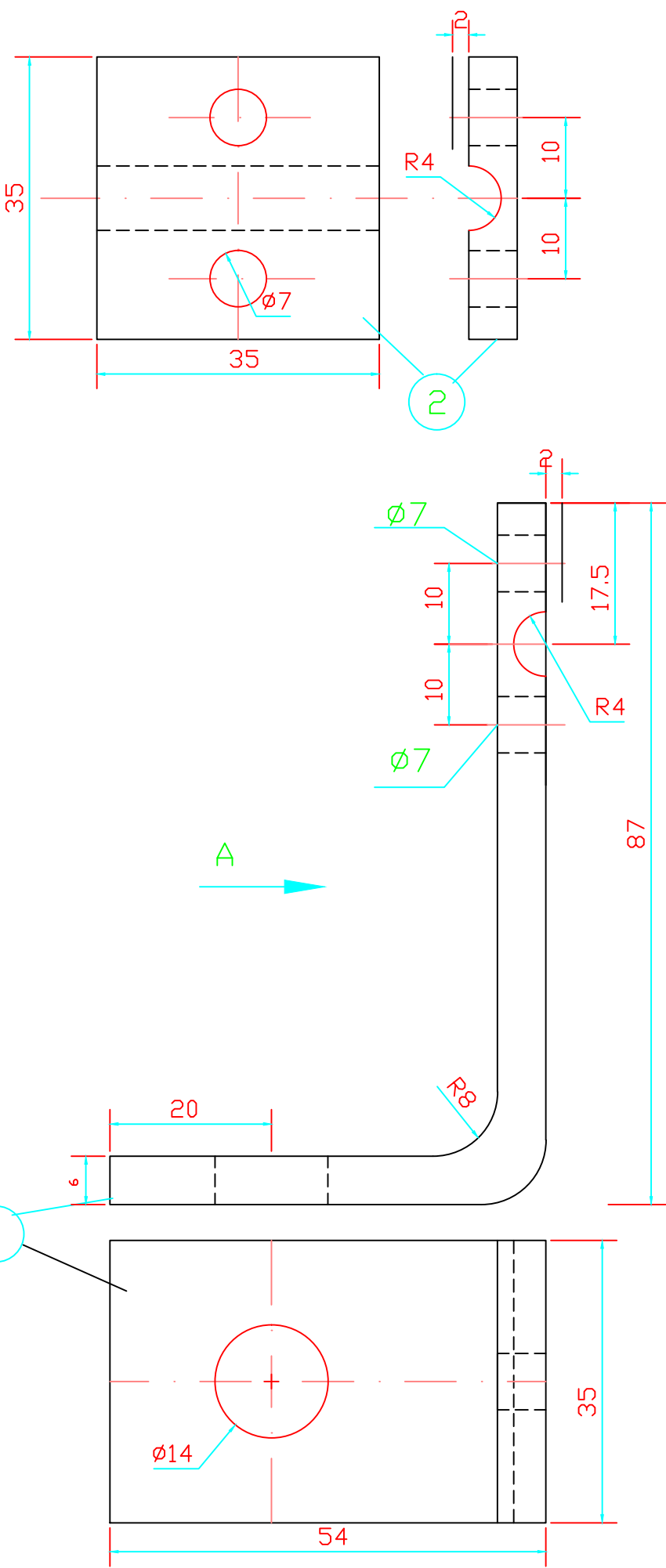
Item	Quant.	Description	measurement
1	1	Elbow Plate -electrolytic copper thickness of 6mm	According to the plan
2	1	Plate -electrolytic copper 6mm	According to the plan
3	2	Copper Bolt M6*30	
4	4	Copper nut M6	
5	2	Copper spring washer M6	

Description of Fuse Holder Model K1750/1 Components

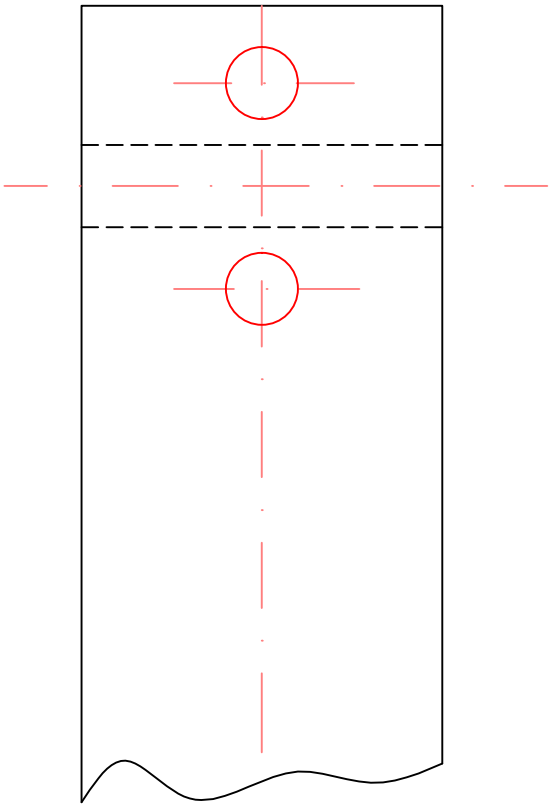
Component A



SCAL
1:2



القطع A



A


شركة توزيع كهرباء محافظات غزة
GEDCO
Prepared: Eng. ziad ALHoussaini
Checked By: Eng. Kamil Rabah

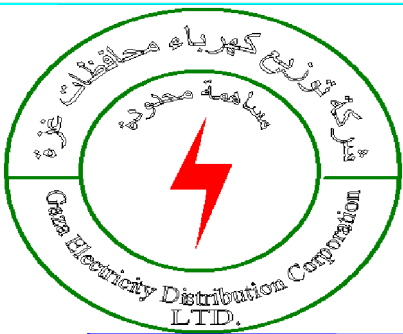
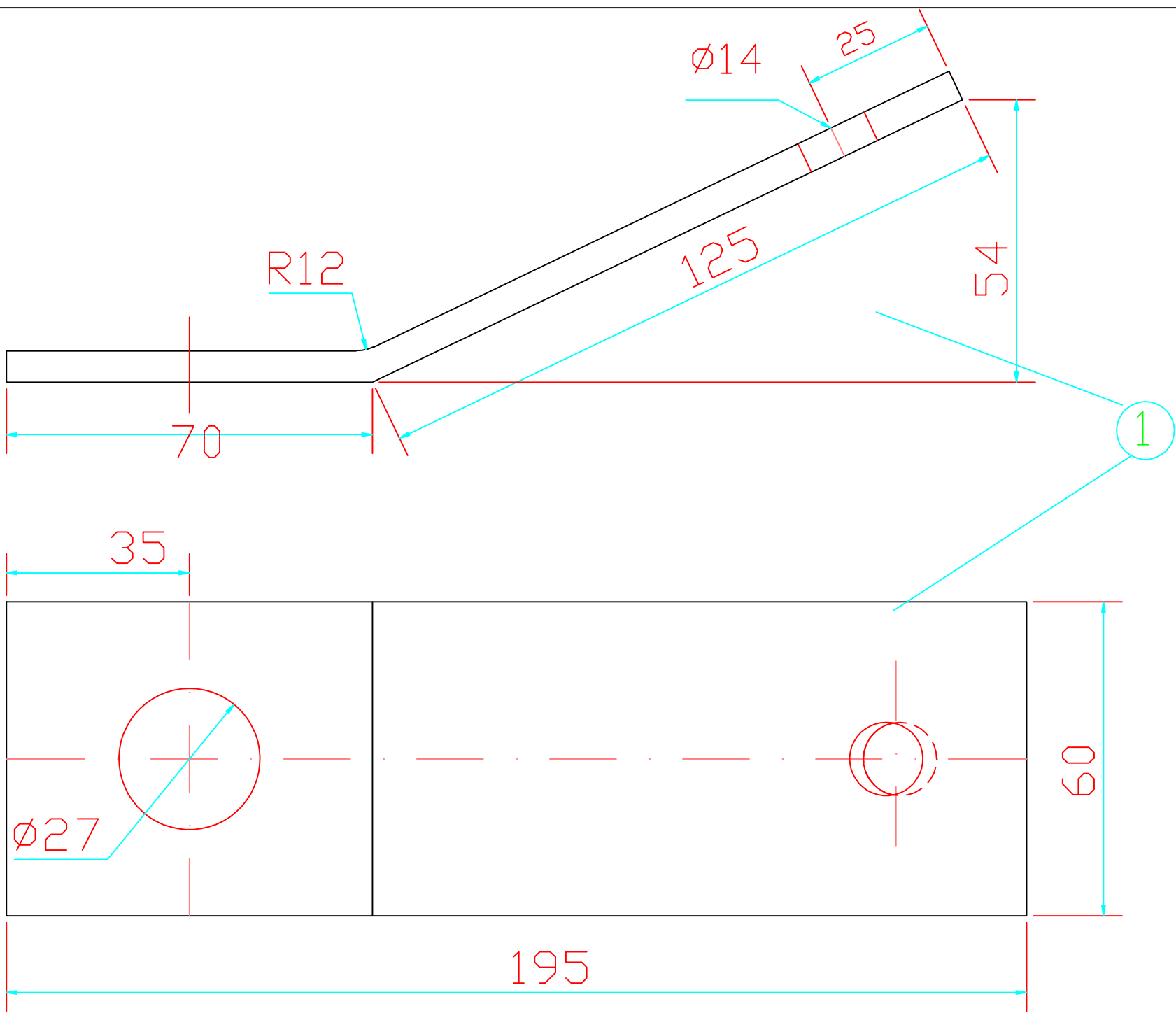
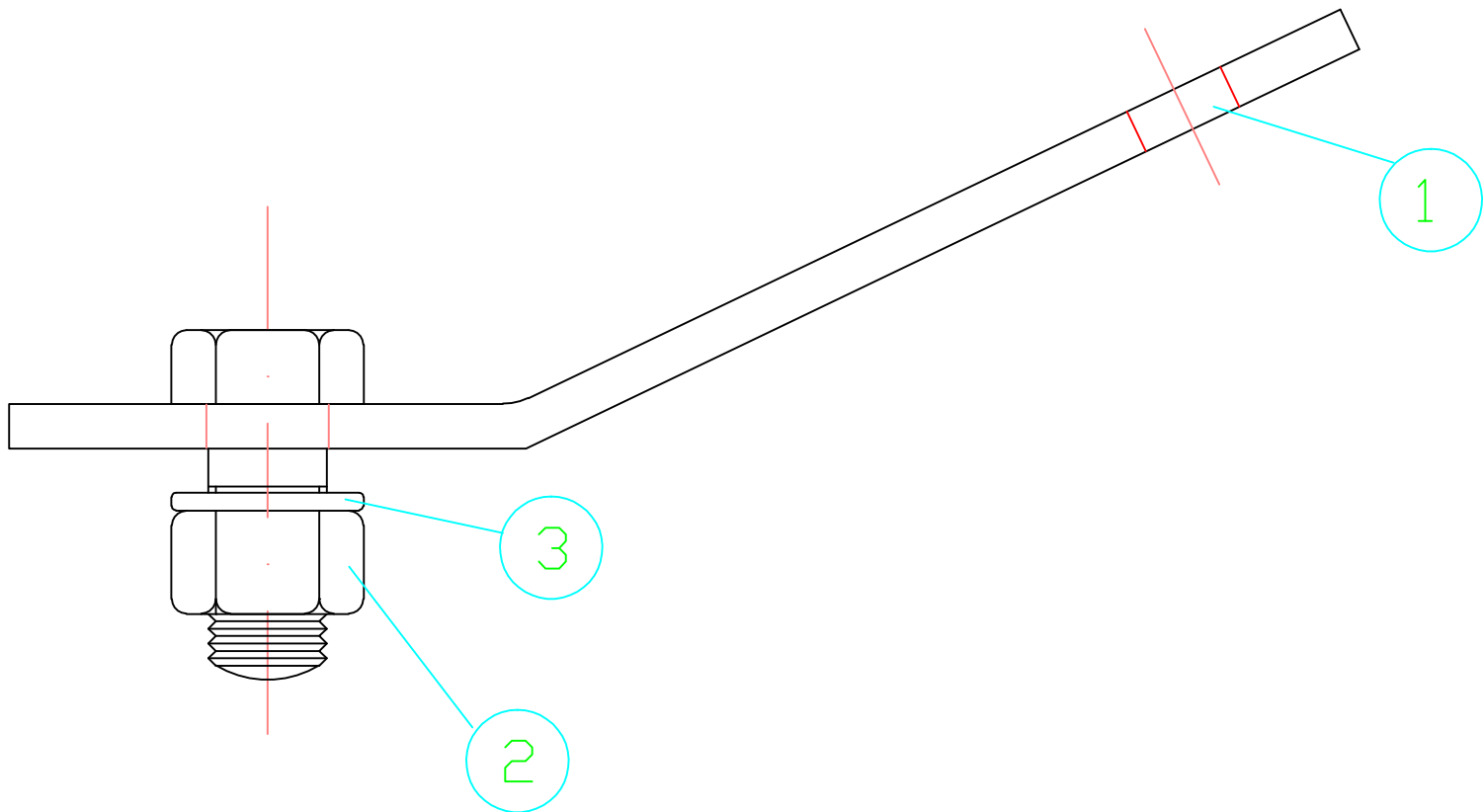
Fuse Holder
Elbow Plate

Item	Quant.	Description	measurement
1	1	Elbow Plate -electrolytic copper thickness of 6mm	According to the plan
2	1	Plate -electrolytic copper 6mm	According to the plan
3	2	Copper Bolt M6*30	
4	4	Copper nut M6	
5	2	Copper spring washer M6	

Description of Fuse Holder Model K1750/1 Components

Component

E



شركة توزيع كهرباء محافظات غزة
GEDCO

Prepared: Eng. ziad ALHoussaini

Checked By: Eng. Kamil Rabah

Steel plate holding surge
arrestor

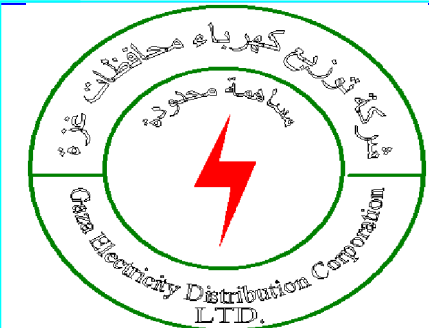
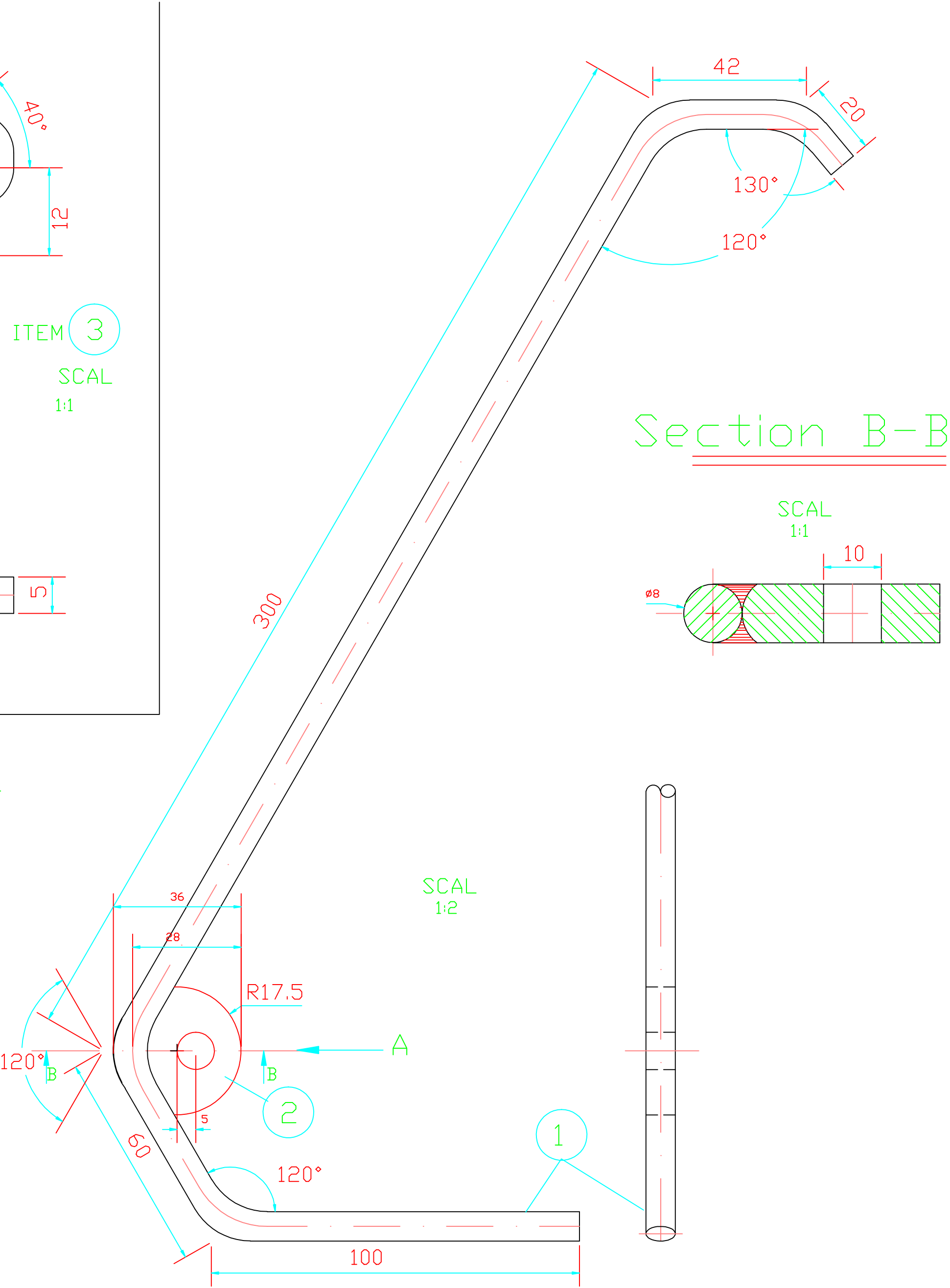
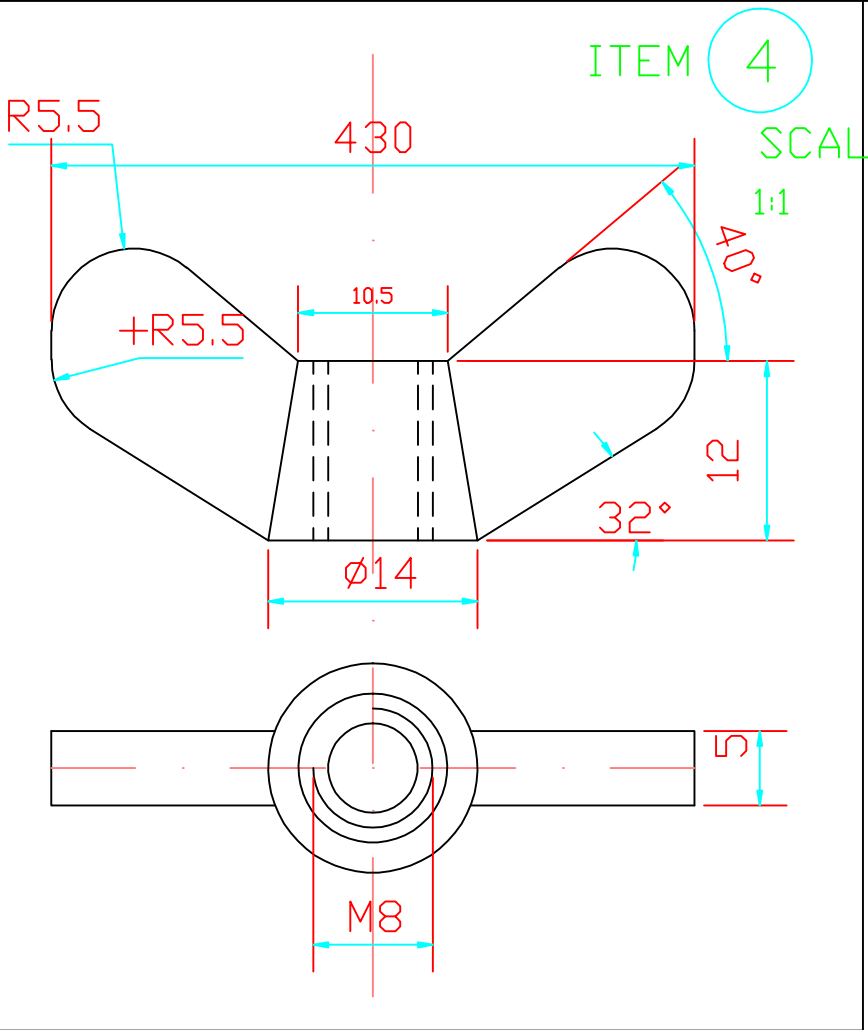
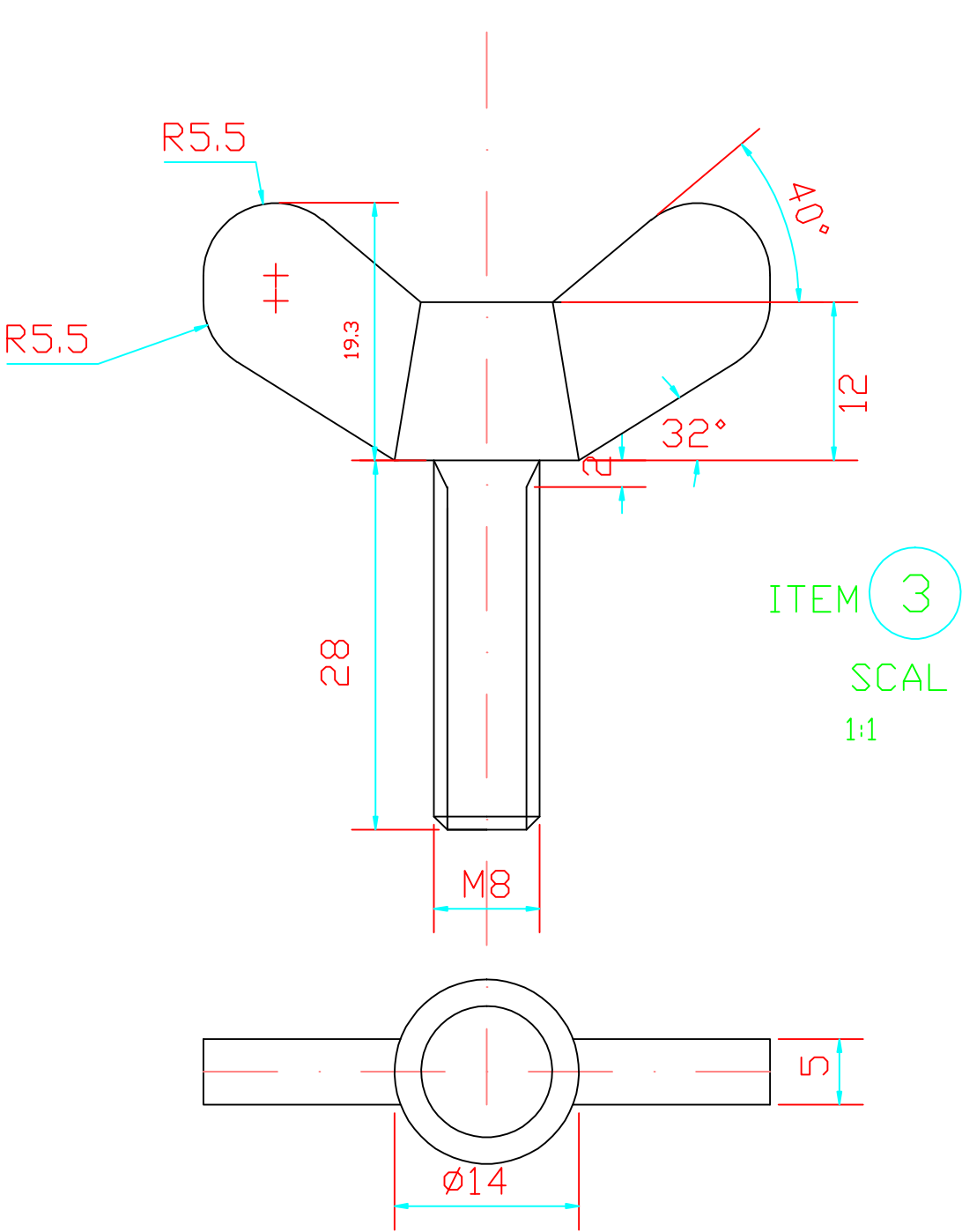
Note: material Rst. 37.2
hot dip galvanized

Item	Quant.	Description	measurement
1	1	Plate thickness of 6mm	195*60
2	1	UNC Bolt 1"*50mm	
3	1	nut 1"	
4	1	Ring washer 1"	

Description of Fuse Holder Model K1750/1 Components

Component

(Two Sets)



شركة توزيع كهرباء محافظات غزة
GEDCO

Prepared: Eng. ziad ALHoussaini

Checked By: Eng. Kamil Rabah

Horn

Note: The Horn must be shaped as drawing on cold without heating

Item	Quant.	Description	measurement
1	1	Horn electrolytic copper Ø8mm	According to the plan
2	1	Plate -thickness of 8mm	35*28
3	1	Copper Butterfly Bolt M6*30	According to the plan
4	1	Copper Butterfly nut M8	According to the plan
5	2	Copper Ring washer M8	

Technical Guarantees No. GDI_320**22kv Overhead Line Toughened Tension Glass Disk Insulator with Ball and Socket**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Design Standards		BS137& IEC60120			
5	Insulator material		Glass			
6	Min. Mechanical Failing Load	kN	70			
8	Weight	Kg				
9	Creepage Distance	mm	320			
10	Diameter	mm	255			
11	Ball Size	mm	Φ16			
12	Dimensions		as Below Drawing			
13- Power Frequency withstand Voltage (1min)						
13.1	a)Dry	kV	70			
13.2	b)Wet	kV	40			
13.3	c)Positive Dry Impulse +VE	kV	100			
13.4	d)Negative Dry Impulse -VE	kV	103			
14	Min Puncture Voltage in Oil	kV	130			
15	Phosphorous Bronze Security Clip (BS 3288 Part 4)		W-CLIP			

Technical Guarantees No. GF_35**22kv Glass Fuse Link 35A**

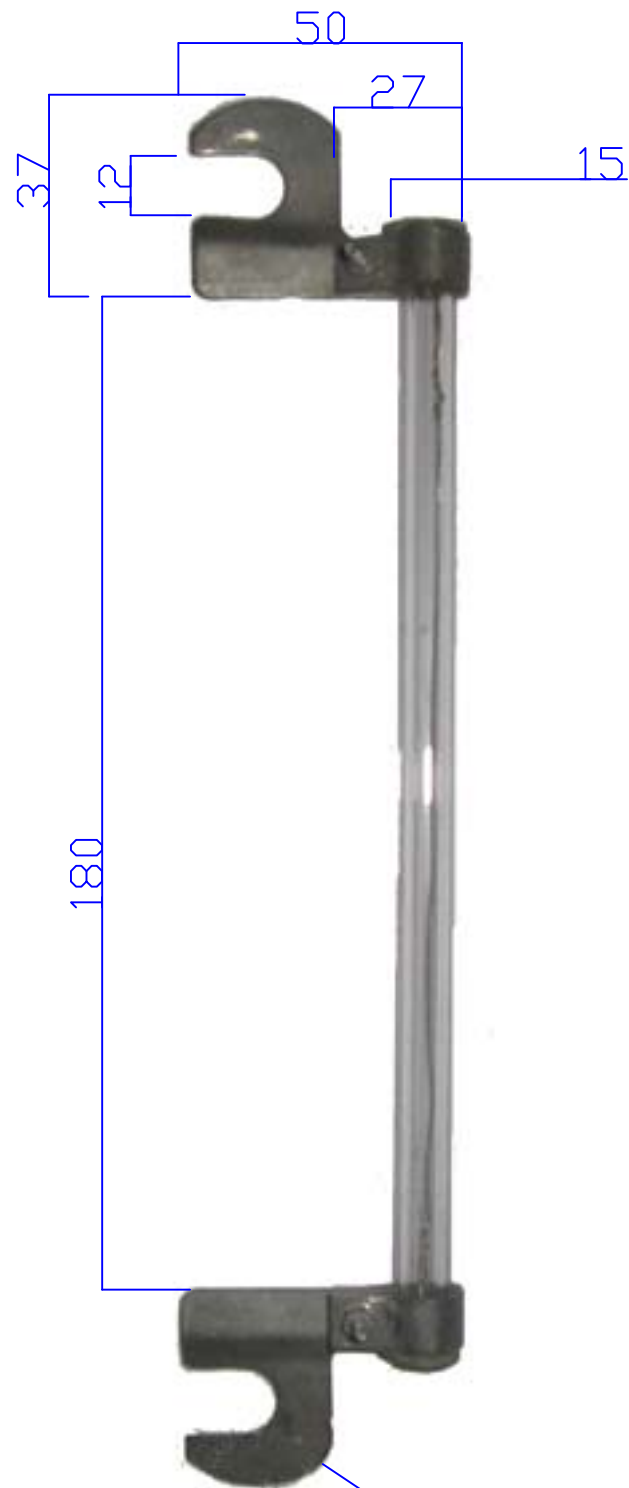
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards					
4	Rated Voltage	kV	24			
5	Fuse Link Material		Shall be filled by manufacturer			
6	Fuse Link Type		Single Wire			
7	Fuse Link cross section	mm ²	Shall be filled by manufacturer			
8	Fuse Link Current	A	35			
9	Basic parts Material		Glass			
10	Metal parts		Tin Plated Copper			
11	Dissipated power (W)	W	Shall be filled by manufacturer			
12	Accessories		As Drawing			
13	Quality Certification		Required			
14	Dimensions		As Drawing			
15	Attached Drawing		Drawing No. GF_35			

Tenderer's Signature :

Date:

GF_35

22kv Glass Fuse Link 35A



Tin Plated Copper 1mm

Technical Guarantees No. GF_50**22kv Glass Fuse Link 50A**

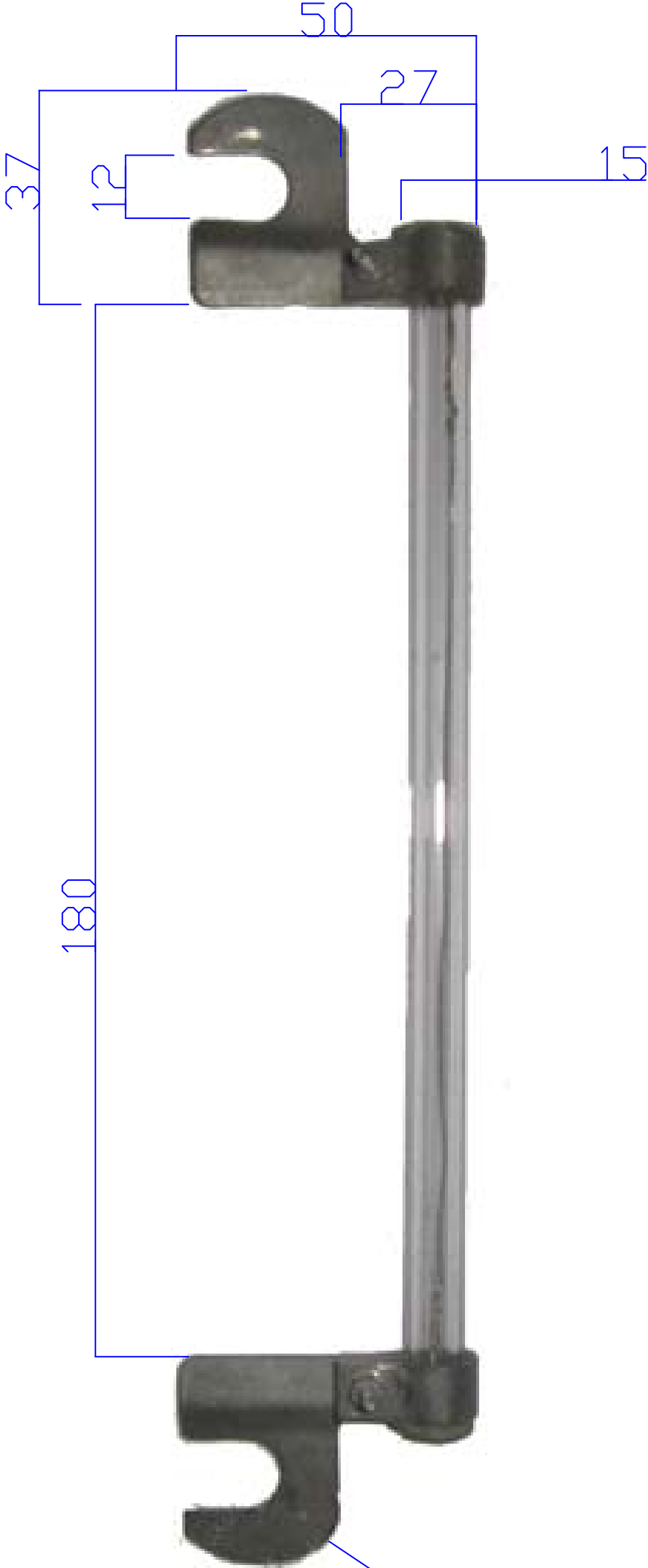
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards					
4	Rated Voltage	kV	24			
5	Fuse Link Material		Shall be filled by manufacturer			
6	Fuse Link Type		Single Wire			
7	Fuse Link cross section	mm ²	Shall be filled by manufacturer			
8	Fuse Link Current	A	50			
9	Basic parts Material		Glass			
10	Metal parts		Tin Plated Copper			
11	Dissipated power (W)	W	Shall be filled by manufacturer			
12	Accessories		As Drawing			
13	Quality Certification		Required			
14	Dimensions		As Drawing			
15	Attached Drawing		Drawing No. GF_50			

Tenderer's Signature :

Date:

GF_50

22kv Glass Fuse Link 50A



Tin Plated Copper 1mm

Technical Guarantees No. HMC_01

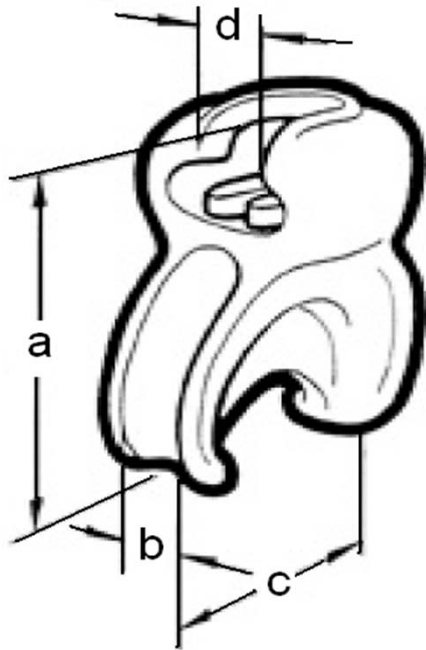
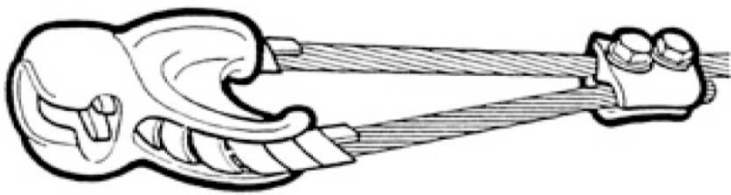
Strain Thimbles with Socket (Half Moon Clamp)

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Connecting Dimensions Standards		DIN 48064			
4	Material Standards		DIN 1692			
5	Surface Standards		DIN 50976			
6	Material		Malleable cast iron GTS-45			
7	Surface		Hot-dip Galvanized			
8	Nominal Load	KN	110			

Technical Guarantees No. HMC_01

Strain Thimbles with Socket (Half Moon Clamp)

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
9	thermal overload current	KA	14			
10	Construction and Dimensions	mm	As Below Drawing			



DIMENSIONS mm			
a	b	c	d
92	19	70	16

Tenderer’s Signature :

Date:

Technical Guarantees No. HST_39**Flame Retardant Heat Shrinkable Tube with Shrink Ratio 3:1**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		IEC243 , IEC251			
4	Description		Environment friendly flame retardant heat shrinkable tube			
5	Operating Temperature	C°	-55 to+125 C			
6	Rated Voltage	kv	0.6/1			
7	Material		High Quality Polymer			
8	Min. / Max. Cable Outer Diameter	mm	13 / 38			
9	Cable Outer Sheath	mm	PVC or LDPE			
10	Dielectric strength	KV/mm	≥20			
11	Tensile strength	Mpa	≥13			
12	Tensile strength after aging	Mpa	≥11			
13	Ultimate Elongation	%	≥300			
14	Tube Size Before Heating	mm	39			
15	Tube Size after Heating	mm	13			
16	Tube Min. Thickness	mm	1.15			
17	Colour		Red, Yellow, Blue and Black			
18	Delivery type		as required length/4 clour			

Tenderer's Signature :

Date:

Technical Guarantees No. HST_50/16**Flame Retardant Heat Shrinkable Tube with Shrink Ratio 3:1**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards		IEC243 , IEC251			
4	Description		Environment friendly flame retardant heat			
5	Operating Temperature	C°	-55 to+125 C			
6	Rated Voltage	kv	0.6/1			
7	Material		High Quality Polymer			
8	Min. / Max. Cable Outer Diameter	mm	16/48			
9	Cable Outer Sheath	mm	PVC or LDPE			
10	Dielectric strength	KV/mm	≥20			
11	Tensile strength	Mpa	≥13			
12	Tensile strength after aging	Mpa	≥11			
13	Ultimate Elongation	%	≥300			
14	Shrink Ratio		3:1			
15	Tube Size Before Heating	mm	50			
16	Tube Size after Heating	mm	16			
17	Tube Min. Thickness	mm	1.2			
18	Colour		Black			

Tenderer's Signature :

Date:

Technical Guarantees No. LTPI_01**Low Tension Shackle Porcelain Insulator for Earth line Including Bracket and Bolt**

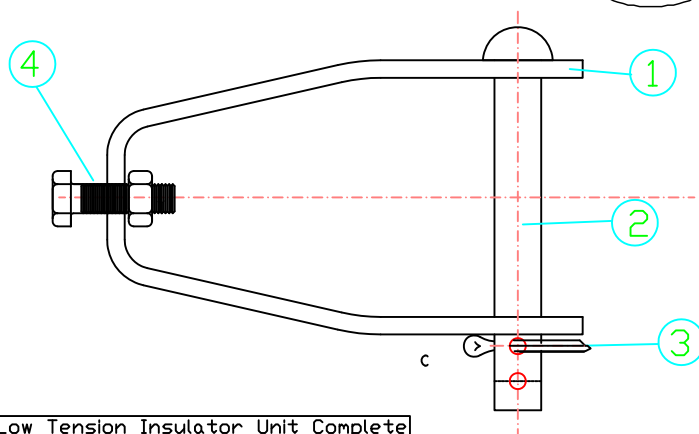
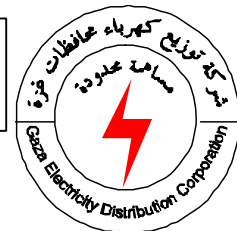
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Design Standards		BS , IEC			
4- Material						
4.1	Shackle Insulator		Porcelain			
4.2	U - Bracket		Hot-Dip Galvanized Steel			
4.3	Nail		Hot-Dip Galvanized Steel			
4.4	Buckle		Copper Plated			
4.5	Steel Bolt with Nut and Washers (for Connecting with the Pole)		Hot Galvanized Bolt 5/8"-35mm			
5	Dimensions		As Drawing			
6	Insulator Mechanical Failing Load	KN	13			
7	Bracket Ultimate Tensile Strength	KN	20			
8- Insulator Power Frequency withstand Voltage (1min)						
8.1	Dry	kV	25			
8.2	Wet	kV	12			
9	Accessories		U - Bracket , Nail & Buckle , Steel Bolt			
10	Attached Drawing		Drawing No LTPI_01			

Tenderer's Signature :

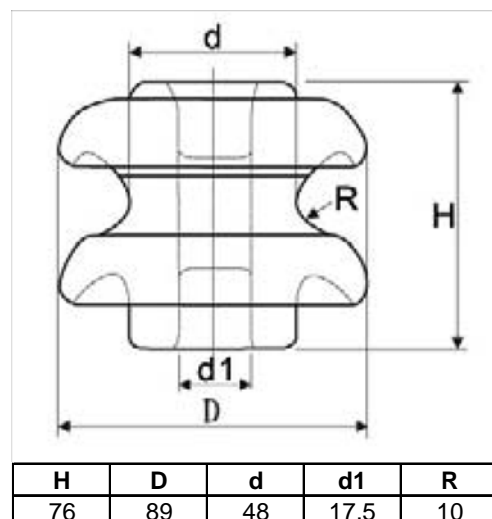
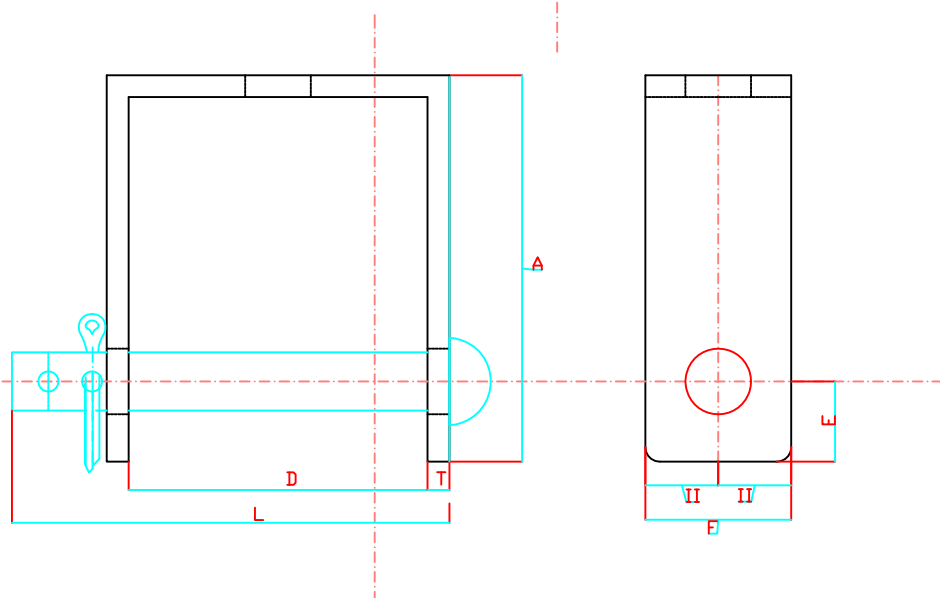
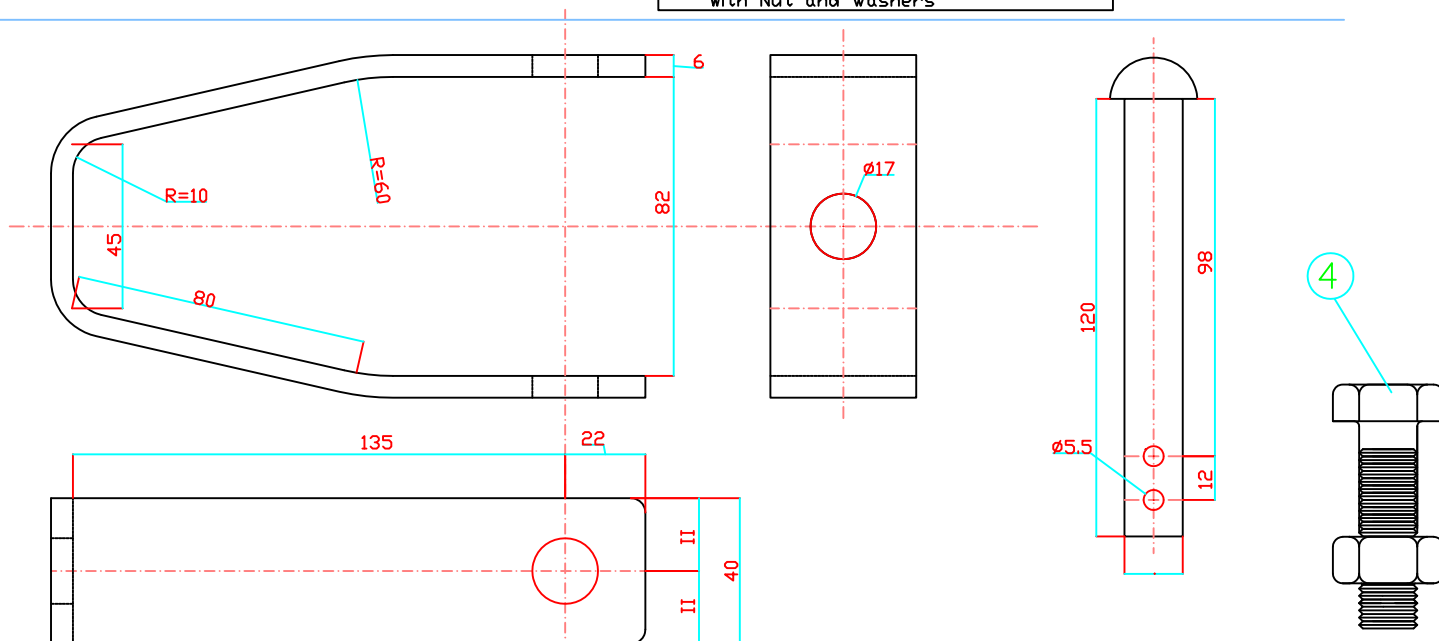
Date:

LTPI_01

Low Tension Shackle Porcelain Insulator for Earth line



- | | |
|---|--|
| 1 | Low Tension Insulator Unit Complete
Ø40*6 |
| 2 | Iron Nail 5/8" |
| 3 | Copper Nail Buckle |
| 4 | 5/8" Hot Galvanized Steel Bolt 3.5cm
with Nut and Washers |



H	D	d	d1	R
76	89	48	17.5	10

Technical Guarantees No. PPYI_800

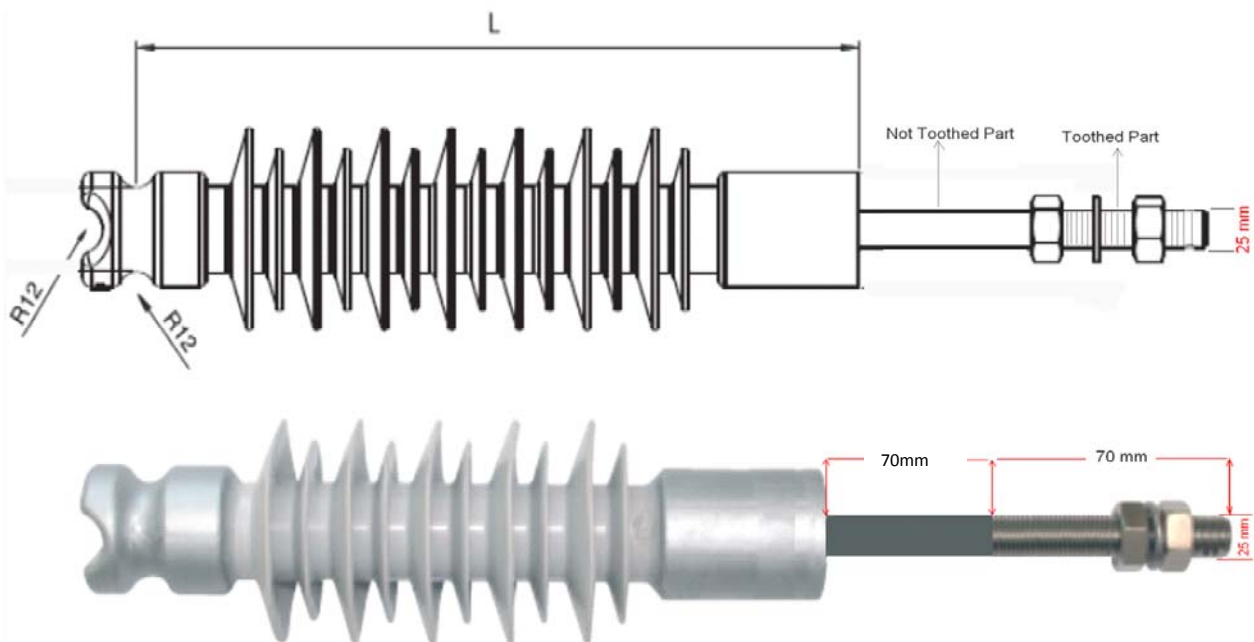
22kv Overhead Line Pin Type Polymer Insulator with Creepage Distance 800 mm

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Design Standards		IEC 61109 , IEC 60815			
4	Nominal System Voltage	kV	24			
5	Type		Pin Type			
6	Insulating Material		Composite Polymer			
7	Housing		Silicon			
8	Metal Parts		Hot Dip Galvanized			
9	Number of Sheds					
10	Total Length (L)	mm				
11	Shed Diameter	mm				
12	Min. Creepage Distance	mm	800			
13	Cantilever Strength	KN	12.5			
14	Total Weight	Kg				
15- Power Frequency withstand Voltage (1 min)						
15.1	a) Dry	kV	70			
15.2	b) Wet	kV	50			
15.3	c) Impulse +VE & -VE	kV	150			
16- Flashover Voltage						
16.1	a) Power Frequency (Dry)	kV	100			
16.2	b)Power Frequency (Wet)	kV	70			
16.3	c) Impulse +VE & -VE	kV	160			

Technical Guarantees No. PPYI_800

22kv Overhead Line Pin Type Polymer Insulator with Creepage Distance 800 mm

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
17- Fittings						
17.1	Pin Diameter (stud)	mm	25			
17.2	Pin Not_Toothed Part Length	mm	70			
17.3	Pin Toothed Part Length	mm	70			
17.4	The Top slot Diameter	mm	24			
17.5	Pin Accessories		Nuts and Washers			
18	Type Test Certificates/Reports from internationally reputed testing agency		Required			
19	Dimensions		as Below Drawing			



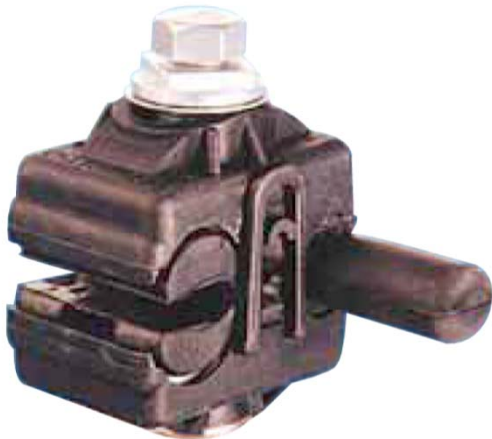
Tenderer's Signature :

Date:

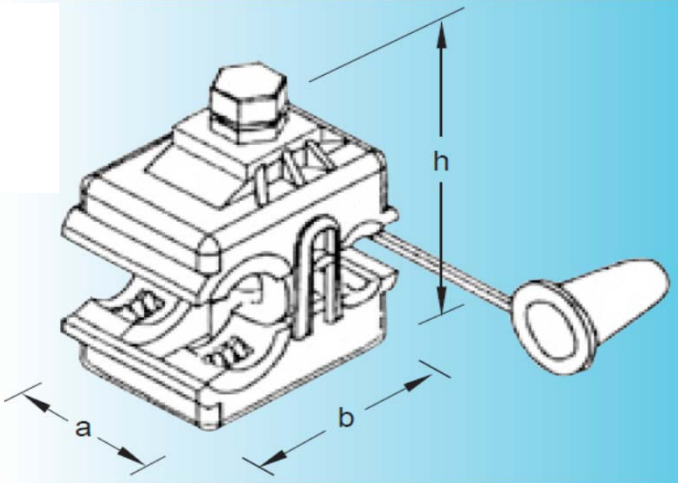
Technical Guarantees No. PTAP_150

ABC Cables Insulation Piercing type Connectors with Simultaneous 35/150 - 6/35 mm2

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Standards		NFC 33020			
4	Rated Voltage (Uo/U)	kV	0.6/1			
5	Construction					
	Body		Weather and UV resistant Glass Fibre Reinforced Plastic			
	Contact plate (teeth)		Aluminum alloy			
	Cable end cap		PVC			
	Sealing cover		Thermoplastic elastomer (TPE)			
	Bolt and washer		Stainless steel or hot galvanized steel , The bolt is equipped with a second (shear-head) nut			
6	Connector Capacity (Main)	mm ²	35-150			
7	Connector Capacity (Tap)	mm ²	6-35			



h= 77 mm
b= 46 mm
a= 36 mm



Tenderer’s Signature :

Date:

Technical Guarantees No. SA_19

Metal-Oxide Surge Arresters gap-less Type for 22KV Network With Silicon-Polymeric housing

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Standards		ANSI C62.1 / IEC60099_4			
4	Surge arrester Type		10kA Heavy Zinc Oxide Duty Polymer Gap- Less			
5- Service Conditions						
5.1	Ambient air temperature		-10 °C to 55°C			
5.2	Temperature with solar radiation		65 °C			
5.3	Installation		Outdoor			
5.4	Type of installation		Phase to earth			
5.5	Nominal syst. Voltage between phases	kV	22			
5.6	Max. syst. Voltage between phases	kV	24			
5.7	Rated Frequency	Hz	50			
6	Impulse withstand Voltage 1,2/50 µs	kV	125			
7	Maximum continues operating voltage (M.C.O.V)	kV	19.5			
8- Temporary overvoltages: Utov						
8.1	a) For 1 sec.	kV				

Technical Guarantees No. SA_19**Metal-Oxide Surge Arresters gap-less Type for 22KV Network With Silicon-Polymeric housing**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
8.2	b) For 10 sec.	kV				
9	submit arrester curves of U_{tov} as function of their duration at 40-60 °C ambient temperature		Should be submitted			
10	Nominal discharge current (8/20 μ s) In	kA peak	10			
11	Partial discharge at 1.05 U_c		≤ 5 pc			
12	Arrester housing Material		High quality Silicon-Polymeric			
13	Creepage Distance	mm	910			
14	Equivalent Front-of-Wave (maximum discharge voltage for a 10 kA impulse current wave which produces a voltage wave cresting in 0.5 μ s.)	kV Crest	≤ 88			
15- Max. Discharge Voltage Using an 8/20 μs Current Impulse						
15.1	a) 2.5 KA	kV	≤ 65			
15.2	b) 5 KA	kV	≤ 70			
15.3	c) 10 KA	kV	≤ 75			
15.4	c) 20 KA	kV	≤ 80			
16- Discharge current withstand						
16.1	a) High current impulse 4/10 μ s	KA _{peak}	100			
16.2	b) Long duration current 2000 μ s	A _{peak}	250			

Technical Guarantees No. SA_19**Metal-Oxide Surge Arresters gap-less Type for 22KV Network With Silicon-Polymeric housing**

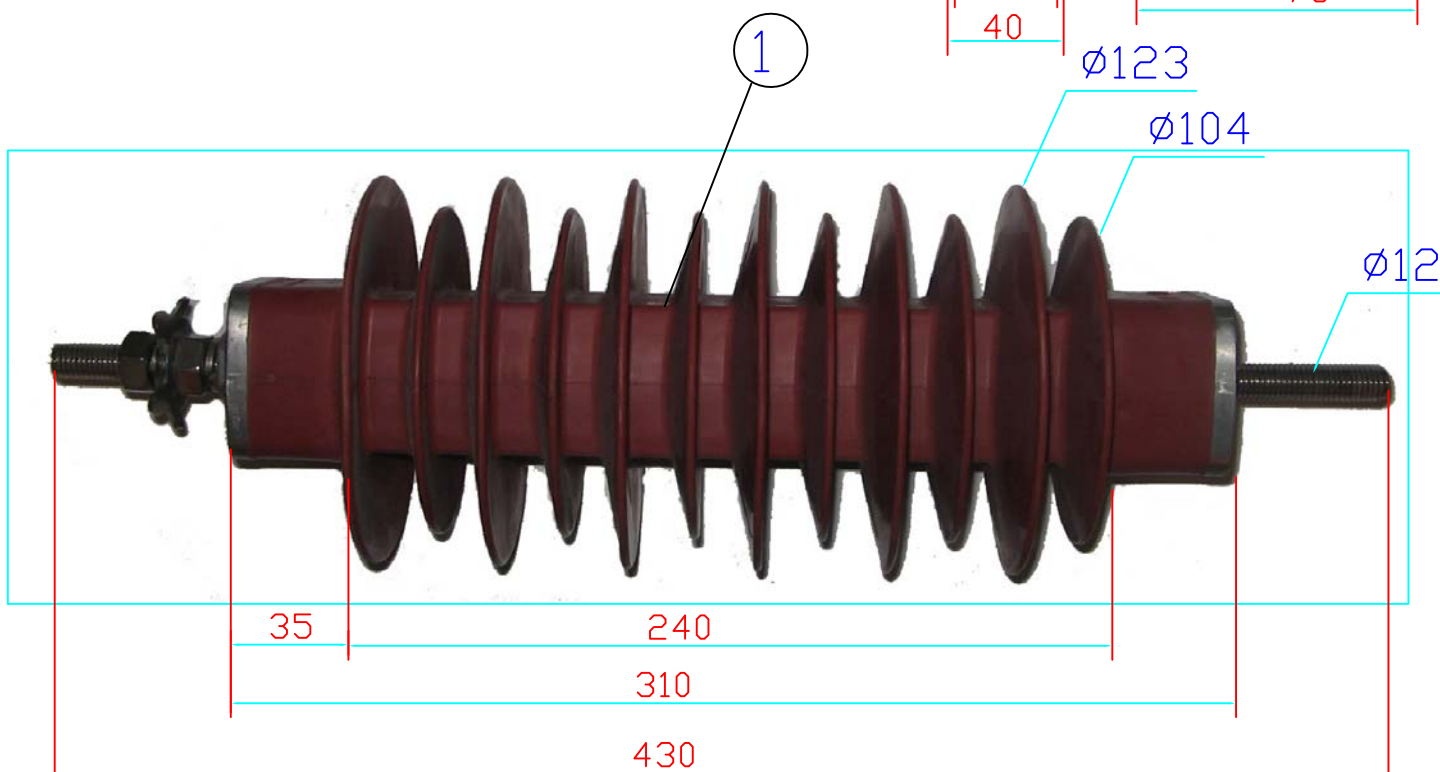
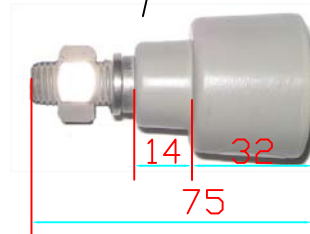
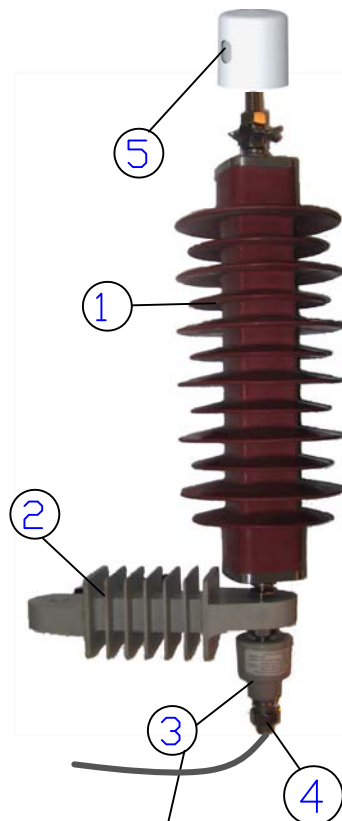
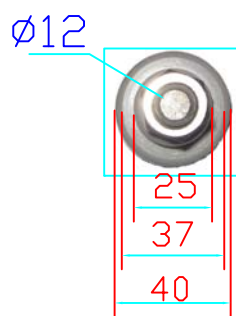
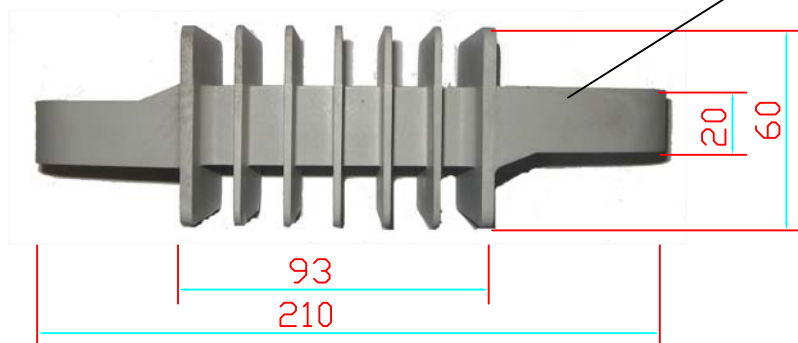
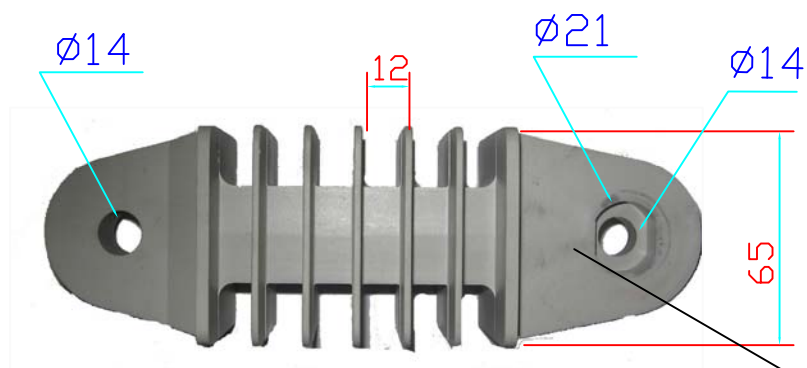
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
17	All Test reports for all materials of surge arrester		should be submitted			
18- Additional equipment & fittings:						
18.1	a) Disconnecter		Required			
18.2	b) Brackets		Required			
18.3	c) Bird cap		Required			
18.4	b) Earth lead		Required			
18.4.1	Earth lead Cable Material		Extra Flexible PVC Insulated Copper (Multi Stranded Wires according to DIN VDE 0295 Class5)			
18.4.2	Earth lead Cable Length	m	0.5			
18.4.3	Earth lead Cable Cross Section	mm ²	70			
18.4.4	Suitable 2 Each Compression lug with 13 mm Hole for Earth Lead		Required			
19	Type Test Certificates /Reports from internationally reputed testing agency (According IEC 60099-4)		Required			
20	Attached Drawing		Drawing No SA_19			

Tenderer's Signature :

Date:

SA_19

Surge Arrestor



Outdoor Metal Oxide
Surge Arrestor
M.C.O.V 19.5 KV

- | | |
|---|----------------|
| 1 | Surge Arrestor |
| 2 | Bracket |
| 3 | Disconnecter |
| 4 | Ground lead |
| 5 | Bird Cap |

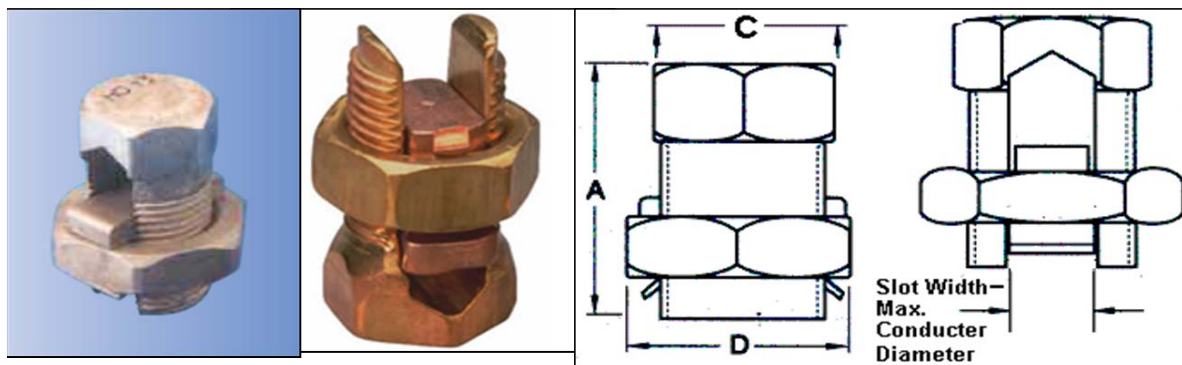
Note: According to the attached specification

Prepared: Eng. ziad ALHoussaini

Checked By: Eng. Kamil Rabah

Technical Guarantees No. SBC_35**Copper Split-Bolt Connector with Hexagonal Head For Conductor 6/35 mm² CU**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Standards		BS 2874 -CZ 112			
4	Material		Brass (CuZn)			
5	Pressure pad		Extruded bars (Not Cast)			
6	Surface		Uncoated or Tin-Plated			
7	Conductor Diameter	mm	5.3-8			
8	Conductor Connection		Connect two conductors over each other			
9	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			
10	Total Weight	gr	57			



A = 31 mm
D = 23.3 mm
C = 18 mm

Tenderer's Signature :

Date:

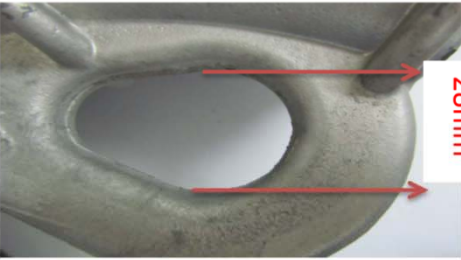
Technical Guarantees No. SCT_150**Strain Clamp for ACSR Wire 150/25 mm²**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Reference Manufacturing Standards					
4	Description		Dead End Tension Clamp			
5	Material					
	a) Body and keeper		High Strength Corrosion Resistant Aluminium alloy			
	b) Bolts and Nuts		Hot Galvanized Steel			
6	Conductor Type and Code		ACSR - 150/25			
7	Conductor Diameter	mm	16-17.5			
8	Bolts		4 x M12			
9	Bolt Torque Moments	Nm	80			
10	Failure Load	KN	70			
11	Metal Stamping		Required including manufacturer Logo and the Size of the Clamp			
12	Dimensions		as Below Drawing			

Technical Guarantees No. SCT_150

Strain Clamp for ACSR Wire 150/25 mm²

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
----	-------------	------	--------------	--------------	---------------------------------------	-------------------------------



I enderer's Signature :

Date:

Technical Guarantees No. STB_204**Stainless Steel Band**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Standards					
4	Material		201 Stainless Steel			
5	Coil		The steel band Roll Must be properly coiled on Reinforced weatherproof plastic Totes			
6	Width	mm	12.7			
7	Thickness	mm	0.76			
8	Cabbaged Length on the tote	m	30			



Tenderer's Signature :

Date:

Technical Guarantees No. STB_254**Stainless Steel Ear-Lokt Buckle**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Standards					
4	Description		Buckle to hold wrapped band for cable bundling			
5	Construction		with teeth and ears provide for maximum clamping strength			
6	Material		201 Stainless Steel			
7	Entry Slot High (for Band Thickness 0.76mm)	mm	2.3			
8	Min. Width (for Band Width 12.7mm)	mm	15			



Tenderer's Signature :

Date:

Technical Guarantees No. STC_151**Steel Twisted Clamp with Ball Eyes**

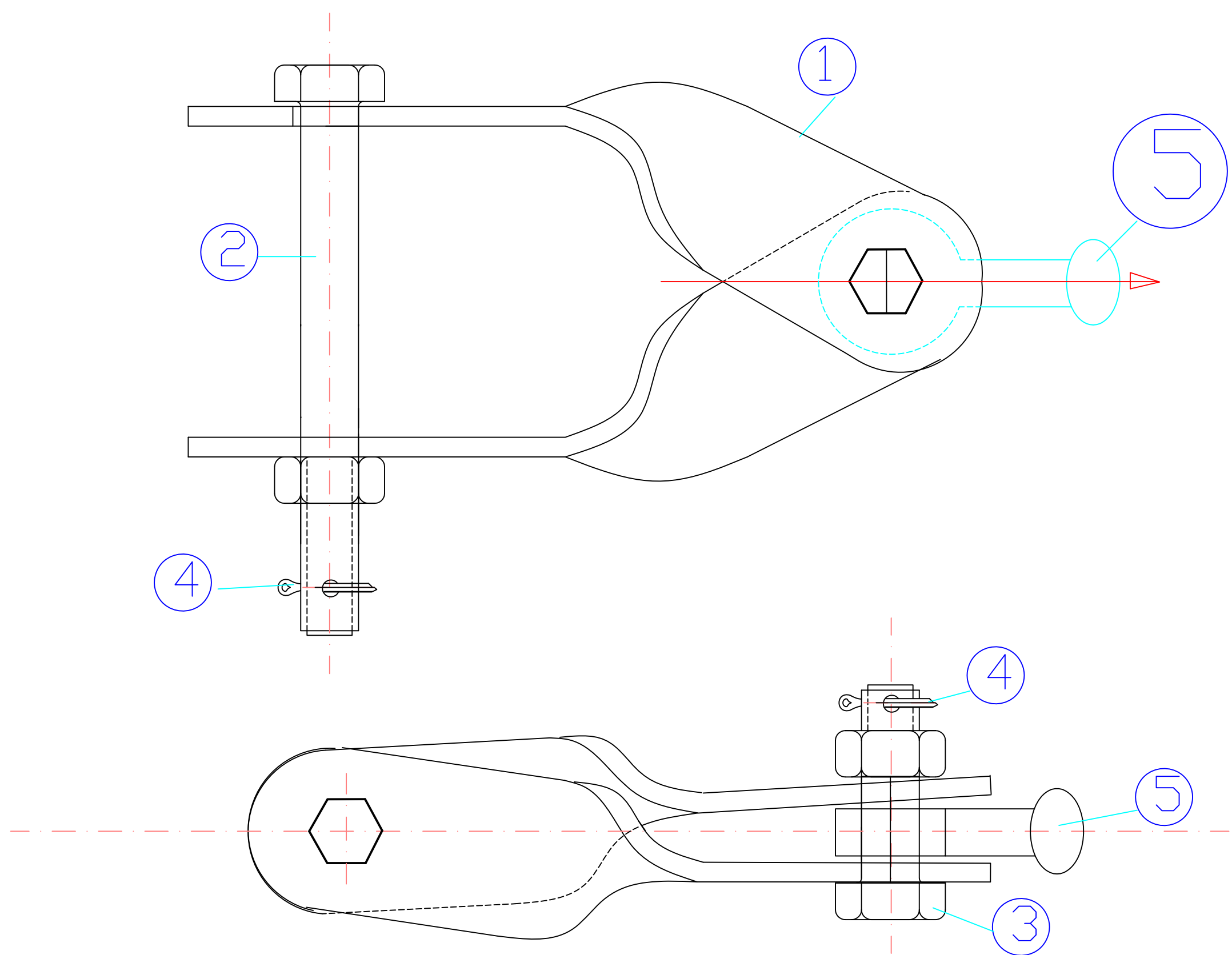
No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Standards		DIN48064 , DIN48074			
4	Description		Steel Clamp to Connect Tension Unit with Arm			
5	Steel Twisted Clamp Material		Hot-Dip Galvanized Steel			
6	Ball Eyes Material		Heat-Treated Steel acc. to DIN 17200, forged.			
7	Ball Eyes Surface		Hot-Dip Galvanized Steel			
8	Bolts & Nuts Material		Hot-Dip Galvanized Steel			
9	Construction and Dimensions	mm	As Drawing			
10	Nominal Load	KN	135			
11	Ball Eyes thermal overload current	KA	14			
12	Attached Drawing		Drawing No. STC_151			

Tenderer's Signature :

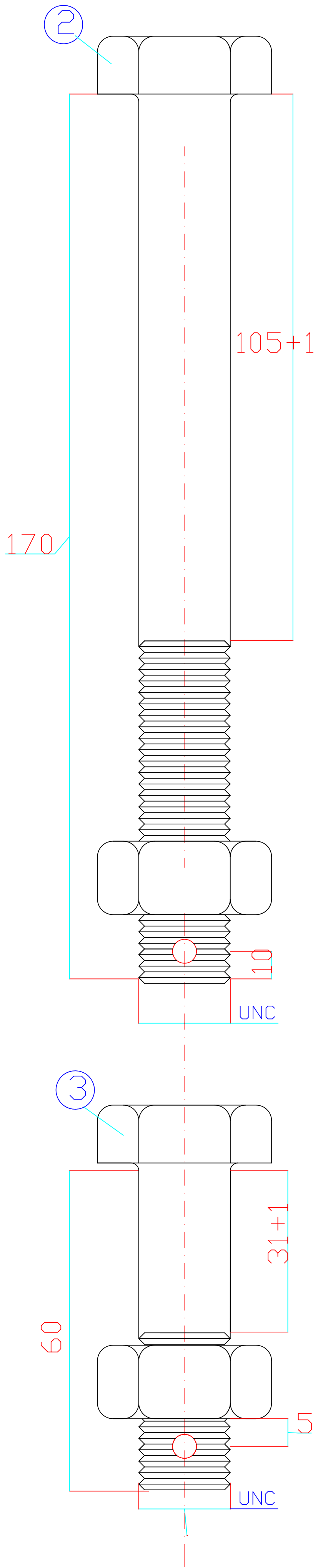
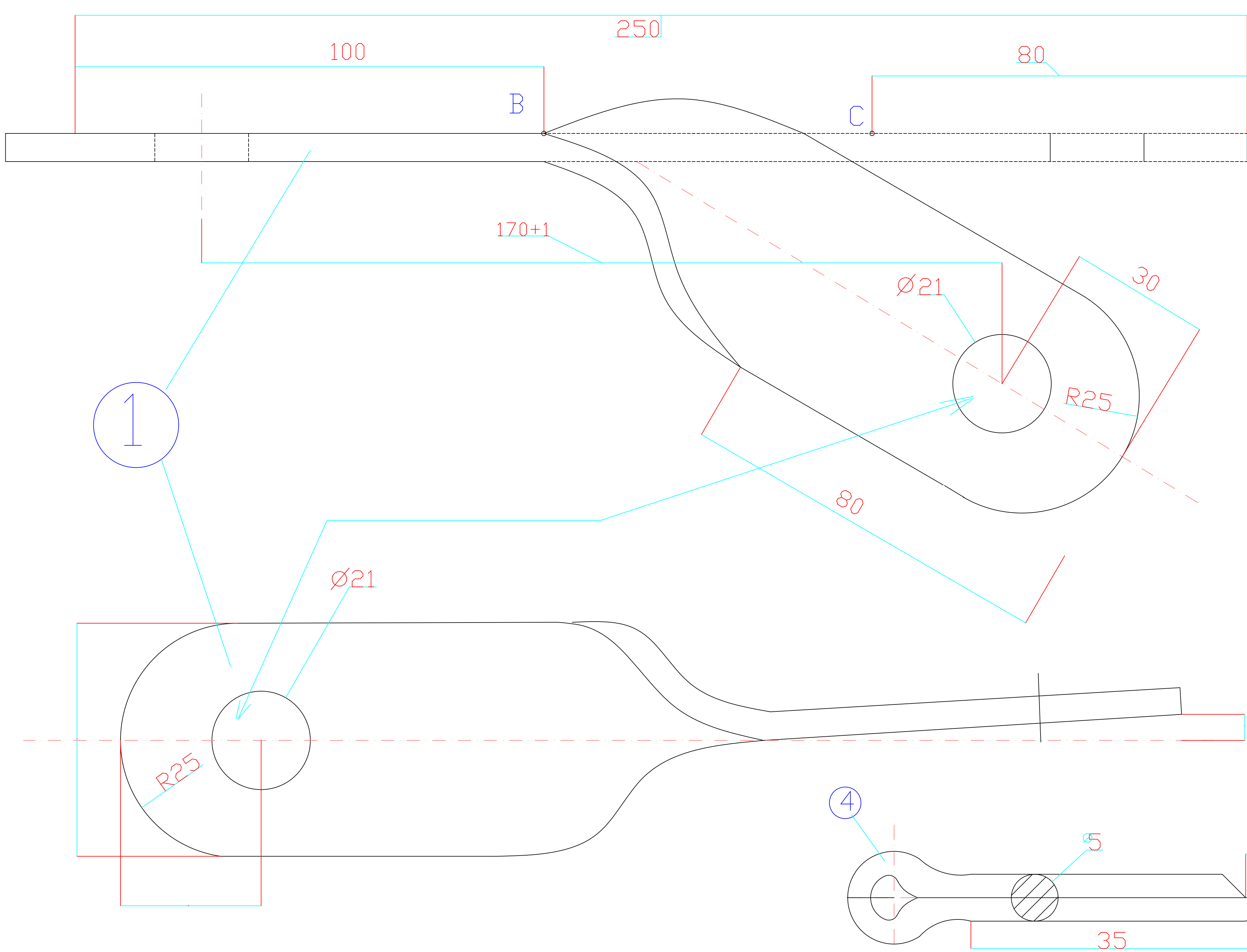
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STC_151

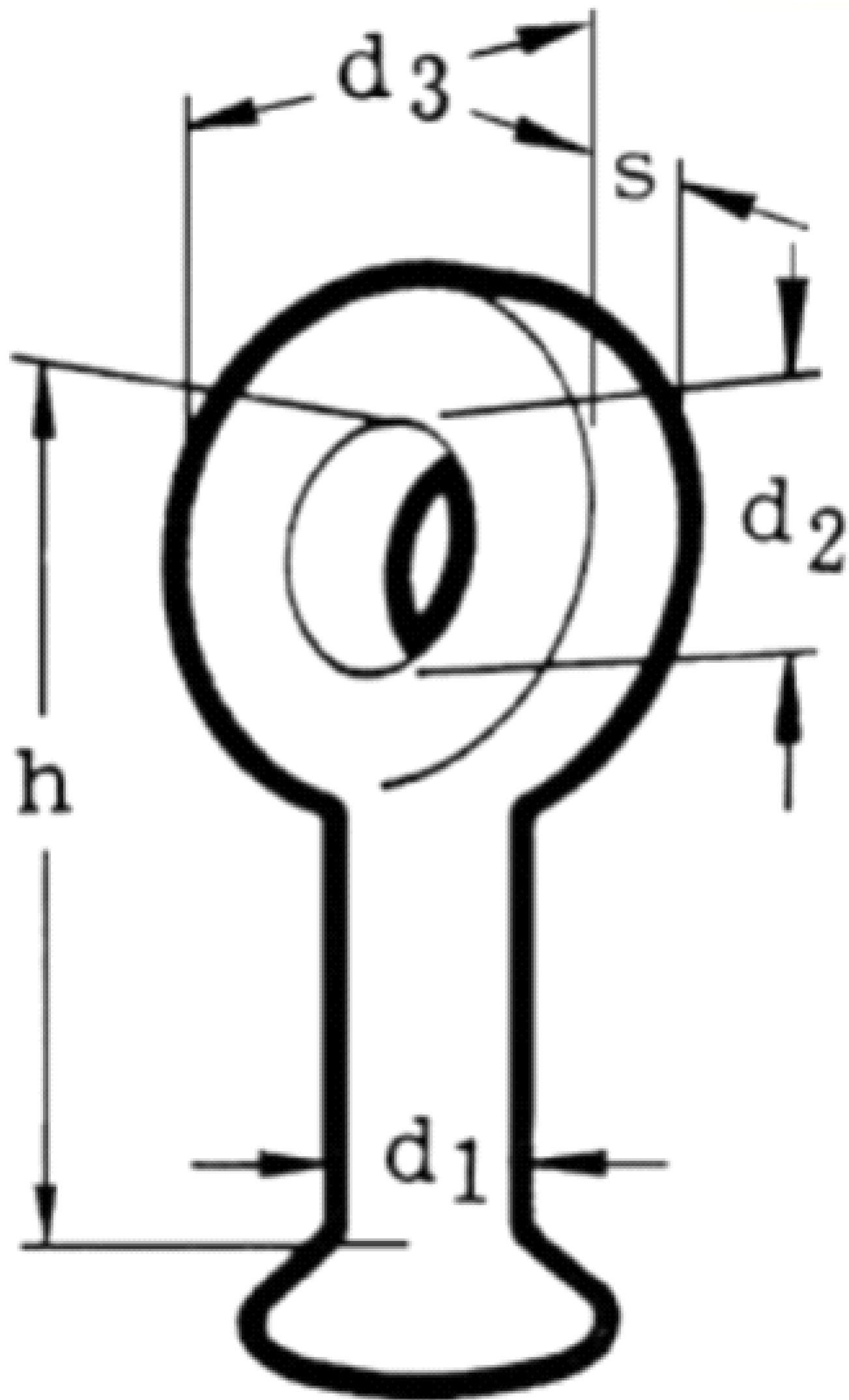
Steel Twisted Clamp
Including ball eyes



5



Bending Item 3 by 90 degree and the distance between C and B should be 70 mm
Item 1 should be Steel RSt37.2
All items should be Coated by Hot zinc



5

DIMENSIONS mm						
h	d1	d2	d3	d4	s	s1
80	20	50	50	50	19	19

Total		DIMENSIONS	Item	Name	Qty
		K758	5	ball eyes	1
	35	5Ø	4	Partition Buckle	2
		3/4"-60/30	3	Bolt with Nut	1
		3/4"-170/65	2	Bolt with Nut	1
250	250	Ø 50*6	1	Connection Plate	2

Technical Guarantees No. TAP_95**Tap Connector 25-95/25-95 mm² for ABC Cable**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Standards		NFC 33020			
4	Rated Voltage (Uo/U)	kV	0.6/1			
5	Description		Waterproof Insulation Piercing Connector			
6	Construction					
	Body		Weather and UV resistant Glass Fibre Reinforced Plastic			
	Contact plate (teeth)		Aluminum alloy			
	Cable end cap		PVC			
	Sealing cover		Thermoplastic elastomer (TPE)			
	Bolt and washer		Stainless steel or hot galvanized steel			
7	Connector Capacity (Main)	mm ²	25-95			
8	Connector Capacity (Tap)	mm ²	25-95			
9	Number of Bolts		1			



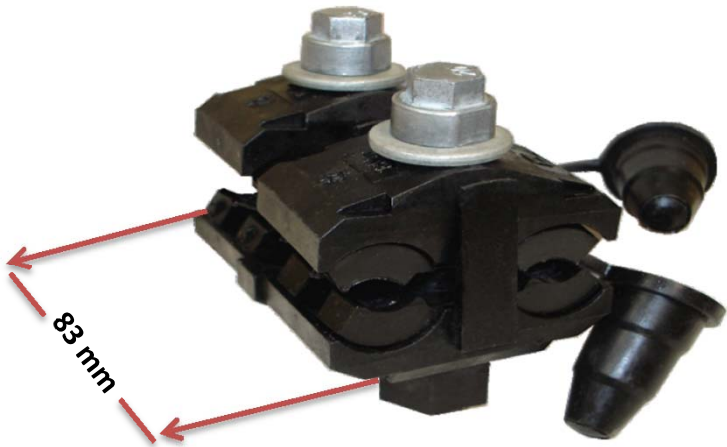
Tenderer's Signature :

Date:

Technical Guarantees No. TAP_150

Tap Connector 35-150/35-150 mm² for ABC Cable

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer		Kfar Menachem or Equivalent			
2	Country of Origin					
3	Reference Standards		NFC 33020			
4	Rated Voltage (Uo/U)	kV	0.6/1			
5	Description		Waterproof Insulation Piercing Connector			
6	Construction					
	Body		Weather and UV resistant Glass Fibre Reinforced Plastic			
	Contact plate (teeth)		Aluminum alloy			
	Cable end cap		PVC			
	Sealing cover		Thermoplastic elastomer (TPE)			
	Bolt and washer		Stainless steel or hot galvanized steel			
7	Connector Capacity (Main)	mm ²	35-150			
8	Connector Capacity (Tap)	mm ²	35-150			
9	Number of Bolts		2			



Tenderer’s Signature :

Date:

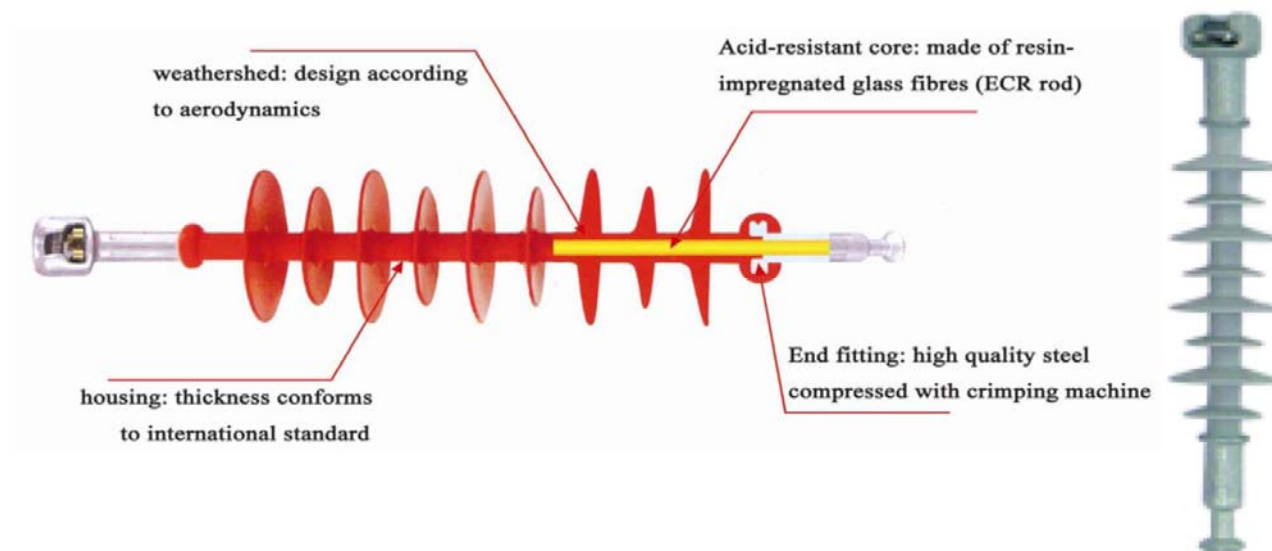
Technical Guarantees No. TPYI_1050**22kv Overhead Line Tension Polymeric Composite Insulator with Ball and Socket and Creepage Distance 1050 mm**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Design Standards		BS 3288 , IEC61109 , IEC60815			
4	Nominal System Voltage	kV	24			
5	Type		Ball and Socket type			
6	Insulating Material		Composite Polymer			
7	Housing		Silicon			
8	Metal Parts		Hot Dip Galvanized			
9	Number of Sheds		Shall be filled by manufacturer			
10	Total Length	mm	Shall be filled by manufacturer			
11	Shed Diameter	mm	Shall be filled by manufacturer			
12	Min. Creepage Distance	mm	1050			
13	Min. Mechanical Failing Load	kN	70			
14	Socket and Ball Size	mm	Φ16			
15	Weight	Kg	Shall be filled by manufacturer			
16	AC 1 min. Flashover (Dry)	kV	130			
17	AC 1 min. withstand (Dry)	kV	120			

Technical Guarantees No. TPYI_1050

22kv Overhead Line Tension Polymeric Composite Insulator with Ball and Socket and Creepage Distance 1050 mm

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to	Evaluation Committee Comments
18	AC 1 min. Flashover (Wet)	kV	120			
19	AC 1 min. withstand (Wet)	kV	95			
20	Type Test Certificates/Reports from internationally reputed testing agency		Required			

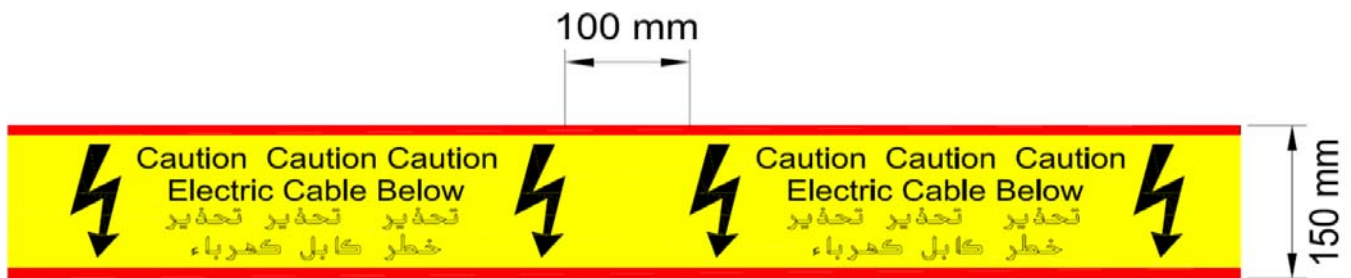


Tenderer's Signature :

Date:

Technical Guarantees No. WT_250**Warning Tape**

No	Description	Unit	Requirements	Offered Data	Notes, Remarks , Ref to Documentation	Evaluation Committee Comments
1	Name of Manufacturer					
2	Country of Origin					
3	Description		Warning Tape			
4	Material		Low Density Polyethylene			
5	Roll Length	meter	250			
6	Width	mm	150			
7	Minimum Thickness	mm	0.1			
8	Printed Legend (2 Language)	English	CAUTION CAUTION CAUTION Electrical Cables Buried Below			
		Arabic	تحذير تحذير تحذير خطر كابل كهرباء			
9	Tape Colour		Phosphoric Yellow			
10	Text Colour		Dark Black			
11	Text Form		Big			
12	Space Between Text	mm	100			
13	Resistant		Acid / Alkali Resistant			



Tenderer's Signature :

Date: