

ضمیمه شماره 1 شرطنامه (مشخصات تخنیکي) پروژه تدارک 20 قلم
تجهيزات برق رسانی قریه جات ولسوالی چمتال ولایت بلخ

با شماره داوطلبی: NPD/DABS/1403/G-827/NCB

Table: Technical Data Disconnecting Switch Combination fuse 20kV, 630 A

Description	Unit	Required	Offered
Manufacturer's Name		to be specified	
Type / Model		to be specified	
Installation		pole mounted	
Nominal Voltage	kV	20	
Rated Voltage	kV	24	
Rated Frequency	Hz	50	
Rated Normal Current	A	630	
Rated Breaking current			
Rated lightning-impulse withstand voltage	kV	125	
Power frequency test voltage	kV	50	
Rated short-time current	kA	25	
Rated short-circuit making current	kA	63	
Creepage distance for insulators	mm/kV	25	
Distance between phase centers (min)	mm	350	
Link Fuse	A	To be specified according to BOQ	
Operation mechanism		Manual	
All necessary accessories		to be confirmed	
Standard specifications		IEC 60129 VDE 0670	

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قلم کار: 2

Table: Surge Arrester

Designation	Unit	Required	Offered
Manufacturer	-	-	
Country of origin	-		
Type	-	station metal oxide gapless	
Housing	-	silicon rubber	
Color	-	grey	
Nominal characteristics	-		
Rated max. network operating voltage	kV	24	
Rated operating voltage (Ur)	kV	24	
Rated continuous operating voltage (Uc)	kV	20	
Rated discharge current (peak)	kA	10	
Switching impulse current (peak)	kA	2	
Line discharge class (IEC 99-4)	-		
Rated frequency	Hz	50	
Protection characteristics			
Max. residual voltages			
- For a steep impulse current, ½ µs front, 10 kA.	kV	71	
- For lightning impulse current, 8/20 µs, 10 kA.	kV	67	
- For a switching impulse current 30/60 µs, 0.5 kA	kV	52	
Energy absorbing capacity	kJ/kV	4.3	
Operating performances			
High current impulse withstand (4/10 µs)	kA	100	
Temporary over voltage withstand (for 10s)	kV	24	

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Table: Surge Arrester

Designation	Unit	Required	Offered
Insulation levels			
- Lightning impulse withstand voltage	kV	125	
- Power frequency withstand voltage (1 m wet)	kV	50	
- Creepage distance	mm/kV	25	
- Cantilever strength	kN	-	
- Torsion strength	N-m	-	
Pressure relief capacity			
- Current amplitude (rms)	KA	17.5	
- X/R, asymmetry factor	-	17	
- Current duration	s	0.2	
Weights and dimensions:			
- Arrester height	mm	-	
- Arrester diameter	mm	-	
- Weight	kg	-	
Accessories			
Mounting hardware	-	Yes	
Ground Connector	-	Yes	
Insulating bases	-	Yes	
Discharge counter	-	-	
HV terminals connectors	-	Yes	
Standards	-	IEC 60099-4	
Quality control	-	ISO 9001	
Installation	-	Outdoor	

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کلمه کار: 3

۱۴۰۳/۰۲/۰۴

Table: LV Underground Cable 0.6/1 kV, NYY 4 x 120 SM

Designation	Unit	Required	Offered
Manufacturer's name		To be specified	
Cable type (four – core)		NYN	
Conductor material		Copper	
Conductor shape		Sector Stranded	
Nominal cross-sectional area of conductor	mm ²	120	
Insulation material of conductor		PVC	
Insulation thickness	mm	1.6	
Outer sheath material		PVC	
Thickness of outer sheath	mm	2.4	
Overall diameter of cable (D)	mm	43	
Weight of cable	kg/km	5676	
Minimum bending radius	mm	15 D	
Nominal voltage	kV	0.6/1.0	
Max. Permissible operating voltage	kV	1.2	
Service voltage	kV	0.4/0.230	
Frequency	Hz	50	
Effective a.c. resistance at 70° C	Ω/km	0.187	
Max. admissible short circuit current (1s)	kA	13.8	
Current carrying capacity (in ground)	A	285	
Inductance per conductor	mH/km	To be specified	
Standards		IEC 60502 DIN VDE 0271 VDE 0295 (IEC60228) VDE0293	

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قلم کار: 4

Table: LV Underground Cable 0.6/1 kV, NYY- 4x 10 RM

Designation	Unit	Required	Offered
Manufacturer's name		To be specified	
Cable type (four – core)		NYY	
Conductor material		Copper	
Conductor shape		Circular stranded	
Nominal cross-sectional area of conductor	mm ²	10	
Insulation material of conductor		PVC	
Insulation thickness	mm	1.0	
Outer sheath material		PVC	
Thickness of outer sheath	mm	1.8	
Overall diameter of cable(D)	mm	21	
Weight of cable	kg/km	743	
Minimum bending radius	mm	12 D	
Nominal voltage	kV	0.6/1.0	
Max. Permissible operating voltage	kV	1.2	
Service voltage	kV	0.4/0.230	
Frequency	Hz	50	
Effective a.c. resistance at 20° C	Ω/km	1.83	
Max. admissible short circuit current (1s)	kA	1.15	
Current carrying capacity (in ground)	A	60	
Inductance per conductor	mH/km	To be specified	
Standards		IEC 60502 DIN VDE 0271 VDE 0295 (IEC60228) VDE0293	

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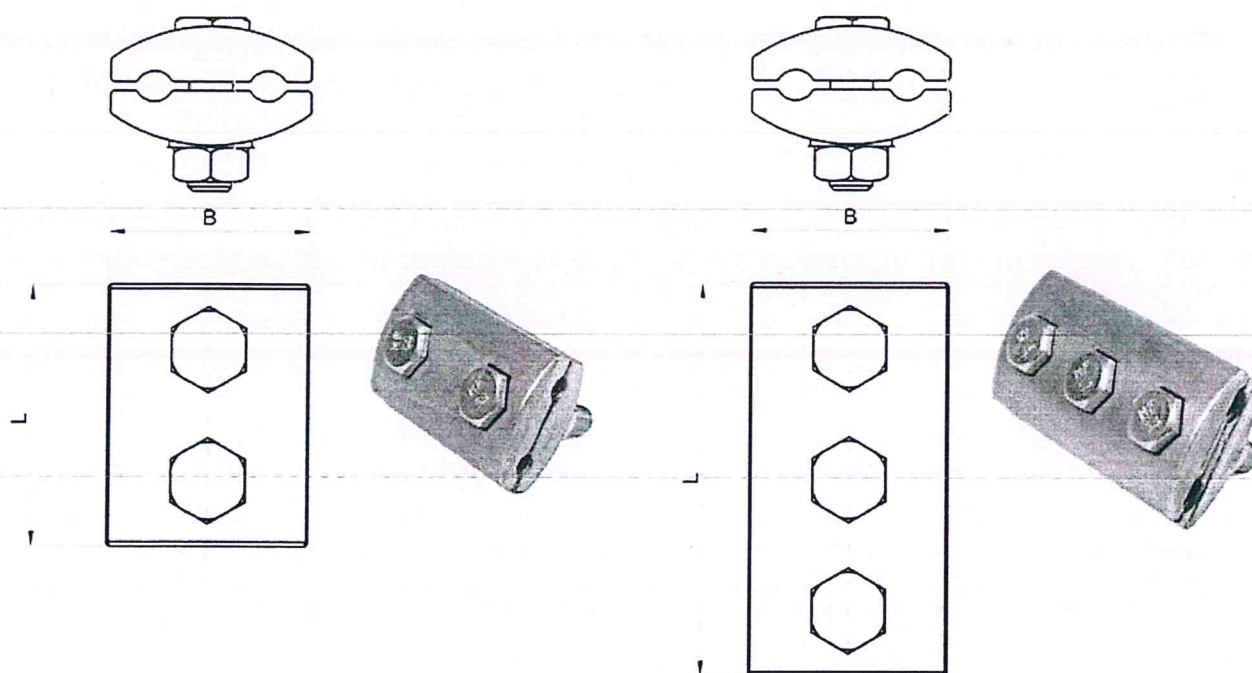
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پروژه برق زمینی 20 قلم تجهیزات برقی و لسهالی چمتال ولایت بلخ.

تعمیرکاران

Materijal: Al legura DIN 226
Standard: DIN 48 075



AlAl Groove Clamps are used to joint two parallel aluminum alloy conductors (AAAC), aluminum conductors steel reinforced (ACSR) or ends of ABC of the same or similar cross sections from which the insulation has been removed. Their technical characteristics enable jointing of phase conductors at the places where high tensile strength and stiffness is required (joint done in accordance with Standard DIN 48 075). AlAl Groove Clamps are made using die casting process and the inside grooves are cogged, which increases safety regarding pulling out and provides high-quality electrical contact (the grooves are made in such a way that aluminum oxide from the conductor surface is broken, which reduces transitional resistance between the clamp and the conductor). The body of the clamp is made of aluminum alloy of high tensile strength and is corrosion resistant. Their technical characteristics provide fast, easy and reliable installation and long-life and safe usage with minor losses on the network due to very low transitional resistance. Bolts and nuts are Zinc plated. Inside grooves are protected with electrical contact grease. with electrical contact grease.

NOTE: On Customer's request the clamps can be delivered with hot-dip galvanized or stainless steel X 5 CrNi 18-10 bolt parts.

اصلاح و نگارنده: ۶۰۷۰

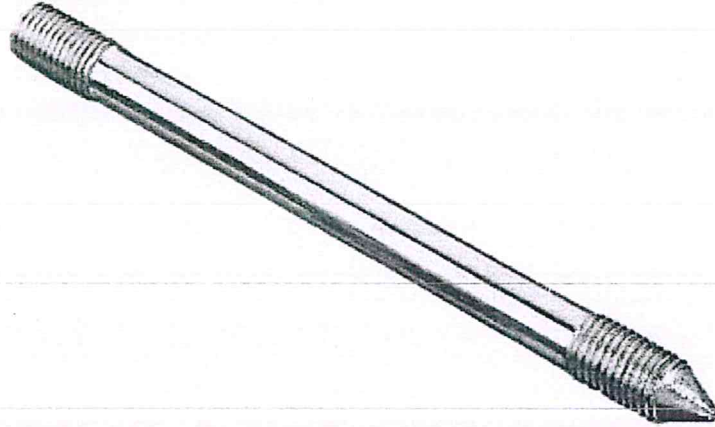
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Copper Ground Ear thing Rod

Diameter	25mm2
Usage/Application	Power Distribution Earthing
Material	Copper
Color	Copper
Length Of Rod	3m

تعمیم شماره: 8

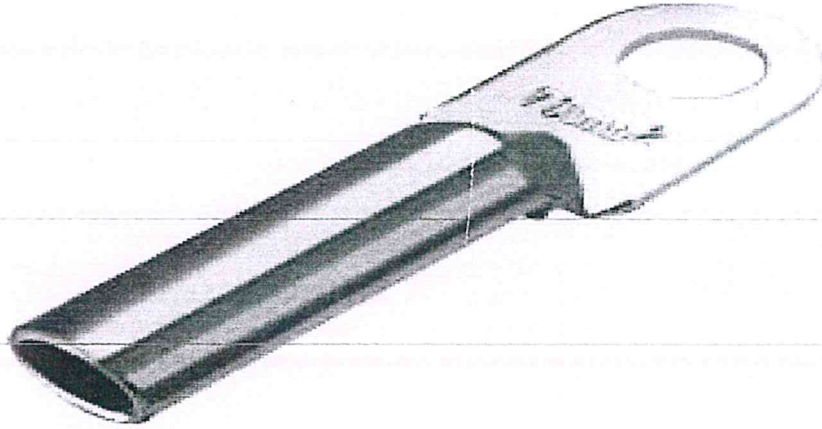
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Compression Cable Lugs

Color	Golden
Material	Copper
Size:	10-120 mm ²
Application	Power Distribution

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پروژه برق رسانی ۲۰ قلم تجهیزات برقی و لوله‌کشی چمتال ولایت بلخ.

Table: Technical Data for Overhead Line Conductor ACSR 70/12 mm²

Designation	Unit	Required	Offered
Manufacturer's name		To be specified	
Type		Aluminum conductor Steel – reinforced (ACSR)	
Nominal cross-section	mm ²	70/12	
Cross-section ratio AL/St approx.		To be specified	
Steel			
- construction	N/mm	7/1,44	
- diameter	mm	4.32	
- cross-section	mm ²	11.4	
Aluminum			
- construction	mm	26/1.85	
- cross-section	mm ²	69.9	
Total cross-section	mm ²	81.3	
Conductor diameter approx.	mm	11.7	
Conductor weight			
- steel	kg/km	89	
- aluminum	kg/km	193	
- grease	kg/km	1.7	
- with grease total approx.	kg/km	283	
Current carrying capacity	A	290	
Nominal conductor breaking load	KN	26.27	
Calculated conductor resistance at 20° C	Ω/km	0.1432	
Standard length per reel approx.	m	to be specified	
Dispatch reel nominal size	m	to be specified	
		IEC 209	
Standard specifications		DIN 48204 BS EN 50182	

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پروژه برق رسانی 20 قلم تجهیزات برقی و لسانی چمتال ولایت بلخ.

Table: Technical Data for Overhead Line Conductor ACSR 50/8 mm²

Designation	Unit	Required	Offered
Manufacturer's name		To be specified	
Type		Aluminum conductor Steel – reinforced (ACSR)	
Nominal cross-section	mm ²	50/8	
Cross-section ratio AL/St approx.		To be specified	
Steel			
- construction	N/mm	1/3.2	
- diameter	mm	3.2	
- cross-section	mm ²	8.04	
Aluminum			
- construction	N/mm	6/3.2	
- cross-section	mm ²	48.3	
Total cross-section	mm ²	56.3	
Conductor diameter approx.	mm	9.6	
Conductor weight			
- steel	kg/km	64	
- aluminum	kg/km	132	
- grease	kg/km	to be specified	
- with grease total approx.	kg/km	196	
Current carrying capacity	A	210	
Nominal conductor breaking load	KN	16.81	
Calculated conductor resistance at 20° C	Ω/km	0.5939	
Standard length per reel approx.	m	to be specified	
Dispatch reel nominal size	m	to be specified	
Standard specifications		IEC 209 DIN 48204 BS EN 50182	

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Table: Technical Data for 20 kV Fiber Tension Insulator

Designation	Unit	Required	Offered
Manufacturer's Name		to be specified	
Type		tension insulator	
Material		silicon rubber	
Rated voltage	kV	24	
Minimum mechanical failing load	kN	70	
Height	MM	450	
Insulating distance Li.	MM	235	
Min.nominal creepage distance	MM	635	
Diameter of shed	MM	148/118	
1 min power frequency wet withstand voltage not less than	KV	42	
Full wave lightning impulse voltage (peak value)	KV	150	
Dry impulse withstand voltage:	KV	to be specified	
Minimum puncture voltage in oil	kV	to be specified	
Number of elements	number	to be specified	
Weight	kg	to be specified	
With all necessary accessories for installation standard		IEC 61109	

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پروژه برق رسانی 20 قلم تجهیزات برقی و لسانی چمتا ولایت بلخ.

Table: Technical Data for 20 kV Fiber pin Insulator

Description	Unit	Required	Offered
Manufacturer's Name		to be specified	
Type		pin insulator	
Material		silicon rubber	
Rated voltage	kV	24	
Power frequency withstand voltage:	KV	65	
Dry Lightning impulse withstand voltage:	KV	145	
Leakage distance	mm	610	
Min Arc distance	mm	215	
Section length	mm	305	
Specified mechanical load	KN	11	
Nominal diameter "D"	mm	to be specified	
Maximum height "H"	mm	to be specified	
Min. nominal creepage distance	mm	to be specified	
Number of the fiber	number	to be specified	
Unit weight	kg	to be specified	
With all necessary accessories for Installation incl. metal thimbles threaded for screwing on to steel spindles			
Reference standard		IEC 61109	

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Table: Technical Data for Low Voltage Porcelain Tension Insulator

Designation	Unit	Required	Offered
Manufacturer's Name		to be specified	
Type		tension insulator	
Material		porcelain	
Rated voltage	kV	0.4	
Dry flashover voltage	kV	35	
Wet flashover voltage	kV	18	
One minute dry voltage	kV	32	
One minute wet voltage	kV	16	
Puncture voltage	kV	46	
Mechanical breaking load	kg	9100	
Weight	kg	to be specified	
With all necessary accessories for installation		to be specified	
Standard specifications		IEC 60383,60305, BS 137 Part 2	

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Table: Technical Data for Low Voltage Porcelain pin Insulator

Designation	Unit	Required	Offered
Manufacturer's Name		to be specified	
Type		pin insulator	
Material		porcelain	
Rated voltage	kV	0.4	
Dry flashover voltage	kV	25	
Wet flashover voltage	kV	15	
One minute dry voltage	kV	23	
One minute wet voltage	kV	13	
Puncture voltage	kV	33	
Mechanical breaking load	kg	1350	
Weight	kg	to be specified	
With all necessary accessories for Installation incl. metal thimbles threaded for screwing on to steel spindles		to be specified	
Standard specifications		IEC 60383,60305, BS 137 Part 2	

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