

نگهداشت و افزایش تولید میدان نفتی بینک فعالیتهای رو زمینی در بستههای کاری تحتالارض





عمومي و مشترك

NISOC

DATA SHEETS FOR 33 KV OVER HEAD LINE EQUIPMENT

شماره پیمان:	پروژه	بسته کاری	صادر كننده	تسهيلات	رشته	نوع مدرك	سر يال	نسخه
T - • VT - 9118	BK	SSGRL	PEDCO	110	EL	DT	0013	D04

شماره صفحه: ۱ از ۱۲

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS FOR 33 KV OVER HEAD LINE EQUIPMENT

نگهداشت و افزایش تولید میدان نفتی بینک

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D04	Jul.2022	AFC	H.Shakiba	M.Fakharian	M.Mehrshad	
D03	Jan.2022	IFA	H.Shakiba	M.Fakharian	M.Mehrshad	
D02	Jan.2022	IFA	H.Shakiba	M.Fakharian	M.Mehrshad	
D01	Dec.2021	IFA	H.Shakiba	M.Fakharian	M.Mehrshad	
D00	Nov.2021	IFC	H.Shakiba	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2 CLIENT Doc. Number: F0Z-707398

status: IDC: Inter-Discipline Check

> IFC: Issued For Comment IFA: Issued For Approval AFD: Approved For Design

AFC: Approved For Construction **AFP:** Approved For Purchase AFQ: Approved For Quotation IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built -Approved



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ماره پیمان:	پروژه ش	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
·۵T - ·VT - 9114	BK	SSGRL	PEDCO	110	EL	DT	0013	D04

شماره صفحه: ۲ از ۱۲

REVISION RECORD SHEET

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نگهداشت و افزایش تولید میدان نفتی بینک

فعالیتهای رو زمینی در بستههای کاری تحتالارض







Data Sheets For 33 KV Over Head Line Equipment

صادر کننده نوع مدرک شماره پیمان: پروژه بسته کاری تسهيلات سريال نسخه .04-.44-4176 PEDCO DT 0013 D04 ВК SSGRL 110 EL

شماره صفحه: ۳ از ۱۲

	DATA SHEET FOR PHASE CONDUCTOR (BK14)								
Item	DESCRIPTION	CHARACTERISTIC	Vendor data						
1	Manufacture	By vendor							
2	Year of Manufacture	By vendor							
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)							
4	Conductor Name	HYENA							
5	Applicable standard	ASTM B232, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375 & General Technical Specification and Execution Procedures for Transmission Lines NO: 427							
6	Max allowable temperature of conductor (°c)	85							
7	Reted short circuit current for 0.5 Sec. (KA)	18.8							
8	Max. temperature range (operation)	75							
9	Temperature range for installation(°c)	-5 ~ + 55							
10	Stranding and wire diameter (nos./mm):								
11	Aluminium	7/4.39							
12	Steel	7/1.93							
13	Overall diameter(mm)	14.57							
14	Aluminium Area (mm²)	106							
15	Steel area (mm²)	20.48							
16	Total area (mm²)	126.2							
17	Weight (kg/km):								
18	Aluminium	290							
19	Steel	160							
20	Total	450							
21	Nominal current in 30° (A)	441							
22	Ultimate tensile Strength (kg)	4090							
23	Coefficient of linear expansion (1 /C° x 10-6)	18.8							
24	Initial modulus of elasticity (kg/mm²)	6000							
25	Final modulus of elasticity (kg/mm²)	7450							
26	DC resistance at 20°C(Ω/km)	0.2713							
27	AC resistance at 25°C(Ω/km)	0.277							
28	AC resistance at 75°C(Ω/km)	0.3142							
29	Temperature range (transport / storage)	By vendor							
30	Pollution condition	Heavy							
31	Routine tests & Type test	Acc To IEC 61089							



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Data Sheets For 33 KV Over Head Line Equipment

صادر کننده تسهيلات نوع مدرک شماره پیمان: بسته کاری سريال پروژه نسخه ВК SSGRL PEDCO 110 EL DT 0013 D04

شماره صفحه: ۴ از ۱۲

DATA SHEET FOR SHIELD WIRE (BK14)

	DATA SHEET FUR SHIELD WIRE (BR14)								
		av. i.p. i. ampp. vamva							
Item	DESCRIPTION	CHARACTERISTIC	Vendor data						
1	Manufacture	By vendor							
2	Year of Manufacture	By vendor							
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)							
4	Code Name	7No.8 AWG							
5	Applicable standard	ASTM B416, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375 & General Technical Specification and Execution Procedures for Transmission Lines NO: 427							
6	Max allowable temperature of conductor (°c)	55							
7	Temperature range for installation(°c)	-5 ~ + 55							
8	Stranding and wire diameter (nos./mm):	7/3.26							
9	Overall diameter(mm)	9.78							
10	Total area (mm²)	58.43							
11	Weight (kg/km):	390							
12	Ultimate tensile Strength (kg)	7226							
13	Coefficient of linear expansion (1 /C° x 10-6)	13							
14	Initial modulus of elasticity (kg/mm²)	16000							
15	Final modulus of elasticity (kg/mm²)	16000							
16	DC resistance at 20°C(Ω/km)	1.467							
17	Pollution condition	Heavy							
18	Routine tests & Type test	Acc To IEC 61089							



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Data Sheets For 33 KV Over Head Line Equipment

بسته کاری صادر کننده نوع مدرک شماره پیمان: پروژه تسهيلات سريال نسخه .04-.44-4176 SSGRL 0013 ВК PEDCO 110 EL DT D04

شماره صفحه: ۵ از ۱۲

DATA SHEET FOR INSULATOR (BK14)

	DATA SHEET FOR INSULATOR (BK1	- 	
Item	DESCRIPTION	CHARACTERISTIC	Vendor data
1	Туре	BALL & SOCKET	
2	Applicable Standard	IEC60120, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375 & General Technical Specification and Execution Procedures for Transmission Lines NO: 426	
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)	
4	Material	Porcelain	
5	Nominal line to line voltage rating (kV)	33	
6	Maximum continuous line to line operating voltage (kV)	36	
7	Rated frequency (Hz)	50	
8	Creepage distance (mm/kV)	31	
9	Minimum creepage distance of insulator (mm)	1116	
10	Minimum mechanical Failing Load (kN)	70	
11	Socket coupling size (IEC60120)	16	
12	Ball coupling size (IEC60120)	16	
13	Rated lightning impulse withstand voltage to earth and between poles (kV peak)	145	
14	Rated lightning impulse withstand voltage across the isolating dist. of Fuse base (kVpeak)	170	
15	Rated one minute power frequency withstand voltage to earth and between poles (kVrms)	70	
16	Rated one minute PF withstand voltage across the isolating dist. of Fuse base (kVrms)	70	
17	Power Frequency Puncture Voltage (kV)	110	
18	Metallic Part material	Malleable Cast Iron	
19	Insulator material	Brown Glazed Porcelain	
20	Metallic parts	Malleable cast iron	
17	Washable in service	Yes	
18	Unit Spacing (mm)	By vendor	
19	Disc Diameter (mm)	By vendor	
20	Total Weight	By vendor	
21	Type and Material of Terminal	By vendor	
22	Pollution condition	Heavy	
23	Routine tests & Type test	Acc To IEC 383	



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نسخه سريال نوع مدرک رشته تسهيلات صادرکتنده بسته کاری پروژه شماره پيمان: ΔΤ--νΤ--۱λΓ BK SSGRL PEDCO 110 EL DT 0013 D04

شماره صفحه: ۶ از ۱۲

DATA SHEET FOR FITTING SUSPENSION & TENSION SET (BK14)

	DATA SHEET FOR FITTING SUSPENSION & TENSION SET (BK14)									
		av.na								
Item	DESCRIPTION	CHARACTERISTIC	Vendor data							
1	Туре	FORGED STEEL								
2	Applicable standard	IEC 61284, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375 & General Technical Specification and Execution Procedures for Transmission Lines NO: 465								
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)								
4	Material:	-								
5	Outer Part	ALALLOY								
6	Iner Part	FORGED STEEL, Hot Deep Galvanized.								
7	Jumper Plate	AL.ALLOY								
8	Terminal Jumper	AL.ALLOY								
9	Bolts & Nuts & Washers	STEEL, Hot Deep Galvanized.								
10	Split Pin	STAINLESS STEEL								
11	Min breaking strength	95% OF CONDUCTOR U.T.S								
12	Coupling Standard IEC	16 mmA								
13	Short Circuit Current	25kA/0.4Sec.								
14	Arcing Horn	STEEL								
15	Min breaking strength (KN)	80								
16	Anti-Climbing Devices and Safety Signs for Lines up to 400kV	ENA TS 43-90								
17	Tower Identification	Steel Sheet with 2mm Thickness								
18	Danger Alarm	Steel Sheet with 1.2mm Thickness								
19	Pollution condition	Heavy								
20	Routine tests & Type test	Acc To IEC 61284								



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Data Sheets For 33 KV Over Head Line Equipment

نسخه سريال نوع مدرک رشته تسهيلات صادر کننده بسته کاری پروژه شماره پيمان: BK SSGRL PEDCO 110 EL DT 0013 D04

شماره صفحه: ۷ از ۱۲

DATA SHEET FOR EARTHING SYSTEM (BK14)

DATA SHEET FOR EARTHING SYSTEM (BK14)									
Item	DESCRIPTION	CHARACTERISTIC	Vendor data						
1	GROUND WIRE :								
2	Туре	Copper Conductor							
3	Applicable standard	DIN 48201, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375 & General Technical Specification and Execution Procedures for Transmission Lines NO: 409							
4	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)							
5	Stranding (No./mm)	7/2.5							
6	Total cross section (mm2)	35							
7	Overall Diameter (mm)	7.5							
8	Unit Weight (kg/m)	0.31							
9	Calculated breaking load (kN)	13.77							
10	DC Resistance At 20°C (ohm/km)	0.5265							
11	TOWER BONDING CLAMP:								
12	Type of Body	Forged Steel							
13	Surface Coating	HOT DIP. GALV. Acc to ASTM A123 & A153 or BS729							
14	Type of Bolt & Nut	Steel							
15	Torgue on Bolt	20 NM							
16	Applicable standard	ST37 & DIN931,934,125,127							
17	Diameter of Wire catcher	Ø 8-13 mm							
18	Pollution condition	Heavy							
19	Routine tests & Type test	Acc To DIN 48201							



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.0444-174		BK	SSGRL	PEDCO	110	EL	DT	0013	D04

شماره صفحه: ۸ از ۱۲

DATA SHEET FOR DISCONNECTOR SWITCH (BK14)

DATA SHEET FOR DISCONNECTOR SWITCH (BK14)						
Item	DESCRIPTION	CHARACTERISTIC	Vendor data			
1 1	Installation (indoor / outdoor)	Outdoor	vendor data			
2	Standard	IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375				
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)				
4	Nominal system voltage, 3phase	33 kV				
5	System voltage variation	± 10%				
6	Nominal frequency and frequency variation	50 ± 5%				
7	Numbers of poles and current rating	3pole / 630 A				
8	Short circuit amper and time duration	25 kA / 1 s				
9	Rated peak withstand current	62.5 kA				
10	Creepage distance (mm/kV)	31				
11	Minimum creepage distance of insulator (mm)	1116				
12	Rated lightning impulse withstand voltage to earth and between poles (kV peak)	145				
13	Rated lightning impulse withstand voltage across the isolating distance of Fuse - base(kV peak)	170				
14	Rated one minute power frequency withstand voltage to earth and between poles (kV rms)	70				
15	Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms)	70				
16	Mode of operation OPEN/CLOSE	open-close (manual) and with earth blad and earth switch manual				
17	Disconnectors & Earthing switches Operating	Hand operating				
18	Accessories	with earth blad and earth switch manual				
19	Disconnector Mechanism	Center break				
20	Construction	Three pole operation Containing Earthing switch				
21	Ingress protection of electrical enclosures	Min. IP55 (If Needed)				
22	Disconnector status Auxiliary Contacts: No. Of Make Contacts No. Of Break Contacts Rated Voltage Rated Current Breaking Current At 110V DC	12NC (Normally close) 12NO (Normally open) 110V DC 25 ADC 5 ADC				
23	Earthing Switch status Auxiliary Contacts: No. Of Make Contacts No. Of Break Contacts Rated Voltage Rated Current Breaking Current At 110V DC Interlocks(Electrical & Mechanical)	12NC (Normally close) 12NO (Normally open) 110V DC 25 ADC 5 ADC To prevent closure of earth switch when Disconnector is not in open position To prevent closure of Disconnector when earth switch is not in				
		open position				
25	Dimensions & weights	By Vendor				
26	Pollution condition Minimum Rating plate data	Heavy Manufacturer Type designation and serial number Rated voltage Rated lightning impulse withstand voltage across open pole Rated lightning impulse withstand voltage between poles Rated power frequency withstand voltage between poles Rated power frequency withstand voltage between poles Rated power frequency withstand voltage between poles Rated dornmal current Rated duration of short circuit Rated no load transformer breaking current Year of manufacture Relevant standard with date of issue				
28	Routine Tests: a) dielectric test on the main circuit (clause 7.1 of IEC60694) b) tests on auxiliary and control circuits (Clause 7.2 of IEC60694) c) measurement of the resistance of the main circuit (Clause 7.3 of IEC60694); d) tightness test (Clause 7.4 of IEC60694) e) Design and visual checks (Clause 7.5 of IEC60694) f) Mechanical tests as per clause 7.101 of IEC62271-102	Witness & Report Certified Reports of test on the identical type according to				
29	Type Tests	IEC62271-102 or IEC129				



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Data Sheets For 33 KV Over Head Line Equipment

صادر کننده نوع مدرک شماره پیمان: پروژه بسته کاری تسهيلات سريال نسخه .04-.44-4176 SSGRL 0013 ВК PEDCO 110 EL DT D04

شماره صفحه: ۹ از ۱۲

DATA SHEET FOR CUT OUT FUSE (BK14)

Press		DATA SHEET FOR CUT OUT FUSE (BK1		
1 Class 2 Type Channel Type 3 Manufacturer of Trues base & link Dy Veroider 1 Classing Type Classing C	Item	DESCRIPTION	CHARACTERISTIC	Vendor data
Applicable Standard Pyre Channel Type				, chuoi uata
Section Sect				
Applicable Standard Applicable Standard Applicable Standard Procedures for correct Technical Specification and Procession Secretary for Strategic Huming and Supervision, Center all Technical Specification and Procedures for correct and and called Specification and Procedures for Center Huming Specification (Process Specification and Procedures for Center Huming Specification (Process Specification and Procedures for Center Huming Specification (Process Spec				
5			IEC60282, IEC60787, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable	
7 Maximum continuous line to line operating voltage (kV) 36 8 Rated frequency (Hz) 50 9 Calor of prevalent instalator By Vender 10 Rated current of Fuse base (A) 100 11 Rated current of Fuse base (A) 100 12 Creepage distance (mn/kV) 31 13 Minimum creepage distance of fusubilitor (mn) 1116 14 Rated lightning impages withstand voltage current (kA) 16 15 Rated lightning impages withstand voltage across the isolating distance of Fusus - base (kV peak) 170 17 Rated one minute power frequency withstand voltage to earth and between poles (kV peak) 170 18 Rated one minute power frequency withstand voltage across the isolating distance of Fusus - base (kV peak) 70 19 Fusic class Full-range 100 20 Operating pole Required 100 21 Mounting brackets and accessories Required 100 22 Operating pole Required 100 23 Weight of Fuse-base & Fuse-link 100 24 Dimension of Fuse-base 100 25 Dimension of Fuse-base 100 26 Dimension of Fuse-base 100 27 Dimension of Fuse-base 100 28 Dimension of Fuse-link 100 29 Required 100 20 One the fuse base 100 20 Required 100 21 Required 100 22 Required 100 23 Weight of Fuse-base 100 24 Dimension of Fuse-base 100 25 Dimension of Fuse-base 100 26 Pollution condition 100 27 Retain instalation level 100 28 Required 100 29 Required 100 20 Required 100 20 Required 100 20 Required 100 21 Required 100 22 Required 100 23 Required 100 24 Required 100 25 Required 100 26 Required 100 27 Required 100 28 Required 100 29 Required 100 20 Required 100 21 Required 100 22 Required 100 23 Required 100 24 Required 100 25 Required 100 26 Required 100 27 Required 100 28 Required 100 29 Required 100 20	5	Environmental conditions	BK-00-HD-000-PR-DB-0001 (Process	
Rated frequency (Hz)	6	Nominal line to line voltage rating (kV)	33	
9 Color of Percelain insulator By Vendor 10 Rated current of Fuse last (A) 100 11 Rated current of Fuse last (A) 100 12 Creepage distance (mm/kV) 31 13 Minimum creepage distance of insulator (mm) 1116 14 Rated lightning impulse withstand voltage to earth and between poles (kV peak) 145 15 Rated lightning impulse withstand voltage to earth and between poles (kV peak) 170 16 Rated one minute power frequency withstand voltage to earth and between poles (kV rms) 70 17 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 18 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 19 Fuse class Full-range Power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 20 Operating pole Required Power fuse class Full-range Power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 21 Mounting brackets and accessories Full-range Required Power fuse class Full-range Power fuse class Required Required Required Required Required Required Read current Remains Read (voltage Read current Read Current Remains Read (voltage Read current Read Current Read Current Read Read Current Read Read Current Read Read Current Read Current Read Read Current Read Current Read Read Current Read Current Read Current Read Read Current Read Current Read Read Cu	7	Maximum continuous line to line operating voltage (kV)	36	
10 Rated current of Fuse base (A) 100 1 11 Rated current of Fuse link (A) 10 10 1 12 Creepage distance (mm/RV) 31 1 13 Minimum creepage distance of (mm/RV) 1116 1 14 Rated maximum braking current (IcA) 10 1 15 Rated lightning impulse withstand voltage to earth and between poles (KV peak) 145 145 140 170 170 1814 170 1814 170 1814 170 1814 170 1814 170 1814 170 1814 170 1814 170 1814 170 1814 170 1814 1814 1814 1814 1814 1814 1814 181	8	Rated frequency (Hz)	50	
11 Rated current of Fuse link (A) 12 Creepage distance of inculator (mm) 13 Minimum creepage distance of inculator (mm) 14 Rated maximum braking current (kA) 15 Rated lightning impulse withstand voltage across the isolating distance of Fuse - base (kV peak) 16 Rated lightning impulse withstand voltage across the isolating distance of Fuse - base (kV peak) 17 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV peak) 18 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV peak) 19 Fuse class 20 Operating pole 21 Mounting brackets and accessories 22 Provision for mounting of surge arrester 23 Weight of Fuse-base & Fuse link 24 Dimension of Fuse-base & Fuse link 25 Dimension of Fuse-base & Fuse link 26 Pollution condition 27 Minimum data required on rating plate 28 Routine Tests 29 Minimum data required on rating plate 20 Minimum data required on rating plate 20 Routine Tests 21 Minimum data required on rating plate 22 Routine Tests 23 Weight of Fuse-base & Fuse link 24 Routine Tests 25 Dimension of Fuse-base & Fuse link 26 Routine Tests 27 Minimum data required on rating plate 28 Routine Tests 30 Minimum data required on rating plate 31 Required Routine Tests 32 Routine Tests 33 Routine Tests 34 Routine Tests 35 Routine Tests 36 Routine Tests 36 Routine Tests 37 Routine Tests 38 Routine Tests 38 Witness and Roport according to IEC (0.0282-2.	9	Color of Porcelain insulator	By Vendor	
12 Greepage distance (mm/AV) 31 13 Minimum creepage distance of insulator (mm) 1116 14 Rated maximum braiding current (kA) 16 15 Rated lightning impulse withstand voltage to earth and between poles (kV peak) 145 16 Rated lightning impulse withstand voltage across the isolating distance of Fuse - base(kV peak) 170 17 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 18 Rated an eminute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 19 Fuse class Full-range 20 Operating pole Required 21 Mourting brackets and accessories Required 22 Provision for mounting of surge arrester Required 23 Weight of Fuse-base & Fuse link By Vendor 24 Dimension of Fuse-base By Vendor 25 Dimension of Fuse-base By Vendor 26 Pollution condition Heavy 27 Minimum data required on rating plate Amandacturer's name Amandacturer's name Amandacturer's march Rated voltage Rated current Rated voltage Rated current Rated voltage Rated voltage Rated current Rated voltage Rated voltage Rated current Rated voltage Rated volt	10	Rated current of Fuse base (A)	100	
Minimum creepage distance of insulator (mm) 1116	11	Rated current of Fuse link (A)	10	
14 Rated maximum braking current (kA) 16 15 Rated lightning impulse withstand voltage to earth and between poles (kV peak) 145 16 Rated lightning impulse withstand voltage across the isolating distance of Fuse - base (kV peak) 170 17 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 18 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 70 19 Fuse class Full-range 8 20 Operating pole Required 9 21 Mounting brackets and accessories Required 9 22 Provision for mounting of surge arrester 8 23 Required 9 24 Dimension of Fuse-base 8 Fuse link 8 25 Dimension of Fuse-base 8 26 Pollution condition Heavy 18 27 Minimum data required on rating plate 8 27 Minimum data required on rating plate 8 28 Routine Tests Witness and Report according to IEC 60282-2 28 Routine Tests Witness and Report according to IEC 60282-2 29 Certified Report on the identical type 18 19 Fuse class 19 10 Fuse data in the fuse base: Manufacturer's supe designation Rated current Rated breaking capacity and TRV class Rated voltage R	12	Creepage distance (mm/kV)	31	
15 Rated lightning impulse withstand voltage to earth and between poles (kV peak) 16 Rated lightning impulse withstand voltage across the isolating distance of Fuse - base (kV peak) 17 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV peak) 18 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 19 Fuse class 19 Fuse class 20 Operating pole 21 Mounting brackets and accessories 22 Provision for mounting of surge arrester 23 Weight of Fuse-base & Fuse link 24 Dimension of Fuse-base & By Vendor 25 Dimension of Fuse-base & By Vendor 26 Pollution condition 26 Pollution condition 27 Pollution condition 28 Minimum data required on rating plate 29 Rated current On the fuse base: Manufacturer's name Rated voltage Rated current On the fuse carrier: Manufacturer's name Rated voltage Rated current On the fuse base: Manufacturer's name Rated voltage Rated current On the fuse base: Manufacturer's name Rated current On the fuse base: Manufacturer's name Rated voltage Rated current Annufacturer's name Rated voltage Rated current On the fuse base: Manufacturer's name Rated voltage Rated current Annufacturer's name Rated voltage Rated current Annufacturer's name Rated voltage Rated current Annufacturer's name Rated voltage Rated current Rated current On the fuse base: Manufacturer's name Rated voltage Rated current Rated current Annufacturer's name Rated voltage Rated current Rated voltage Rated volt	13	Minimum creepage distance of insulator (mm)	1116	
16 Rated lightning impulse withstand voltage across the isolating distance of Fuse - base(kV peak) 17 Rated one minute power frequency withstand voltage to earth and between poles (kV rms) 18 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms) 19 Fuse class 19 Full-range 20 Operating pole 21 Mounting brackets and accessories 22 Provision for mounting of surge arrester 23 Weight of Fuse-base & Fuse link 24 Dimension of Fuse-base 25 Dimension of Fuse-link 26 Pollution condition 26 Pollution condition 27 Minimum data required on rating plate 28 Routine Tests 28 Routine Tests 29 Routine Tests 20 National Rated with and Report according to EC 60282.2 20 Certified Report on the identical type	14	Rated maximum braking current (kA)	16	
17 Rated one minute power frequency withstand voltage to earth and between poles (kV ms) 18 Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV ms) 19 Fuse class 20 Operating pole 21 Mounting brackets and accessories Required 22 Provision for mounting of surge arrester 23 Weight of Fuse-base Fuse link 24 Dimension of Fuse-base 25 Dimension of Fuse-link 26 Pollution condition 10 Heavy On the fuse base: Manufacturer's type designation Rated current Annufacturer's name Manufacturer's name Manufacturer's name Rated vortage Rated current Annufacturer's name Rated vortage Rated current Annufacturer's name Rated vortage Rated current On the fuse carrier: Manufacturer's name Rated vortage Rated current Annufacturer's name Rated vortage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Rated vortage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Rated vortage Rated current Rated vortage designation Rated current and speed designation Rated current Rated Report according to IEC 60382-2 Certified Report on the identical type	15	Rated lightning impulse withstand voltage to earth and between poles (kV peak)	145	
Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV ms) 19 Fuse class Full-range 20 Operating pole Required 21 Mounting brackets and accessories Required 22 Provision for mounting of surge arrester Required 23 Weight of Fuse-base & Fuse link By Vendor 24 Dimension of Fuse-base By Vendor 25 Dimension of Fuse-link By Vendor 26 Pollution condition Heavy 27 Minimum data required on rating plate Rated voltage Rated current Manufacturer's type designation Rated miniation level Rated voltage Rated current On the fuse carrier: Manufacturer's name Rated voltage Rated current On the fuse carrier: Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse carrier. Manufacturer's type designation Rated current and speed designation Rated current Rated Speed Rated Current Rated Speed Rated Rated Voltage Rated Current Rated Speed Rated Ra	16	Rated lightning impulse withstand voltage across the isolating distance of Fuse - base(kV peak)	170	
19 Fuse class Full-range 20 Operating pole Required 21 Mounting brackets and accessories Required 22 Provision for mounting of surge arrester Required 23 Weight of Fuse-base & Fuse link By Vendor 24 Dimension of Fuse-base By Vendor 25 Dimension of Fuse-link By Vendor 26 Pollution condition Heavy 27 Minimum data required on rating plate Rated voltage Rated current On the liss carrier: Manufacturer's name Manufacturer's name Rated current On the liss carrier: Manufacturer's name Rated durent On the liss carrier Manufacturer's name Rated durent On the liss carrier Manufacturer's name Rated current On the liss carrier Manufacturer's name Rated durent and Speed designation Rated insulation Rated frequency On the fuse links: Manufacturer's name Rated voltage Rated current Rated current Rated pr	17	Rated one minute power frequency withstand voltage to earth and between poles (kV rms)	70	
20 Operating pole Required 21 Mounting brackets and accessories Required 22 Provision for mounting of surge arrester Required 23 Weight of Fuse-base & Fuse link By Vendor 24 Dimension of Fuse-base By Vendor 25 Dimension of Fuse-link By Vendor 26 Pollution condition Heavy 27 Minimum data required on rating plate Rated voltage Rated voltage Rated voltage Rated current Rated frequency On the fuse links: Manufacturer's name Rated current Rated curre	18		70	
Mounting brackets and accessories Required	19	Fuse class	Full-range	
Provision for mounting of surge arrester Required Required By Vendor Pollution condition Pollution condition Rated insulation level Rated voltage Rated current Manufacturer's name Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Rated oursel Rated oursel Rated oursel Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's pame Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's ype designation Rated current and speed designation Rated current and speed designation Rated current and speed designation Rated voltage Routine Tests Witness and Report according to IEC 60282-2 Certified Report on the identical type	20	Operating pole	Required	
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24 Dimension of Fuse-base By Vendor 25 Dimension of Fuse-link By Vendor 26 Pollution condition Heavy On the fuse base: Manufacturer's name Manufacturer's type designation Rated insulation level Rated voltage Rated current On the fuse carrier: Manufacturer's name Rated voltage Rated current On the fuse carrier: Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Manufacturer's name Manufacturer's name Manufacturer's type designation Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Manufacturer's type designation Rated current and speed designation Rated voltage 28 Routine Tests Certified Report on the identical type	22	Provision for mounting of surge arrester	Required	
Dimension of Fuse-link Pollution condition Heavy On the fuse base: Manufacturer's name Manufacturer's rype designation Rated insulation level Rated voltage Rated current On the fuse carrier: Manufacturer's name Rated voltage Rated urrent On the fuse carrier: Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's type designation Rated current Rated voltage Rated voltage Rated voltage Rated voltage Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's type designation Rated voltage Witness and Report according to IEC 60282-2 Certified Report on the identical type	23	Weight of Fuse-base & Fuse link	By Vendor	
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28 Routine Tests 60282-2 Certified Report on the identical type	27	Minimum data required on rating plate	Manufacturer's name Manufacturer's type designation Rated insulation level Rated voltage Rated current On the fuse carrier: Manufacturer's name Rated voltage Rated current Rated breaking capacity and TRV class Rated frequency On the fuse links: Manufacturer's name Manufacturer's name Manufacturer's type designation Rated current and speed designation	
29 Type Tests Certified Report on the identical type according to IEC 60282-2	28	Routine Tests		
	29	Type Tests	Certified Report on the identical type according to IEC 60282-2	



فعالیتهای رو زمینی در بستههای کاری تحتالارض

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Data Sheets For 33 KV Over Head Line Equipment

صادر کننده نوع مدرک شماره پیمان: پروژه بسته کاری تسهيلات سريال نسخه .04-.44-4176 SSGRL PEDCO DT D04 ВК 110 EL 0013

شماره صفحه: ۱۰ از ۱۲

DATA SHEET FOR	LIGHTNING ARRESTE	R (BK14)
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Item	DESCRIPTION	CHARACTERISTIC	Vendor data
1	Туре	Zn0	
2	Applicable Standard	IEC60099-4, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375	
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)	
4	Nominal line to line voltage rating (kV)	33	
5	Maximum continuous line to line operating voltage (kV)	36	
6	Continuous Operating Voltage (Ucov)	28.8	
7	Rated frequency (Hz)	50	
8	Material of insulator	By vendor	
9	Earth fault factor	1.4	
10	Line discharge class per IEC 60099-4	2	
11	Minimum energy discharge capability (kJ/kV) U rated	Acc. To IEC	
12	Nominal discharge current with 8/20 microsecond wave (kA peak)	10	
13	Pressure relief class (kA)	20	
14	Creepage distance (mm/kV)	31	
15	Minimum creepage distance of insulator (mm)	1116	
16	Rated lightning impulse withstand voltage to earth and between poles (kV peak)	145	
17	Rated lightning impulse withstand voltage across the isolating distance of Fuse - base(kV peak)	170	
18	Rated one minute power frequency withstand voltage to earth and between poles (kV rms)	70	
19	Rated one minute power frequency withstand voltage across the isolating distance of Fuse - base (kV rms)	70	
20	Whether surge counter required?	No	
21	Washable in service	Yes	
22	Temporary overvoltage factor (Ktov) at 1 Sec. at 10 Sec. at 100 Sec.	By vendor	
23	5kA, 8/20μs lightning impulse protective level	By vendor	
24	10kA, 8/20μs lightning impulse protective level (Ur 10kA, 8/20)	Residual voltage < 43.2kV	
25	20kA, 8/20μs lightning impulse protective level	By vendor	
26	125A, 30/60µs switching impulse protective level	By vendor	
27	Height of Surge Arrester	By vendor	
28	Diameter of Sheds	By vendor	
29	Total Weight of Surge Arrester	By vendor	
30	Type and Material of Terminal	By vendor	
31	Pollution condition	Heavy Manufacturer Manufacturer type designation Serial number Continuous operating voltage	
32	Minimum data required on rating plate	Rated voltage Rated frequency Nominal discharge current Pressure relief short time current Line discharge current Pollution degree Year of manufacture Relevant standard with date of issue	
33	Routine Tests a) Measurement of reference voltage Uref (Clause 8.1.a of IEC 60099-4) b) Residual voltage test (Clause 8.1.b of IEC 60099-4) c) Internal Partial Discharge test (Clause 8.1.c of IEC 60099-4); d) Leakage test for sealed housing arresters (Clause 8.1.d of IEC 60099-4) e) Design and visual checks acc. to purchase specifications	Witness and Report	
34	Type Tests	Certified Report on the identical type according to IEC 60099-4	



نگهداشت و افزایش تولید میدان نفتی بینک

فعالیتهای رو زمینی در بستههای کاری تحتالارض

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Data Sheets For 33 KV Over Head Line Equipment

نسخه سریال نوع مدر ک رشته تسهیلات صادر کننده بسته کاری پروژه شماره پیمان:

-۵۳-۰۷۳-۹۱۸F BK SSGRL PEDCO 110 EL DT 0013 D04

شماره صفحه: ۱۱ از ۱۲

DATA SHEET FOR LOAD BREAK SWITCH (BK14)

Item	DESCRIPTION	CHARACTERISTIC	Vendor data
1	Manufacturer / Country	By vendor	
2	Standard	IEC 62271-103, IEC 60694, IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375	
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)	
4	Туре	SF6	
5	Rated Voltage	33kV	
6	Rated Frequency	50Hz	
7	No. of Phases and Poles	3 Phase, 3 Pole	
8	1 minute power freq. withstand voltage To earth and between phases: Across isolating distance:	70kV 70kV	
9	Lightning impulse withstand voltage To earth and between phases: Across isolating distance:	145kV 170kV	
10	Rated Normal Current	630 A	
11	Mainly active load breaking current	By vendor (> 200A)	
12	Closed loop breaking current	By vendor	
13	Line charging breaking current	By vendor	
14	Cable charging breaking current	By vendor	
15	No load transformer breaking current	By vendor (> 0.74A)	
16	Rated Short Time Withstand Current	25kA, 3 Sec.	
17	Rated Peak Withstand Current	62.5kA	
18	Rated Short Circuit Making Current	62.5kA	
19	Number of breaking operation CO	By vendor	
20	Supporting Structure Material	Hot dipped galvanized steel	
21	Creepage distance (mm/kV)	31	
21	Min. Creepage Distance of insulators	1116mm	
22	Ingress protection of el. Enclosures	Min. IP55	
23	Operating mechanism	Hand operated mechanism, common for three poles	
24	Permissible tensile force on terminals	By vendor	
25	Gas pressure indicator	Required	
26	Auxiliary Contacts: No. of Make Contacts No. of Break Contacts Rated Voltage Rated Current Breaking Current at 110V DC	By vendor: Min. 4 Min. 4 110V DC Min. 10A Min. 2A	
27	Anti-Condensation Heater	230V AC, 1Ph, 50Hz	
28	Interlocks with Earth Switch	Load Break Switch + Earth Switch integrated as one unit	
29	Dimensions and Weight	By vendor	
30	Pollution condition	Heavy	
31	Minimum data required on rating plate	Manufacturer Type designation and serial number Rated voltage One minute power frequency withstand voltage Lightning impulse withstand voltage Rated normal current Rated short time withstand current Mainly active load breaking current Closed loop breaking current Line charging breaking current Cable charging breaking current No load transformer breaking current Year of manufacture Relevant standard with date of issue	
32	Routine Tests a) Dielectric test on the main circuit (Clause 7.1 of IEC 60694) b) Tests on auxiliary and control circuits (Clause 7.2 of IEC 60694) c) Measurement of the resistance of the main circuit (Clause 7.3 of IEC60694) d) Tightness test (Clause 7.4 of IEC60694) e) Design and visual checks (Clause 7.5 of IEC60694) f) Mechanical tests as per clause 7.101 of IEC62271-100	Witness and Report Certified Report on the identical type according to IEC 62271-	
33	Type Tests	Certified Report on the identical type according to IEC 62271- 103	



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Data Sheets For 33 KV Over Head Line Equipment

	شماره پيمان:	پروژه	بسته کاری	صادر كننده	تسهيلات	رشته	نوع مدرک	سريال	نسخه
.0444-114		ВК	SSGRL	PEDCO	110	EL	DT	0013	D04

شماره صفحه: ۱۲ از ۱۲

DATA SHEET FOR TOWER (BK1	4
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	DATA SHEET FOR TOWER (BK14)		
Item	DESCRIPTION	CHARACTERISTIC	Vendor data
1	Manufacturer / Country	By vendor	
2	Standard	IPS-E-EL-160, Islamic Republic of Iran Vice Presidency for Strategic Planning and Supervision, General Technical Specification and Execution Procedures for overhead and cable power distribution lines NO: 374,375 & General Technical Specification and Execution Procedures for Transmission Lines NO: 440	
3	Environmental conditions	Acc. to document number: BK-00-HD-000-PR-DB-0001 (Process Basis of Design)	
4	Type of Steel: Analysis of steel Carbon Manganese Sulphur Phosphorus Silicon	MILD High Strength ST 37(235JR) ST 52(355JR) 0.17 0.2 1.4 1.6 0.045 0.05 0.045 0.05 0.3 0.55	
5	Thickness of steel (1.6-3.2mm):	65 65 460	
6	Thickness of steel (3.2-4.8mm): Galvanizingdegree Coating thickness (μm) Coating thickness* gr/m² * Thickness amounts in μm are the galvanizing degree. this are calculated from gr/m2=μm*7.067	75 75 530	
7	Thickness of steel (4.8-6.4mm): Galvanizingdegree Coating thickness (μm) Coating thickness* gr/m² * Thickness amounts in μm are the galvanizing degree. this are calculated from gr/m2=μm*7.067	85 85 600	
8	Strength in Tension Standard Designation	BS 8100 – Lattice Towers and Masts	
9	Strength in Tension (Ultimate tensile stress)	340-470 490-630	
10	Strength in Tension (Yield stress)	235 355	
11	Strength in Compression (Elongation)	24% 22%	
12	Strength in Compression (Min zinc coating)	85μ 85μ	
13	Bolts & Nuts Characteristics: Standard designation Steel material Property class Ultimate shearing stress (On bolt shank) Ultimate Bearing stress Min zinc coating	ANSI C 135-1 (Galvanized Steel Bolts and Nuts for Overhead Lines) Steel Steel 5.6 5.8 2100kg/cm2 2800kg/cm2 5400kg/cm2 6000kg/cm2 46µ 46µ	
14	Pollution condition	Heavy	
15	Routine tests & Type test	According to ASCE1090 Manual 52	