

عمومي و مشترك



شماره پیمان:

· 27 - · 77 - 9114

پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۱ از ۱۱

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS FOR POWER & CONTROL CABLES OF WELL PADS

نگهداشت و افزایش تولید میدان نفتی بینک

Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	Client Approval
D00	Sep. 2021	IFC	M.Asgharnejad	M.Fakharian	Sh.Ghalikar	
D01	Feb. 2022	IFA	H.Shakiba	M.Fakharian	M.Mehrshad	
D02	Mar. 2022	IFA	H.Shakiba	M.Fakharian	M.Mehrshad	
D03	Apr. 2023	AFC	H.Shakiba	M.Fakharian	M.Mehrshad	

Class: 1 Client Doc. Number: F0Z-707394

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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شماره پیمان:

DATA SHEETS FOR POWER & CONTROL CABLES OF WELL PADS

· 24 - · 74 - 9 1 1 4

پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۲ از ۱۱

REVISION RECORD SHEET

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PAGE	D00	D01	D02	D03	D04
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شماره پیمان:

711P - 77.

پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۳ از ۱۱

ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA	
1	SITE CONDITION			
1.1	Location	Binak Oilfield in Bushehr Province		
1.2	Max. Outdoor Ambient Temperature	55°C		
1.3	Min. Outdoor Ambient Temperature	-5°C		
1.4	Direct Sunlight Temperature	85°C		
1.5	Maximum Relative Outdoor Humidity	100%		
1.6	Altitude	12.5 m Above Sea Level		
1.7	Installation Method	Direct Buried Cable		
2	GENERAL			
2.1	Cable Type	MV Power Cable		
2.2	Brief Description (Number of Core)	By Vendor		
2.3	Abbreviated Description (Note 1)	CU/SC/XLPE/SC/LSH/BD/SWA/PVC		
2.4	Manufacturer	By Vendor		
2.5	Manufacturer Type	By Vendor		
2.6	Country	By Vendor		
2.7	Standard	IEC 60502, IPS-M-EL-272 (2)		
2.8	Supply Rated Voltage U0/U [KV]	6/10– 18/30 KV		
2.9	Cable Rated Voltage U0/U(Um) [KV]	6/10 (12) – 18/30 (36) KV		
2.10	System Frequency	50 Hz		
2.11	Quantity	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"		
2.12	Length[m]	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"		
2.13	Number of Drums	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"		
3	CONSTRUCTION			
3.1	Conductor Material	Plain Annealed Stranded Copper		
3.2	Conductor Cross Section [mm2]	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"		
		Solid		
3.3	Conductor Construction	Circular Stranded S<=25mm		
5.5	Conductor Construction	Shaped Stranded S>=35mm		
		Compressed Circular Stranded		



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پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۴ از ۱۱

ITEM	DESCRIPTION	DESCRIPTION REQUIREMENT			
		90°C (for XLPE Insulation)			
3.4 Maximum Conductor Temperature		70°C (for PVC Insulation)			
2.5	Maximum Conductor Temperature - Short	250°C (for XLPE Insulation)			
3.5	Circuit	160°C (for PVC Insulation)			
3.6	Conductor Class	Class 2			
3.7	Number of Cores	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"			
3.8	Core Insulation Material	XLPE			
3.9	Core Insulation Thickness [mm]	By Vendor			
3.10	Core Insulation Colors/Marking	Red, Yellow & Blue			
3.11	Screen Material	Copper			
3.12	Screen Cross Section	16 or 25			
3.13	Filler Type	PVC			
3.14	Bedding (Inner Sheath) Material	Extruded PVC			
3.15	Bedding Thickness	By Vendor			
3.16	Lead Sheath Thickness	By Vendor (Considered for Process Area)			
3.17	Under Armor Diameter of Cable	By Vendor			
3.18	Armor Type & Material	Galvanized Steel Wire for Multicore, Aluminum Wire for Single Cores			
3.19	Armor Wire Diameter [mm]	By Vendor			
3.20	Armor Coverage	Min.90%			
3.21	Jacket (Outer Sheath) Material	Extruded PVC			
3.22	Jacket Thickness[mm]	By Vendor			
3.23	Jacket Color	Red			
3.24	Diameter Under Armor [mm]	By Vendor			
3.25	Overall Diameter [mm]	By Vendor			
3.26	Minimum Bending Radius	By Vendor			
3.27	Diameter Over Lead Sheath [mm]	By Vendor			
3.28	Cable Marking	By Vendor			
3.29	Repeating Length [m]	1m			



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DATA SHEETS FOR POWER & CONTROL CABLES OF WELL PADS							
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۵ از ۱۱

	TECHNICAL DATA SHEET FOR MV POWER CABLES OF WELL PADS							
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA					
		By Vendor						
		No. of Cores						
		Rated Voltage						
3.30	Marking Items	Size of Conductor						
		Type of Insulation						
		Applicable Standard						
		Year of Manufacture						
4	ELECTRICAL CHARACTERISTICS							
4.1	DC Resistance of Conductor at 20°C [Ω/Km]	By Vendor						
4.2	AC Resistance of Conductor at 20°C [Ω/Km]	By Vendor						
4.3	AC Resistance of Conductor at 70°C [Ω/Km]	By Vendor						
4.4	DC Resistance of Conductor at 30°C [Ω/Km]	By Vendor						
4.5	AC Resistance of Conductor at 30°C [Ω/Km]	By Vendor						
4.6	Phase Reactance [Ω/Km]	By Vendor						
4.7	Ampacity at 20°C /2.5 Km /W Soil[A]	By Vendor						
4.8	Ampacity at 30°C Free Air [A]	By Vendor						
5	MECHANICAL CHARACTERISTICS							
5.1	Maximum Insulation Temperature:	By Vendor						
5.2	At Continuous Rating [°C]	By Vendor						
5.3	At Short Circuit [°C]	By Vendor						
5.4	Cable Weight [Kg/Km]	By Vendor						
6	DRUM CHARACTERISTICS							
6.1	Dimension[mm]	By Vendor						
6.2	Drum Type No.	By Vendor						
6.3	Cable Length Per Drum[m]	By Vendor						
6.4	Drum Weight [Kg]	By Vendor						
6.5	Material	By Vendor						
7	TEST ITEMS							
7.1	Routine Tests: (as minimum) - Conductor Resistance Measurement - High Voltage Power Frequency Test - Insulation Resistance Measurement - Partial Discharge Test	Yes By Vendor						



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شماره پیمان:

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DATA SHEETS FOR POWER & CONTROL CABLES OF WELL	PADS
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 نسخه
 سریال
 نوع مدر ک
 رشته
 تسهیلات
 صادر کننده
 بسته کاری
 پروژه

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شماره صفحه: ۶ از ۱۱

	TECHNICAL DATA SHEET FOR <u>LV</u> POWER CABLES OF WELL PADS						
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA				
1	SITE CONDITION						
1.1	Location	Binak Oilfield in Bushehr Province					
1.2	Max. Outdoor Ambient Temperature	55°C					
1.3	Min. Outdoor Ambient Temperature	-5°C					
1.4	Direct Sunlight Temperature	85°C					
1.5	Maximum Relative Outdoor Humidity	100%					
1.6	Altitude	12.5 m Above Sea Level					
1.7	Installation Method	Direct Buried Cable					
2	GENERAL						
2.1	Cable Type	LV Power Cable					
2.2	Brief Description (Number of Core)	By Vendor					
2.3	Abbreviated Description (Note 2)	CU/XLPE (or PVC) /BD/LSH/BD/SWA/PVC					
2.4	Manufacturer	By Vendor					
2.5	Manufacturer Type	By Vendor					
2.6	Country	By Vendor					
2.7	Standard	IEC 60502, IPS-M-EL-271(2)					
2.8	Supply Rated Voltage U0/U [V]	0.6/1 KV					
2.9	Cable Rated Voltage U0/U(Um) [KV]	0.6/1 (1.2) KV					
2.10	System Frequency	50 Hz					
2.11	Quantity	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"					
2.12	Length[m]	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"					
2.13	Number of Drums	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"					
3	CONSTRUCTION						
3.1	Conductor Material	Plain Annealed Stranded Copper					
3.2	Conductor Cross Section [mm2]	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"					
		Solid					
3.3	Conductor Construction	Circular Stranded S<=25mm					
3.3	Conductor Construction	Shaped Stranded S>=35mm					
		Compressed Circular Stranded					



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 $\bullet \Delta \tau - \bullet V \tau - 91 \Lambda \tau$

پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۷ از ۱۱

	TECHNICAL DATA SHEET FOR <u>LV</u> POWER CABLES OF WELL PADS							
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA					
3.4	Marianum Conductor Tomororotum	90°C (for XLPE Insulation)						
J. 4	Maximum Conductor Temperature	70°C (for PVC Insulation)						
3.5	Maximum Conductor Temperature - Short	250°C (for XLPE Insulation)						
3.3	Circuit	160°C (for PVC Insulation)						
3.6	Conductor Class	Class 2						
3.7	Number of Cores	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"						
3.8	Core Insulation Material	XLPE (or PVC if Specified in Cable List)						
3.9	Core Insulation Thickness [mm]	By Vendor						
3.10	Core Insulation Colors/Marking	By Vendor						
3.11	Phase Conductors	Red, Yellow and Blue						
3.12	For AC Neutral or Other Connections	Black						
3.13	For Two Core Cable (DC)	Positive: Red , Negative: Black						
3.14	Lead Sheath Thickness	By Vendor (Considered for Process Area)						
3.15	Diameter Over Lead Sheath [mm]	By Vendor						
3.16	Armor Type & Material	Galvanized Steel Wire for Multicore, Aluminum Wire for Single Cores						
3.17	Armor Wire Diameter [mm]	By Vendor						
3.18	Bedding Type	Extruded PVC						
3.19	Filler Type	PVC						
3.20	Jacket (Outer Sheath) Material	Extruded PVC						
3.21	Jacket Thickness[mm]	By Vendor						
3.22	Jacket Color	Black						
3.23	Diameter Under Armor [mm]	By Vendor						
3.24	Overall Diameter [mm]	By Vendor						
3.25	Minimum Bending Radius	By Vendor						
3.26	Cable Marking	By Vendor						
3.27	Repeating Length [m]	1m						



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DATA SHEETS FOR POWER & CONTROL CABLES OF WELL PADS							
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۸ از ۱۱

	TECHNICAL DATA SHEET FO	OR <u>LV</u> POWER CABLES OF WELL	L PADS
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
		By Vendor	
		No. of Cores	
		Rated Voltage	
3.28	Marking Items	Size of Conductor	
		Type of Insulation	
		Applicable Standard	
		Year of Manufacture	
4	ELECTRICAL CHARACTERISTICS		
4.1	DC Resistance of Conductor at 20°C [Ω/Km]	By Vendor	
4.2	AC Resistance of Conductor at 20°C [Ω/Km]	By Vendor	
4.3	AC Resistance of Conductor at 70°C [Ω/Km]	By Vendor	
4.4	DC Resistance of Conductor at 30°C [Ω/Km]	By Vendor	
4.5	AC Resistance of Conductor at 30°C [Ω/Km]	By Vendor	
4.6	Phase Reactance [Ω/Km]	By Vendor	
4.7	Ampacity at 20°C /2.5 Km /W Soil[A]	By Vendor	
4.8	Ampacity at 30°C Free Air [A]	By Vendor	
5	MECHANICAL CHARACTERISTICS		
5.1	Maximum Insulation Temperature:	By Vendor	
5.2	At Continuous Rating [°C]	By Vendor	
5.3	At Short Circuit [°C]	By Vendor	
5.4	Cable Weight [Kg/Km]	By Vendor	
6	DRUM CHARACTERISTICS		
6.1	Dimension[mm]	By Vendor	
6.2	Drum Type No.	By Vendor	
6.3	Cable Length Per Drum[m]	By Vendor	
6.4	Drum Weight [Kg]	By Vendor	
6.5	Material	By Vendor	
7	TEST ITEMS		
7.1	Routine Tests: (as minimum) - Conductor Resistance Measurement - High Voltage Power Frequency Test - Insulation Resistance Measurement Specification of each cable will be indicated in "	By Vendor	



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 $\bullet \Delta \tau - \bullet V \tau - 91 \Lambda \tau$

DATA SHEETS FOR POWER & CONTROL CABLES OF W	WELL PADS
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پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۹ از ۱۱

TECHNICAL DATA SHEET FOR LV <u>CONTROL</u> CABLES OF WELL PADS						
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA			
1	SITE CONDITION					
1.1	Location	Binak Oilfield in Bushehr Province				
1.2	Max. Outdoor Ambient Temperature	55°C				
1.3	Min. Outdoor Ambient Temperature	-5°C				
1.4	Direct Sunlight Temperature	85°C				
1.5	Maximum Relative Outdoor Humidity	100%				
1.6	Altitude	12.5 m Above Sea Level				
1.7	Installation Method	Direct Buried Cable				
2	GENERAL					
2.1	Cable Type	LV Control Cable				
2.2	Brief Description (Number of Core)	By Vendor				
2.3	Abbreviated Description (Note 3)	CU/XLPE (or PVC) /BD/SWA/PVC				
2.4	Manufacturer	By Vendor				
2.5	Manufacturer Type	By Vendor				
2.6	Country	By Vendor				
2.7	Standard	IEC 60502, IPS-M-EL-271(2)				
2.8	Supply Rated Voltage U0/U [V]	0.6/1 KV				
2.9	Cable Rated Voltage U0/U(Um) [KV]	0.6/1 (1.2) KV				
2.10	System Frequency	50 Hz				
2.11	Quantity	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"				
2.12	Length[m]	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"				
2.13	Number of Drums	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"				
3	CONSTRUCTION					
3.1	Conductor Material	Plain Annealed Solid or Stranded Copper				
3.2	Conductor Cross Section [mm2]	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"				
		Solid				
3.3	Conductor Construction	Circular Stranded S<=25mm				
ر. ی	Conductor Construction	Shaped Stranded S>=35mm				
		Compressed Circular Stranded				



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DATA SHEETS FOR POWER & CONTROL CA	ABLES OF WELL PADS
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پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	SSGRL	PEDCO	110	EL	DT	0009	D03

شماره صفحه: ۱۰ از ۱۱

	TECHNICAL DATA SHEET FOR LV <u>CONTROL</u> CABLES OF WELL PADS					
ITEM	DESCRIPTION	DESCRIPTION REQUIREMENT				
2.4	Maximum Conductor Tompositure	90°C (for XLPE Insulation)				
3.4 Maximum Conducto	Maximum Conductor Temperature	70°C (for PVC Insulation)				
3.5	Maximum Conductor Temperature - Short	250°C (for XLPE Insulation)				
3.3	Circuit	160°C (for PVC Insulation)				
3.6	Conductor Class	Class 2				
3.7	Number of Cores	According to Document "BK-SSGRL-PEDCO-110-EL-LI-0002"				
3.8	Core Insulation Material	XLPE (or PVC if Specified in Cable List)				
3.9	Core Insulation Thickness [mm]	By Vendor				
3.10	Core Insulation Colors/Marking	By Vendor				
3.11	Phase Conductors	Numbering the Cores From No. One for the Wire in Center				
3.12	Lead Sheath Thickness	By Vendor (Considered for Process Area)				
3.13	Diameter Over Lead Sheath [mm]	By Vendor				
3.14	Armor Type & Material	Galvanized Steel Wire for Multicore, Aluminum Wire for Single Cores				
3.15	Armor Wire Diameter [mm]	By Vendor				
3.16	Bedding Type	Extruded PVC				
3.17	Filler Type	PVC				
3.18	Jacket (Outer Sheath) Material	Extruded PVC				
3.19	Jacket Thickness[mm]	By Vendor				
3.20	Jacket Color	Black				
3.21	Diameter Under Armor [mm]	By Vendor				
3.22	Overall Diameter [mm]	By Vendor				
3.23	Minimum Bending Radius	By Vendor				
3.24	Cable Marking	By Vendor				
3.25	Repeating Length [m]	1m				
		By Vendor				
		No. of Cores				
		Rated Voltage				
3.26	Marking Items	Size of Conductor				
		Type of Insulation				
		Applicable Standard				
		Year of Manufacture				



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DATA SHEETS FOR POWER & CONTROL CABLES OF WELL PADS							
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 نوع مدر ک
 رشته
 تسهیلات
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شماره صفحه: ۱۱ از ۱۱

TECHNICAL DATA SHEET FOR LV <u>CONTROL</u> CABLES OF WELL PADS						
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA			
4	ELECTRICAL CHARACTERISTICS					
4.1	DC Resistance of Conductor at 20°C [Ω/Km]	By Vendor				
4.2	AC Resistance of Conductor at 20°C [Ω/Km]	By Vendor				
4.3	AC Resistance of Conductor at 70°C [Ω/Km]	By Vendor				
4.4	DC Resistance of Conductor at 30°C [Ω/Km]	By Vendor				
4.5	AC Resistance of Conductor at 30°C [Ω/Km]	By Vendor				
4.6	Phase Reactance [Ω/Km]	By Vendor				
4.7	Ampacity at 20°C /2.5 Km /W Soil[A]	By Vendor				
4.8	Ampacity at 30°C Free Air [A]	By Vendor				
5	MECHANICAL CHARACTERISTICS					
5.1	Maximum Insulation Temperature:	By Vendor				
5.2	At Continuous Rating [°C]	By Vendor				
5.3	At Short Circuit [°C]	By Vendor				
5.4	Cable Weight [Kg/Km]	By Vendor				
6	DRUM CHARACTERISTICS					
6.1	Dimension[mm]	By Vendor				
6.2	Drum Type No.	By Vendor				
6.3	Cable Length Per Drum[m]	By Vendor				
6.4	Drum Weight [Kg]	By Vendor				
6.5	Material	By Vendor				
7	TEST ITEMS					
7.1	Routine Tests: (as minimum) - Conductor Resistance Measurement - High Voltage Power Frequency Test - Insulation Resistance Measurement	By Vendor				

Note 3: Specification of each cable will be indicated in "BK-SSGRL-PEDCO-110-EL-LI-0002".