

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							 شرکت توسعه ترابریان 
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	DATA SHEETS FOR POWER & CONTROL CABLES							شماره صفحه ۱: از ۱۱
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	EL	DT	0010	D02

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS FOR POWER & CONTROL CABLES

نگهداشت و افزایش تولید میدان نفتی بینک





D02	Jul. 2022	IFA	H.Shakiba	M.Fakharian	M.Mehrshad	
D01	May. 2022	IFA	H.Shakiba	M.Fakharian	M.Mehrshad	
D00	Feb. 2022	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-709027

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

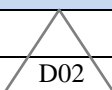
 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>	 شرکت توسعه ترابریان  HIRGAN ENERGY 																								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">DATA SHEETS FOR POWER & CONTROL CABLES</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D02</td><td>0010</td><td>DT</td><td>EL</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	DATA SHEETS FOR POWER & CONTROL CABLES								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D02	0010	DT	EL	120	PEDCO	GCS	BK	شماره صفحه: ۲ از ۱۱
DATA SHEETS FOR POWER & CONTROL CABLES																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D02	0010	DT	EL	120	PEDCO	GCS	BK																			



REVISION RECORD SHEET

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3	X	X	X		
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	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																									
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DATA SHEETS FOR POWER & CONTROL CABLES																										
پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	PEDCO	120	EL	DT	0010	D02																			

Technical Data Sheet for <u>MV Power</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
1	SITE CONDITION		
1.1	Location	Binak Oilfield in Bushehr Province	 D02
1.2	Max. Outdoor Ambient Temperature	52°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/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-272 (2)	
2.8	Supply Rated Voltage U0/U [KV]	1.8/3 - 6/10 KV	
2.9	Cable Rated Voltage U0/U(Um) [KV]	1.8/3 (3.6) - 6/10 (12) KV	
2.10	System Frequency	50 Hz	
2.11	Quantity	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
2.12	Length[m]	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
2.13	Number of Drums	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
3	CONSTRUCTION		
3.1	Conductor Material	Plain Annealed Stranded Copper	
3.2	Conductor Cross Section [mm2]	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
3.3	Conductor Construction	Solid	
		Circular Stranded S<=25mm	
		Shaped Stranded S>=35mm	
		Compressed Circular Stranded	



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DATA SHEETS FOR POWER & CONTROL CABLES																										
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BK	GCS	PEDCO	120	EL	DT	0010	D02																			

Technical Data Sheet for <u>MV Power</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
3.4	Maximum Conductor Temperature	90°C (for XLPE Insulation)	
		70°C (for PVC Insulation)	
3.5	Maximum Conductor Temperature - Short Circuit	250°C (for XLPE Insulation)	
		160°C (for PVC Insulation)	
3.6	Conductor Class	Class 2	
3.7	Number of Cores	According to Document "BK-GCS-PEDCO-120-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	VTA	
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	
3.30	Marking Items	By Vendor	



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BK	GCS	PEDCO	120	EL	DT	0010	D02																			

Technical Data Sheet for <u>MV Power</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
		No. of Cores	
		Rated Voltage	
		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)	Yes	
	- Conductor Resistance Measurement		
	- High Voltage Power Frequency Test		
	- Insulation Resistance Measurement		
	- Partial Discharge Test	By Vendor	



Note 1: Specification of each cable will be indicated in "BK-GCS-PEDCO-120-EL-LI-0002".

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Technical Data Sheet for <u>LV Power</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
1	SITE CONDITION		
1.1	Location	Binak Oilfield in Bushehr Province	<div><div></div><div>D01</div></div>
1.2	Max. Outdoor Ambient Temperature	52°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-GCS-PEDCO-120-EL-LI-0002”	
2.12	Length[m]	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
2.13	Number of Drums	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
3	CONSTRUCTION		
3.1	Conductor Material	Plain Annealed Stranded Copper	
3.2	Conductor Cross Section [mm2]	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
3.3	Conductor Construction	Solid	
		Circular Stranded S<=25mm	
		Shaped Stranded S>=35mm	
		Compressed Circular Stranded	



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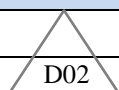
Technical Data Sheet for <u>LV Power</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
3.4	Maximum Conductor Temperature	90°C (for XLPE Insulation)	
		70°C (for PVC Insulation)	
3.5	Maximum Conductor Temperature - Short Circuit	250°C (for XLPE Insulation)	
		160°C (for PVC Insulation)	
3.6	Conductor Class	Class 2	
3.7	Number of Cores	According to Document "BK-GCS-PEDCO-120-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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Technical Data Sheet for <u>LV Power</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
3.28	Marking Items	By Vendor	
		No. of Cores	
		Rated Voltage	
		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	By Vendor	



Note 2: Specification of each cable will be indicated in "BK-GCS-PEDCO-120-EL-LI-0002".

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																									
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BK	GCS	PEDCO	120	EL	DT	0010	D02																			

Technical Data Sheet for <u>LV Control</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
1	SITE CONDITION		
1.1	Location	Binak Oilfield in Bushehr Province	 D02
1.2	Max. Outdoor Ambient Temperature	52°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-GCS-PEDCO-120-EL-LI-0002”	
2.12	Length[m]	According to Document “BK-GCS-PEDCO-120-EL-LI-0002”	
2.13	Number of Drums	According to Document “BK-GCS-PEDCO-120-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-GCS-PEDCO-120-EL-LI-0002”	
3.3	Conductor Construction	Solid	
		Circular Stranded S<=25mm	
		Shaped Stranded S>=35mm	
		Compressed Circular Stranded	

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Technical Data Sheet for <u>LV Control</u> Cables			
ITEM	DESCRIPTION	REQUIREMENT	SUPPLIER'S DATA
3.4	Maximum Conductor Temperature	90°C (for XLPE Insulation)	
		70°C (for PVC Insulation)	
3.5	Maximum Conductor Temperature - Short Circuit	250°C (for XLPE Insulation)	
		160°C (for PVC Insulation)	
3.6	Conductor Class	Class 2	
3.7	Number of Cores	According to Document "BK-GCS-PEDCO-120-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	
3.26	Marking Items	By Vendor	
		No. of Cores	
		Rated Voltage	
		Size of Conductor	
		Type of Insulation	
		Applicable Standard	
		Year of Manufacture	

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Technical Data Sheet for <u>LV Control</u> Cables			
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 [$^{\circ}$ C]	By Vendor	
5.3	At Short Circuit [$^{\circ}$ 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	

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