

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0023_00)</p>																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">SURFACE PREPARATION AND PAINTING PROCEDURE</th></tr><tr><td>پروژه</td><td>بسته کاری</td><td>صادر کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>GCS</td><td>KP</td><td>120</td><td>QC</td><td>PR</td><td>0002</td><td>V00</td></tr></table>	SURFACE PREPARATION AND PAINTING PROCEDURE								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	KP	120	QC	PR	0002	V00	شماره صفحه: 1 از 6
SURFACE PREPARATION AND PAINTING PROCEDURE																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	KP	120	QC	PR	0002	V00																			

طرح نگهداشت و افزایش تولید ۲۷ مخزن

SURFACE PREPARATION AND PAINTING PROCEDURE  
نگهداشت و افزایش تولید میدان نفتی بینک

V00	NOV. 2024	IFA	Kalaye Pump	M.Fakharian	M.Sadeghian	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Status:

IFA: Issued for Approval  
IFI: Issued for Information  
AFC: Approved for Construction

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0023_00)</p>																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">SURFACE PREPARATION AND PAINTING PROCEDURE</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>GCS</td><td>KP</td><td>120</td><td>QC</td><td>PR</td><td>0002</td><td>V00</td></tr></table>	SURFACE PREPARATION AND PAINTING PROCEDURE								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	KP	120	QC	PR	0002	V00	شماره صفحه: 2 از 6
SURFACE PREPARATION AND PAINTING PROCEDURE																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	KP	120	QC	PR	0002	V00																			

### REVISION RECORD SHEET

PAGE	V00	V01	V02	V03	V04
1	X				
2	X				
3	X				
4	X				
5	X				
6	X				
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					

PAGE	V00	V01	V02	V03	V04
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					
101					
102					
103					
104					
105					
106					
107					
108					
109					
110					
111					
112					
113					
114					
115					
116					
117					
118					
119					
120					
121					
122					
123					
124					
125					
126					
127					
128					
129					
130					

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0023_00)</p>																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">SURFACE PREPARATION AND PAINTING PROCEDURE</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>GCS</td><td>KP</td><td>120</td><td>QC</td><td>PR</td><td>0002</td><td>V00</td></tr></table>	SURFACE PREPARATION AND PAINTING PROCEDURE								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	KP	120	QC	PR	0002	V00	شماره صفحه : 3 از 6
SURFACE PREPARATION AND PAINTING PROCEDURE																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	KP	120	QC	PR	0002	V00																			

## 1.0 INTRODUCTION

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also, PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

## 2.0 GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – Supply Of Fire Water Pumps
EPD/EPC CONTRACTOR (GC):	Petro Iran Development Company (PEDCO)
EPC CONTRACTOR/PURCHASER:	Joint Venture of: Hirgan Energy – Design & Inspection (D&I) Companies
VENDOR:	Kalaye Pump Company
EXECUTOR:	Executor is the party which carries out all or part of construction and/or commissioning for the project.
TPI:	Third Party Inspector.
SHALL:	Is used where a provision is mandatory.
SHOULD:	Is used where a provision is advisory only.
WILL:	Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR.
MAY:	Is used where a provision is completely discretionary.

## 3.0 SCOPE

The aims of developing this executive instruction are enhancing the precision, improving the functional level and stating how to carry the painting operation among a variety of different pump types in accordance to maintaining their facial situation and quality against physical and atmosphere harmful factors.

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0023_00)</p>																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">SURFACE PREPARATION AND PAINTING PROCEDURE</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>GCS</td><td>KP</td><td>120</td><td>QC</td><td>PR</td><td>0002</td><td>V00</td></tr></table>	SURFACE PREPARATION AND PAINTING PROCEDURE								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	KP	120	QC	PR	0002	V00	شماره صفحه : 4 از 6
SURFACE PREPARATION AND PAINTING PROCEDURE																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	KP	120	QC	PR	0002	V00																			

## 4.0 APPLICATION DOMAIN

The application domain of this instruction includes different kinds of manufactured and repaired pumps belonging to the pump Equipment Company.

## 5.0 REFERENCE

Painting operation of different pump types carries out according to "ASTM", "Oil & Grease Cleaning (SSPC-SP1)", and "Abrasive Blasting (ISO 8501:1)".

## 6.0 METHODOLOGY

### 6.1 .Equipment

- 6.1.1 .Safety equipment including masks, gloves, and painting caps.
- 6.1.2 .Painting room equipped with suitable air ventilation .
- 6.1.3 .Painting method is manual using a wind Pistola (spray gun).

### 6.2 .Surface preparation

- 6.2.1 .Resulting embosses from welding, molding waste ... is polished.
- 6.2.2 .To primary washing and remove the remaining grease, and gas oil, ... from the surface, in the first step wash the surface with an alkaline solution (Detergent) and immediately wash it with water and dry it with airflow.
- 6.2.3 .To be sure of removing oil and fat completely from the surface, wash it using a solvent T210 (WASHING SOLVENT OF TINNER FAMILY) completely.
- 6.2.4 .After Washing, the surface shall be sandblasting to achieve a profile of the blast-clean surface of about 50-75 micron (SA 2 1/2). Abrasive blasting: min Sa2.5- ISO 8501:1 by copper slug.
- 6.2.5 .Cover up any surfaces which should not be painted, using grease or paper glue including:
  - A) Junctions of input-output flanges and internal pump surfaces.

B) Identification plaque and attached icons on the pump.

C) Devices of the shaft are located outside the coupling and electromotor.

D) Coupling devices of all electromotors, excepting the coupling of electromotors.

E) Any air vacuuming junctions and evacuating, cooling, and mechanical seal junctions and bypass return tube.

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0023_00)</p>																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">SURFACE PREPARATION AND PAINTING PROCEDURE</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>GCS</td><td>KP</td><td>120</td><td>QC</td><td>PR</td><td>0002</td><td>V00</td></tr></table>	SURFACE PREPARATION AND PAINTING PROCEDURE								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	KP	120	QC	PR	0002	V00	شماره صفحه : 5 از 6
SURFACE PREPARATION AND PAINTING PROCEDURE																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	KP	120	QC	PR	0002	V00																			

### 6.3 .Painting Schedule

6.3.1. Painting systems for devices exposed to fresh air (fire fighting pumps): The considering paint color is Red which is corresponding to RAL 3001: (3 layers)

- A) Transzinc epoxy uniprimer 155 color layer with 40-80 micron thickness.
- B) Transpoxy master MIO primer intermediate 165 intervals with 90-140 micron thickness.
- C) Transothane finish series-365 final layer with 60-70 micron thickness.

### 6.4 .Painting Condition

The painting operation carries out under these conditions.:

- Humidity below 80% RH.
- Temperature of the paint before application: min: 5°C, max: 30°C.
- Substrate temperature: min: 1°C, max: 35°C.
- The temperature of the substrate should be at least 3°C above the dew point of the air. Air temperature and relative humidity must be measured in the vicinity of the substrate.

### 6.5 .Readiness announcement to quality control (Q.C)

6.5.1 .In the case of requirement, the product color is provided according to the customer's order and application.

6.5.2 .Paint system of the skid is similar to the pump.

## 7.0 ADHESION TEST

According ASTM (designation: D3359)

### 7.1 .Methodology

These test methods cover procedures for assessing the adhesion of coating films to metallic substrates by applying and removing pressure-sensitive tape over cuts made in the film.

### 7.2 .Equipment

- Elcometer
- Tape

### 7.3 .Test

7.3.1 .Place the cutting tool on the sample, press down gentle, and pull the tool towards you in one steady movement to make a series of parallel cuts approximately 20 mm long. Apply sufficient pressure to ensure that you cut through the coating to the substrate.

7.3.2 .Place the cutting tool on the sample at 900 to the first cut and repeat step (1) to create a lattice pattern on the coating.

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض</p> <p>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0023_00)</p>																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">SURFACE PREPARATION AND PAINTING PROCEDURE</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادرکننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>GCS</td><td>KP</td><td>120</td><td>QC</td><td>PR</td><td>0002</td><td>V00</td></tr></table>	SURFACE PREPARATION AND PAINTING PROCEDURE								پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	KP	120	QC	PR	0002	V00	شماره صفحه : 6 از 6
SURFACE PREPARATION AND PAINTING PROCEDURE																										
پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	KP	120	QC	PR	0002	V00																			

7.3.3 .Brush lightly to remove detached flakes or ribbons of coating.

7.3.4 .Inspect to ensure the cuts have penetrated all the way through the coating.

7.3.5 .Select the correct adhesive tape. Remove and discard two complete turns of adhesive tape. Remove an additional length of tape at a steady rate and cut a piece approximately 75 mm from this length.

7.3.6 .Centre the cut piece of tape over the lattice and smooth it into place using a finger. Rub the tape firmly using the eraser on the end of a pencil to ensure good adhesion between the tape and the coating .

7.3.7 .Within 90 seconds ( $\pm 30$  seconds) of applying the tape, remove the tape by pulling in a single smooth action at an angle of 1800 to the coating surface.

7.3.8 .Assess the coating adhesion by viewing the lattice of cuts using an illuminated magnifier. Compare the lattice of cuts with the ISO and ASTM standards.

7.3.9 .Repeat the test at two other positions.

## 8.0 ACCEPTANCE STANDARDS

Classification 2B according to ASTM

## 9.0 FINAL RELEASE

To issue the final release note, form no. KP-FRQC-21 will be filled out in presence of an official inspector.