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海洋石油工程股份有限公司  
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CLIENT	INDOOR- OUTFITTING FABRICATION PROCEDURE 内舾装施工程序		OFFSHORE OIL ENGINEERING CO.,LTD. CONSTRUCTION COMPANY						
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**CONTENTS 目 录**

1	GENERAL 概述.....	3
2	RULES AND STANDARDS 规范和标准.....	3
3	LARGER EQUIP TO BE INSTALLED 大型装备的安装.....	4
4	FABRICATION PROCEDURE & DEMAND FOR CABIN OUTFITTING 舱室舾装的制作程序及要求.....	4
4.1	INSTALLATION OF PRE-BURY ELEMENT 预埋件的安装.....	4
4.2	INSTALL OF FIREPROOFING AND THERMAL INSULATION 防火及保温绝缘的安装.....	5
4.3	INSTALLATION OF GALVANIZED IRON SHEET 镀锌铁皮的安装.....	6
4.4	INSTALLATION OF CABIN DOORS & WINDOWS 房间门、窗的安装.....	7
4.5	INSTALL ATION OF COMPOSITE ROCKWOOL PANEL FRAME MEMBER 复合岩棉板及吸音板构架的安装 .....	8
4.6	INSTALLATION OF WALL PANEL 舾装板、吸音板的安装.....	9
4.7	LAYING DECK COVERING 敷设甲板敷料.....	10
4.8	LAYING OF RUBBER FLOOR 橡胶地板的敷设.....	11
4.9	INSTALLTION OF MOVABLE ANTISTATIC FLOOR 防静电浮动地板的安装.....	11
5	REMARK 备注.....	12

## 1. GENERAL 概述

The indoor outfitting of JZ25-1S WHPA/CEP platform includes:

The larger equipment to be installed, installation of pre-bury element, fireproofing, thermal insulation, galvanizing iron sheet and cabin doors; laying of deck covering and rubber floor, etc.

JZ25-1S WHPA/CEP 组块的内舾装的工作主要包括: 较大尺寸舾装设备的就位; 预埋件的安装; 防火及保温绝缘的安装; 舾装板、吸音板以及镀锌铁皮的安装; 舱室门的安装; 敷设甲板敷料、橡胶地板等。

## 2. RULES AND STANDARDS 规范和标准

SAFETY RULES FOR FIXED OFFSHORE PLATFORMS (P.R.C.2000)

海上固定平台安全规则 (P. R. C. 2000)

GB/T 5746-1996 SHIP'S ORDINARY RECTANGULAR WINDOW 船用普通矩形窗

SOLAS 1974 CHAPTER II 海上生命安全的国际协定第二章 CHAPTER II -1: CONSTRUCTION-SUBDIVISION AND STABILITY, MACHINERY AND ELECTRICAL INSTALLATIONS.

CHAPTER II -2: FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION.

生产厂家标准: 通风和空调企业标准 Q/321283ufa01-1999

MANUFACTURER STANDARD: VENTILATION AND AIR-CONDITION  
ENTERORISE STANDARD

区域分类和通风规范 RPC102 DNV-752

DISTRICT SORT AND VENTILATION CRITERION

窗框用热轧型钢 GB/T2597-94

PROFILED BAR FOR WINDOW

通风栅 GB/T462-1996

VENT GRILL

船用防火风闸 CB/T3557-1995

MARIN FIRE DAMPER

船用通风管路通舱管件 CB/T204-1999

PENETRATION PIECE FOR VENT DUCT

船用通风系统管路和附件的公称通径 GB1560-79

## DUCT AND APPURTENANCE NOMINAL DUCT SIZE FOR MARIN VENTILATION SYSTEM

船用焊接通风法兰标准 GB1561-79

## MARIN WELDED VENT FLANGE

风管吊架标准 CB/T210-1995

## VENT DUCT HANGER

酸洗薄钢板和镀锌钢板 YB178-65、YB180-63

## ACID-DIP STEEL PLATE AND GALVANIZED TIN STEEL PLATE

等边角钢和不等边角钢、热轧普通槽钢 GB9787、GB9788 和 GB707-88

## EQUAL AND UNEQUAL ANGLE STEEL

### 3. LARGER EQUIPMENT TO BE INSTALLED 大型装备的安装

The larger equipment will be installed firstly before the construction work have finished.

A. The equipment having larger size more than the door size shall be installed to right position firstly, for example the main diesel –alternator set in emergency room.

B. Some larger equipment having larger size more than the door size shall be installed to right position firstly, for example, switchboards, transformer etc in the main switch room, emergency switch room and main transformer room.

大型装备的安装、就位应在结构施工前完成。

a. 凡是尺寸大于门开口的装备均需提前就位，比如主柴油发电机要首先在应急间内安装就绪。

b. 主配电间、应急配电间、变压器间内的机电等尺寸比门开口尺寸大的也需提前就位。

### 4. FABRICATION PROCEDURE & DEMANDING FOR CABIN OUTTING

#### 舱室舾装的制作程序及要求

#### 4.1. installation of pre-bury elements 预埋件的安装

The pre-bury elements in cabin outfitting mainly include:

内舾装所指的预埋件，主要包括：

a. Water bar 挡水扁钢。

Before water bar welded, the right position by running a line must be done at site. Then the water bar will be carried out two-side welding continuously according to the requirement of the drawing. After welding finished, the bend warp must be less than  $\pm 5\text{mm/m}$ .

挡水扁钢的焊接，首先要按照图纸的要求在施工现场拉线定位，然后进行焊接，

且要求双面连续焊，确保焊缝水密。扁铁焊后弯曲变形不得超过 $\pm 5\text{mm/m}$ 。

b. Support and hanger shall be welded according to the requirement of the drawing.

按图焊接吊挂件、支撑件。

c. Door construction shall be welded according to the drawing.

按图焊接门口缘材。

d. Moveable floor support and braced frame shall be installed.

安装活动地板支撑。

e. Others.

其他。

#### 4.2. Installation of fireproofing and thermal insulation

防火及保温绝缘的安装

The process of construction sequence for the installation of the fireproofing and thermal insulation as following:

施工顺序一般分以下几个步骤：

a. To be familiar with the working drawing and the materials need be ready. The position of fireproofing and thermal insulation should be understood in detail. Then the construction shall carry out according to the drawing.

首先要熟悉图纸，准备材料，并详细了解防火装置及保温绝缘安装的位置，并按图纸施工。

b. Before laying the fire-protected and thermal insulation, some correlative projects such as piping, cable, ventilation and pipe penetrating piece on bulkhead shall be finished.

敷设前，像管路、电缆、风管和穿舱件等与之有关的安装工作应结束。

c. Before welding the lagging pin, the locality need be clear and no painting. After

welding finished, the coat of painting need be clear by a steel brush and be painted according to spray painting procedure. And the work field shall be cleaned up properly.

保温钉焊接前, 必须将焊接部位的油漆打磨干净, 直到露出金属光泽为止; 保温钉焊好后, 要用钢刷清除表面烧焦的油漆, 对破坏的油漆按照《喷涂施工程序》进行补漆工作, 要确保补漆处表面平整光滑, 对作业现场进行适当的清理工作。

- d. Laying the fire-protected and thermal insulation. The interface of the double insulation shall be avoid overlapped. The minimum distance of overlap between two piece of mineral-wool at interfaces is 100mm and keep up level and using glass silk to seam up. The top shall overlap the bottom. Insulation transition shall be handled with fireproofing insulation firstly at the joint of fireproofing insulation and thermal insulation.

敷设防火和保温绝缘。在敷设绝缘过程中, 要注意避免双层绝缘接口相互重合, 且要保持错口最小距离在 100mm 左右。要保持绝缘接口表面严密平整, 并用玻璃丝绳对接口处进行缝接。顶部绝缘层应与底部的绝缘层重叠。在防火绝缘与保温绝缘连接处, 绝缘过度应先作防火绝缘。

- e. The extend band length of class A-60 fireproofing insulation at the end and interface of the bulkhead and deck should be at least 450mm. The intervening lap joints for the layers of ceramic fiber should be at least 150mm. The extend band length of class A-0 fireproofing insulation at the end and interface of the bulkhead or deck shall be at least 380mm.

舱壁或甲板的分界面 A-60 级防火及保温绝缘的延长带按 450mm 施工, 陶瓷棉在敷设时, 其重叠的部分至少 150mm; 舱室或甲板的分界面 A-0 级防火及保温绝缘的延长带按 380mm 施工。

- f. Binding the penetrate-type sheet, the lagging pin which jut out the sheet shall be bent for safety.

扣紧压盖, 对伸出压盖以外的保温钉部分应折弯以确保安全。

- g. According to the requirement of drawing, the lagging pin shall be welded. Every square meter of rock wool mat and ceramic fiber mat shall have ten lagging pins at least; transition of the insulation shall have six lagging pins.

根据图纸要求焊接保温钉。每平方米岩棉被和陶瓷纤维棉被至少应有 10 个钉, 过渡绝缘棉应有 6 个钉。

- h. The fireproofing grade of vent and the pipe shall be the same with the bulkhead.

穿舱件和导管的防火等级应该与舱壁的防火等级相同。

#### 4.3. INSTALLATION OF GALVANIZED IRON SHEET 镀锌铁皮的安装

Installation procedure of galvanized iron sheet as follows:

镀锌铁皮的安装程序具体如下:

##### a. Installation of support and hanger

Insulation of support and hanger shall be firm welded, transverse horizontal and longitudinal straight need be ensured. The distance of frame, the thickness of wall, the height of ceiling panel to ground shall be accord with the drawing.

支撑件及吊挂件的安装。

焊接支撑件及吊挂件要注意焊接牢固, 横平竖直, 框架的间距、壁厚及天花板的高度要符合图纸的规定。

##### b. Welding of steel furring

Horizontal and straight should be confirmed for welding. The distance between the steel furring shall accord with the drawing requirements. Weld shall be cleared and be painted with the rust-resisting coating after welded.

主衬档的焊接。

焊接主衬档时, 要根据图纸的要求, 确保横平竖直。焊后要清理焊道, 并在焊缝处涂上一层防锈漆。

##### c. Installation of galvanized iron sheet

The galvanized iron sheet which are convex-concave couldn't be installed. After installation finished, the galvanized iron sheet shall be uniform, and the connection shall be fastness. The width of overlap is about 20mm and the distance between rivets is about 100mm and it can be adjusted at site.

安装镀锌铁皮。安装时要注意, 有凹凸现象的镀锌铁皮不能安装。安装后的镀锌铁皮要保持平整, 连接牢固。搭接处搭接量约为 20mm, 两个的铆钉间距约为 100mm, 可根据现场情况酌情处理。

#### 4.4. Installation of cabin door and window 房间门、窗的安装

Installation procedure of cabin door as follows:

对于门的安装, 具体的安装程序可分为以下几个步骤:

##### a. Adjustment of doorway. According to the drawing requirement, the opening deformation of the structure shall be rectified.

门的开口的调正。根据图纸的要求, 对结构开孔进行调正。

b. Installation of door frames and pre-bury elements.

门框及预埋件的安装。

c. Installation of door knot frames.

门套框的安装。

d. Installation of door board and hardware.

For convenience of the construction, the installation of door board and hardware shall be carried out after the other outfitting works finished. But the equipment and the room which need be protected shall be installed at the place in advance.

门板及五金件的安装。

为现场施工方便, 门板的安装可在舾装施工的后期进行; 对需要保护的设备及房间, 门板应提前安装就位。

e. Hardware includes closer, stopper and hook etc. The hardware installation shall be accord with the product instruction.

Windows installation can be referenced to the installation procedure of cabin door.

五金件指的是闭门器、止门器、门钩等, 可按照产品说明书施工。

窗的安装, 可参考舱室门的安装程序。

f. Concreting assemble procedure shall comply with the product instruction of vendor.

具体的安装程序应严格按照生产厂家的说明书操作。

4.5. Installation of composite rock wool panel and sound-absorbed panel frame member

复合岩棉板及吸音板构架的安装

Composite rock wool panel and sound-absorbed panel elements include: bottom profile, top profile and ceiling panel suspended element. Installation procedure as follows:

复合岩棉板及吸音板系统构件指的是底槽、顶槽及天花板吊挂件, 安装的具体步骤如下:

a. Installation of bottom profile.

Firstly using the steel bulkhead as the base line, fix position bottom profiles according panel arrangement drawings. The installation of bottom profile is the



key process during the arrangement work of the composite rock wool panel. Pay more attention to the wall thickness, the connection form of wainscot and scale-board at the corner and the installation size at the doorway.

底槽的安装。

首先以钢围壁为基线，根据排版图对壁厚要求拉线定位。底槽的安装是复合岩棉板系统中最关键的一道工序，尤其应注意壁厚、壁板和衬板在拐角对接的形式及在门口开口的安装尺寸。

b. Installation of top profiles and ceiling panel hanger.

When installing top profiles and ceiling panel hanger, especial notice should be taken: The cabinet high shall be constructed strictly according to the drawings. At the same time you shall notice the distance of the hanger and pay attention to coordinating with the cables and pipelines under the deck. Top profiles at the corner and in fall shall be installed strictly according to the process standard.

顶槽支架、“H”型材的支撑件及天花板吊挂件的安装。

在安装顶槽及天花板吊挂件时尤其要注意：严格按照图纸对舱室净高的要求施工，并保证顶槽“H”型材与底槽在同一垂直平面内，同时要注意吊挂件的间距及与甲板下的电缆、管道等的协调。顶槽、“H”型材在拐角和交叉处的安装要严格按工艺标准安装。

c. Cleaning work.

After finishing the installation work, the place which has been welded shall be cleaned. Weld which has been destroyed shall be knocked down completely, and the new paint shall be patched. At the same time the construction location shall be cleaned up.

清理工作。

安装底槽、顶槽、“H”型材及吊挂件后，要对焊接部位进行清理，清除药皮，并补漆。同时要对施工现场进行清洁工作。

4.6. Installation of wall panel 舾装板、吸音板的安装

a. Installation of composite rock wool wall panel and sound-absorbing wall panel

The installation of composite lining panel and sound-absorbing panel shall be constructed according to the panel arrangement direction and construction detail as shown on the drawings. During installation all openings on bulkhead and composite lining panel such as doors, hanger, fire dampers, vent penetration piece, cable pipe and others shall be opened at site. In the course of constructing, the appearance shall have beautiful.

### 复合岩棉板壁板和吸音板壁板的安装

围壁板的安装要按照排版图中的排版方向和安装节点图纸进行施工。同时，在安装过程中如遇到门开孔、壁挂设备、防火风闸、进出风口、穿舱件、电缆、水管等其他设备安装的情况，应在安装时现场开孔，并保持整体美观。

#### b. Installation of composite rock wool ceiling panel

The installation of the ceiling panel is the same as the installation of composite rock wool wall panel. During installation all openings on ceiling and composite ceiling panel such as lamps, lanterns, ventilation fence, detector, spray, speaker and others shall be opened at site. Their opening positions must be correctly complete.

### 复合岩棉天花板和吸音板天花板的安装

与壁板安装相同，要按照排版图中的排版方向和安装节点进行施工，同时注意天花板上的灯具、布风器、通风栅、喷淋头、喇叭、探头、检查活门、排烟管、排气管等也应该现场开孔并保证开孔位置的准确性。

#### c. Decorate element installation of composite rock wool panel

This mainly indicates the installation of the PVC skirting and composite ceiling panels decorate elements. For larger opening at ceiling, opening side shall be strengthened with decorated bar or side slot.

### 复合岩棉板、吸音板装饰件的安装

这里主要指踢脚板、装饰件的安装。对围壁板、天花板较大的开孔(如排烟管、进排气管、灯具等)四周，应以装饰嵌条或边槽加以修饰加强。

## 4.7. LAYING of DECK COVERING 敷设甲板敷料

This part indicated the laying procedure of non-flammable deck covering.

这里主要指不易着火型甲板敷料的敷设程序。

- a. Before construction the steel deck must be leveled, and be cleaned strictly to achieve non-rust, non-paint, non-sundries. Consequently, ensure to combine intensity between covering and deck. The area with welded steel plate mat and the clips shall be cleaned before welding.

施工前，钢甲板必须调平，并严格地进行清洁工作，使钢甲板达到无锈、无油、无杂物，从而保证敷料与甲板的结合强度。对于必须焊接钢板网或者钢爪的区域，同样要进行上述的清洁工作。

- b. Before covering some correlative works such as penetration pieces of piping,

cable piping, vent duct and so on shall be ended.

敷设前, 与之有关的工程, 如管路、电缆、风管和穿舱件的安装等工作应结束。

- c. Construction shall be carried out strictly according to the operation instruction of the vendor deck covering.

施工应严格按照甲板敷料的厂家产品使用说明书。

- d. Covering compounded shall be used immediately, it couldn't be laid too long time, also it couldn't mix up new compound again. This way is to ensure quality of the covering.

配制好的敷料应立即进行施工, 不可放置过久, 更不可再与新料混合使用, 以保证敷料的质量。

- e. Usually the construction temperature is in the scope of  $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$ . The time of naturalist conserving after the construction is about 48 hours.

施工温度一般为  $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$ , 施工后自然养护 48 小时左右。

- f. After the deck covering is finished it need to be checked whether it is smooth and flat. It shouldn't have any defect such as crack and blister.

敷料施工后要检查是否光洁平整, 不能有裂缝, 起层等缺陷。

#### 4.8. LAYING OF RUBBER FLOOR 橡胶地板的敷设

- a. Before laying of rubber floor the planeness shall be checked firstly, At the same time it shall be necessary to check sieze, colour, margin for rubber floor and if it is accord with design requirement. Especially, every room need the same colour rubber floor.

在橡胶地板敷设前, 要先检查一下敷料的平整度是否合格, 同时检查地板的规格、颜色、边沿等是否符合设计要求, 注意将每箱中颜色一致的粘贴在一个房间。

- b. To familiar with the method of the cementing usage, especially the temperature, moisture and fire prevention, etc. When pasting rubber floor, it is necessary for the cementing agent to be pasted per as the operation instruction strictly. After finished the rubber floor need to be cleaned right away.

熟悉和掌握粘贴橡胶地板所用的胶的性能和使用方法, 特别是温度、湿度、防火安全等, 严格按照产品说明粘贴, 粘贴后及时清理地板表面的胶痕。

#### 4.9. INATALLATION OF RAISE FLOOR 防静电浮动地板的安装

- a. To check whether steel deck is flattening, and to check whether cables, pipes etc is installed completely.

要检查钢甲板是否平整，电缆、管道等是否施工完毕。

- b. According to the drawings and the product instructions, it need to be installed and leveled for strut member and braced frame.

根据图纸和产品说明，安装支撑件并调平。

- c. Install the movable floors.

安装浮动地板。

## 5. REMARK 备注

- a. This procedure did not include the construction method for machinery, instrument, electricity and piping etc.

本程序不包括其它机、管、电、仪等专业的施工方法。

- b. The worker shall have a homologous qualification credentials to engage in the construction.

施工人员要具有相应的资质才能施工。

- c. The construction equipment shall have a good condition especially when it is used to machine and cut composite rock wool panel. In machining and constructing the work piece machined couldn't be damaged. The work piece shouldn't be allowed damage, cracking, burring, loosing and scratching etc.

施工机具（特别是加工、切割复合岩棉板、吸音板的工具）一定要合格。在加工、施工中，被加工件不能出现损坏、损伤、开裂、毛刺、开层、打卷划痕等缺陷。

- d. The labor protection must carry out in construction according to the stipulation of project management team.

施工中的安全劳动防护等按项目组的有关规定执行。

- e. The fire-protected and thermal insulation, doors and windows, composite rock wool panel, laying of deck covering and rubber floor shall be constructed after piping, cable, ventilation and pipe penetrating piece on bulkhead and equipment basing on the same deck is finished. These must be agreed by owner or third.

防火保温层、门窗、复合岩棉板、吸音板系统构架、甲板敷料、橡胶地板必须在该层甲板与之相关的管线、电缆、卡子、附件和设备底座安装完毕并得到业主或第三方认可后方可安装。

- f. According to the spot condition, allow to do adjustment if you could make sure the project quality and do not violate the construction regulation during construction.

在施工过程中, 根据现场情况, 在不违犯上述施工原则, 能确保施工质量的前提下, 允许做一些调整。

- g. <Installation procedure of outfitting >is adapting to general platform. According to the special requirement of platform, increase some special projects to suit with the construction of outfitting.

《内舾装安装程序》是一种适应于普通平台的通用标准。在实际平台施工作业中, 可根据各平台的特殊情况, 增制相应的工作程序以满足施工需求。