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1、概述

General

本船译文如发生歧义时，均以中文为主。

If there is different meaning in this translation, please refer to the Chinese.

1.1 船舶用途及航区

Purpose and navigation area

本船为 2 型散装化学品船兼油船，航区为无限航区。

This ship is type 2 chemicals bulk carrier cum oil tanker. The navigation area is unrestricted.

1.2 船型

Ship type

本船为钢质、单甲板、混合骨架式、设有艏、艉楼、单柴油机配齿轮箱驱动、单桨、单舵、艉机型的 2 型液体化学品运输船兼油船。

This vessel is a steel, single deck, combination framing style, with forecastle and poop, single diesel engine with gear box, single propeller, single rudder, stern-engined, type 2 liquid chemicals carrier cum oil tanker.

本船设整体式重力液货舱，按液货舱舱顶蒸气表压 0.02Mpa 和液货比重 1.025 设计液货舱结构。

The integral gravity style liquid cargo tanks are provided in this ship. The structure of the liquid cargo tanks is designed based on the 0.02Mpa of the vapour pressure in the top of the liquid cargo tank and 1.025 of the cargo specific gravity.

1.3 质量控制

Quality control

1）本船及其材料、工艺、装备（机器、设备、管系等）均应得到船东和船检的认可，并按照 CCS 批准和经船东确认的图纸的要求建造。

1) This ship and the material, workmanship, equipment (machinery, facility, piping, etc.) should be approved by the owner and CCS, and should be built according to the drawings approved by CCS and the owner.

2）本船建造质量按照 2005 年“中国造船质量标准”的要求实施控

制。

2) The quality of this ship should be controlled according to the requirements of "China Shipbuilding Quality Standards" (2005).

1.4 适用法规

Rules

本船遵照的规则、规范如下：

The rules and regulations that this ship should comply with are as follows:

1）1999 年中华人民共和国海事局《船舶与海上设施法定检验规则》（国际航行船舶）及其《修改通报》。

1) "The Legal Inspection Rules for Ships and Facilities at Sea"(international navigation ships) issued by the MSA of the P.R.C in 1999 and the Notes of Amendment.

2）2006 年中国船级社《钢质海船入级规范》。

2) The Rules and Regulations for the Classification of the Sea-going Steel Ships (CCS 2006)

3）中国船级社《散装运输危险化学品船舶构造与设备规范》（2005）

3) The Structure and Equipment Rules for Dangerous Chemicals Bulk Carriers (CCS 2005)

在本船完工之前，若上述规则、规范有新的修改条款生效并适用时，本船将作出相应的修改。

If there is new amendment in the above rules or regulations before this ship is finished, this ship will be changed accordingly.

1.5 船级

Class of ship

本船入 CCS 级，并取得以下入级标志：

This ship is classed to CCS and obtained the following class notation:

★ CSA ★ CSM ，Double Hull Oil and Chemical Tanker，

Type 2，F.P.≤60℃，Icing Class B，ESP。

2、船舶主要技术参数

The principal particulars

2.1 船型参数

Ship type particulars

总　　长 Length overall	117.28m
设计水线长 Length, designed waterline	111.25m
垂线间长 Length between perpendiculars	108.00m
型　　宽 Breadth molded	18.00m
型　　深 Depth molded	9.00m
设计吃水 Designed draft	7.00m
满载排水量 Full load displacement	11013.1t
方形系数 Block coefficient	0.7870
棱形系数 Prismatic coefficient	0.7932
中横剖面系数 Midship section coefficient	0.9922
水线面系数 Waterline coefficient	0.8950
主甲板艏舷弧 Sheer fwd for main deck	1.385m
主甲板艉舷弧 Sheer aft for main deck	1.171m

梁　拱 Camber	0.360m
全船肋距 Frame spacing for the whole ship	600mm

2.2 技术指标

Technical index

1）容积：

Capacity:

No.1 液货舱(P) (#144～#164)	约 639.38m^3
No.1 L.C.T. (P) (#144～#164)	~639.38m^3
No.1 液货舱(S) (#144～#164)	约 639.38m^3
No.1 L.C.T. (S) (#144～#164)	~639.38m^3
No.2 液货舱(P) (#125～#144)	约 726.53m^3
No.2 L.C.T. (P) (#125～#144)	~726.53m^3
No.2 液货舱(S) (#125～#144)	约 726.53m^3
No.2 L.C.T. (S) (#125～#144)	~726.53m^3
No.3 液货舱(P) (#104～#125)	约 802.04m^3
No.3 L.C.T. (P) (#104～#125)	~802.04m^3
No.3 液货舱(S) (#104～#125)	约 802.04m^3
No.3 L.C.T. (S) (#104～#125)	~802.04m^3
No.4 液货舱(P) (#85～#104)	约 718.60m^3
No.4 L.C.T. (P) (#85～#104)	~718.60m^3
No.4 液货舱(S) (#85～#104)	约 718.60m^3
No.4 L.C.T. (S) (#85～#104)	~718.60m^3
No.5 液货舱(P) (#66～#85)	约 718.60m^3
No.5 L.C.T. (P) (#66～#85)	~718.60m^3
No.5 液货舱(S) (#66～#85)	约 718.60m^3
No.5 L.C.T. (S) (#66～#85)	~718.60m^3
No.6 液货舱(P) (#42～#66)	约 726.13m^3

No.6 L.C.T. (P) (#42～#66)	~726.13m^3
No.6 液货舱(S) (#42～#66)	约 730.80m^3
No.6 L.C.T. (S) (#42～#66)	~730.80m^3
洗舱水舱(P)(#42～#45)	约 111.61m^3
Tank washing water(P)(#42～#45)	~111.61m^3
洗舱水舱(S)(#42～#45)	约 121.90m^3
Tank washing water (S)(#42～#45)	~121.90m^3
污液舱(P)(#42～#45)	约 146.43m^3
Slop tank (P)(#42～#45)	~146.43m^3
污液舱(S) (#42～#45)	约 146.43m^3
Slop tank (S) (#42～#45)	~146.43m^3
No.1 淡水舱(P&S) (#2～#8)	约 69.56m^3
No.1 Fresh water tank (P&S) (#2～#8)	~69.56m^3
No.2 淡水舱(P) (艉～#2)	约 73.87m^3
No.2 Fresh water tank (P) (stern～#2)	~73.87m^3
No.2 淡水舱(S) (艉～#2)	约 75.36m^3
No.2 Fresh water tank (S) (stern～#2)	~75.36m^3
No.3 淡水舱(P&S) (#2～#8)	约 126.26m^3
No.3 Fresh water tank (P&S) (#2～#8)	~126.26m^3
No.1 重油舱(P&S) (#36～#40+0.400)	约 181.22m^3
No.1 Heavy F.O.T.(P&S) (#36～#40+0.400)	~181.22m^3
No.2 重油舱(P&S) (#18～#25)	约 80.56m^3
No.2 Heavy F.O.T. (P&S) (#18～#25)	~80.56m^3
No.3 重油舱(P&S) (#28～#34)	约 59.30m^3
No.3 Heavy F.O.T. (P&S) (#28～#34)	~59.30m^3
重油沉淀柜(P) (#34～#36)	约 6.40m^3
Heavy fuel oil settling tank (P) (#34～#36)	~6.40m^3
重油日用柜(P) (#34～#36)	约 5.64m^3
Heavy fuel oil service tank (P) (#34～#36)	~5.64m^3
轻油舱(P&S) (#27～#36)	约 43.98m^3

Light oil tank (P&S) (#27～#36)	~43.98m^3
No.1 轻油日用柜(P) (#25～#27)	约 8.81m^3
No.1 Light oil service tank (P) (#25～#27)	~8.81m^3
No.2 轻油日用柜(P) (#27～#29)	约 9.57m^3
No.2 Light oil service tank (P) (#27～#29)	~9.57m^3
滑油循环舱(P) (#23～#26)	约 3.53m^3
Lube oil recycle tank (P) (#23～#26)	~3.53m^3
滑油储存舱(S) (#21～#26)	约 5.34m^3
L.O.S.T. (S) (#21～#26)	~5.34m^3
污滑油舱(P) (#21～#23)	约 1.82m^3
Dirty lube oil tank (P) (#21～#23)	~1.82m^3
泄油舱(C) (#18～#20)	约 3.89m^3
Drain tank (C) (#18～#20)	~3.89m^3
残油舱(C) (#15～#18)	约 4.59m^3
Sludge tank (C) (#15～#18)	~4.59m^3
舱底水舱(C) (#8～#15)	约 7.05m^3
Bilge tank (C) (#8～#15)	~7.05m^3
艏尖舱兼压载水舱 (#172～艏)	约 262.05m^3
F.P.T. cum W.B.T. (#172～bow)	~262.05m^3
No.1 压载水舱(P) (#166～#172)	约 123.61m^3
No.1W.B.T. (P) (#166～#172)	~123.61m^3
No.1 压载水舱(S) (#166～#172)	约 120.98m^3
No.1 W.B.T. (S) (#166～#172)	~120.98m^3
No.2 压载水舱(C) (#144～#164)	约 483.66m^3
No.2 W.B.T. (C) (#144～#164)	~483.66m^3
No.3 压载水舱(P) (#125～#144)	约 212.10m^3
No.3 W.B.T. (P) (#125～#144)	~212.10m^3
No.3 压载水舱(S) (#125～#144)	约 231.65m^3
No.3 W.B.T. (S) (#125～#144)	~231.65m^3
No.4 压载水舱(P) (#104～#125)	约 216.90m^3
No.4 W.B.T. (P) (#104～#125)	~216.90m^3

No.4 压载水舱(S) (#104～#125)	约 238.51m^3
No.4 W.B.T. (S) (#104～#125)	~238.51m^3
No.5 压载水舱(P) (#85～#104)	约 195.55m^3
No.5 W.B.T. (P) (#85～#104)	~195.55m^3
No.5 压载水舱(S) (#85～#104)	约 215.10m^3
No.5 W.B.T. (S) (#85～#104)	~215.10m^3
No.6 压载水舱(P) (#66～#85)	约 195.51m^3
No.6 W.B.T. (P) (#66～#85)	~195.51m^3
No.6 压载水舱(S) (#66～#85)	约 215.06m^3
No.6 W.B.T. (S) (#66～#85)	~215.06m^3
No.7 压载水舱(P) (#52～#66)	约 148.41m^3
No.7 W.B.T. (P) (#52～#66)	~148.41m^3
No.7 压载水舱(S) (#52～#66)	约 162.82m^3
No.7 W.B.T. (S) (#52～#66)	~162.82m^3

2）主机及螺旋桨

The main engine and the propeller

①主机

Main engine

型号：6N330-EN 柴油机 1 台。

Type: 6N330-EN diesel engine 1set

持续功率：2574KW×620r/min。

Continuous power: 2574KW×620r/min

齿轮箱型号：GWC52/59，减速比 2.9463:1。

Type of gear box: GWC52/59，reduction ratio 2.9463:1

②螺旋桨

Propeller

螺旋桨材料为 3 级镍铝青铜、整体式、数量为一只。

The propeller material is grade 3 Nickel-aluminum bronze.

It is whole style and the quantity is 1.

桨叶为 MAU 型四叶桨，直径为 3.3840m，螺距比为 0.6288，盘面比为 0.5580。

The blades are of MAU style four blades. The diameter is 3.3840m. The pitch ratio is 0.6288. The blade area ratio is 0.5580.

3）航速

Speed

在设计吃水状态下，当主机发出持续功率、海面平静、风力不大于2级、深水情况下，试航速度大于12.0kn。

Under the condition of the designed draft, when the main engine generates the continuous power, the sea is tranquil, the wind is not more than grade 2 and the sea is deep, the speed is more than 12.0kn.

4）续航力

Endurance

本船续航力大于3000n mile。

This ship's endurance is more than 3000n mile.

5）定员 Complement

本船定员18P。

This ship's complement is 18P.

2.3 吨位 Tonnage

本船总吨位GT为：5199

Gross Tonnage: 5199

净吨位NT为： 2416

Net Tonnage: 2416

2.4 干舷 Freeboard

本船勘划干舷满足我国《船舶与海上设施法定检验规则》（国际航行船舶）（1999）(第2A分册)附则Ⅰ第3章及《修改通报》对A型船舶的要求。计算干舷为1672mm，勘划干舷为2012mm。

This ship's finished freeboard complies with the requirements about type A ship of "The Legal Inspection Rules for Ships and Facilities at Sea" (international navigation ships) [1999] and Notes of Amendment. The calculated freeboard is 1672mm. The finished freeboard is 2012mm.

2.5 完整稳性 Intact stability

本船完整稳性满足国际海事组织《国际海上人命安全公约综合文本》

（2001）及中国船舶检验局《船舶与海上设施法定检验规则》（国际航行船舶）（1999）(第 3A 分册)附则 3 第 3 章及《修改通报》对 A 型船舶的要求。

This ship's intact stability complies with the requirements of "The comprehensive version of the International Convention for the Safety of Life at Sea" (IMO 2001) and the requirements about type A ship of "The Legal Inspection Rules for Ships and Facilities at Sea" (international navigation ships) [1999] and Notes of Amendment.

2.6 破损稳性　Damaged stability

破损稳性满足中国船级社《散装运输危险化学品船舶构造与设备规范》（2005）及中国船舶检验局《船舶与海上设施法定检验规则》（国际航行船舶）(1999)及修改通报关于液货船分舱与破损稳性中对二舱不沉的要求。

This ship's damaged stability complies with the requirements about liquid cargo ship's subdivision and not sinking while two tanks broken in the damaged stability of "The Structure and Equipment Rules for the Dangerous chemicals bulk carrier "(CCS 2005) and "The Legal Inspection Rules for Ships and Facilities at Sea" (international navigation ships) [1999] and Notes of Amendment.

3、总布置概况 General arrangement

3.1 详见布置图(LJX5806-100-04)

Refer to the GA drawing (LJX5806-100-04)

全船共设十一道水密舱壁，从艏至艉依次划分为艏尖舱兼压载水舱、No.1 压载水舱 P&S (艏侧推舱兼应急消防泵舱 C、锚链舱 P&S)、空隔舱、No.1 液货舱 (No.2 压载水舱)、No.2 液货舱(No.3 压载水舱 P&S)、No.3 液货舱(No.4 压载水舱)、No.4 液货舱(No.5 压载水舱 P&S)、No.5 液货舱(No.6 压载水舱 P&S)、No.6 液货舱(No.7 压载水舱 P&S、污液舱 P&S、洗舱水舱 P&S)泵舱(No.1 重油舱 P&S、空舱)、机舱(No.2 重油舱 P&S、重油日用柜 P、重油沉淀柜 P、No.1 轻油日用柜 P、No.2 轻油日用柜 P)、No.1 淡水舱 P&S(艉尖舱)、No.3 淡水舱 P&S、No.2 淡水舱 P&S (舵机舱 C)。

This vessel is designed and built with eleven watertight transverse bulkheads and from stem to stern, it is divided into fore peak tank (also as water ballast tank), No.1 water ballast tank (P&S) [emergency fire-fighting pump room cum bow thruster room (C), chain locker (P&S)], cofferdam, No.1 liquid cargo tank [No.2 water ballast tank (P&S)], No.2 liquid cargo tank [No.3 water ballast tank (P&S)], No.3 liquid cargo tank [No.4 water ballast tank (P&S)], No.4 liquid cargo tank [No.5 water ballast tank (P&S)], No.5 liquid cargo tank [No.6 water ballast tank (P&S)], No.6 liquid cargo tank [No.7 water ballast tank (P&S), slop tank(P&S), tank washing water tank (P&S)], pump room [No.1 heavy fuel oil tank (P&S), void tank], engine room [No.2 heavy fuel oil tank (P&S), , heavy fuel oil service tank (P), heavy fuel settling tank (P), No.1 light oil service tank(P), No.2 light oil service tank(P)], No.1 fresh water tank(P&S) (aft peak tank), No.3 fresh water tank(P&S), No.2 fresh water tank(P&S), [steering gear room (C)].

1）双层底下布置：

to be arranged in the double bottom

#8～#10	污水井 bilge well
#8～#15	舱底水舱 bilge tank
#15～#18	残油舱 sludge tank
#18～#20	泄油舱 drain tank
#20～#21	空舱 cofferdam
#21～#26	污滑油舱 P、滑油循环舱 P、滑油储存舱 S dirty lube oil tank(P), L.O.R.T.(P), L.O.S.T.(S)

#26～#27 空舱

cofferdam

#27～#36 轻油舱 P&S

light oil tank (P&S)

#36～#42 空舱

void tank

2）舱内布置：

to be arranged in the compartments

#42～#52 污液舱（P&S）

slop tank (P&S)

#42～#52 洗舱水舱（P&S）

tank washing water tank (P&S)

#52～#66 No.7 压载水舱（P&S）

No.7 W.B.T.(P&S)

#42～#66 No.6 液货舱（P&S）

No.6 L.C.T.（P&S）

#66～#85 No.5 液货舱（P&S） No.6 压载水舱（P&S）

No.5 L.C.T.（P&S） No.6 W.B.T.（P&S）

#85～#104 No.4 液货舱（P&S） No.5 压载水舱（P&S）

No.4 L.C.T.（P&S） No.5 W.B.T.（P&S）

#104～#125 No.3 液货舱（P&S） No.4 压载水舱（P&S）

No.3 L.C.T.（P&S） No.4 W.B.T.（P&S）

#125～#144 No.2 液货舱（P&S） No.3 压载水舱（P&S）

No.2 L.C.T.（P&S） No.3 W.B.T.（P&S）

#144～#164 No.1 液货舱（P&S） No.2 压载水舱

No.1 L.C.T.（P&S） No.2 W.B.T.（P&S）

#164～#166 空隔舱

cofferdam

#166～#172　　No.1 压载水舱（P&S）、锚链舱（P&S）
No.1W.B.T.（P&S）, chain locker（P&S）

#172～艏 bow　　艏尖舱兼压载水舱
F.P.T cum W.B.T.

3）主甲板上布置：

to be arranged on the main deck:

艉 stern～#2　　左设储藏室、右设冷冻机室、粮库、中设空调机室。

On the port side, store room; on the starboard side, refrigerator room, provision store; in the middle, air condition unit room.

#2～#36　　左设烘衣间、洗衣间、浴厕、机舱局部水基细水雾灭火系统兼机修间、No.3 重油舱(P)；右舷设肉库、菜库、单人船员室 3 间、轮机更衣间、No.3 重油舱(S)；中设机舱棚、储藏室、电工间、泡沫室及梯道。

On the portside, clothes drying room, laundry, bathroom cum toilet, engine room FWBLAFFS cum machinery repair room, No.3 heavy fuel oil tank (P); on the starboard, meat store, vegetable store, 3 single crew’s room, change room, No.3 heavy fuel oil tank (S)；in the middle， engine casing， storeroom， electrician room， foam room and stairway.

#36～#42　　左设化学样品间；右设储藏室；中设泵舱。

On the port side, chemical sample room; on the starboard side, storeroom; in the middle, pump room.

#42～#164　　为液货舱甲板区域。

deck area for liquid cargo tanks

#164～#166　　为空隔舱甲板区域。

deck area for cofferdam.

#166～#172　　左舷设锚机控制室；右舷设油漆间 1 间。

On the port side, windlass control room; on the starboard side, 1 paint store.

#172～艏 bow　　索缆舱。

hawser store.

4）艉楼甲板上布置：

to be arranged on the poop deck

艉 stern～#8　　设有必要的系泊设备。

necessary mooring equipment

#8～#36　　左舷设 CO_2 室、更衣室、浴厕、吸烟室、三管轮室；右舷设厨房、餐厅、三副室；中设有机舱棚、单人船员室 1 间、液货观察室及梯道。

On the port side, CO_2 room, change room, bathroom cum toilet, smoking room, third engineer room; on the starboard side, galley, mess, third officer; in the middle, engine casing, 1 single crew's room, the liquid cargo observation room and stairway.

#36～#42　　设有泵舱出入口及梯道。

Entrance and exit for pump room and stairway.

5）艇甲板上布置：

to be arranged on the boat deck

#6～#36　　两舷设有必要的救生设备。

necessary lifesaving appliances

#6～#10^{+300} 中设有梯道。

In the middle, stairway.

#10^{+300}～#16 中设应急发电机室。

In the middle, emergency generator room.

#16～#36 左设有浴厕、医务室、二管轮室；右设有蓄电池室、充放电室、单人船员室 2 间、二副室；中设有船东室、机电员室、机舱棚及梯道。

On the port side, bathroom cum toilet, dispensary, second engineer room; on the starboard side, battery room, battery charge and discharge room, 2 for single crew's room, second officer room; in the middle, owner room, engine casing and stairway.

6）居住甲板 2 上布置：

to be arranged on the accommodation deck 2

#9^{+300}～#24^{+400} 中设机舱棚及烟囱。

In the middle, engine casing and funnel.

#24^{+400}～#36 左设有浴厕、引航员室；右设有单人船员室 1 间、大副室；中设大管轮室及梯道走廊。

On the port side, bathroom cum toilet, pilot room; on the starboard side, 1 for the single crew's room, first officer room; in the middle, first engineer room, stairway and corridor.

7）居住甲板 1 上布置：

to be arranged on the accommodation deck 1

#22～#26 设有梯道。

stairway

#26～#36　　左设有浴厕、轮机长室；右设有单人船员室 1 间、船长室；中设有梯道走廊。

On the port side, bathroom cum toilet, chief engineer room; on the starboard side, 1 for single crew's room, captain room; in the middle, stairway and corridor.

8）驾驶甲板上布置：设有驾驶室及梯道。

to be arranged on the navigation deck: wheel house and stairway

9）罗径甲板上布置：设有标准罗径、搜索灯及信号灯桅等。

to be arranged on the compass deck: standard compass, search light and signal light mast, etc.

3.2 舱室设置

Space setting

1）船员舱：

crew's cabin:

船长室	1 间
captain's room	1
轮机长室	1 间
chief engineer's room	1
大副室	1 间
chief officer's room	1
大管轮室	1 间
first engineer's room	1
二副室	1 间
second officer's room	1
二管轮室	1 间
second engineer's room	1
三副室	1 间
third officer's room	1
三管轮室	1 间
third engineer's room	1
引航员室	1 间

pilot room 1
机电员室 1 间
electromechanical person’s room 1
单人船员室 8 间
single crew’s room 8

2）生活舱室：

living space:

厨房 1 间
galley 1
餐厅 1 间
mess 1
洗衣间 1 间
laundry 1
烘衣间 1 间
clothes drying room 1
粮库 1 间
provisions store 1
肉库 1 间
meat room 1
菜库 1 间
vegetable room 1
更衣室 2 间
change room 2
浴厕 9 间
bathroom cum toilet 9
吸烟室 1 间
smoking room 1
医务室 1 间
dispensary 1

3）工作舱室：

working space:

驾驶室 1 间

wheel house 1

电工间 1 间

electrician’s room 1

泡沫室 1 间

foam room 1

储藏室 3 间

store room 3

蓄电池室 1 间

battery room 1

充放电室 1 间

battery charging and discharging room 1

应急发电机室 1 间

emergency generator room 1

CO_2 室 1 间

CO_2 room 1

油漆间 1 间

paint store 1

液货观察室 1 间

liquid cargo observation room 1

舵机舱 1 间

steering gear room 1

空调机室 1 间

air conditioning unit room 1

冷冻机室 1 间

refrigerator room 1

化学样品间 1 间

chemical sample room 1

监视室 1 间

monitoring room 1

锚机控制室 1 间

windlass control room 1

索缆舱 1 间

hawser store 1

3.3、层间高度

height between tiers

1）甲板间高：

height between decks:

主 甲 板～艏楼甲板 2.45m

main deck ~ forecastle deck

主 甲 板～艉楼甲板 2.60m

main deck ~ poop deck

艉楼甲板～艇 甲 板 2.45m

poop deck ~ boat deck

艇 甲 板～居住甲板 2 2.45m

boat deck ~ accommodation deck 2

居住甲板 2～居住甲板 1 2.45m

accommodation deck 2~ accommodation deck 1

居住甲板 1～驾驶甲板 2.45m

accommodation deck 1 ~ navigation deck

驾驶甲板～罗经甲板 2.45m

navigation deck ~ compass deck

2）双层底高度:

double bottom height:

全 船 1250mm

for the whole ship

4、船体结构

Hull structure

4.1 结构概述

General

1）本船船体结构按照中国船级社《钢质海船入级与建造规范》（2006）及修改通报进行设计。

1) This ship's hull structures are designed according to the requirement of "The Rules and Regulations for the Classification and Construction of the Sea-going Steel Ships" (CCS 2006) and the Notes of Amendment.

2）结构形式：

Structure type:

本船为混合骨架式。本船船体在液货舱区域为双底、双壳、单甲板结构，机舱为双底，其中双层底高度为 1250mm，双壳舷间的水平距离为 1000mm。液货舱区域中纵舱壁、横舱壁为槽形结构 ，舷侧、内壳纵壁、底部、甲板为纵骨架结构；机舱、艏艉端部及上层建筑等均为横骨架结构。

This vessel is of combination framing style. The hull in the liquid cargo tanks area is of double bottom double shell, single deck. In the engine room area it is of double bottom, whose height is 1250 mm. The horizontal distance between the double shell is 1000mm. In the liquid cargo tanks area, center longitudinal bulkhead and transverse bulkheads are corrugated structure, the side shell, longitudinal inner skin bulkhead, bottom and the deck are of longitudinal framing structure; in the engine room, bow, stern and the superstructure, etc. the ship is of transverse framing structure.

3）材料及焊接

Material and welding

本船材料均为船用结构钢，除特殊说明外，所有小于等于 8mm 的板材都采用 CCSA 级钢，所有大于等于 10mm 的板材都采用 CCSB 级钢。全船采用焊接结构，其中船用结构钢均采用 1 级焊接材料，在一些特殊结构，如中桁材、旁桁材等纵向桁材的对接缝，桅、带缆桩等舾装件，以及主机基座纵桁与外板、肋板的焊接采用低氢焊条。

The structural steel for shipbuilding is to be used for this ship. Except the noted grade of the steel material, the steel plates less or equal to 8mm for the whole ship are of grade CCS A and the all plates greater or equal to

10mm are of grade CCS B. The welding is to be used for the whole ship. The grade 1 welding consumables are to be used for all the shipbuilding steel. The low hydrogen electrodes are to be used for the welding of some special structures, such as the butt of the longitudinal girders, for instance, the center girder, the side girders, etc., and the fittings like the mast, bollards, etc., and also the longitudinal girders of the main engine to the shell or the floor.

4.2 构件尺寸

Hull scantling

4.2.1 外板 Shell plate

名称 Item	位置及规格 Location and size	备注 Remarks
船底板 Bottom plate	船中部 0.4L 区域 t＝12mm in the 0.4L amidship	
	离船端 0.075L 区域 t＝12/14/16 between the end(FP or AP) and the 0.075L from the end(FP or AP)	
平板龙骨 Keel plate	-16×1800mm	
舭列板 Bilge strake	船中部 0.4L 区域 t＝14mm in the 0.4L amidship	
舷侧外板 Side shell plate	船中部 0.4L 区域 t＝12mm in the 0.4L amidship	
	离艉端 0.075L 区域 t＝12/14mm between the aft end (AP) and the 0.075L from the aft end (AP)	
	离船艏 0.2L 区域 t＝14/16 between the fwd end (FP) and the 0.075L from the fwd end (FP)	
舷顶列板 Sheer strake	船中部 0.4L 区域 t＝14×2000mm in the 0.4L amidship	

局部加强 Local strengthening	与艉柱连接的外板、轴毂处包板 t＝16mm for the shell plate connected to the sternpost	
	锚链管处的外板加复板 t＝14mm for the shell plate and the doubling in way of the hawse pipe	
	海底阀箱处的外板加复板 t＝14/16mm for the shell plate and the doubling in way of the sea chest	
舭龙骨 Bilge keel	$\perp \frac{14\times 365\bullet 35}{14\times 75}$ （＃36～＃159）	

4.2.2 甲板板　　Deck plate

名称 Item	位置及规格 Location and size	备注 Remarks
强力甲板 Strength deck	船中部 0.4L 区域 t＝12mm in the 0.4L amidship 甲板边板 14×2000mm for deck stringer	
	离船端 0.075L 区域 t＝10/12mm between the end (FP or AP) and 0.075L from the end (FP or AP)	
艏平台甲板 Bow platform deck	10/14mm	
机泵舱平台 Platform in the engine room and the pump room	10mm	
舵机舱平台 Platform in the steering gear room	10/14mm	
锅炉舱平台 Platform in the boiler room	10mm	

4.2.3 船底骨架　Bottom framing

4.2.3.1＃172～艏单层底　　＃172～bow single bottom

名称 Item	位置及规格 Location and size	备注 Remarks
中内龙骨 Center keelson	$\perp\frac{12\times1250}{14\times200}$	
肋板 Floor	$\perp\frac{10}{12\times150}$	
舭肘板 Bilge bracket	$L\frac{10}{100}$	

4.2.3.2 艉～＃8 单层底　　stern～＃8 single bottom

名称 Item	位置及规格 Location and size	备注 Remarks
肋板 Floor	艉 stern~＃8　t＝14mm	
	艉尖舱内 in the aft peak tank t＝16/22mm	
	＃2~＃8　3650 平台上 $\perp\frac{14}{14\times250}$ above 3650 platform	

4.2.3.3 横骨架式双层底（机舱）Double bottom of the transverse framing (ER)

名称 Item	位置及规格 Location and size	备注 Remarks
中桁材 Center girder	12×1250mm	
旁桁材 Side girder	10mm（主机座下为 14mm below main engine foundation）	
水油密旁桁材 Watertight side girder	12mm（污水阱、海底阀箱处 14mm in way of the bilge well and the sea chest）	
实肋板 Solid floor	10mm（污水阱、海底阀箱处 14mm in way of the bilge well and the sea chest）	加强筋－10×125mm Stiffener
水油密肋板 Watertight floor	12mm（污水阱、海底阀箱处 14mm in way of the bilge well and the sea chest）	加强筋－12×125mm Stiffener

内 底 板 Inner bottom	12mm	
舭 肘 板 bilge bracket	$L\frac{10}{100}$	

4.2.3.4 横骨架式双层底（＃166～＃172）

Double bottom of the transverse framing（＃166～＃172）

名称 Item	位置及规格 Location and size	备注 Remarks
中 桁 材 Center girder	12×1250	
旁 桁 材 Side girder	10	
实 肋 板 Solid floor	10	加强筋－10×125 Stiffener
内 底 板 Inner bottom	12	
舭 肘 板 bilge bracket	$L\frac{10}{100}$	

4.2.3.5 纵骨架式双层底

Double bottom of the longitudinal framing

名称 Item	位置及规格 Location and size	备注 Remarks
中 桁 材 Center girder	12×1250	加强筋－12×125mm Stiffener
箱形中桁材 Box center girder	12×1250	加强筋－12×125mm Stiffener
箱 形 骨 材 Box frame or longi gider	$\perp\frac{10\times200}{12\times100}$	
旁 桁 材 Side girder	10	加强筋－10×125mm Stiffener
实 肋 板 Solid floor	10	加强筋－10×125mm Stiffener
水 密 肋 板	12	加强筋－12×150mm

Watertight floor		Stiffener
船底纵骨 Bottom longitudinal	$\perp\frac{10\times200}{12\times100}$/ Γ22*b*	
内底纵骨 Inner bottom longitudinal	$\perp\frac{10\times200}{12\times100}$/ Γ22*b*	
斜板纵骨 Longitudinal at the slant plate	Γ22*b*	
内底板 Inner bottom plate	12mm	
底边舱斜板 Slant plate	12mm	

4.2.4 舷侧骨架 Side framing

4.2.4.1 艉尖舱（艉～＃8）舷侧骨架

Side framing in the aft peak tank (stern ~＃8)

名称 Item	位置及规格 Location and size	备注 Remarks
肋骨 Ordinary frame	Γ18b	
强肋骨 Web frame	舵机舱平台下⊥$\frac{10\times400}{12\times150}$ below the platform in the steering gear room	
	舵机舱平台上⊥$\frac{10\times400}{12\times150}$ above the platform in the steering gear room	

4.2.4.2 机舱（＃8～＃36）舷侧骨架

Side framing in the engine room（＃8～＃36）

名称 Item	位置及规格 Location and size	备注 Remarks

肋骨 Ordinary frame	机舱平台下 Γ20a below the platform in the engine room	
	机舱平台上 Γ20a above the platform in the engine room	
强肋骨 Web frame	机舱平台下⊥$\frac{10\times500}{12\times150}$ below the platform in the engine room	
	机舱平台上⊥$\frac{10\times500}{12\times150}$ above the platform in the engine room	
舷侧纵桁 Side stringer	⊥$\frac{10\times500}{12\times150}$	

4.2.4.3 泵舱（＃36～＃42）舷侧骨架

Side framing in the pump room （＃36～＃42）

名称 Item	位置及规格 Location and size	备注 Remarks
舷侧纵骨 side shell longitudinals	NO.1～NO.2 Γ22b	
	NO.4～NO.7 Γ20a	
	NO.8 以上 Γ18b	
舷侧纵桁 Side stringer	⊥$\frac{10\times500}{12\times150}$	

4.2.4.4 液货舱（＃42～＃164）舷侧和内壳骨架

Side and inner skin framing in the liquid cargo tanks （＃42～＃164）

名称 Item	位置及规格 Location and size	备注 Remarks
舷侧纵骨/内壳纵骨 Side longitudinal/inner skin longitudinal	NO.1～NO.2 Γ22b	
	NO.4 ⊥$\frac{12\times150}{12\times80}$	
	NO.5～NO.7 Γ20a	
	NO.9 ⊥$\frac{12\times150}{12\times80}$	
	NO.10 以上 Γ18b	

内壳板 Inner skin plate	10mm	
平台和非水密隔板 Platform and non-watertight plate diaphragm	10mm	
水密隔板 watertight plate diaphragm	12mm	扶强材－12×150 Stiffener

4.2.4.5 空隔舱（＃164～＃166）舷侧骨架

Side framing in the cofferdam （＃164～＃166）

名称 Item	位置及规格 Location and size	备注 Remarks
舷侧纵骨 Side longitudinal	NO.1～NO.2 Γ22b	
	NO.4～NO.7 Γ20a	
	NO.8 以上 Γ18b	
平台 Platform	10mm	

4.2.4.6 NO.1 压载水舱（＃166～＃172）舷侧骨架

Side framing in the No.1 W.B.T. （＃166～＃172）

名称 Item	位置及规格 Location and size	备注 Remarks
肋骨 Ordinary frame	Γ20a	
强肋骨 Web frame	$\perp\frac{10\times500}{12\times200}$	
舷侧纵桁 Side stringer	$\perp\frac{10\times500}{12\times200}$	

4.2.4.7 艏尖舱兼压载水舱（＃172～艏）舷侧骨架

Side framing in the fore peak tank cum water ballast tank（＃172～bow）

名称 Item	位置及规格 Location and size	备注 Remarks
肋骨(半肋骨) Ordinary frame(middle frame)	平台下 Γ20a /$\perp\frac{8\times250}{10\times100}$ below platform	
	平台上 Γ20a above platform	

强肋骨 Web frame	$\perp\frac{10\times500}{12\times200}$	
舷侧纵桁 Side stringer	$\perp\frac{10\times725}{12\times200}$	

4.2.5 甲板骨架 Deck framing

4.2.5.1 艉尖舱（艉～＃36）主甲板骨架

Main deck framing in the aft peak tank（stern～＃36）

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ16b	
强肋骨 Web beam	$\perp\frac{10\times400}{12\times150}$	
甲板纵桁 Deck girder	$\perp\frac{10\times400}{12\times150}$	

4.2.5.2 液货舱（＃36～＃166）主甲板骨架

Main deck framing in the liquid cargo tank（＃36～＃166）

名称 Item	位置及规格 Location and size	备注 Remarks
甲板纵骨 Deck longitudinal	Γ18b	
强横梁 Web beam	＃41～＃164 $\perp\frac{14\times650}{16\times300}$	加强筋 Stiffener -14×125mm 肘板 Bracket $L\frac{10}{100}$
甲板纵桁 Deck girder	＃36～＃41 $\perp\frac{10\times500}{12\times150}$	

4.2.5.3＃166～艏主甲板骨架

Main deck framing(＃166～bow)

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ16b	
强肋骨 Web beam	$\perp\frac{10\times350}{12\times150}$	
甲板纵桁 Deck girder	$\perp\frac{10\times350}{12\times150}$	

4.2.5.4＃166～艏艏楼甲板骨架

Forecastle deck framing (＃166～bow)

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ18b	
强 肋 骨 Web beam	$\perp\frac{10\times350}{12\times150}$	
甲板纵桁 Deck girder	$\perp\frac{10\times350}{12\times150}$	

4.2.5.5 舵机舱平台甲板骨架

Platform deck framing in the steering gear room

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ16b	
强 肋 骨 Web beam	$\perp\frac{10\times400}{12\times150}$	
甲板纵桁 Deck girder	$\perp\frac{10\times400}{12\times150}$	

4.2.5.6＃8～＃36 机舱平台甲板骨架

Platform deck framing in the engine room ＃8～＃36

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ16b	
强 肋 骨 Web beam	$\perp\frac{10\times500}{12\times150}$	
甲板纵桁 Deck girder	$\perp\frac{10\times500}{12\times150}$	

4.2.5.7＃166～艏艏平台甲板骨架

Bow platform deck framing ＃166～bow

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ16b	
强 肋 骨 Web beam	$\perp\frac{10\times300}{12\times150}$	
甲板纵桁 Deck girder	$\perp\frac{10\times300}{12\times150}$	

4.2.5.8＃36～＃42 泵舱平台甲板骨架

Pump room platform deck framing ＃36～＃42

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ16b	
强肋骨 Web beam	$\perp\frac{10\times500}{12\times150}$	
甲板纵桁 Deck girder	$\perp\frac{10\times500}{12\times150}$	

4.2.5.9 艉楼甲板骨架

Poop deck framing

名称 Item	位置及规格 Location and size	备注 Remarks
横梁 Beam	Γ14b	
强肋骨 Web beam	$\perp\frac{10\times300}{12\times120}$	
甲板纵桁 Deck girder	$\perp\frac{10\times300}{12\times120}$	

4.2.6 支柱 Pillars

名称 Item	位置及规格 Location and size	备注 Remarks
支柱 Pillars	艏楼内 φ159×9 In forecastle	＃179
	机舱平台上 φ194×8 Above platform in ER.	＃18、＃25
	机舱平台下 φ219×12 Below platform in ER.	＃18、＃25、＃29

4.2.7 舱壁 Bulkheads

4.2.7.1 水密平面横舱壁

Watertight transverse plane bulkheads

名称 Item	位置及规格 Location and size	备注 Remarks
#2 舱壁 BHD	板厚 10/12 plate thickness	
	Γ16b	间距：600/700 spacing
#8 舱壁 BHD	板厚 10/12/22/16 plate thickness	
	垂直扶强材 Γ16b vertical stiffener	间距：600/700 spacing

	水平桁、垂直桁⊥ $\frac{10\times400}{12\times100}$ horizontal girder, vertical girder	
#36 舱壁 BHD	板厚 10/12 plate thickness	
	垂直扶强材 Γ20a vertical stiffener	间距：600/700 spacing
	垂直桁⊥ $\frac{10\times500}{12\times150}$ vertical girder	
	水平桁⊥ $\frac{10\times500}{12\times150}$ horizontal girder	
#41^{-200} 舱壁 BHD	板厚 10/12 plate thickness	
	垂直扶强材 Γ20a vertical stiffener	间距：600/700 spacing
	垂直桁⊥ $\frac{10\times500}{12\times150}$ vertical girder	
	水平桁⊥ $\frac{10\times500}{12\times150}$ horizontal girder	
#166 舱壁 BHD #166 舱壁 BHD	板厚 10/12 plate thickness	
	垂直扶强材 Γ20a vertical stiffener	间距：600/700 spacing
	垂直桁⊥ $\frac{10\times500}{12\times200}$ vertical girder	
	水平桁⊥ $\frac{10\times500}{12\times200}$ horizontal girder	
#172 舱壁 BHD	板厚 10/12/14 plate thickness	
	垂直扶强材 vertical stiffener Γ20a（平台上）above platform Γ22b（平台下）below platform	间距：600/700 spacing
	垂直桁、水平桁 vertical girder, horizontal girder ⊥ $\frac{10\times500}{12\times200}$（平台上）above platform ⊥ $\frac{10\times550}{12\times200}$（平台下）below platform	

4.2.7.2 水密平面纵舱壁

Watertight longitudinal plane bulkheads

名称 Item	位置及规格 Location and size	备注 Remarks
艉 stern～#2 舱壁	板厚 10/14 Plate thickness	

BHD	垂直扶强材 Γ16b Vertical stiffener	
＃2～#8 舱壁 BHD	板厚 10/12 Plate thickness	
	垂直扶强材 Γ18b Vertical stiffener	间 距 ： 600 spacing
#36 ～ #41^{-200} 舱 壁 BHD	板厚 10/12 Plate thickness	
	垂直扶强材 Γ20a Vertical stiffener	间 距 ： 600 spacing
	水平桁⊥ $\frac{10\times500}{12\times150}$ Horizontal girder	
#166 ～ #172 舱 壁 BHD	板厚 10/12 Plate thickness	
	垂直扶强材 Γ20a Vertical stiffener	间 距 ： 600 spacing
	水平桁⊥ $\frac{10\times500}{12\times200}$ Horizontal girder	
#172～艏 bow 制荡舱壁 Swash BHD	板厚 10/12mm Plate thickness	
	垂直扶强材 Vertical stiffener 5600 平台上 above platform：Γ20a 5600 平台下 below platform：Γ22b	间 距 ： 600 spacing

4.2.7.3 液货舱平面横舱壁（＃42、＃164）

Transverse plane bulkheads in the liquid cargo tanks （＃42、＃164）

名称 Item	位置及规格 Location and size	备注 Remarks
舱壁 BHD	板厚 10/12 Plate thickness	
	水 平 扶 强 材 Horizontal stiffener NO.1 ～ NO.2 Γ22b NO.4 ～ NO.6 Γ20a NO.8 以上 above Γ18b	间距：600/650 spacing
	垂直桁、水平桁⊥ $\frac{10\times550}{12\times200}$ Vertical girder, horizontal girder	

4.2.7.4 液货舱平面纵舱壁（＃42～＃52）

Longitudinal plane bulkheads in the liquid cargo tanks（＃42～＃52）

名称 Item	位置及规格 Location and size	备注 Remarks
舱壁 BHD	板厚 10/12 Plate thickness	

	垂直扶强材 Γ20a Vertical stiffener	间距：600 spacing
	水平桁 $\perp\frac{10\times500}{12\times200}$ Horizontal girder	

4.2.7.5 液货舱槽形舱壁

Corrugated bulkheads in the liquid cargo tanks

名称 Item	位置及规格 Location and size	备注 Remarks
垂直槽形横舱壁 Vertical corrugated transverse BHD	板厚 12 Plate thickness	
	$a=450mm, b=650mm, d=600mm, S=1.4m$	
水平槽形纵舱壁 Vertical corrugated longi BHD	板厚 Plate thickness 10/12 扶强材 stiffener Γ18a、Γ22b 垂直桁材 Vertical girder $\mathrm{I}\frac{12\times1300}{2\times(16\times300)}$	
	$a=500mm, b=500mm, d=433mm, S=1.5m$	

4.2.8 船端加强 Strengthening in the hull ends

4.2.8.1 艏尖舱内的加强

Strengthening in the fore peak tank

名称 Item	位置及规格 Location and size	备注 Remarks
中内龙骨 Center keelson	$\perp\frac{12\times1250}{14\times200}$	
肋板 Floor	$\perp\frac{10}{12\times150}$	
开口平台 Platform with openings	板厚 Plate thickness10mm 横梁 beam Γ16b	
强胸横梁 Panting beam	$\mathrm{I}\frac{10\times180}{2\times(10\times120)}$	
舷侧纵桁 Side stringer	$\perp\frac{10\times725}{12\times200}$	

制荡舱壁 Swash BHD	板厚 Plate thickness10/12mm 扶强材 stiffener 平台上 above the platform Γ20a 平台下 below the platform Γ22b	间距：600 spacing

4.2.8.2 艏尖舱外的加强

Strengthening outside the fore peak tank

名称 Item	位置及规格 Location and size	备注 Remarks
间断舷侧纵桁 Intermittent side stringer	$\perp\frac{10\times500}{12\times200}$	
距艏垂线 0.4.2L 至防撞舱壁的外板 shell plate between 0.4.2L from FP and collision BHD	12/14mm	

4.2.8.3 船艏底部加强

Strengthening in the bow bottom

名称 Item	位置及规格 Location and size	备注 Remarks
加强范围 strengthening area	横向 transverse h＞0.252m 纵向 longitudinal L＞27.68m	
船底纵骨 Bottom longitudinal	$\Gamma 22b/\perp\frac{10\times200}{12\times100}$	
船底板 Bottom plate	14/16	

4.2.8.4 艉尖舱内的加强

Strengthening in the aft peak tank

名称 Item	位置及规格 Location and size	备注 Remarks
实肋板 Floor	16/22mm	至 3650 平台 Up to 3650

		platform

4.2.9 艏艉柱 Stempost and sternpost

名称 Item	位置及规格 Location and size	备注 Remarks
艏柱 Stempost	16mm	
艉柱 Sternpost	铸钢 cast steel 艉框底骨 Bottom structure of the stern frame 350×300mm	
推进器在艉管通出处的轴毂厚度 The propeller's shaft hub thickness where the stern tube goes out	110mm	

4.2.10 主机座 Main engine foundation

名称 Item	位置及规格 Location and size	备注 Remarks
基座纵桁 Foundation longitudinal girder	面板 Face plate 30mm 腹板 web 22mm	
横隔板 transversely strengthened plate	14mm/⊥ $\frac{16}{16\times100}$	
肘板 Bracket	⊥ $\frac{16}{16\times150}$	

4.2.11 上层建筑 Superstructure

4.2.11.1 艏楼 The forecastle

名称 Item	位置及规格 Location and size	备注 Remarks
舷侧外板 Side shell plate	10mm	
甲板板 Deck plate	10mm	
肋骨 Frame	Γ16b	
强肋骨 Web frame	⊥ $\frac{10\times350}{12\times150}$	
#166 后端壁 end	8/10mm 扶强材 stiffener Γ14b	
内围壁 inner	8mm 扶强材 stiffener Γ14b	

enclosure		

4.2.11.2 艉楼 The poop

名称 Item	位置及规格 Location and size	备注 Remarks
舷侧外板 Side shell plate	10mm	
甲板板 Deck plate	8/10mm	
肋骨 Frame	Γ16b	
强肋骨 Web frame	$\perp\frac{10\times300}{12\times120}$	
#36 前端壁 fore end	10mm 扶强材 stiffener Γ18b	
后壁 aft end	10mm 扶强材 stiffener Γ16b	

4.2.12 甲板室 Deckhouse

4.2.12.1 艇甲板 Boat deck

名称 Item	位置及规格 Location and size	备注 Remarks
甲板板 Deck plate	8mm	
横梁 Beam	L100×75×8	
甲板纵桁 Deck girder	$\perp\frac{8\times300}{10\times120}$	
前壁 Fwd end	8mm 扶强材 stiffener L100×63×8	
侧壁 Side plate	8mm 扶强材 stiffener L100×63×8	
后壁 Aft end	8mm 扶强材 stiffener L100×63×8	
内围壁 inner enclosure	7mm 扶强材 stiffener L100×63×8	

4.2.12.2 居住甲板 2 Accommodation deck 2

名称 Item	位置及规格 Location and size	备注 Remarks
甲板板 Deck plate	7mm	
横梁 Beam	L90×56×6	
甲板纵桁 Deck girder	$\perp\frac{8\times200}{10\times80}$	
前壁 Fwd end	8mm 扶强材 stiffener L90×56×6	
侧壁 Side plate	7mm 扶强材 stiffener L75×50×6	

后壁 Aft end	7mm 扶强材 stiffener L75×50×6	
内围壁 inner enclosure	7mm 扶强材 stiffener L75×50×6	

4.2.12.3 居住甲板 1 Accommodation deck 1

名称 Item	位置及规格 Location and size	备注 Remarks
甲板板 Deck plate	7mm	
横梁 Beam	L75×50×6	
甲板纵桁 Deck girder	$\perp \frac{8\times200}{10\times80}$	
前壁 Fwd end	8mm 扶强材 stiffener L90×56×6	
侧壁 Side plate	7mm 扶强材 stiffener L75×50×6	
后壁 Aft end	7mm 扶强材 stiffener L75×50×6	
内围壁 inner enclosure	7mm 扶强材 stiffener L75×50×6	

4.2.12.4 驾驶甲板 Navigation deck

名称 Item	位置及规格 Location and size	备注 Remarks
甲板板 Deck plate	7mm	
横梁 Beam	L75×50×6	
甲板纵桁 Deck girder	$\perp \frac{8\times200}{10\times80}$	
前壁 Fwd end	7mm 扶强材 stiffener L75×50×6	
侧壁 Side plate	7mm 扶强材 stiffener L75×50×6	
后壁 Aft end	7mm 扶强材 stiffener L75×50×6	
内围壁 inner enclosure	7mm 扶强材 stiffener L75×50×6	

4.2.12.5 罗经甲板

名称 Item	位置及规格 Location and size	备注 Remarks
甲板板 Deck plate	7/8mm	
横梁 Beam	L75×50×6	
甲板纵桁 Deck girder	$\perp \frac{8\times200}{10\times80}$	
前壁 Fwd end	7mm 扶强材 stiffener -12×120	

侧壁 Side plate	7mm 扶强材 stiffener L75×50×6	
后壁 Aft end	7mm 扶强材 stiffener L75×50×6	
内围壁 inner enclosure	7mm 扶强材 stiffener L75×50×6	

4.2.12.6 机舱棚围壁 The engine casing enclosure

4.2.12.6.1 露天机舱棚 Open engine casing

名称 Item	位置及规格 Location and size	备注 Remarks
围壁板 Enclosure plate	7mm	
扶强材 Stiffener	L75×50×6	

4.2.12.6.2 非露天机舱棚 Not open engine casing

名称 Item	位置及规格 Location and size	备注 Remarks
围壁板 Enclosure plate	7mm	
扶强材 Stiffener	艉楼内 In the poop L100×63×8 其他 Others L75×50×6	

4.2.13 舷墙 Bulwark

名称 Item	位置及规格 Location and size	备注 Remarks
舷墙板 Bulwark plate	8mm	
上缘型材 Topside sectional bar	Γ14b	
支撑肘板 Bracket	$L\frac{8\times300}{80}$	

5 舾装部分 OUTFITTING

5.1 锚设备 Anchoring equipment

本船锚泊设备根据《钢质船舶入级规范》(CCS2006)的要求配备。

This ship's anchoring equipments are provided according to the requirements of the Rules and Regulations for the Classification of the

Sea-going Steel Ships (CCS 2006).

1）舾装数 N =1153

Equipment Number N =1153

2）锚：选配斯贝克锚 2 只，每只锚重 3540kg。

Anchor: 2 Speke anchors are selected and the weight for each anchor is 3540kg.

3）锚链：选配 AM_2 有档`电焊锚链直径为 Φ 54mm，锚链总长度为 522.5 米，分成 2 根。右锚链长为 275m，左锚链长为 247.5m。

Chain cable: The CCS AM_2 electrically welded stud chains are selected and the chain diameter is Φ54mm. The total length of the chain cable is 522.5 m and divided into 2. The right one is 275m and the left one is 247.5m.

4）锚泊属具：在锚链筒下口设置锚唇，在锚链筒上口设有导链滚轮，在滚轮与锚机链轮之间设置掣链器。

Anchoring accessories: the bolsters are set at the lower end of the hawse pipes; the chain cable fairleaders are set at the upper end of the hawse pipes; the chain stoppers are set between the windlass chain wheel and the fairleaders.

5.2 系泊设备 Mooring equipment

1）艉部设 80KN 液压卧式系缆绞车一台。

A 80KN horizontal hydraulic mooring winch is fitted at stern.

2）系船索：选配直径Φ72mm 八股丙纶索 4 根，每根长为 180m。

Mooring lines: 4 eight-ply polypropylene fiber ropes, whose diameter is Φ 72mm, are selected and the length for each is 180m.

3）另配 A450 带缆柱 2 只，A400 带缆桩 14 只，Φ300 三滚轮导缆器 4 只，Φ300 双滚轮导缆器 6 只，Φ300 羊角单滚轮导缆器 4 只，C400×290 导缆孔 6 只，Φ72 系泊纤维索卷车 2 只。

Others: **A450** bollard 2
A400 bollard 14
Φ300 triple roller fairleader 4
Φ300 double roller fairleader 6
Φ300 cleat single roller fairleader 4
C400×290 mooring pipe 6
Φ72 mooring fiber rope reel 2

5.3 舵设备 Rudder and steering gear

1）采用双支承流线型平衡舵 1 只，舵面积 12.30m^2，面积比为 1.58%，平衡系数为 0.25，展舷比为 1.37，舵为钢板焊接组合结构，舵与舵杆采用法兰连接。

One double bearing streamline balanced rudder is adopted. The rudder area is 12.30m^2. The area ratio is 1.58%. The area-balance ratio is 0.25. The aspect ratio is 1.37. The rudder is steel welded composite structure. The rudder and the rudder stock are connected by the flange.

2）舵杆 Rudder stock

舵柄处舵杆直径为Φ220mm，舵杆直径为Φ280mm，舵杆顶部以键与舵机键连接，上舵承为滚子轴承，下舵承为滑动水密下度承。

The diameter of the rudder stock in way of the tiller is Φ220mm. The diameter of the rudder stock is Φ280mm. The top of the rudder stock and the steering gear are connected by the keys.

3）舵机为 160kN·m 电动液压舵机，自一舷 35 度至另一舷 30 度的操舵时间不大于 20 秒，上舵承装有滑动轴承，下舵承为水密滑动轴承。

The steering gear is 160KN.m electrical hydraulic steering gear. The

operation time from 35 degrees of one side to 30 degrees of the other side is not more than 20s. The rudder carrier is sliding bearing and the lower rudder bearing is watertight sliding bearing.

4）设应急操舵系统一套。

One set of the emergency steering system is fitted.

5.4 救生设备 Life saving appliances

本船救生设备按《国际海上人命安全公约》要求配备。

This ship's life saving appliances are provided according to the SOLAS.

耐火救生艇（18 人）2 艘；

fireproof life boat (18P) 2;

A 型 20 人气胀式救生筏 2 只；

20P inflatable life raft(type A) 2;

救生圈 12 只（其中 6 只带自亮浮灯，2 只带救生浮索，2 只带自亮浮灯及带烟雾信号）。

Lifebuoy 12 (6 of them with self-igniting light; 2 of them with life line; 2 of them with self-igniting light and smoke signal)

登乘绳梯 2 件；

embarkation ladder 2;

船员救生衣 22 件。

Crews lifejacket 22;

抛绳设备 1 套

line throwing apparatus 1 set

12 支火箭降落伞信号。

rocket parachute flare signal 12.

5.5 信号设备 Signal equipment

本船前后桅信号设备详见信号设备布置图。

For the detail of the signal equipments of fore and aft masts, refer to the drawing of the SIGNAL EQUIPMENT ARRANGEMENT

5.6 消防设备　Firefighting appliances

具体布置详见防火控制图

For detail arrangement, refer to the “FIRE CONTROL PLAN”

驾驶甲板上配：5kgCO_2 灭火机 1 只，6kg 手提式干粉灭火机 1 只，紧急逃生呼吸装置(EEBD)2 套。

NAVIGATION DECK:

5kgCO_2 fire extinguisher 1;

6kg portable powder fire extinguisher 1;

EEBD 2 sets.

居住甲板 1 上配：6kg 手提式干粉灭火机 1 只，9L 手提式泡沫灭火机 1 只，两用水枪（水雾/水柱型）、消防带、消防带箱及消防栓 1 件。

ACCOMMODATION DECK 1:

6kg portable powder fire extinguisher 1;

9L portable foam fire extinguisher 1;

Spray/jet nozzle 1;

Hose 1;

Hose box 1;

Fire hydrant 1;

居住甲板 2 上配：6kg 手提式干粉灭火机 1 只，9L 手提式泡沫灭火机 1 只，两用水枪（水雾/水柱型）、消防带、消防带箱及消防栓 1 件。

ACCOMMODATION DECK 2:

6kg portable powder fire extinguisher 1;

9L portable foam fire extinguisher 1;

Spray/jet nozzle 1;

Hose 1;
Hose box 1;
Fire hydrant 1;

艇甲板以上配：5kgCO_2 灭火机 2 只，6kg 手提式干粉灭火机 1 只，9L 手提式泡沫灭火机 3 只，两用水枪（水雾/水柱型）、消防带、消防带箱及消防栓 1 件。

BOAT DECK:

5kgCO_2 fire extinguisher 2;
6kg portable powder fire extinguisher 1;
9L portable foam fire extinguisher 3;
Spray/jet nozzle 1;
Hose 1;
Hose box 1;
Fire hydrant 1;

艉楼甲板上配： 6kg 手提式干粉灭火机 2 只，9L 手提式泡沫灭火机 3 只，两用水枪（水雾/水柱型）、消防带及消防带箱各 2 件，消防栓 2 件，太平斧一把，，紧急逃生呼吸装置(EEBD)2 套，消防炮（枪）2 只。

POOP DECK:

6kg portable powder fire extinguisher 2;
9L portable foam fire extinguisher 3;
Spray/jet nozzle 2;
Hose 2;
Hose box 2;
Fire hydrant 2;
Fire axe 1;
EEBD 2sets;
Fire monitor 2;

艏楼甲板以上配：太平斧一把。

FORECASTLE DECK:

Fire axe 1;

桥楼以上配：两用水枪（水雾/水柱型）、消防带及消防带箱各 12 件，消防栓 12 件，消防炮（枪）6 只，国际通岸接头 1 只。

CATWALK:

Spray/jet nozzle	12;
Hose	12;
Hose box	12;
Fire hydrant	12;
Fire monitor	6;
International shore connection	1.

主甲板处配：6kg 手提式干粉灭火机 2 只，9L 手提式泡沫灭火机 4 只，5kg 手提式 CO_2 灭火机 1 只，两用水枪（水雾/水柱型）及消防带及消防带箱各 1 件，消防栓 1 件，消防员装备品 2 套，紧急逃生呼吸装置(EEBD) 1 套。

MAIN DECK:

6kg portable powder fire extinguisher	2;
9L portable foam fire extinguisher	4;
5kg portable CO_2 fire extinguisher	1;
Spray/jet nozzle	1;
Hose	1;
Hose box	1;
Fire hydrant	1;
Fireman’s outfit	2sets;
EEBD	1set;

机舱平台配： 9L 手提式泡沫灭火机 4 只，6kg 手提式干粉灭火机 3 只，5kg 手提式 CO_2 灭火机 1 只，F135 推车式泡沫灭火机 1 只，F45 推

车式泡沫灭火机 1 只，肩背式泡沫喷枪 1 支，两用水枪(水雾/水柱型)、消防栓、消防带及消防带箱各 1 件，紧急逃生呼吸装置(EEBD) 2 套。

PLATFORM IN ENGINE ROOM:

9L portable foam fire extinguisher	4;
6kg portable powder fire extinguisher	3;
5kg portable CO_2 fire extinguisher	1;
F135 wheeled foam fire extinguisher	1;
F45 wheeled foam fire extinguisher	1;
Shoulder type foam nozzle	1;
Spray/jet nozzle	1;
Hose	1;
Hose box	1;
Fire hydrant	1;
EEBD	2set;

舱内配：9L 手提式泡沫灭火机 3 只，6kg 手提式干粉灭火机 3 只，紧急逃生呼吸装置(EEBD) 1 套，两用水枪(水雾/水柱型)、消防栓、消防带及消防带箱各 1 件。

IN COMPARTMENT:

9L portable foam fire extinguisher	3;
5kg portable powder fire extinguisher	3;
EEBD	1set;
Spray/jet nozzle	1;
Hose	1;
Hose box	1;
Fire hydrant	1;

机舱逃口围井，机舱棚围壁，机舱区域主甲板结构防火 A-60 级。

For the engine escape trunk, the engine casing enclosure, main deck in the engine room area, the fireproof structure is class A-60.

甲板室的梯道必须由 A-0 级防火材料予以环围，并且设置带自闭器的 A-0 级防火门。

The stairways in the deckhouse are enclosed by A-0 class fireproof materials and in way of them, the A-0 class self-closing doors are provided.

液货舱区域甲板，船员经常工作区域，距液货舱口及洗舱口 1m 的范围内，涂导电油漆，以便人身所带静电能对地释放。

The deck in the liquid cargo tanks area, where the crews often work, and within 1m from the hatch opening and tank-washing opening, is to be painted with conductive paint so that the static electricity of the body can be released to the earth.

5.7 门、窗、栏杆、梯、盖设备

Doors, windows, rails, ladders, covers

1）门：doors

驾驶甲板上设：ON THE NAVIGATION DECK:

驾驶室气密移门扇

wheelhouse: airtight sliding door

梯道设防火门（A-0）并带自闭器；

stairway: fireproof door (A-0) with self-closing device

居住甲板 1 设：ON THE ACCOMMADATION DECK 1

船员室设防火门（B-0）并带有应急通孔；

crew’s room: fireproof door (B-0) with emergency escape

浴厕设防火门（B-0）；

bathroom cum toilet: fireproof door （B-0）

梯道设防火门（A-0）并带自闭器；

stairway: fireproof door (A-0) with self-closing device

走道设船用风雨密单扇钢质门；

passageway: marine weather-tight single steel door

居住甲板 2 设：ON THE ACCOMMADATION DECK 2:

船员室设防火门（B-0）并带有应急通孔；

crew’s room: fireproof door (B-0) with emergency escape

浴厕设防火门（B-0）；

bathroom cum toilet: fireproof door （B-0）

梯道设防火门（A-0）并带自闭器；

stairway: fireproof door (A-0) with self-closing device

走道设船用风雨密单扇钢质门；

passageway: marine weather-tight single steel door

艇甲板设：ON THE BOAT DECK:

船员室设防火门（B-0）并带有应急通孔；

crew’s room: fireproof door (B-0) with emergency escape

医务室、浴厕设防火门（B-0）；

dispensary, bathroom cum toilet: fireproof door （B-0）

梯道设防火门（A-0）并带自闭器；

stairway: fireproof door (A-0) with self-closing device

机舱棚设防火门（A-60）并带自闭器；

engine casing: fireproof door (A-60) with self-closing device

走道、应急发电机室、蓄电池室、充放电室设船用风雨密单扇钢质门；

passageway, emergency generator room, battery room, battery charge and discharge room: marine weather-tight single steel door

艉楼甲板设：ON THE POOP DECK:

船员室设防火门（B-0）并带有应急通孔；

crew’s room: fireproof door (B-0) with emergency escape

餐厅、浴厕设防火门（B-0）；

mess, bathroom cum toilet: fireproof door （B-0）

梯道、厨房设防火门（A-0）并带自闭器；

stairway, galley: fireproof door (A-0) with self-closing device

液货观察室设防火门（A-0）；

liquid cargo observation room: fireproof door (A-0)

机舱棚设防火门（A-60）并带自闭器；

engine casing: fireproof door (A-60) with self-closing device

走道、CO2 室、更衣室、梯道设船用风雨密单扇钢质门；

passageway, CO2 room, change room, stairway: marine weather-tight single steel door

主甲板上设：ON THE MAIN DECK:

船员室设防火门（B-0）并带有应急通孔；

crew's room: fireproof door (B-0) with emergency escape

餐厅、浴厕设防火门（B-0）；

mess, bathroom cum toilet: fireproof door （B-0）

梯道、厨房设防火门（A-0）并带自闭器；

stairway, galley: fireproof door (A-0) with self-closing device

储藏室、机修间、舵机舱、空调机室、电工间、冷冻机室、粮库、泡沫室、轮机部更衣间设防火门（A-0）；

store room, machinery repair room, steering gear room, air conditioning unit room, electrician room, refrigerator room, provision store, foam room, change room for machinery department: fireproof door (A-0)

机舱棚设防火门（A-60）并带自闭器；

engine casing: fireproof door (A-60) with self-closing device

走道、CO2 室、更衣室、梯道设船用风雨密单扇钢质门；

passageway, CO2 room, change room, stairway: marine weather-tight single steel door

菜库、肉库设玻璃钢冷藏室门；

vegetable store, meat store: glassed steel cold store door

平台设：ON THE PLATFORM:

监视室设钢质隔音阻气门；

monitoring room: steel soundproof airtight door

舱内设：IN THE COMPARTMENT:

逃口设防火门（A-60）并带自闭器；

emergency exit: fireproof door (A-60) with self-closing device

2）窗：windows

驾驶室固定矩形窗；

Fixed rectangular windows for the wheel house

驾驶室固定异形窗；

Fixed special shaped windows for the wheel house

船用普通矩形窗；

Normal marine rectangular windows

船用 A-60 级防火矩形窗；

A-60 class fireproof marine rectangular windows

机舱天窗；

Skylight for engine room

钢质舷窗；

Scuttles

铝合金双层中空玻璃隔声窗；

aluminum alloy hollow soundproof double glass windows

3) 栏杆：Rails

在罗经甲板四周设置高 1.0m 的栏杆，在驾驶甲板四周设置高 1.0m 的栏杆，在艇甲板四周设置高 1.0m 的栏杆，在步桥上设置高 1.0m 的

栏杆，在主甲板四周设置高 1.0m 的栏杆，在机舱斜梯、斜梯等处均设置扶手。栏杆柱为-60×16，栏杆扶手为 $1\frac{3}{4}$"，栏杆横档为 1"。

The handrails of 1m high are fitted at the boundaries of the compass deck, navigation deck, boat deck, main deck and the catwalk. The handrails are also fitted at the platform in the engine room and the inclined ladders. The handrail stanchions are -60×16 and the rails are $1\frac{3}{4}$". The crossbars are 1".

4） 梯：Ladders

舵机舱、各层甲板设钢质斜梯；

steering gear room, each deck: steel inclined ladder;

机舱、机舱棚、泵舱设机舱斜梯；

engine room, engine casing, pump room: engine room inclined ladder

逃口、各油、水舱设钢质直梯；

emergency exit, each oil tank or water tank: steel vertical ladder;

货油舱设有油舱直梯；

cargo oil tank: oil tank vertical ladder;

5） 盖：Covers

液货舱设Φ900 转动式油舱盖 14 只；

in the liquid cargo tanks -- Φ900 rotating oil tight hatch cover 14;

液货舱设Φ600 转动式油舱盖 12 只；

in the liquid cargo tanks -- Φ600 rotating oil tight hatch cover 12;

应急通道及帆缆舱等设 630×630 钢质风雨密舱口盖；

in the emergency trunk and the hawser store etc. --- 630×630 steel weather tight hatch cover ;

燃油舱、淡水舱、压载水舱、空舱均设有油、水密人孔盖。

in the fuel oil tanks, fresh water tanks, water ballast tanks and cofferdam --- watertight or oil-tight manhole covers

5.8 保护设备 Protection equipment

船上备有四套供装卸作业人员使用的保护设备。这些设备包括：大围裙、有长袖的特别手套、适用的鞋袜、用抗化学材料制成的连衣裤工作服，以及贴肉保护目镜或面罩等。这些保护设备存放在首楼储物舱的专用柜内。

Four sets of the protection equipments are provided on board for the loading and unloading operators to use. These equipments include: big apron, special gloves with long sleeves, suitable shoes and stockings, overalls made of anti-chemicals materials and protective glasses next to the skin or masks, etc. These protection equipments are stored in the special cabinets of the utility room in the forecastle

5.9 安全设备 Safety equipment

船上备有三套安全设备。每套安全设备包括：自吸式空气呼吸器 1 具；保护服、长靴、手套和贴肉保护镜；配有腰带的能承受所载货物影响的防火救生绳索，以及防爆灯。

Three sets of the safety equipments are provided on board. Every set of the safety equipment includes: 1 self-activated air breathing device; protective suit, long boots, gloves and protective glasses next to the skin; fireproof life rope that can bear the affection of the loaded cargo and that is of waist belt; explosion-proof lamp.

此外，每具呼吸器配备一套装满空气的备用空气瓶。一套安全设备置于货泵舱出入室的专用柜内；另两套置于首楼储物舱的专用柜内。

In addition, each breathing device is fitted with one set of spare air bottle full of air. One set of the safety equipment is stored in the special cabinets of the cargo pump entrance and exit room. The other two sets are stored in the special cabinets of the utility room in the forecastle.

应为船上每个人员配备适当的应急逃生使用的防毒呼吸面具和眼睛保护设备。

For every person on board, the emergency escape anti-gas breathing

mask and eyes-protected device should be provided properly.

5.10 其它：Others:

1）厨房、厕所、浴室底部敷设水泥，艏、艉尖舱底部灌混凝土，淡水舱涂刷水泥砂浆。

The cement is applied on the deck of the galley, toilet and bathroom. The bottom of the fore peak tank and the aft peak tank should be filled with concrete. The fresh water tanks are painted with cement mortar.

2）船体防蚀 Corrosion-proof for hull

本船船体防蚀采用铝锌铟合金作为牺牲阳极，其设计寿命为 2 年，在船外板两侧，以及舵、舭龙骨等处，共装有防蚀锌块(A11H-5 GB/T 4948-2002)100 块，高、低位海底阀箱均装设 1 块。

For this ship’s hull corrosion-proof, the Al-Zn-In alloy is adopted as sacrificial anodes, whose designed life is 2 years. 100 pieces of zinc anodes(A11H-5 GB/T 4948-2002) for protection are installed at the two sides of the shell plate, rudder, bilge keel etc.. 1 each for high and low sea chest is also installed.

附录 1
APPENDIX 1

序号 S/N	货　品 CARGO NAME	国际编号 I.No.	船型 ST	舱型 CT	污染类别 PS	构造材料 MA	相对密度 RD
1	烷基苯磺酸,钠盐溶液 Alkylbenzenesulphonic acid,sodium solution		2	2G	C		1.000
2	氨水(28%或以下) Ammonia aqueous(28% or less)	2672 (m)	2	2G	C	N4	0.900
3	乙酸(正)戊酯(所有异构体) n-Amyl acetate(all isomers)	1104	2	2G	C		0.880
4	航空烃化汽油(C_8链烷烃和异链烷烃沸点95-120℃(bb)		2	2G	(C)		0.700
5	丁醛(所有异构体) Butyraldehyde (all isomers)		2	2G	C		0.820
6	4-氯-2-甲基苯氧基酸,二甲铵盐溶液 4-chloro-2-methylphenoxyacetic acid, dimethylamine salt solution		2	2G	(C)	N1	1.000
7	椰子油脂肪酸 coconut oil fatty acid		2	2G	C		0.900
8	环庚烷(bb) Cycloheptane (bb)	2241	2	2G	(C)		0.810
9	环己烷(bb) Cyclohexance (bb)	1145	2	2G	C		0.780
10	环己酮 Cyclohexanone	1915	2	2G	D	N5	0.950
11	环己酮,环己醇混合物 Cyclohexanone, cyclohexanol mixture		2	2G	D	N5	0.950
12	环己胺 Cyclohexylamine	2357	2	2G	C	N1	0.860
13	环戊烷(bb) Cyclopentane(bb)	1146	2	2G	(C)		0.740
14	癸酸 Decanoic acid		2	2G	C		0.900
15	二乙胺基乙醇 Diethylaminoethanol	2686	2	2G	C	N1	0.880
16	二乙烯三胺 Diethylenetriamine	2079	2	2G	D	N2	0.950
17	二异丙醇胺 Diisopropanolamine		2	2G	C	N2	0.980
18	乙基戊基甲酮 Ethyl amyl ketone	2271	2	2G	C		0.820
19	丁酸乙酯 Ethyl butyrate	1180	2	2G	C		0.880
20	庚烷(所有异构体)(bb) Heptane (all isomers) (bb)	1206	2	2G	(C)		0.720
21	庚醇(所有异构体)(q) Heptanol (all isomers) (q)		2	2G	C		0.820
22	庚烯(所有异构体)(bb) Heptene (all isomers) (bb)		2	2G	C		0.700
23	己烷(所有异构体)(bb) Hexane (all isomers) (bb)	1208	2	2G	(C)		0.600
24	己烯(所有异构体)(bb) Hxane (all isomers)(bb)		2	2G	(C)		0.700
25	长链烷芳基聚醚(C_{11}-C_{20}) Long-chain		2	2G	C		

	alkaryl polyether (C_{11}-C_{20})						
26	乙酸甲基戊酯 Methylamyl acetate	1233	2	2G	(C)		0.860
27	甲基戊醇 Methylamyl alcohol	2053	2	2G	(C)		0.810
28	丁酸甲酯 Methyl butyrate	1237	2	2G	(C)		0.890
29	辛醇(所有异构体) Octanol (all isomers)		2	2G	C		0.830
30	乙酸正辛酯 n-Octyl acetate		2	2G	C		
31	正戊基丙酸酯 n-Pentyl propionate		2	2G	C		0.870
32	1- 苯 基 -1- 二 甲 苯 基 乙 烷 (bb) 1-Phenyl-1-Xylylethane (bb)		2	2G	C		0.990
33	氯化钾溶液(10%以上) Potassium chloride solution (10% or more)		2	2G	C		
34	酒石酸钠/琥珀酸钠溶液		2	2G	D	Y5	
35	甲苯(bb) Toluene (bb)	1294	2	2G	C		0.870
36	二甲苯(bb) Xylenes	1307	2	2G	C		0.890

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序号	货 品	国际编号	船型	舱型	污染类别	构造材料	相对密度
37	樟脑油 Camphor oil		2	2G	B		0.920

Notes: I.No. --- international No.

ST ---ship type
CT ---compartment type
PS ---pollution sort
MA ---material
RD ---relative density