

MADRID - SHANGAI - HONG KONG - MÉXICO D.F.

ASMAIN

Su seguro aliado / Your reliable ally



**MARINE
REFRIGERATING
STORE**

气调保鲜系统 CA KEEPING FRESH SYSTEM

气调贮藏是目前国际上公认的最有效的果蔬贮藏保鲜方法之一。在国外，气调贮藏技术已较为普遍的应用。我国的CA贮藏发展较晚，但近十年来，我国气调贮藏事业发展较快，已被国内很多蔬菜及水果基地所应用。但是，根据调查，由于船上的特殊环境，以及贮藏蔬菜种类的多样性等因素，国内外还没有将气调保鲜技术成熟地运用到舰船上。

随着我国造船业的迅速发展，为了满足船员在航海过程中对新鲜果蔬的迫切需求，我公司针对船上特殊环境研制了船用气调保鲜系统，其具有以下优点：

- ①抑制呼吸作用，减少有机物质的消耗，保持果蔬优良的风味和芳香气味。
- ②抑制水分蒸发，保持果蔬新鲜度。
- ③抑制病原菌的滋生繁殖，控制某些生理病害的发生，降低果实腐烂率，即使入贮时有轻微擦伤的果实，也能继续贮藏。
- ④抑制某些后熟酶的活性，抑制乙烯产生，延缓后熟和衰老过程，长期保持果实硬度，有较长的货价期。

CA STORAGE IS INTERNATIONALLY ACKNOWLEDGED AS ONE OF THE MOST EFFECTIVE WAY TO STORE AND KEEP FRESH OF FRUITS AND VEGETABLES. IN FOREIGN COUNTRIES, CA TECHNOLOGY IS POPULARLY USED. IN CHINA, CA STORAGE STARTED LATE, BUT IN RECENT 10 YEARS, THERE IS A RAPID DEVELOPMENT AND PROGRESS, AND NOW IT IS WIDELY APPLIED IN MANY FRUIT AND VEGETABLE BASES. BUT ACCORDING TO INVESTIGATION, THE CA TECHNOLOGY HASN'T BEEN MATURELY APPLIED ON SHIP YET DUE TO THE SPECIAL CONDITIONS ON SHIP, AND THE VARIETY OF FRUITS AND VEGETABLES, ETC. .

WITH RAPID PROGRESS OF SHIPBUILDING, OUR COMPANY DEVELOPED MARINE CA STORAGE SYSTEM IN ORDER TO MEET THE DEMAND OF CREW FOR FRESH FRUITS AND VEGETABLES, WHICH HAS FOLLOWING ADVANTAGES:

SUPPRESS RESPIRATION REDUCE CONSUMPTION OF ORGANIC SUBSTANCE KEEP ORIGINAL FLAVOR AND FRAGRANCE OF FRUIT AND VEGETABLE.

SUPPRESS DEHYDRATION KEEP FRESH OF FRUIT AND VEGETABLE.

SUPPRESS GERM BREEDING AND PROPAGATING, CONTROL OCCURRENCE OF SOME PHYSIOLOGICAL DISEASE, REDUCE BLET RATIO OF FRUIT, EVEN SLIGHTLY SCRATCHED FRUIT CAN BE STORED.

SUPPRESS SOME AFTER RIPENING ENZYME ACTIVITY, SUPPRESS THE PRODUCING OF ETHYLENE, DELAY AFTER RIPENING AND CADUCITY, KEEP HARDNESS OF FRUIT, AND LONG SHELF LIFE.

PREVENT FRUITS AND VEGETABLES FROM PRODUCING SUBSTANCE HARMFUL TO PEOPLE, NO POLLUTION.



整套系统由拼装式冷库、空压机、冷干机、供电柜、加湿装置、人员安全增氧装置、库房安全装置、阀门及管道阀门等组成。

THE COMPLETE SYSTEM IS COMPOSED OF ASSEMBLED COOLING CHAMBER, AIR COMPRESSOR, COOLING DRIER, POWER SUPPLY CABINET, DEHUMIDIFIER, OXYGEN SUPPLY UNIT, CHAMBER SAFETY DEVICE, VALVE AND PIPE ETC..

气调一体机设备，是我公司专为船用冷库降氧、 O_2 ， CO_2 和 C_2H_4 脱除而研制的新型气调设备。可以针对不同品种的果蔬的气调指标（ $O_2\%$ 、 $CO_2\%$ 、 $C_2H_4\%$ 、湿度），自动将各库的参数控制在需要设定的范围内，并满足各库较频繁的进出取货要求。

一体机内装有制氮装置、二氧化碳脱除装置、乙烯脱除装置、气体调节站和综合检测控制计算机等。

THE COMPLETE AC UNIT IS NEW TYPE OF EQUIPMENT DEVELOPED BY OUR COMPANY ESPECIALLY FOR MARINE COOLING CHAMBER FOR TAKING OFF O_2 , CO_2 , AND C_2H_4 . THE PARAMETER AS NEEDED CAN BE AUTOMATICALLY CONTROLLED IN SETTING RANGE AIMING AT DIFFERENT FRUITS AND VEGETABLES REQUIREMENT ($O_2\%$, $CO_2\%$, $C_2H_4\%$, HUMIDITY), AND ALSO SATISFY THE REQUIREMENT OF PEOPLE IN AND OUT FOR FRUITS AND VEGETABLES.

THE COMPLETE UNIT INCLUDING NITROGEN GENERATING UNIT, CO_2 REMOVING UNIT, C_2H_4 REMOVING UNIT, AIR CONDITIONING UNIT AND MONITORING AND CONTROLLING COMPUTER.



一台空压机向一体机内的中空纤维膜制氮装置提供压缩空气。

空压机后有一台冷干机，可以将压缩空气冷却至 $3\sim 5^\circ C$ ，将其中大部分水蒸气冷凝分离排除。

ONE AIR COMPRESSOR SUPPLIES AIR TO HOLLOW FIBER FILM OF NITROGEN GENERATING UNIT INSIDE THE COMPLETE UNIT.

THERE IS A COOLING DRIER BEHIND AIR COMPRESSOR, THE COMPRESSOR AIR WILL BE COOLED DOWN TO $3\sim 5^\circ C$, MOST OF THE VAPOR CONDENSATES AND IS EXPELLED.



国内部分果蔬气调贮藏参数

STORAGE PARAMETER FOR PART OF FRUITS AND VEGETABLES

种 类 SORT	温度 °C TEMPERATURE	湿度 R.H. %	空气成份控制参数 AIR CONTROLLING DATA		最大储藏期(日) MAX. STORAGE LIFE (DAY)
			O ₂ %	CO ₂ %	
1、番茄 TOMATO	10-13	80-85	2-5	2-5	20-45
2、青椒 GREEN PEPPER	8-10	85-95	2-8	1-2	30-70
3、茄子 EGGPLANT	12-13	90-95	2-5	0-5	20-30
4、黄瓜 CUCUMBER	12-13	90-95	2-5	0-5	20-40
5、大白菜 CHINESE CABBAGE	0-1	85-95	1-6	0-5	120-150
6、韭菜 LEEK	0-0.5	93-95	1-2	2-5	60
7、菜花 CAULIFLOWER	0-1	90-95	3-5	0-5	30-90
8、胡萝卜 CARROT	0-1	90-95	1-2	2-4	100-200
9、菠菜 SPINACH	0-1	90-95	11-16	1-5	30-90
10、芹菜 CELERY	0-1	90-95	2-3	4-5	60-90
11、生菜 LETTUCE	0-3	90-95			10-40
12、大葱 SCALLION	0-1	80-85			30-90
13、苹果 APPLE	0-1	90-95	3	3-5	150
14、鸭梨 PEAR	0	90-95	7-10	0	210
15、葡萄 GRAPE	-1-0	90	3-5	3	60-210
16、猕猴桃 CHINESE GOOSEBERRY	0-1	90-95	5	2	180-240
17、香蕉 BANANA	12-14	90-95	2.5-4	4.5-5.5	32
18、龙眼 LONGAN	0	90-95	5	5	90
19、荔枝 LITCHI	1-5	85-90	5	5	30-40
20、芒果 MANGO	12-14	88-90	3-4	4-5	30
21、草莓 STRAWBERRY	0-0.5	85-95	3	6	60

说明：以上为部分蔬果气调贮藏指标，实际的贮藏周期与蔬果的采摘、机械性损伤等因素也有关。

NOTE: THE ABOVE SHELF LIFE IS FOR REFERENCE. ACTUAL LENGTH OF LIFE WILL ALSO DEPEND ON DIFFERENT DEGREES OF INJURY CAUSED DURING PICKING AND PACKING ETC.

冷藏库 REFRIGERATING CHAMBER

II 型组装式冷藏库由预制板及其它配件组装而成。冷库板及冷库门门框内均预埋钩接连接件。组装简便，连接紧密可靠，转角无压条。门框为整体发泡，与库板浑然一体。因而具有更优良的密封保温性能和外观质量。

本公司负责冷库的施工设计、制作和内场预装，并上船指导组装。

由于冷库组件全部由内场精心预制，施工时除必要的现场开孔外，一般不能再作改动，故应严格按设计规定的尺寸和布置进行组装。

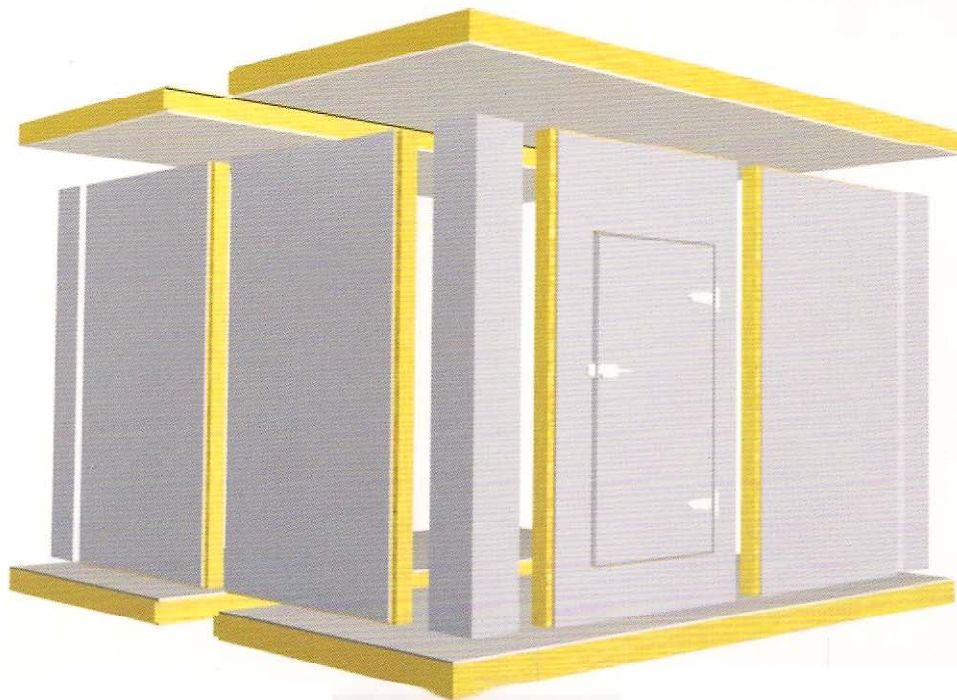
II 型组装式冷藏库适用于冷藏区域空间较大、且无复杂周边结构的大中型船舶。

TYPE II FABRICATED COOLING CHAMBER IS COMPOSED OF PREFABRICATED PANEL AND OTHER FITTINGS WITH ADVANTAGE OF EASY ASSEMBLING, TIGHTEN CONNECTION AND NO CORNER PROFILES. THE PANEL AND DOOR FRAME TO BE CONNECTED TO EMBEDDED PIECES. THE SPACE INSIDE DOOR FRAME TO BE FOAMED UP TO A INTEGRATED MASS OF PANEL WITH EXCELLENT SEALING PROPERTY AND APPEARANCE.

OUR COMPANY TAKES CHARGE IN DETAIL DESIGN, MANUFACTURING AND WORKSHOP PRE-FABRICATION, AS WELL AS ASSEMBLY INSTRUCTION ONBOARD.

ALL PANELS AND FITTINGS ARE MANUFACTURED AND FABRICATED IN WORKSHOP, EXCEPT NECESSARY OPENING, GENERALLY MODIFICATION IS NOT ALLOWED, SO ASSEMBLE ACCORDING TO DESIGNED DIMENSION AND LAYOUT ARE STRONGLY RECOMMENDED

TYPE II FABRICATED COOLING CHAMBER IS SUITABLE FOR LARGE / MIDDLE VESSEL WITH BIG REGULAR COOLING ENCLOSURE SPACE.



冷库示意图
COOLING CHAMBER SKETCH

本公司生产的冷库设备先进，工艺流程严格，技术质量保证，经海军医学研究检测中心按国家标准检测符合卫生要求。本公司多年生产的 I 型不锈钢复合板冷库、II 型组装式冷库、III 型整体式冷库单元深受各大船厂及船东的欢迎。

WE HAVE ADVANCED EQUIPMENT AND STRICT CONTROL OF TECHNOLOGY AND QUALITY FOR THE PRODUCT OF REFRIGERATING CHAMBER. TESTING REPORT BY NAVAL MEDICAL RESEARCH & TEST CENTER INDICATES THAT OUR PRODUCT HAS MET NATIONAL HYGIENIC STANDARD.

FOR REFRIGERATING CHAMBER, THE TYPE I COMPOUND PLATE, TYPE II READY-FOR-ASSEMBLY PLATE AND TYPE III INTEGRAL UNIT MADE BY OUR COMPANY ARE WELCOME BY BOTH SHIPYARD AND SHIPOWNER.

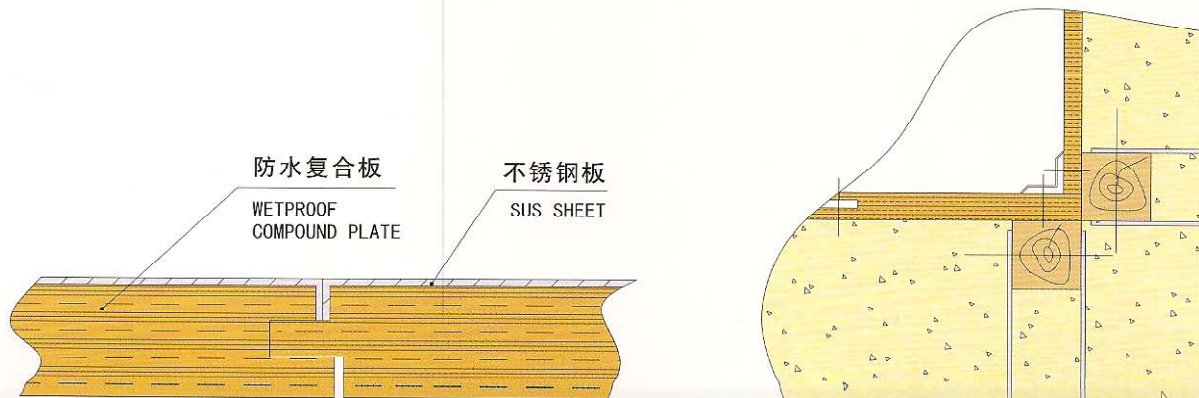
一、冷库板

PLATE FOR REFRIGERATING CHAMBER

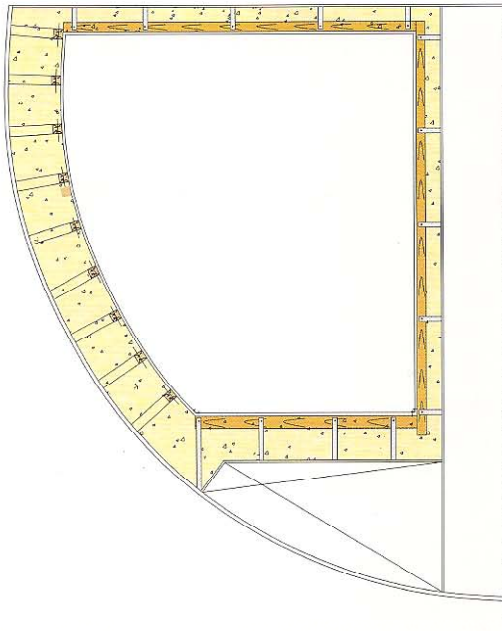
1、I 型不锈钢复合板

TYPE I SUS COMPOUND PLATE

名称 NAME	材料组成 MATERIAL COMPOSITION	标准规格 STANDARD SIZE	重量 WEIGHT	绝缘层材料任选 INSULATION MATERIAL
壁板 WALL	面板: 0.7mm SUS 304 Surface: 0.7mm sus 304	2440 × 590 × 13	14.1 kg/m ²	聚氨 硬质泡沫 Polyurethane hard foam or 岩棉 Rocky wool or 陶瓷棉 Ceramic wool or 软木 Cork
顶板 CEILING	衬板: 12mm 防潮胶合板 Underlay: 12mm wetproof plywood	L × B × T		
地板 FLOOR	面板: 1.2mm SUS 304 Surface: 1.2mm sus 304 衬板: 18mm 防潮胶合板 Underlay: 18mm wetproof plywood	2440 × 590 × 20 L × B × T	22.3 kg/m ²	



安装节点
INSTALLATION DETAILS



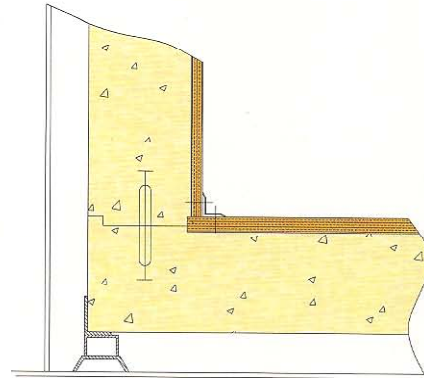
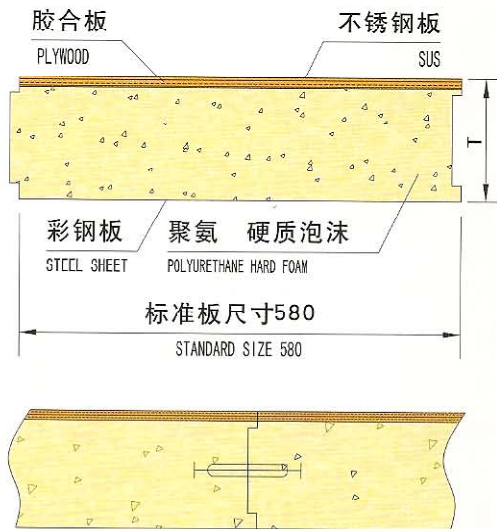
I 型不锈钢复合板一般适用于冷藏区域空间狭小以及外围壁线形变化小的小型船舶。

TYPE I SUS COMPOUND PLATE ARE USED FOR THE REFRIGERATING CHAMBER WHICH LOCATS IN A NARROW SPACE AND SHAPED SHELL SPACE ON SMALL VESSEL

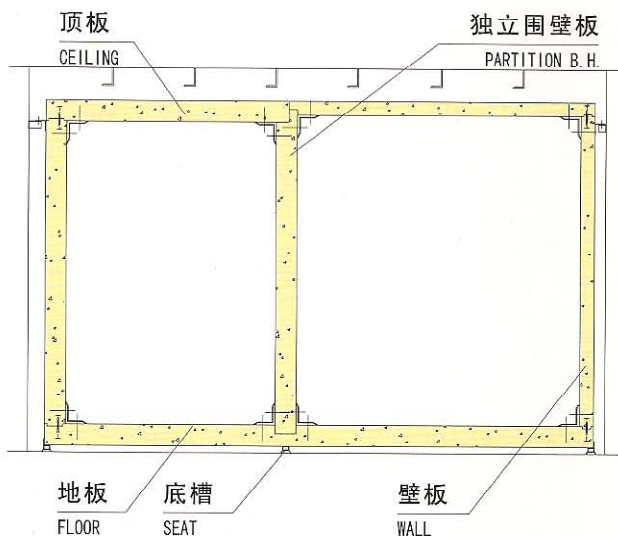
2、II 型组装式冷库板

TYPE II READY-FOR-ASSEMBLY PALTE

名 称 NAME	材料组成 MATERIAL COMPOSITION	标准规格 STANDARD SIZE	厚度 THICKNESS	重量 WEIGHT
壁 板 WALL	面板: 0.7mm SUS 304 衬板: 12mm 防潮胶合板 芯材: 阻燃硬质聚氨 泡沫 背板: 0.75 mm 彩钢板 Surface plate: 0.7mm sus 304 Underlay plate: 12mm wetproof plywood Core material: fire retardant polyurethane hard foam Back palte: colored steel plate 0.75mm	2440 × 580 × T	T=80 mm	23 kg/m ²
			T=100 mm	24 kg/m ²
顶 板 CEILING	Underlay plate: 12mm wetproof plywood Core material: fire retardant polyurethane hard foam Back palte: colored steel plate 0.75mm	L × B × T	T=120 mm	25 kg/m ²
			T=150 mm	26 kg/m ²
地 板 FLOOR	面板: 1.2mm SUS 304(防滑) 衬板: 18mm 防潮胶合板 芯材: 阻燃硬质聚氨 泡沫 背板: 0.75 mm 彩钢板 Surface plate: 1.2mm sus 304 (antislip) Underlay plate: 18mm wetproof plywood Core material: fire retardant polyurethane hard foam Back palte: colored steel plate 0.75mm	2440 × 580 × 150 L × B × T	T=150 mm	35 kg/m ²
独立围壁 PARTITION BULKHEAD	面板: 0.7mm SUS 304 衬板: 12mm 防潮胶合板 芯材: 阻燃硬质聚氨 泡沫 背板: 0.7 mm SUS 304 衬板: 12mm 防潮胶合板 背板: 0.7 mm SUS 304 Surface plate: 0.7mm sus304 (antislip) Underlay plate: 12mm wetproof plywood Core material: fire retardant polyurethane hard foam Underlay plate: 12mm wetproof plywood Back palte: 0.7mm sus304	2440 × 580 × 150 L × B × T	T=150 mm	34 kg/m ²



安装节点
INSTALLATION DETAILS



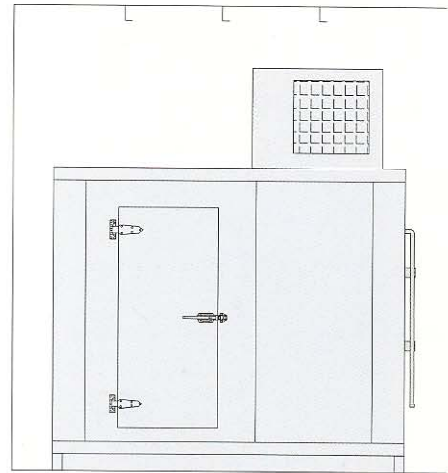
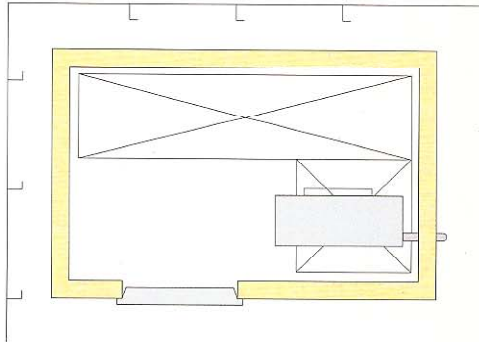
聚氨酯硬质泡沫的性能 PROPERTY OF POLYURETHANE HARD FOAM	
密度 DENSITY	40-50 kg/m ³
导热系数 HEAT CONDUCTIVITY FACTOR FACTOR	≤ 0.023 w/m.k
抗压强度 COMPRESSION STRENGTH	≥ 20 N/cm ²
抗弯强度 BENDING STRENGTH	≥ 24 N/cm ²
吸水率 WATER ABSORPTION	≤ 3 g/100cm ²
自熄性 SELF-EXTINGUISHING	< 2 S
毒性: 具有海军医学研究所合格检测报告 POISONOUSNESS: QUALIFICATION TESTING REPORT OF NAVAL MEDICAL RESEARCH INSTITUTE IS AVAILABLE	

本公司负责冷库的施工设计、制作和安装。根据不同的使用部位确定总厚度。一般为80、100、120、150mm 几种规格，分别用于缓冲间、蔬菜库、鱼肉库的壁板、顶板和地板。高度的确定一般应在标准板最大高度2440mm以内。

OUR COMPANY CAN COMPLETE FOR CUSTOMER THE CONSTRUCTION DESIGN, PREFABRICATION AND INSTALLATION. THE PLATES TO BE USED CAN BE 80mm, 100mm, 120mm AND 150mm ACCORDING TO DIFFERENT POSITION, WHICH IS USED FOR WALL, CEILING AND FLOOR AT LOBBY ROOM, VEGETABLE ROOM AND MEAT ROOM. HEIGHT TO BE WITHIN STANDARD SIZE OF 2400mm.

二、整体式冷库单元

INTEGRAL REF. UNIT



可根据用户要求提供不同规格的整体式冷库单元。其包括箱体，冷库机组，冷风机，冷库搁架及其它配件。该冷库单元应在船舶封舱之前吊至安装部位，冷库与船体围壁之间应留有足够的空间。

ON DEMAND OF CUSTOMER, WE CAN OFFER VARIOUS SIZE INTEGRAL COLD STORAGE UNIT, INCLUDING UNIT CASE, REFRIGERATING UNIT, AIR COOLER, STORAGE SHEVES AND OTHER FITTINGS. COLD STORAGE UNIT SHALL BE LOADED BEFORE CABIN IS CLOSED. SUFFICIENT SPACE TO BE KEPT AROUND THIS UNIT.

三、冷库门

COLD STORAGE DOOR

1、不锈钢冷库门

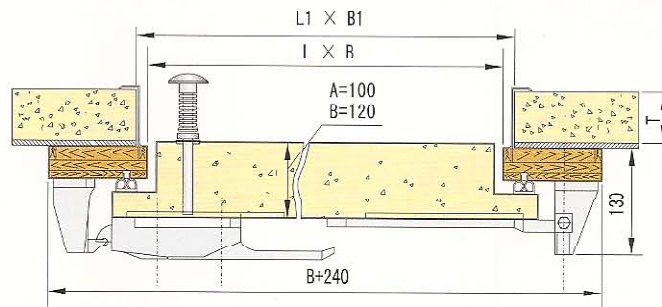
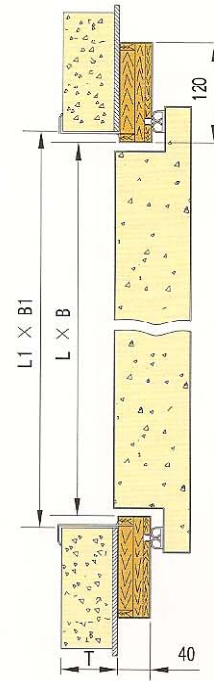
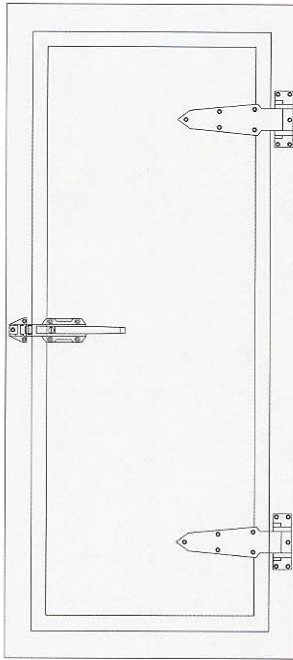
STAINLESS STEEL COLD STORAGE DOOR

安装部位 LOCATION	名称型号 PRODUCT	轻质冷库门 Q LIGHT COLD STORAGE DOOR	普通冷库门 P ORDINARY COLD STORAGE DOOR	防火冷库门 F FIRE PROOF STORAGE DOOR	
				A0	A60
保鲜库 FRESH ROOM	A	A	A	A	
蔬菜库 VEGETABLE RM.					
粮食库 PROVISIONS RM.					
冷藏库 FREEZING ROOM	B	B	B	B	

2、轻质冷库门

LIGHT COLD STORAGE DOOR

262WHL017A-00



通孔尺寸 DOORWAY SIZE L × B	围壁开孔尺寸 B. H. OPENING L1 × B1	木 作 JOINT DETAILS T	门 厚 DOOR LEAF DEPTH		开启方向 OPENING DIRECTION	重 量 kg WEIGHT	
			A	B		A	B
1650 × 600	1680 × 630	设计者定 BY DESIGNER	100	120	左外 ZW LEFT-OUT	82.1	83.6
1650 × 700	1680 × 730				右外 YW RIGHT-OUT	88.8	90.3
1650 × 800	1680 × 830					95.5	97.0

注：A——非溶冰型 B——溶冰型 设定T=200mm 计算重量

A—WITHOUT DEFROSTING HEATER

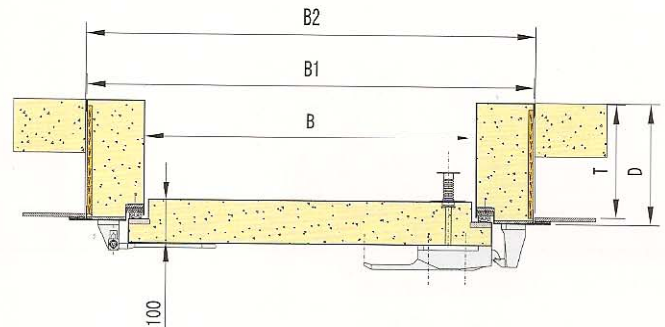
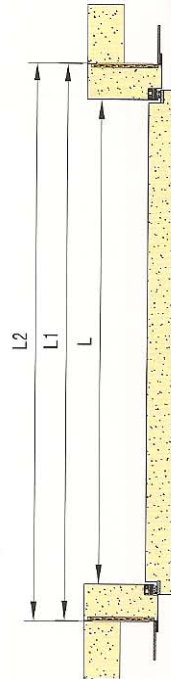
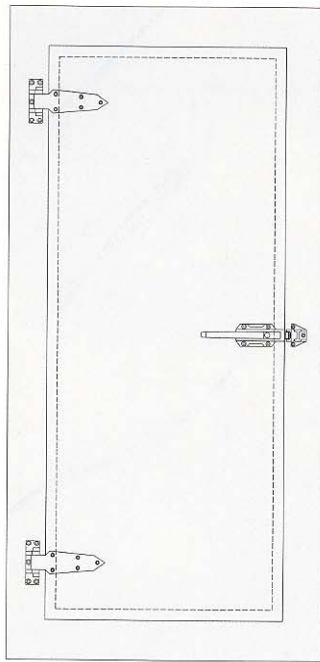
B—WITH DEFROSTING HEATER

THE WEIGHT IS CALCULATED AT T=200mm

3、普通冷库门

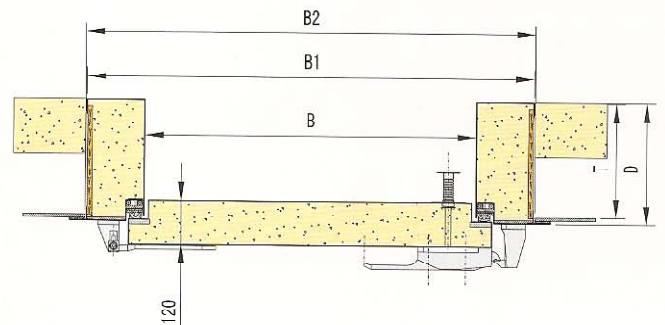
COLD STORAGE DOOR

262WHL017-00



A型 (非溶冰型)

A--WITHOUT DEFROSTING HEATER



B型 (溶冰型)

B--WITH DEFROSTING HEATER

通孔尺寸 DOORWAY SIZE L × B	外框尺寸 FRAME SIZE L1 × B1	围壁开孔尺寸 B. H. OPENING L2 × B2	框 深 FRAME DEPTH D	门 厚 DOOR LEAF DEPTH		开启方向 OPENING DIRECTION	重 量 WEIGHT kg
				A	B		
1000 × 500	1240 × 740	1245 × 745	D=T + 20	100	120	左外 ZW LEFT-OUT	95
1500 × 500	1740 × 740	1745 × 745					108
1650 × 600	1890 × 840	1895 × 845					121
1650 × 700	1890 × 940	1895 × 945				右外 YW RIGHT-OUT	128
1650 × 800	1890 × 1040	1895 × 1045					142

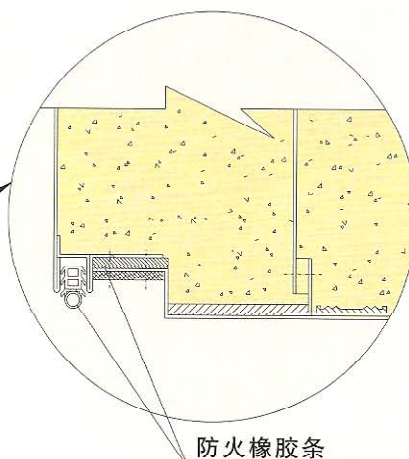
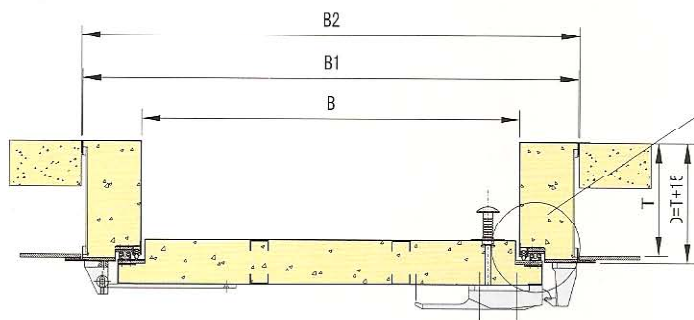
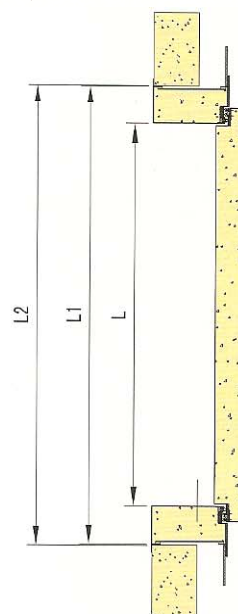
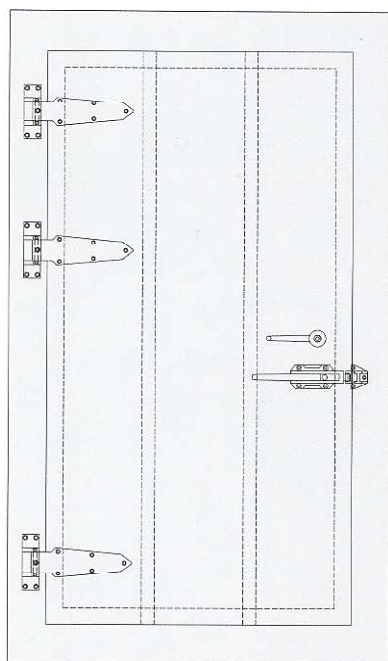
注：重量为D=195mm时计算结果

THE WEIGHT IS CALCULATED AT T=195mm

4、防火冷库门 (A0、A60)

FIREPROOF COLD STORAGE DOOR

262WHL017F-00



防火橡胶条

FIRE EXPANSION
RUBBER

mm

通孔尺寸 DOORWAY SIZE L × B	外框尺寸 FRAME SIZE L1 × B1	围壁开孔尺寸 B. H. OPENING L2 × B2	框 深 FRAME DEPTH D	开启方向 OPENING DIRECTION	重 量 kg WEIGHT			
					A0		A60	
					A	B	A	B
1650 × 600	1900 × 850	1905 × 855	D=T + 15	左外 ZW LEFT-OUT	126	129	132	136
1650 × 700	1900 × 950	1905 × 955			133	136	138	143
1650 × 800	1900 × 1050	1905 × 1055		右外 YW RIGHT-OUT	147	151	152	157

四、搁架（不锈钢、铝质、钢质）

SHELVES (STAINLESS STEEL 、 ALUMINIUM 、 STEEL)

搁架一般均以不锈钢管组成，分为两层或三层。搁架的底部与地板紧固，上部与顶板连接，必要时增加与壁板的连接。

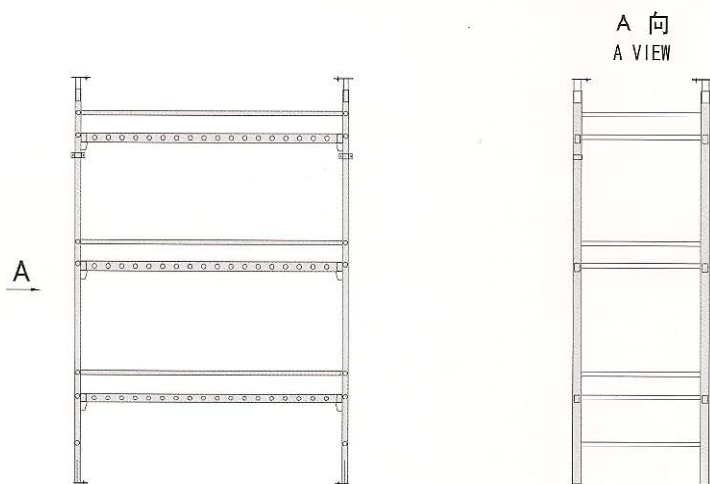
搁架按材料可分不锈钢搁架、铝合金搁架及钢质搁架，按型材可分方管搁架和圆管搁架。客户根据需要选择不同形式的搁架。

SHELVES, WHICH CAN BE TWO LAYERS TYPE OR THREE LAYERS TYPE, ARE MOSTLY MADE OF STAINLESS STEEL. THE ROOTS OF SHELVES ARE FIXED TO FLOOR, AND UPPER END TO CEILING. CONNECTIONS TO BULKHEAD ON DEMAND IF NECESSARY.

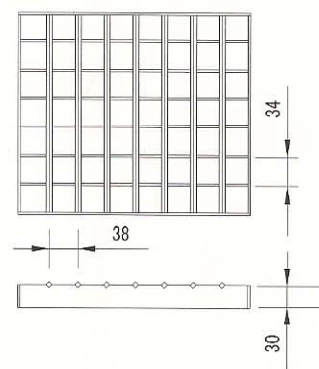
SHELVES CAN BE CLASSIFIED INTO STAINLESS STEEL TYPE, ALUM. TYPE AND STEEL TYPE BY MATERIAL, AND SQUARE PIPE TYPE AND ROUND PIPE TYPE BY SHAPE.

构件名称 COMPONENT NAME	材 料 MATERIAL	规 格 SIZE OR SPE.	备 注 REMARK
立柱 STANCHION	不锈钢 STAINLESS STEEL	○ 32 × 2 □ 30 × 30 × 2	
	铝质 ALUMINIUM	○ 38 × 3 □ 38 × 38 × 3	
	钢质 STEEL	○ 38 × 2 □ 40 × 40 × 2	饰面为涂塑 PLASTIC SPRAYED SURFACE
横档 CARRYING BEAM	不锈钢 STAINLESS STEEL	□ 50 × 25 × 2	
	铝质 ALUMINIUM	□ 50 × 25 × 3	
	钢质 STEEL	□ 50 × 25 × 2	饰面为涂塑 PLASTIC SPRAYED SURFACE
档杆 STAY ROD	不锈钢 STAINLESS STEEL	□ 32 × 16 × 2	
	铝质 ALUMINIUM	□ 32 × 16 × 3	
	钢质 STEEL	□ 32 × 16 × 2	饰面为涂塑 PLASTIC SPRAYED SURFACE
托板 TRAY PLATE	不锈钢 STAINLESS STEEL	□ 冲孔凹凸 PUNCHING t=1.5 t=1.5	
	铝质 ALUMINIUM	□ 冲孔凹凸 PUNCHING t=2.0 t=2.0	
	钢质 STEEL	板条 t=2.0 方钢 6×6 STRIP t=2.0 SQUARE BAR 6×6	饰面为涂塑 PLASTIC SPRAYED SURFACE
	钢质 STEEL	□ 冲孔凹凸 PUNCHING t=1.5 t=1.5	

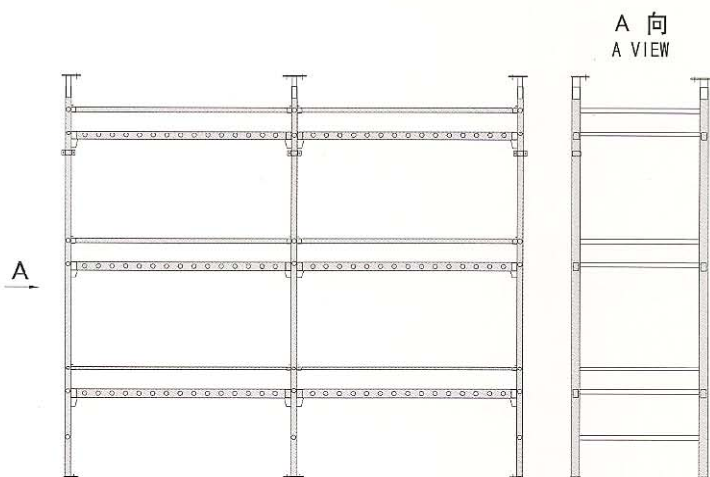
单 联
SINGLE UNIT TYPE



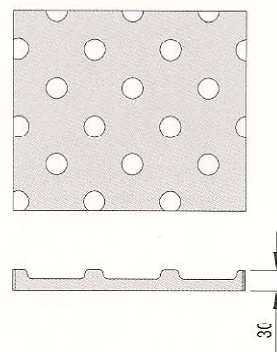
板条、方钢
STEEL STRIP, SQUARE BAR
t=2 $\diamond$ 6 24Kg/M²



双 联
DOUBLE UNIT TYPE



冲孔凹凸
PUNCHING TRAY
t=1.5 12Kg/M²

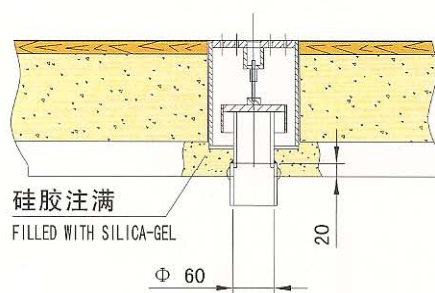


五、冷库配套件

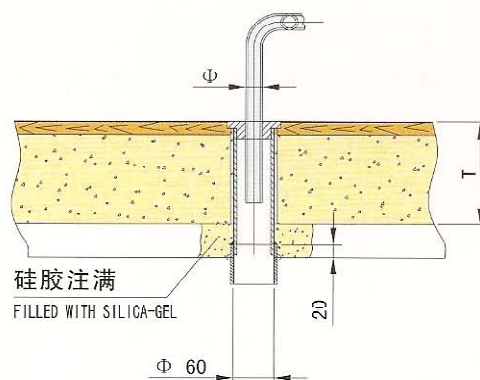
FITTINGS FOR REFRIGERATING CHAMBER

序号 NO.	名称 NAME	结构形式 STRUCTURE	规格型号 SPE. AND MODEL
1	冷库地漏 CHAMBER DRAINAGE	组合件 ASSEMBLY	
2	风机地漏 AIR CLOOER DRAINAGE	组合件 ASSEMBLY	
3	风机吊架 AIR CLOOER HANGER	组合件 ASSEMBLY	
4	臭氧装置吊架 OZONIZER HANGER	组合件 ASSEMBLY	
5	顶板吊梁 CEILING HANGER	组合件 ASSEMBLY	
6	冷排管固定架 COND. WATER FIXING PIECE	组合件 ASSEMBLY	
7	不锈钢吊肉架 SUS MEAT HANGING RACK	组合件 ASSEMBLY	
8	不锈钢挂肉钩 SUS MEAT HANGING HOOK		
9	不锈钢托盘 SUS TRAY		
10	带加热装置地面落水口 DRAIN WITH HEATING	组合件 ASSEMBLY	
11	地面落水口压板 DRAINAGE COVER		
12	电缆、冷管压板 COVER OF CABLE AND COND. WATER PIPE	组合件 ASSEMBLY	
13	电缆贯通件 CABLE PENETRATING PIECE	组合件 ASSEMBLY	
14	冷凝管贯通件 COND. WATER PIPE PENETRATING PIECE	组合件 ASSEMBLY	SUS304 t=1.2
15	不锈钢角条 SUS CORNER BAR		
16	底槽 FLOOR TROUGH		
17	自动冲泡剂 AUTO. FOAMER		聚氨 POLYURETHANE
18	密封胶 SEALING LUTE		符合食品要求 MEET FOOD REQUIREMENT
19	支撑杆 SUPPORT		
20	不锈钢自攻螺钉 SUS SELF-TAPPING SCREW		M4 × 16

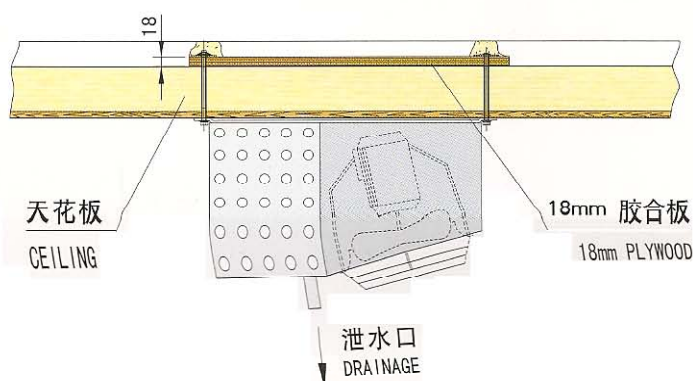
冷库地漏
CHAMBER DRAINAGE



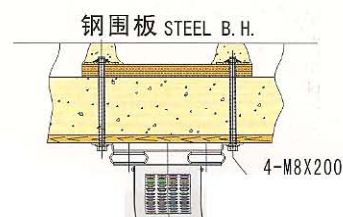
风机地漏
AIR COOLER DRAINAGE



风机吊架
AIR COOLER HANGER



臭氧装置吊架
OZONIZER HANGER

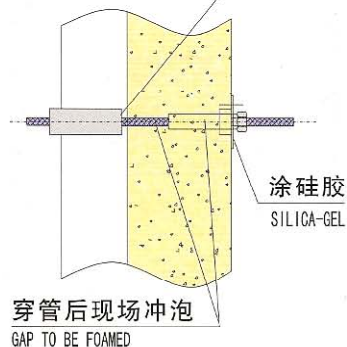


冷凝管贯通（钢围壁）

COND. WATER PIPE PENETRATING
(FOR STEEL WALL)

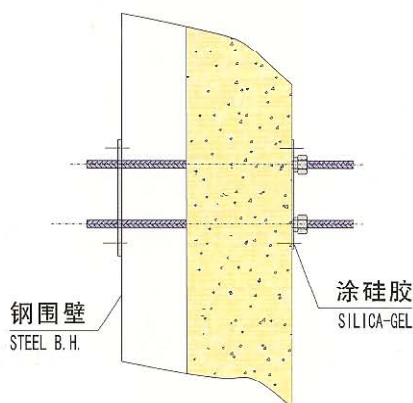
冷管+20（船厂提供）

BY YARD



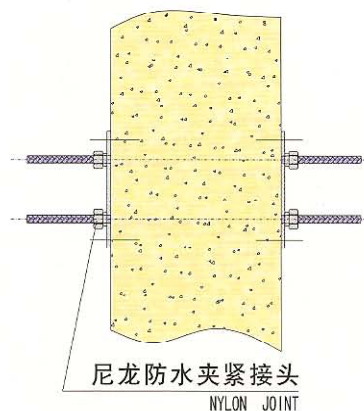
电缆贯通（钢围壁）

CABLE PENETRATING
(FOR STEEL WALL)



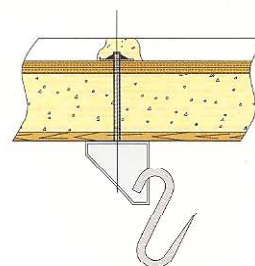
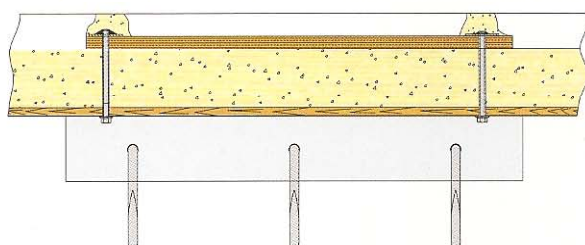
冷凝管、电缆贯通（分隔板）

COND. WATER PIPE/CABLE PENETRATING
(FOR SEPARATING PLATE)



吊肉架、挂肉钩

SUS MEAT HANGING RACK/HOOK



本公司冷库安装前需要船厂配合完成以下项目：	BEFORE STARTING COLD STORAGE WORK, SHIPYARD SHALL FOLLOWING WORK:
1、安装冷库区域船体结构应完整，并交验合格	1. ALL STEEL WORK IN COLD STORAGE AREA TO BE COMPLETED
2、冷库区域密性试验交验合格	2. TIGHTNESS TEST IN COLD STORAGE AREA TO BE FINISHED
3、地面落水口及通舱件完工	3. DRAINAGES AND CONCERNED PENETRATING PIECES TO BE ALL INSTALLED
4、围壁和顶部各通舱件、焊接件完工	4. DRAINAGES PENETRATING PIECES AND WELDING PIECES ON WALL AND CEILING TO BE ALL FINISHED
5、电缆、风管等安装完毕	5. ELECTRIC CABLE AND AIR DUCT TO BE ALL FINISHED
6、必要的绝缘和敷料铺设完工	6. NEEDED INSULATION AND COMPOSITION TO BE FINISHED
7、冷库区域油漆完工，并交验合格	7. ALL PAINTING TO BE FINISHED
8、冷库区域垃圾清扫完毕	8. CLEAN WORK IS FINISHED.
9、船东及设计部门确认无增补项目	9. BE SURE NO SUPPLEMENT FROM SHIPOWNER AND DESIGN SIDE

Su seguro aliado

Your reliable ally



De la Pinilla, 91
28023 Madrid – SPAIN
Tel. +34 617 481 349
Fax +34 913 079 421
asmain@asmain.com
www.asmain.com