TECHNICAL SPECIFICATION

FOR

PLATFORM

20' x 8' x 263mm ISO
(Steel Floor)

MODEL NO : **CX15-20PF01**

SPEC. NO : **CX15-20PF01-S**

DATE OF ISSUE : **May 29, 2015**

PREFACE

This specification covers design , construction , materials , testing , inspection and prototype container. The platform is built in accordance with the requirements of I.S.O. and platform-based containers by .

CONTENTS

1.0 GENERAL

1.1 Description

The platform containers are ideal for use in and/or operations and transporting awkward or oversize loads which cannot be carried in conventional containers. They will be constructed mainly with "I" beams and L crossmembers. eleven units are stacked into 9'-6" in overall height.

1.2 Operational environment

The platforms will be suitable for use on sea, road and rail as envisaged by ISO 3874: 1988 (E).

1.3 Handling

The platforms will be constructed to be lifted and handled by means of equipment which utilize the ISO castings for attachment, no other means of attachment being provided. When lifting the platforms by means of the corner casting, the lifting forces must be applied strictly vertically through the top corner casting by means of a spreader. When lifting the platforms by means of slings, the lifting slings must be by slings of the appropriate type at a sling angle of 45 degrees attached to the bottom corner castings only.

1.4 ISO Standards

The platforms will be built generally in accordance with the following documents but varied according to agreed design criteria.

1.4.1 ISO 668-1995 (E) - Series 1 freight containers – External dimensions and ratings.

1.4.2 ISO 1496 part 5 - Series 1 freight containers – Specification and testing for Platform containers

1.4.3 ISO 1161-1984 (E) - Specification of corner fittings for series 1 freight containers.

1.4.4 ISO 6359-1982 (E) - Freight containers-consolidated data plate.

1.4.5 ISO 6346-1995 -Coding, identification and marking for freight containers.

1.4.6 ISO 12944/5 -1998 Paint Protection Systems

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1.5 Certification

The platform will be constructed in accordance with the applicable standards and requirements set forth by the following societies:

1.5.1 The International Convention for Safe Containers (CSC)

1.6 Classification Society

The platforms will be certified by Classification Society (BV) in design and inspection during its production.

2.0 DIMENSIONS AND RATINGS

2.1 Dimensions

The platforms are built to the following dimensions and tolerances, but the reads must refer to the drawings to determine the shape of the platform and its suitability for cargo.

2.1.1 External dimensions

Length: 6,058 mm +0,- 6 (Base bottom casting)
Width: 2,438mm +0,- 5 (Base bottom casting)
Height: 263mm +0,- 3 (Bottom casting to top of the floor)
Camber: 25 (+5, 0) mm
Stack height: 11 into 2,896mm (9'-6")+0,- 5

2.1.2 Forklift Pockets

Width : 360mm
Height : 115mm

Centres: 2,050mm

2.2 Tare Weight （ Design estimate）

1,900 kg (4,190 lbs), -2%~+2% tolerance

2.3 Gross Weight

ISO Gross Wt. : 24,000 kg (52,910 lbs)
Maximum Gross Wt. : 24,000 kg (52,910 lbs)

2.4 Payload

ISO Payload: 22,100 kg (48,720 lbs)
Maximum Payload (UDL): 22,100 kg (48,720 lbs)

2.5 Lashing Bars

Maximum allowable load: 3,000 kg

2.6 Concentrated Load

20,000 kg(44,100 lbs.)—Evenly distributed over center 2 meters.

3.0 TESTING CRITERIA

3.1 The proposed criteria table for general prototype testing:

Test No.	Test Load	Method
a. Stacking	Internal Load : 1.8 R - T Test Load : 86,400 Kgf/Post	Hydraulic cylinder load to corner post through top corner fittings . Time duration : 5 mins .
b. Lifting from Top Corner Fittings	Internal Load : 2R—T	Lifting vertically from top corner fittings . Time duration : 5 mins
c. Lifting from Bottom Corner Fittings	Internal Load : 2R—T	Lifting from bottom corner casting 45 degrees to horizontal. Time duration : 5 mins
d. Restraint (Longitudinal)	Internal Load : R—T Test Force: 2R(R/ Each Side)	Hydraulic cylinder load to bottom side rail in compression then in tension Time duration : 5 mins
e. Floor Strength	Test Load : 2×2,730 Kgs	Use of a special truck wheel width: 180mm Wheel centre distance: 760mm Total contact area: 284mm^2

f1 Concentrated load	Internal Load: 1.8P'-T (P'=20,000kg)	A concentrated load over center 2 meters of the base. Lifting deflection to be within ISO limits.
g. Fork pocket lifting		Internal load=1.6R-T Lifting by horizontal bars Bar length :1,828mm; Bar width :200mm;
h. Lashing hoop		Test load 4,500Kg

* Note:
R - Maximum gross weight
T - Tare weight
P - Maximum payload

4.0 STRUCTURAL MATERIAL

4.1 Steel Used In Construction

4.1.1 Standards The following types of steel or their equivalents will be used in the construction:

Components	Material(or equivalent)
Corner fittings	SCW480
Side rails	Corten A and SM 50A or SM50YA or Q345B
End sills	Corten A or SM 50A or SM50YA or Q345B
Fork lift pockets	SPA-H
Floor	SS41

4.1.2 Mechanical Properties of the steel used

Type	Tensile Strength	Yield Strength
SS 41	41 kg/mm²	25 kg/mm²
SM50A/ Q345B	50 kg/mm²	33 kg/mm²
SM50YA	49 kg/mm²	36 kg/mm²
Corten A	49 kg/mm²	35 kg/mm²
SCW480	49 kg/mm²	28 kg/mm²

4.2 Corner Fitting

The cast steel corner fittings will comply with ISO-1161 standard, weldable, and in SCW480 or equivalent.

4.3 Flooring

Chequer plates : base thickness: 6 mm

5.0 CONSTRUCTION DETAILS

5.1 General

The container will be constructed with a base and two end sill assemblies, with ISO corner fittings at its corners and four twistlocks at its four top corner for interlocking.

All steelwork will be built up by means of automatic and semi - automatic CO2 gas arc welding (MAG welding).

All the welds, even spots, should have full penetration without undercutting or porosity.

The internal bend radius of the pressed section of the steel will not be less than 1.5 times the thickness of the material being pressed.

5.2 Corner Fittings

Corner fittings will be designed in accordance with ISO/1161 standard, and manufactured at the work approved by the Classification Society.

5.3 Base Frame

The base frame will be composed of two (2) bottom side rails, a number of cross members, fork pocket for empty, which are welded together as a sub-assembly.

5.3.1 Bottom side rail Each bottom side rail is a "工" beam fabricated by high strength steel.

5.3.2 Crossmember

The crossmembers are composed of a number of pressed angle section which are placed at certain center distance. Thickness: 4.5 mm.

5.4 Twistlocks

ISO style twistlocks will be provided at each of the 4 corners. The twistlocks will be permanently attached to the container and be able to be pivoted through a slot adjacent to the top lift aperture. Twistlocks shall have detent springs to hold them in the unlocked and locked positions. The springs comprise flat stainless steel strip - Not ball and spring detents. The twistlock shall have an operating torque of approximately 50 kg.cm.
Twistlock operation will be possible from both the end and side with one or other being performed by hand.
Each twistlock shall be rated at 15 tonnes tension and 7.5 tonnes shear to withstand ISO racking forces acting on a stacked module of folded containers.

5.5 Surface Preservation

Painting is used for platforms supplied by **Hempel, KCC, Kansai, MEGA or Chugoku.** After removal of grease, oil soluble salts, dust etc., all steel surfaces are to be abrasive blasted to a minimum SA 2.5 No. 3, BN9a.

The complete paint system as detailed below to be applied without delay in accordance with the Paint Manufactures recommendations.

All steelwork:

Process	Paint Name	DFT (μ)
All Surface	Epoxy zinc rich primer,	30
	Epoxy primer,	40
	Acrylic topcoat,(blue Macs colour CSC 7129)	40
	Total :	**110**

Note: Primer colour should be distinct from that of topcoat and substrate steel.
all recess areas for lashing rings & etc have to be zinc brush touched up first just before 2nd zinc priming.
3.) Zinc primer to have a minimum zinc dust content of 80 % by mass (M/M) as described in ISO 12944/5 :
1988 (E), chapter 5, para 5.2 DSC test
the content of zinc dust in zinc rich epoxy primer is to be at the least over 77% by weight of the total solid
in accordance with SSPC #20.
the metallic zinc content analyzed by DSC machine must be NO less than 68 % in accordance with ASTM 6580-88.
DSC test is conducted by the inspection company nominated by Macs

5.6 Markings and Decals

All decals are self adhesive and manufactured from 3M-V0008, Meyercord 72A-02 or USA's Avery XL series/AC/90# cast vinyl decal film. Each platform is fitted with the following markings and decals

Description	quantity
Owner's code and serial numbers	4
Size and type code	4
Weight decal	1
Consolidated plate	1
Owner's side logo	2
CXIC decal	1

5.7 Permanent identification

Owner's and builder's manufacturing serial numbers are stamped in to the rear bottom corner castings.

5.8 Consolidated data plate

A consolidated data is fitted made from stainless steel with etched lettering and permanently affixed to the end sill by stainless steel blind rivets and sealed with sealant. The data will contain CSC, Owner's and s information.

5.9 Special paint markings

The following items shall be painted yellow to assist in their identification and correct operation: Twistlock handles on the 25mm wide edge.

6.0 TESTING AND INSPECTION

6.1 Materials and Parts Inspection

All materials and parts will be inspected by the Q.C. to ensure they meet with the specified standards called for in the design.

6.2 Prototype and mass production

A prototype platform will be manufactured in accordance with this specification and tested to the satisfaction of the buyer in accordance with I.S.O. recommendations and the buyer's requirements under the supervision of the nominated Classification Society's Surveyor and in accordance with Classification Society's rules. The Classification Society to issue Prototype Test Certification if the test is completed to their satisfaction.

6.3 Production Line Quality Control

Every platform will be manufactured under effective quality control procedures to meet the specified standards. After completion, all platform will be subject to dimensional check,
operational check,

Q.C. independent of the production department will be inspecting on all phases of the production as well as ad hoc inspections by the classification society's surveyor and buyer's representatives to assure the quality of the platform meets with the standards of the design.

6.4 Welding

All welds shall be performed in accordance with the manufacturing drawings and comply with

classification society requirements. Manufacturing drawings shall be made available on site on request for inspector to check.

6.5 Owner's Quality Control Inspection

Container production shall be attended by the Buyer's own inspector and /or a duly designated inspector. The party or parties concerned shall have authority to provide directives concerning the production and quality thereof.

7.0 WARRANTY

7.1 Guarantee

shall be fully responsible under the guarantees for the design, stress calculations, materials and construction of all manufactured platform supplied to Owner.
The platform shall be guaranteed by against design, material, and construction defects, for 12 months from the date of acceptance by Owner.

7.2 Paint Guarantee

The paint system applied to the container surface shall be guaranteed against corrosion and/or paint failure for a period of five (5) years. The corrosion is defined as rusting which exceeds RE3 (European scale of degree of rusting).

The guarantee shall be applied to all the kinds of faults /failures affecting more than 10 % of the painted surface and partial or total repainting shall be assured for the container(s) at the manufacturer's expense. Normal wear/tear, or corrosion caused by acid, alkaline solution or result from damages by abrasion impact or accident are excluded.

7.3 Other Guarantees

All platforms should be guaranteed by against any defects or omissions in construction, poor workmen ship, or defective materials for 12 months. Any damages caused by mis-handling, mis-securing, mis-loading, impact and other natures of accident are excluded. The self-adhesive film Decal shall be guaranteed seven (7) years life without fading, discolouring, deformation or peeling.

shall replace, correct and install, at his own cost, all guarantee and warranty defects to the satisfaction of Owner.

Owner shall agree mutually on the survey report of classification society surveyor for proper identification and cause of the defect, and shall both accept his findings as final and binding.

8.0 DESIGN DRAWINGS

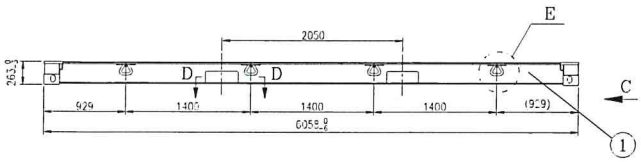
For inspection purposes, a full set of working drawings are filed with the classification society as well as being readily available to the buyer at the manufacturers premises.

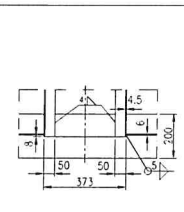
In addition drawings which are released to the buyer are general arrangement drawings complete with steel thickness of the major structure, overall dimensions and other data needed for operation and use. The drawings and Specification to be presented and approved for signature by Owner before production commences.

In order to prevent copying of platforms containers by unauthorized manufacturers, can't supply all detail drawings to the buyer and classification society.

9.0 DOCUMENTATION

The following documentation shall be submitted to the buyer in confidence.
—Copy of the prototype test report as certified by the selected classification society.
—Copy of the type approval certificate.
—As-built specification.
– submit specification and general arrangement (including marking arrangement) drawings (3 sets) .





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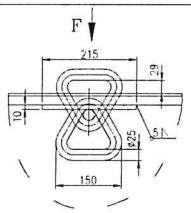

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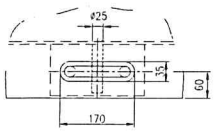

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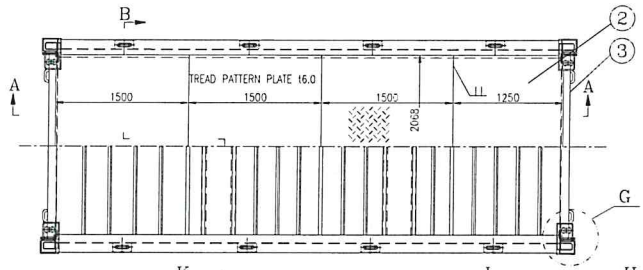

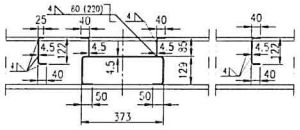

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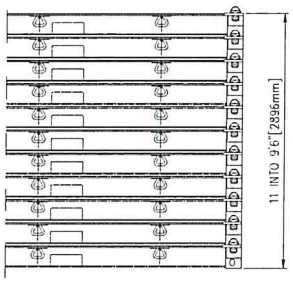

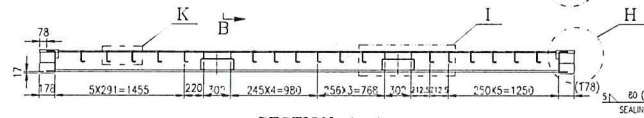

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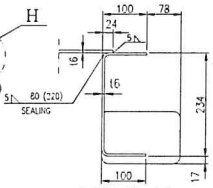

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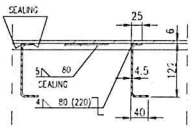

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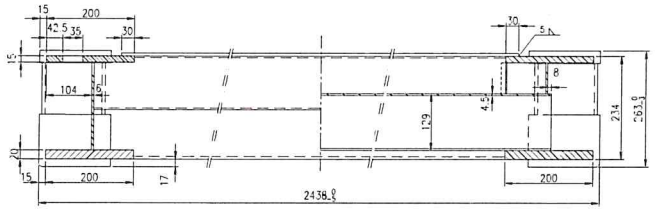

SECTION B–B

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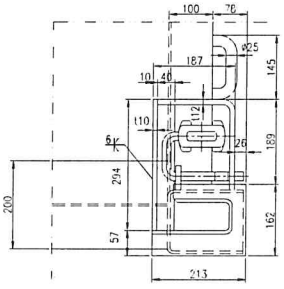

DETAIL G

NOTE:
THE SIDE RAIL MUST BE WITH 25 *$\frac{3}{8}$ LONGITUDINAL UPWARD CAMBER AT CENTER AFTER ASSEMBLY.

MAXIMUM GROSS WEIGHT		24,000	kg	52,910	LBS
TARE WEIGHT		1,900	kg	4,190	LBS
MAXIMUM PAYLOAD		22,100	kg	48,720	LBS
CLASSIFICATION		DIMENSION			

ITEM	DWG.NO	DESCRIPTION	Q'TY	MATERIAL	REMARK
3	PF15-2001-R	REAR END ASS'Y	R/H 1 L/H 1		
2	PF15-2001-G-1	STEEL FLOOR	1SET		
1	PF15-2001-B	BASE ASS'Y	1		

MARK	QTY	FILE NO.	NAME	DATE
DESIGNED			CHEN HM	
CHECKED			ZHONG SL	
APPROVED			DAVID XU	

20'平台架

PF15-2001-G

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20'PLATFORM

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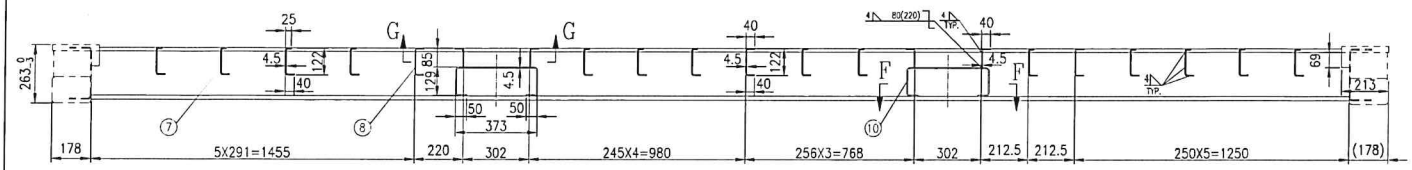

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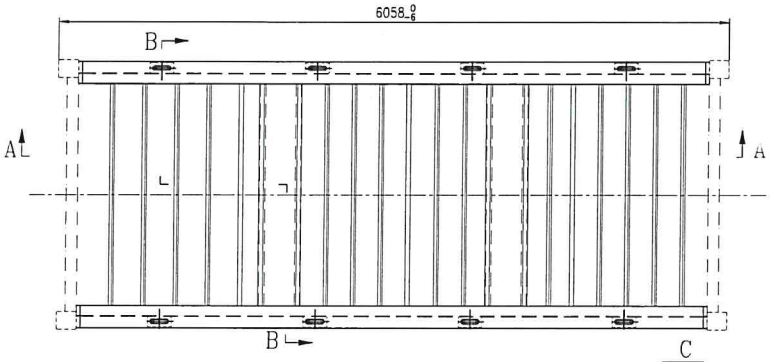

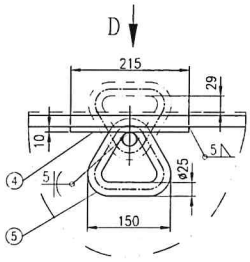

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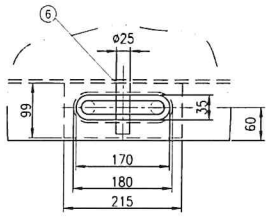

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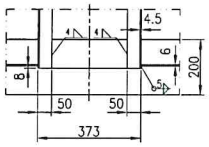

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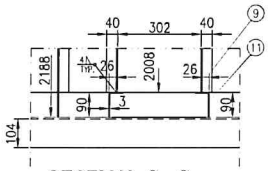

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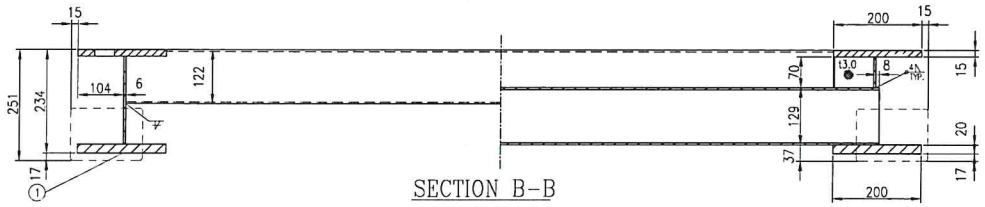
NOTE:BASE TO HAVE 25 +5 -0 MM CAMBER UPWARDS AFTER PRELOADING



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ITEM	DWG.NO.	DESCRIPTION	Q'TY	MATERIAL	REMARK
11		ANGEL STEEL	8	SPA-H t3.0X50X9G L=70	
10	2001-B-10	F.P. UPPER PLATE	2	SPA-H t4.5	
9		CROSS MEMBEP C	4	SPA-H t4.5X40X85 L=2008	
8	2001-B-8	CROSS MEMBEP B	3	SPA-H t4.5	
7	2001-B-7	CROSS MEMBEP A	14	SPA-H t4.5	
6	2001-B-6	STEEL BAR	8	SS400 Ø25X95	
5	PF-LR01	LASHING RING	8		ZINC PLATED
4	2001-B-4	STIFFER	6	SS400 t10	
3					
2					
1	2001-B-1	BOTTOM SIDE RAIL A	2		

MARK	QTY	FILE NO.	NAME	DATE
DESIGNED			CHEN HW	
CHECKED			ZHONG SL	
APPROVED			DAVID XU	

底架装配
BASE ASSEMBLY

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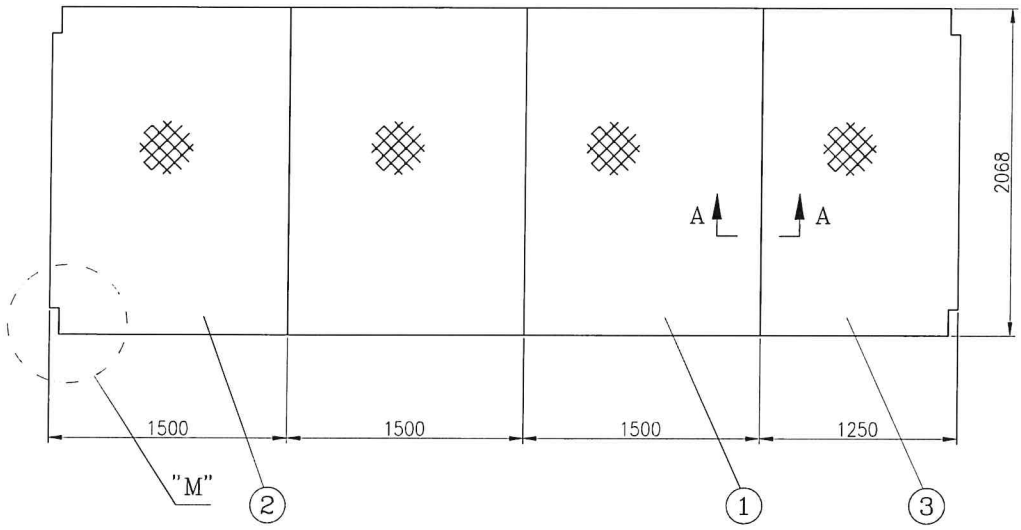

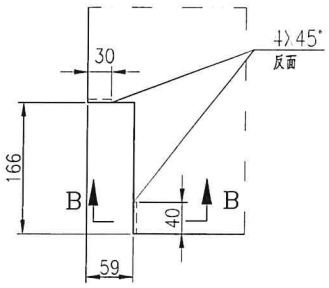

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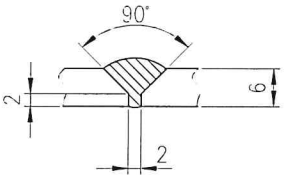

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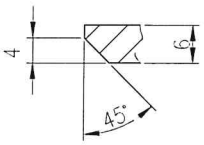

SECTION B–B

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ITEM	DWG.NO.	DESCRIPTION	Q'TY	MATERIAL	REMARK
3	2001-G-1-3	STEEL FLOOR C	1	SS400 t6.0	1250X2068
2	2001-G-1-2	STEEL FLOOR B	1	SS400 t6.0	1500X2068
1	2001-G-1-1	STEEL FLOOR A	2	SS400 t6.0	1500X2068

MARK	Q'TY	FILE NO.	NAME	DATE
DESIGNED			CHEN HM	
CHECKED			ZHONG SL	
APPROVED			DAVID XU	

花纹钢地板

STEEL FLOOR

2015-05-19

PF15-2001-G-1

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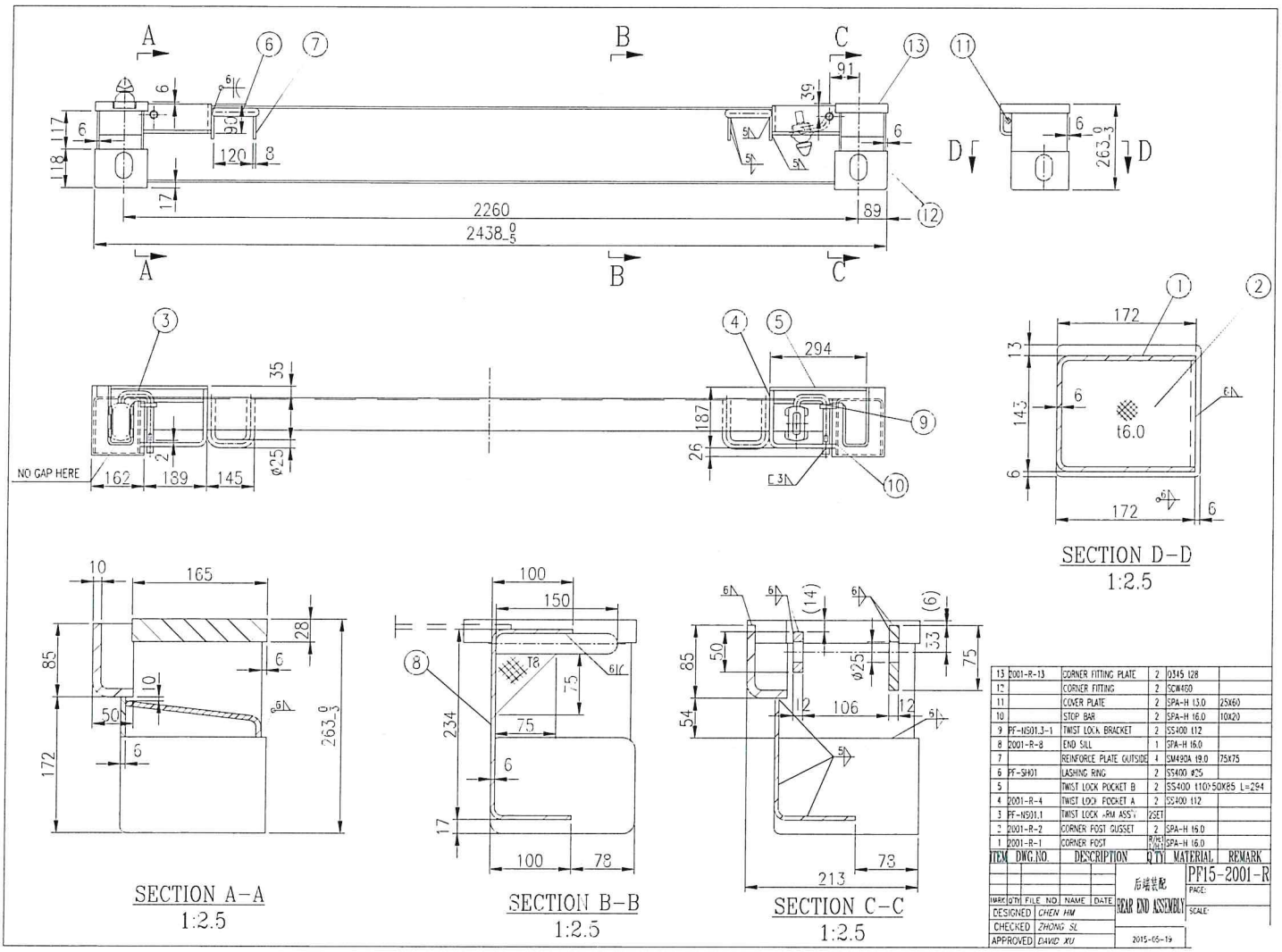

ITEM	DWG.NO.	DESCRIPTION	Q'TY	MATERIAL	REMARK
13	2001-R-13	CORNER FITTING PLATE	2	Q345 12B	
12		CORNER FITTING	2	SCW480	
11		COVER PLATE	2	SPA-H 13.0	25X60
10		STOP BAR	2	SPA-H 16.0	10X20
9	PF-NS01.3-1	TWIST LOCK BRACKET	2	SS400 12	
8	2001-R-8	END SILL	1	SPA-H 16.0	
7		REINFORCE PLATE OUTSIDE	4	SM490A 19.0	75X75
6	PF-SH01	LASHING RING	2	SS400 ø25	
5		TWIST LOCK POCKET B	2	SS400 110X50X85 L=294	
4	2001-R-4	TWIST LOCK POCKET A	2	SS400 12	
3	PF-NS01.1	TWIST LOCK ASM ASS'Y	2SET		
2	2001-R-2	CORNER POST GUSSET	2	SPA-H 16.0	
1	2001-R-1	CORNER POST	2(RH) 2(LH)	SPA-H 16.0	

MARK	QTY	FILE NO.	NAME	DATE
DESIGNED			CHEN HM	
CHECKED			ZHONG SL	
APPROVED			DAVID XU	

后端装配
REAR END ASSEMBLY

PF15-2001-R

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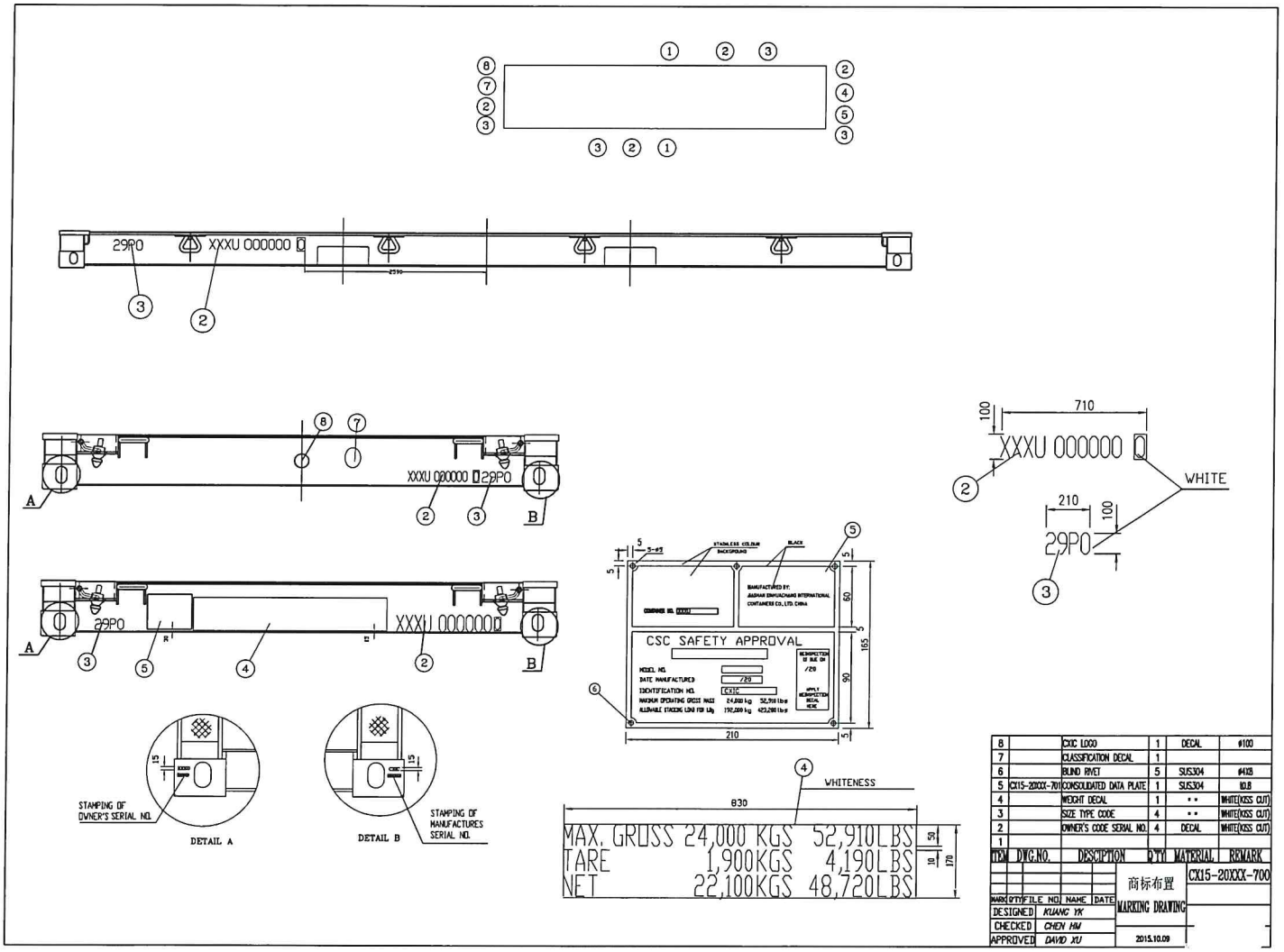
SCALE:

2015-05-19



ITEM	DWG.NO.	DESCRIPTION	QTY	MATERIAL	REMARK
8		CXIC LOGO	1	DECAL	ϕ100
7		CLASSIFICATION DECAL	1		
6		BLIND RIVET	5	SUS304	ϕ4X8
5	CX15-20XXX-701	CONSOLIDATED DATA PLATE	1	SUS304	1.0.8
4		WEIGHT DECAL	1	**	WHITE(KISS CUT)
3		SIZE TYPE CODE	4	**	WHITE(KISS CUT)
2		OWNER'S CODE SERIAL NO.	4	DECAL	WHITE(KISS CUT)
1					

MARK	QTY	FILE NO.	NAME	DATE
DESIGNED			KUANG YK	
CHECKED			CHEN HW	
APPROVED			DAVID XU	

商标布置

CX15-20XXX-700

MARKING DRAWING

2015.10.09