Technical Specification

For

8’ x 2162mm x 1889mm

Dry Cargo Steel Container

(CIMC)

(2 vents each side wall)

Specification No. : S000D02G1

Drawing No. : 000D02G1G

Date of Issue : May. 03, 2022

This specification is used in all factories of

Dongguan Southern CIMC Logistics Equipment Manufacture Co., Ltd.

22A-00

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1. Scope

This specification will cover the design, construction, materials, testing and inspection performances of 8’ x 2162 x 1889 type end door steel dry cargo containers.

This Specification is for the purposes of information only and should not be copied without permission of CIMC.

2. General

2.1 Operational Environment

The container will be designed and constructed for the transportation of general cargo on sea (above or under deck) and on land (road or rail) throughout the world, and will be suitable for the environmental conditions imposed by those modes of transport. All materials used in the construction will be able to withstand extreme temperature ranging from -40°C (-40°F) to 70°C (158°F) without effect on container's strength and watertightness.

2.2 T.C.T. Certification

All exposed wooden components used for container will be treated to comply with the requirements of "Cargo Containers - Quarantine Aspects and Procedures" of the Commonwealth Department of Health, Australia.

3. Handling

The container will be constructed to be capable of being handled without any permanent deformation under the following conditions:

a) Lifting, full or empty, at top corner fittings using slings with terminal fittings at any angles between vertical and 60 degrees to the horizontal.

b) Lifting, full or empty, at forklift pockets using forklift truck.

4. Dimensions and Ratings

4.1 External Dimensions

Length	2,438	+ 0mm - 5mm
Width	2,162	+ 0mm - 5mm
Height	1,889	+ 0mm - 5mm

1) No part of the container will protrude beyond the external dimensions mentioned above.

2) Maximum allowable differences between two diagonals on anyone of the following surfaces will be as follows:

Roof, bottom, side, front and rear diagonals: 10mm

4.2 Internal Dimensions

Length	2,287	+ 0mm - 5mm
Width	2,074	+ 0mm - 5mm
Height	1,691	+ 0mm - 5mm

4.3 Door opening dimensions

Width	2,068	+ 0mm - 5mm
Height	1,578	+ 0mm - 5mm

4.4 Internal cubic capacity (Nominal)

8.0 cu.m 283 cu.ft

4.5 Forklift pockets

Width	320 mm
Height min.	118 mm
Centre to centre	900 mm +/- 50 mm

4.6 Ratings

Max. Gross Weight (R)	5,000 kg	11,020 lb
Tare Weight (design) (T)	880 kg	1,940 lb
Max. Payload (P)	4,120 kg	9,080 lb

Tare Weight Tolerance 2%

5. Construction

5.1 General

The container will be constructed with steel frames, fully vertical-corrugated steel sides and front wall, horizontal-corrugated steel double doors at rear end, die-stamped steel roof and corner fittings.

6.2 Corner Fittings

The external dimensions of small corner fittings are 116 mm length, 99 mm width and 71 mm height.

6.3 Base Frame

Base frame will be composed of two bottom side rails, five cross members, and a set of forklift pockets.

6.3.1 Bottom Side Rail

Each bottom side rail is built of a 3.0 mm thick pressed open section steel made in one piece.

6.3.2 Crossmember

The cross members are made of pressed channel section steel with a dimension of 45x122x30x3.0 mm

6.3.3 Fork Pocket

Each forklift pocket is built of 3.0 mm thick full depth flat steel top plate and two 200 mm deep x 6.0 mm thick flat lower end plates between two channel section cross members.

6.4 Front End

Front end structure will be composed of one bottom end rail, two corner posts, one top end rail, four corner fittings and an end wall, which are welded together.

6.4.1 Bottom end rail

The bottom end rail is made of 52x159x30x3.0 mm thick pressed channel section steel.

6.4.2 Front corner post

Each corner post is made of 4.0 mm thick pressed open section steel in a single piece, and designed to give a sufficient strength against stacking and racking forces.

6.4.3 Top end rail

The top end rail is made of a 3.0 mm thick pressed “Z” section steel.

6.4.4 Front wall

The trapezium section front wall is constructed with 1.6 mm thick vertically corrugated steel panels, butt welded together to form one panel, and

continuously welded to front end rails and corner posts.

6.5 Rear End

The rear frame will be composed of one door sill, two corner posts, one door header and four corner fittings, which will be welded together to make the door-way.

5.5.1 Door sill

The door sill to be made of a 4.0 mm thick pressed Z section steel is reinforced by two internal gussets at the back of each locking cam keeper location and four external gussets.

5.5.2 Rear corner post

Each rear corner post of hollow section is fabricated with 4.0 mm thick pressed steel outer part and 4.0 mm thick pressed angle section steel inner part.
Four (4) sets of hinge pin lugs are welded to each rear corner post.

5.5.3 Door header

The door header is constructed from a piece steel pressing with internal stiffener ribs at the location of the back of cam keeper.
header : 4.0 mm thick
Rib : 3.0 mm thick, qty. : 2 pcs.

5.6 Door

5.6.1 Each container will have double wing doors at rear end frame, and each door will be capable of swinging approximately 270 degrees.

5.6.2 Each door is constructed with two 3.0 mm thick pressed channel section steel horizontal frames for the top and bottom, 100x50x3.2mm thick rectangular hollow section vertical frames for the post side and center side of door respectively, 1.6 mm thick horizontally corrugated steel door panel, which are continuously welded within frames.

5.6.3 Two sets of galvanized "HH-E" or equivalent bolt on model locking assemblies with forged steel handles are fitted to each door using zinc plated steel bolts.Locking gears should be assembled after painting of container.

5.6.4 The left-hand door can not be opened without opening the right hand door when the container is sealed in accordance with TIR requirements.

5.6.5 Each door is suspended by four hinges being provided with stainless steel pins, self-lubricating nylon bushings and the stainless steel or brass washers, which are placed at the hinge lugs of the rear corner posts.

5.6.6 The door gasket to be made of an extruded J&C-type EPDM rubber is installed to the door peripheries frames with stainless steel gasket retainers which must be caulked with butyl sealant before installation of gasket, and fastened by stainless steel rivets at a pitch of 150 mm.

6.6 Side Wall Assembly

6.6.1 Top Side Rails

Each top end rail consists of one 60x60x3mm thick square hollow section.

6.6.2 Side Walls

The trapezium section side wall is constructed with 1.6 mm thick fully vertically continuous-corrugated steel panels, which are butt welded together to form one panel and continuously welded to the side rails and corner posts.

6.7 Roof

The roof panel is constructed with 1.6 mm thick die-stamped steel sheets having about 6.0 mm upward smooth camber, which are welded together to form one panel and continuously welded to the top side rails and top end rails

6.8 Floor

6.8.1 The Floor Boards

The wooden floor constructed with 28 mm thick wood boards are laid transversely on the cross members between the flat section steel floor center rail and the pressed angle section steel floor guide rails stitched welded to the bottom end rails.

Plywood thickness : 28 mm
Plywood moisture content: Less than 14 %
Plywood ply number : Min. 19 plies
Plywood material :Bamboo hybrid, Apitong or Hardwood,Hardwood with PSF.

6.8.2 Self-tapping screw

Each floor board is fixed to the transverse members by zinc plated self-tapping screws that are 8.0mm dia. shank x 16mm dia. head x 45mm length. Screw heads are to be countersunk with about 2mm below the floor top surface.

6.9 Special Features

6.9.1 Customs Seal Provision

Customs seal provisions are made on each locking handle and retainer in accordance with TIR requirements.

6.9.2 Lashing rings

Two (2) lashing hoop rings are welded to each top and bottom side rail at recessed corrugations of side panels but not extruded any cargo space (total 8 rings). Each lashing point is designed to provide a "1,500 kgs pull load in any direction" without any permanent deformation of lashing ring and surrounding area.

6.9.3 Ventilators

ventilator with E.P.D.M seal gasket is supplied on side wall when facing the outside of container, fixed by aluminum huck bolts, the seal is to be applied on the edges except the bottom side of the ventilator, after the completion of paint.

Quantity: 2 / each side panel
Material: ABS Labyrinth Type.

6. Preservation

6.1 Surface Preparation of the Steelwork

1) All the steel surfaces prior to forming or after will be degreased and shot blasted to Swedish Standard SA 2.5 to obtain the surface roughness at 25 to 35 microns which can result in the removement of all the rust, dirt, mill scale and all other foreign materials.
2) Locking rod assemblies, which are welded with gear cams, bars holder and handle hinges, are hot dipping galvanized (Thickness: 75 microns).
3) All fasteners such as nuts, washers, self-tapping screws, which are not mentioned in this Spec. will be electro zinc plated to 13 Microns. Bolt/Huck-bolts to be H.D.G. 40 μ .
4) Hinges and cam keepers will be electro zinc plated to 13 Microns.
5) Sealant
   Each perimeter of the floor, all the overlapped joints of inside, all the holes for bolts and nuts and all the places where may leak water will be sealed to give prevention against water entry.
   Sealant Materials:
   a. Chloroprene/Neoprene/waterborne (Cargo contact area)
   b. Butyl (Hidden parts and other area)

6.2 Coating

6.2.1 Prior to Assembly

All the steel surfaces will be coated with primer paint immediately after shot-blasting.

6.2.2 After Assembly

All the weld joints will be shot-blasted to remove all the welding fluxes, spatters, burnt primer coatings caused by welding heat, and other foreign materials, and followed with the secondary paint operation immediately.

6.2.3 All the surface of the assembled container will have coating system as follows:

Process	Paint Name	DFT (μ)
Exterior Surface	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne epoxy primer	40
	Waterborne acrylic topcoat RAL2002	40
	Total :	110
Interior Surface	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne epoxy topcoat, RAL 8012	50
	Total:	80
Under Structure	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne undercoating (Jointas JT-321, Ivan-512, JL-100)	200(steel parts) 100(floorboard)
	Total:	230(steel parts)

* The DFT decision rules in practice is 90-10:

For each area, and coat, less than 10% of the readings may be below the DFT specified. No readings may be below 90% of the DFT specified. Areas where the total DFT is more than twice the DFT specified are not acceptable and must be redone completely.

* Epoxy zinc rich primer and epoxy topcoat are not applied to the wooden floor.

7. Markings

7.1 Lettering

The markings will be designed decal and arranged according to buyer's requirement. The markings consist of the following contents:

1) Owner's emblems ..... according to owner's design.
2) Weight details (on door)
3) Material of marking: Calender Vinyl film.

7.2 Specifications

1) Identification plates such as consolidated data plate consisting of TIR and TCT will be riveted on the door permanently by stainless steel blind rivets. The entire periphery except the bottom side will be caulked with sealant.

2) The owner's serial numbers and manufacturer's serial numbers will be stamped into the top surface of left-hand and right-hand rear lower corner fittings respectively

8. Testing and Inspection

8.1 Proto-type Container

The prototype container to be manufactured in accordance with this specification will be tested by manufacturer under the supervision of classification society.

8.2 The proposed sequence & procedure table for general prototype testing:

	Test items & loads	Test methods
A)	Lifting (from top corner fittings) Internal load : 2R-T	Lifting 60 degree to the horizontal Time duration : 5 minutes
B)	Lifting (from bottom corner fittings) Internal load : 2R-T	Lifting 60 degree to the horizontal. Time duration : 5 minutes
C)	Lifting (for forklift pockets) Internal load : 1.6R-T	Lifting by horizontal bars. Bar length : 1,828mm Bar width : 200mm
D)	Operation of door	After completion of test, the operation of doors, locks, hinges, etc. will be checked.
E)	Dimensions and weight	After completion of test, the dimensions and weight will be checked.
F)	Weatherproofness	Inside dia. of nozzle : 12.5mm Distance : 1.5 m Speed : 100 mm/sec. Pressure : 1 kg/sq.cm

* Note: R Maximum Gross Weight
T Tare Weight
P Maximum Payload

8.3 Inspection

8.3.1 Materials and Component Parts Inspection

All the materials and components will be inspected by Quality Control Dept. To make sure that the most suitable and qualified components being used for the containers and to meet this specification.

8.3.2 Production Line Inspection

Every container will be manufactured under effective Quality Control procedures, and every production line of the factory will be inspected and controlled by the Quality Control Dept. to meet this specification.

9. Documents Submission

9.1 When Contracting

CIMC shall submit the specification with following drawing (3 sets):

General arrangement
Base assembly
Rear end assembly
Marking arrangement
Side wall assembly
Front end assembly
Roof assembly

9.2 When delivery

The owner shall inform CIMC all the documents needed two weeks before the date of delivery and CIMC will be submit them to the owner.

10. Guarantee

The guarantee period will commence at the day of delivery and the delivery is not later than three (3) months after the containers are accepted by the owner.

10.1 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 guarantee shall be applied to all the kinds of faults / failures affecting more than 10 % of any given part of the container, 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. Corrosion is defined as the rusting exceeding RE3 (European scale of degree of rusting).

10.2 Other Guarantee

All containers shall be guaranteed against any defects or omissions in construction, poor workmanship, or defective materials for a period of two (2) years. 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.

11. Materials

The main materials used in construction are as follows or approved equivalent:

Where used	Materials
Front End Assembly	
Front corner post	Corten A
Front sill	Corten A
Front panel	Corten A
Front header	Corten A
Base Assembly	
Bottom side rail	Corten A
Crossmember	Corten A
Fork pocket assembly	Corten A
Floor center rail	Corten A
Rear End Assembly	
Rear corner post	Corten A
Rear header	Corten A
Door sill	Corten A
Door panel frame	Corten A
Door panel	Corten A
Door hinge	SS41, Electro zinc plated
Door hinge pin	SUS304

Locking cam keeper	SS41, Electro zinc plated
Locking cam	SS41, H.D.G.
Locking rod	STK41, H.D.G.
Door gasket	E.P.D.M
Gasket retainer	SUS304
Washer	SUS304
Rivet	SUS304
Shim	E.P.D.M.
Corner fitting	SCW49

Side Wall Assembly

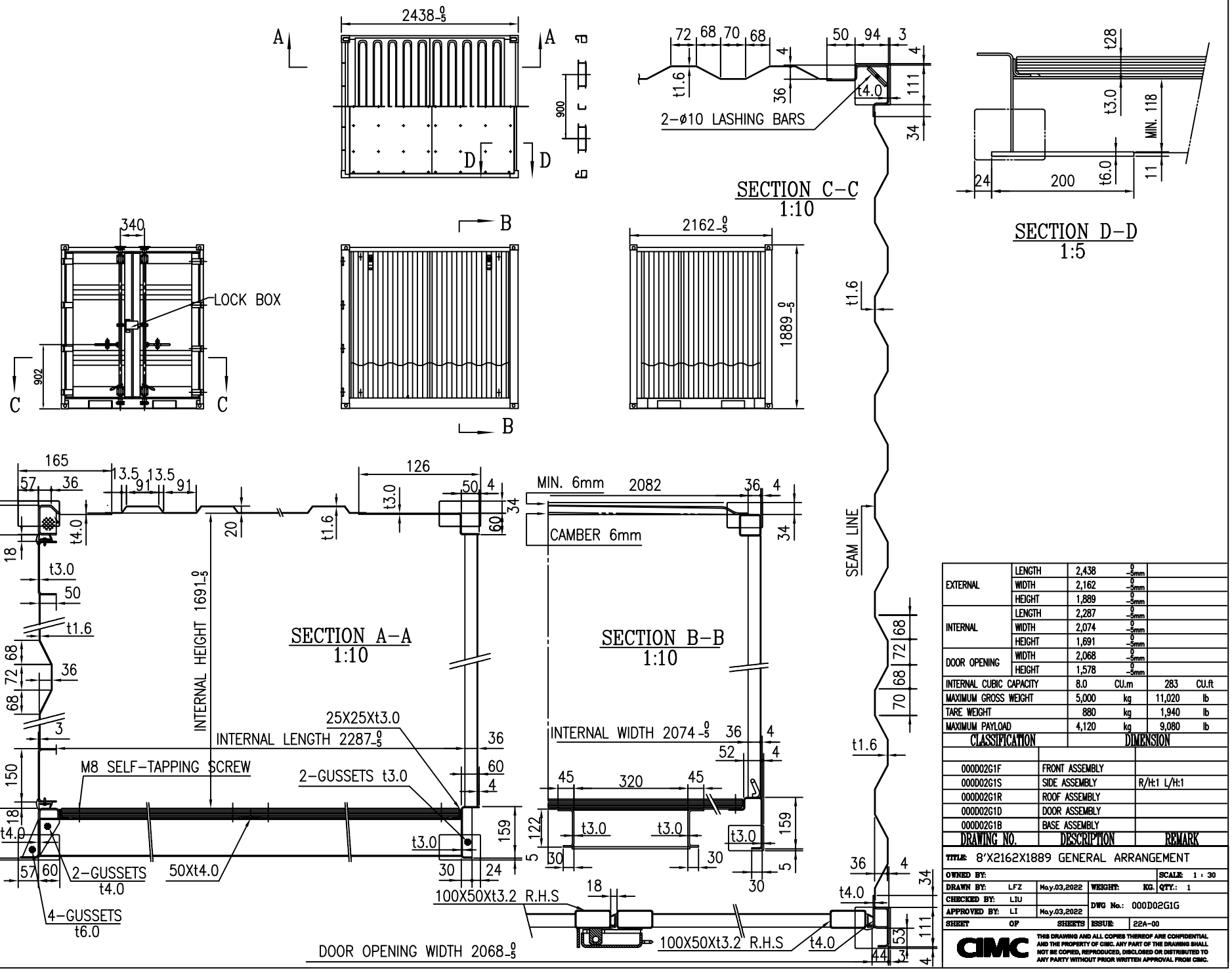
Side panel	Corten A
Top side rail	Corten A
Lashing bar, lashing ring	SS41, Electro zinc plated
Ventilator	A.B.S

Roof

Roof corner gusset	Corten A
Roof panel	Corten A

Note:

Material	Yield point (Kg/sq.mm)	Tensile strength (Kg/sq.mm)
SS41	25	41
JIS SCW49	28	49
SS50	29	50
SM50YA	37	50
Corten A	35	49
SM50A	33	50

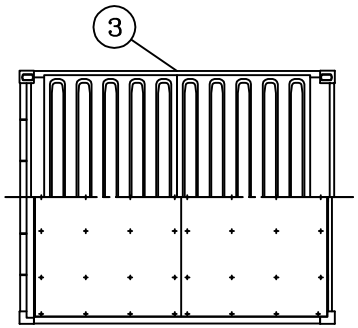


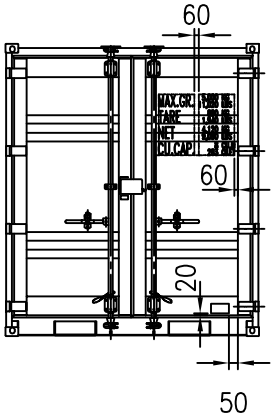
EXTERNAL	LENGTH	2,438 $^{0}_{-5}$mm		
	WIDTH	2,162 $^{0}_{-5}$mm		
	HEIGHT	1,889 $^{0}_{-5}$mm		
INTERNAL	LENGTH	2,287 $^{0}_{-5}$mm		
	WIDTH	2,074 $^{0}_{-5}$mm		
	HEIGHT	1,691 $^{0}_{-5}$mm		
DOOR OPENING	WIDTH	2,068 $^{0}_{-5}$mm		
	HEIGHT	1,578 $^{0}_{-5}$mm		
INTERNAL CUBIC CAPACITY		8.0	CU.m	283 CU.ft
MAXIMUM GROSS WEIGHT		5,000	kg	11,020 lb
TARE WEIGHT		880	kg	1,940 lb
MAXIMUM PAYLOAD		4,120	kg	9,080 lb

CLASSIFICATION	DIMENSION	
000D02G1F	FRONT ASSEMBLY	
000D02G1S	SIDE ASSEMBLY	R/H:1 L/H:1
000D02G1R	ROOF ASSEMBLY	
000D02G1D	DOOR ASSEMBLY	
000D02G1B	BASE ASSEMBLY	
DRAWING NO.	DESCRIPTION	REMARK

TITLE: 8'X2162X1889 GENERAL ARRANGEMENT

OWNED BY:				SCALE: 1 : 30
DRAWN BY:	LFZ	May.03,2022	WEIGHT: KG.	QTY.: 1
CHECKED BY:	LIU		DWG No.:	000D02G1G
APPROVED BY:	LI	May.03,2022		
SHEET	OF	SHEETS	ISSUE:	22A-00





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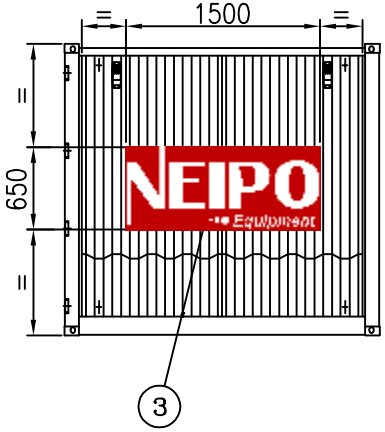

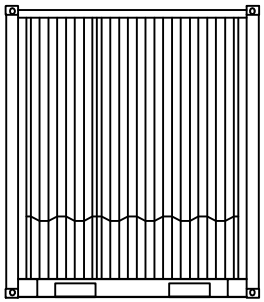

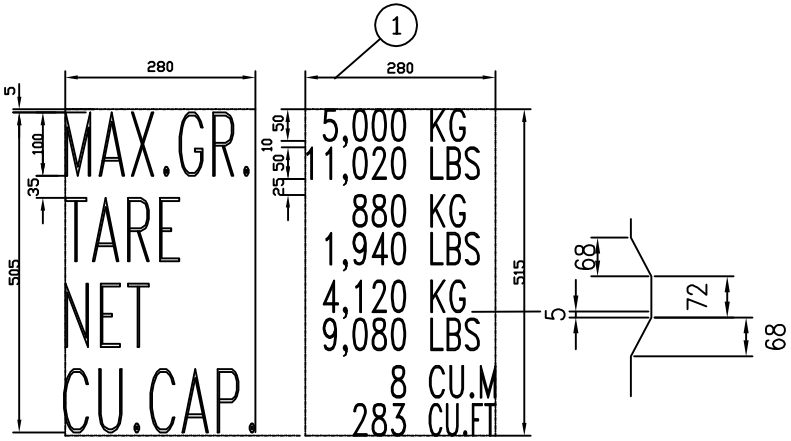

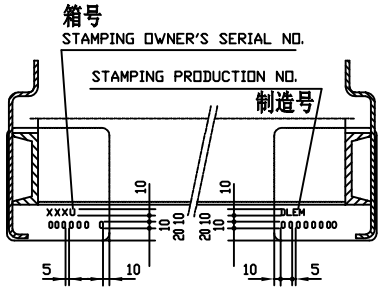

REAR END BOTTOM
CORNER FITTING

NOTE:
DECAL MATERIAL: Calender Vinyl film

3	SIDE LOGO		WHITE ISSUE		2
2	CIMC DECAL				1
1	WEIGHT DECAL	M100001	WHITE ISSUE		1ST

TITLE: 8'X2162X1889 GENERAL ARRANGEMENT					
OWNED BY:				SCALE: 1 : 30	
DRAWN BY:	LFZ	May.03,2022	WEIGHT: KG.	QTY.: 1	
CHECKED BY:	LIU		DWG No.: 000D02G1M		
APPROVED BY:	LI	May.03,2022			
SHEET	OF	SHEETS	ISSUE:	22A-00	

Technical Specification

For

9’ x 2300mm x 2240mm

Dry Cargo Steel Container

(CIMC)

(2 vents each side wall)

Specification No. : S000D01G1

Drawing No. : 000D01G1G

Date of Issue : May. 03, 2022

This specification is used in all factories of

Dongguan Southern CIMC Logistics Equipment Manufacture Co., Ltd.

22A-00

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1. Scope

This specification will cover the design, construction, materials, testing and inspection performances of 9’ x 2300mm x 2240 type end door steel dry cargo containers.

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2. General

2.1 Operational Environment

The container will be designed and constructed for the transportation of general cargo on sea (above or under deck) and on land (road or rail) throughout the world, and will be suitable for the environmental conditions imposed by those modes of transport. All materials used in the construction will be able to withstand extreme temperature ranging from -40°C (-40°F) to 70°C (158°F) without effect on container's strength and watertightness.

2.2 T.C.T. Certification

All exposed wooden components used for container will be treated to comply with the requirements of "Cargo Containers - Quarantine Aspects and Procedures" of the Commonwealth Department of Health, Australia.

3. Handling

The container will be constructed to be capable of being handled without any permanent deformation under the following conditions:

a) Lifting, full or empty, at top corner fittings using slings with terminal fittings at any angles between vertical and 60 degrees to the horizontal.

b) Lifting, full or empty, at forklift pockets using forklift truck.

4. Dimensions and Ratings

4.1 External Dimensions

Length	2,743	+ 0mm - 5mm
Width	2,300	+ 0mm - 5mm
Height	2,240	+ 0mm - 5mm

1) No part of the container will protrude beyond the external dimensions mentioned above.

2) Maximum allowable differences between two diagonals on anyone of the following surfaces will be as follows:

Roof, bottom, side, front and rear diagonals: 10mm

4.2 Internal Dimensions

Length	2,592	+ 0mm - 5mm
Width	2,212	+ 0mm - 5mm

Height 2,042 + 0mm - 5mm

4.3 Door opening dimensions

Width 2,206 + 0mm - 5mm

Height 1,929 + 0mm - 5mm

2.4 Internal cubic capacity (Nominal)

11.7 cu.m 413 cu.ft

4.5 Forklift pockets

Width 320 mm

Height min. 118 mm

Centre to centre 900 mm +/- 50 mm

4.6 Ratings

Max. Gross Weight (R)	6,000 kg	13,230 lb
Tare Weight (design) (T)	1,060 kg	2,340 lb
Max. Payload (P)	4,940 kg	10,890 lb

Tare Weight Tolerance 2%

5. Construction

5.1 General

The container will be constructed with steel frames, fully vertical-corrugated steel sides and front wall, horizontal-corrugated steel double doors at rear end, die-stamped steel roof and corner fittings.

5.2 Corner Fittings

The external dimensions of small corner fittings are 116 mm length, 99 mm width and 71 mm height.

5.3 Base Frame

Base frame will be composed of two bottom side rails, five cross members, and a set of forklift pockets.

5.3.1 Bottom Side Rail

Each bottom side rail is built of a 3.0 mm thick pressed open section steel made in one piece.

5.3.2 Crossmember

The cross members are made of pressed channel section steel with a dimension of 45x122x30x3.0 mm

5.3.3 Fork Pocket

Each forklift pocket is built of 3.0 mm thick full depth flat steel top plate and two 200 mm deep x 6.0 mm thick flat lower end plates between two channel section cross members.

5.4 Front End

Front end structure will be composed of one bottom end rail, two corner posts, one top end rail, four corner fittings and an end wall, which are welded together.

5.4.1 Bottom end rail

The bottom end rail is made of 52x159x30x3.0 mm thick pressed channel section steel.

5.4.2 Front corner post

Each corner post is made of 4.0 mm thick pressed open section steel in a single piece, and designed to give a sufficient strength against stacking and racking forces.

5.4.3 Top end rail

The top end rail is made of a 3.0 mm thick pressed “Z” section steel.

5.4.4 Front wall

The trapezium section front wall is constructed with 1.6 mm thick vertically

corrugated steel panels, butt welded together to form one panel, and continuously welded to front end rails and corner posts.

5.5 Rear End

The rear frame will be composed of one door sill, two corner posts, one door header and four corner fittings, which will be welded together to make the door-way.

5.5.1 Door sill

The door sill to be made of a 4.0 mm thick pressed Z section steel is reinforced by two internal gussets at the back of each locking cam keeper location and four external gussets.

5.5.2 Rear corner post

Each rear corner post of hollow section is fabricated with 4.0 mm thick pressed steel outer part and 4.0 mm thick pressed angle section steel inner part.
Four (4) sets of hinge pin lugs are welded to each rear corner post.

5.5.3 Door header

The door header is constructed from a piece steel pressing with internal stiffener ribs at the location of the back of cam keeper.
header : 4.0 mm thick
Rib : 3.0 mm thick, qty. : 2 pcs.

5.6 Door

5.6.1 Each container will have double wing doors at rear end frame, and each door will be capable of swinging approximately 270 degrees.

5.6.2 Each door is constructed with two 3.0 mm thick pressed channel section steel horizontal frames for the top and bottom, 100x50x3.2mm thick rectangular hollow section vertical frames for the post side and center side of door respectively, 1.6 mm thick horizontally corrugated steel door panel, which are continuously welded within frames.

5.6.3 Two sets of galvanized "HH-E" or equivalent bolt on model locking assemblies with forged steel handles are fitted to each door using zinc plated steel bolts.Locking gears should be assembled after painting of container.

5.6.4 The left-hand door can not be opened without opening the right hand door when the container is sealed in accordance with TIR requirements.

5.6.5 Each door is suspended by four hinges being provided with stainless steel pins, self-lubricating nylon bushings and the stainless steel or brass washers, which are placed at the hinge lugs of the rear corner posts.

5.6.6 The door gasket to be made of an extruded J&C-type EPDM rubber is installed to the door peripheries frames with stainless steel gasket retainers which must be caulked with butyl sealant before installation of gasket, and fastened by stainless steel rivets at a pitch of 150 mm.

5.7 Side Wall Assembly

5.7.1 Top Side Rails

Each top end rail consists of one 60x60x3mm thick square hollow section.

5.7.2 Side Walls

The trapezium section side wall is constructed with 1.6 mm thick fully vertically continuous-corrugated steel panels, which are butt welded together to form one panel and continuously welded to the side rails and corner posts.

5.8 Roof

The roof panel is constructed with 1.6 mm thick die-stamped steel sheets having about 6.0 mm upward smooth camber, which are welded together to form one panel and continuously welded to the top side rails and top end rails

5.9 Floor

5.9.1 The Floor Boards

The wooden floor constructed with 28 mm thick wood boards are laid transversely on the cross members between the flat section steel floor center rail and the pressed angle section steel floor guide rails stitched welded to the bottom end rails.

Plywood thickness : 28 mm

Plywood moisture content: Less than 14 %

Plywood ply number : Min. 19 plies

Plywood material :Bamboo hybrid, Apitong or Hardwood,Hardwood with PSF.

5.9.2 Self-tapping screw

Each floor board is fixed to the transverse members by zinc plated self-tapping screws that are 8.0mm dia. shank x 16mm dia. head x 45mm length. Screw heads are to be countersunk with about 2mm below the floor top surface.

5.10 Special Features

5.10.1 Customs Seal Provision

Customs seal provisions are made on each locking handle and retainer in accordance with TIR requirements.

5.10.2 Lashing rings

Two (2) lashing hoop rings are welded to each top and bottom side rail at recessed corrugations of side panels but not extruded any cargo space (total 8 rings). Each lashing point is designed to provide a "1,500 kgs pull load in any direction" without any permanent deformation of lashing ring and surrounding area.

5.10.3 Ventilators

ventilator with E.P.D.M seal gasket is supplied on side wall when facing the outside of container, fixed by aluminum huck bolts, the seal is to be applied on the edges except the bottom side of the ventilator, after the completion of paint.

Quantity: 2 / each side panel

Material: ABS Labyrinth Type.

6. Preservation

6.1 Surface Preparation of the Steelwork

1) All the steel surfaces prior to forming or after will be degreased and shot blasted to Swedish Standard SA 2.5 to obtain the surface roughness at 25 to 35 microns which can result in the removement of all the rust, dirt, mill scale and all other foreign materials.
2) Locking rod assemblies, which are welded with gear cams, bars holder and handle hinges, are hot dipping galvanized (Thickness: 75 microns).
3) All fasteners such as nuts, washers, self-tapping screws, which are not mentioned in this Spec. will be electro zinc plated to 13 Microns. Bolt/Huck-bolts to be H.D.G. 40 μ .
4) Hinges and cam keepers will be electro zinc plated to 13 Microns.
5) Sealant

   Each perimeter of the floor, all the overlapped joints of inside, all the holes for bolts and nuts and all the places where may leak water will be sealed to give prevention against water entry.

   Sealant Materials:

   a. Chloroprene/Neoprene/waterborne (Cargo contact area)
   b. Butyl (Hidden parts and other area)

6.2 Coating

6.2.1 Prior to Assembly

All the steel surfaces will be coated with primer paint immediately after shot-blasting.

6.2.2 After Assembly

All the weld joints will be shot-blasted to remove all the welding fluxes, spatters, burnt primer coatings caused by welding heat, and other foreign materials, and followed with the secondary paint operation immediately.

6.2.3 All the surface of the assembled container will have coating system as follows:

Process	Paint Name	DFT (μ)
Exterior Surface	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne epoxy primer	40
	Waterborne acrylic topcoat RAL 2002	40
	Total :	110
Interior Surface	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne epoxy topcoat, RAL 8012	50
	Total:	80
Under Structure	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne undercoating (Jointas JT-321, Ivan-512, JL-100)	200(steel parts) 100(floorboard)
	Total:	230(steel parts)

* The DFT decision rules in practice is 90-10:

For each area, and coat, less than 10% of the readings may be below the DFT specified. No readings may be below 90% of the DFT specified. Areas where the total DFT is more than twice the DFT specified are not acceptable and must be redone completely.

* Epoxy zinc rich primer and epoxy topcoat are not applied to the wooden floor.

7. Markings

7.1 Lettering

The markings will be designed decal and arranged according to buyer's requirement. The markings consist of the following contents:

1) Owner's emblems ..... according to owner's design.
2) Weight details (on door)
3) Material of marking: Calender Vinyl film.

7.2 Specifications

1) Identification plates such as consolidated data plate consisting of TIR and TCT will be riveted on the door permanently by stainless steel blind rivets. The entire periphery except the bottom side will be caulked with sealant.

2) The owner's serial numbers and manufacturer's serial numbers will be stamped into the top surface of left-hand and right-hand rear lower corner fittings respectively

8. Testing and Inspection

8.1 Proto-type Container

The prototype container to be manufactured in accordance with this specification will be tested by manufacturer under the supervision of classification society.

8.2 The proposed sequence & procedure table for general prototype testing:

	Test items & loads	Test methods
A)	Lifting (from top corner fittings) Internal load : 2R-T	Lifting 60 degree to the horizontal Time duration : 5 minutes
B)	Lifting (from bottom corner fittings) Internal load : 2R-T	Lifting 60 degree to the horizontal. Time duration : 5 minutes
C)	Lifting (for forklift pockets) Internal load : 1.6R-T	Lifting by horizontal bars. Bar length : 1,828mm Bar width : 200mm
D)	Operation of door	After completion of test, the operation of doors, locks, hinges, etc. will be checked.
E)	Dimensions and weight	After completion of test, the dimensions and weight will be checked.
F)	Weatherproofness	Inside dia. of nozzle : 12.5mm Distance : 1.5 m Speed : 100 mm/sec. Pressure : 1 kg/sq.cm

* Note: R Maximum Gross Weight
T Tare Weight
P Maximum Payload

8.3 Inspection

8.3.1 Materials and Component Parts Inspection

All the materials and components will be inspected by Quality Control Dept. To make sure that the most suitable and qualified components being used for the containers and to meet this specification.

8.3.2 Production Line Inspection

Every container will be manufactured under effective Quality Control procedures, and every production line of the factory will be inspected and controlled by the Quality Control Dept. to meet this specification.

9. Documents Submission

9.1 When Contracting

CIMC shall submit the specification with following drawing (3 sets):

General arrangement	Side wall assembly
Base assembly	Front end assembly
Rear end assembly	Roof assembly
Marking arrangement	

9.2 When delivery

The owner shall inform CIMC all the documents needed two weeks before the date of delivery and CIMC will be submit them to the owner.

10. Guarantee

The guarantee period will commence at the day of delivery and the delivery is not later than three (3) months after the containers are accepted by the owner.

10.1 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 guarantee shall be applied to all the kinds of faults / failures affecting more than 10 % of any given part of the container, 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. Corrosion is defined as the rusting exceeding RE3 (European scale of degree of rusting).

10.2 Other Guarantee

All containers shall be guaranteed against any defects or omissions in construction, poor workmanship, or defective materials for a period of two (2) years. 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.

11. Materials

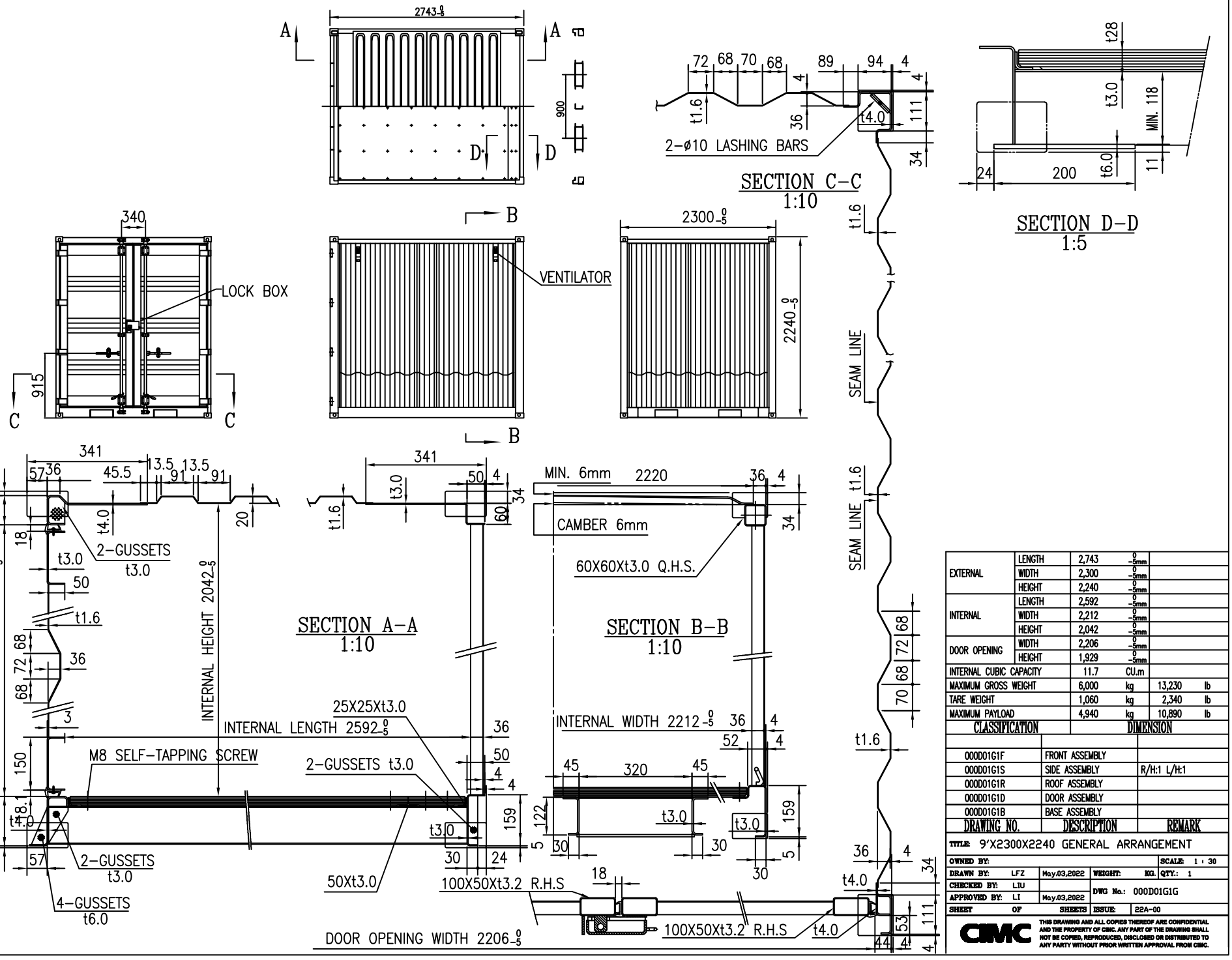
The main materials used in construction are as follows or approved equivalent:

Where used	Materials
Front End Assembly	
Front corner post	Corten A
Front sill	Corten A
Front panel	Corten A
Front header	Corten A
Base Assembly	
Bottom side rail	Corten A
Crossmember	Corten A
Fork pocket assembly	Corten A
Floor center rail	Corten A

Rear End Assembly	
Rear corner post	Corten A
Rear header	Corten A
Door sill	Corten A
Door panel frame	Corten A
Door panel	Corten A
Door hinge	SS41, Electro zinc plated
Door hinge pin	SUS304
Locking cam keeper	SS41, Electro zinc plated
Locking cam	SS41, H.D.G.
Locking rod	STK41, H.D.G.
Door gasket	E.P.D.M
Gasket retainer	SUS304
Washer	SUS304
Rivet	SUS304
Shim	E.P.D.M.
Corner fitting	SCW49
Side Wall Assembly	
Side panel	Corten A
Top side rail	Corten A
Lashing bar, lashing ring	SS41, Electro zinc plated
Ventilator	A.B.S
Roof	
Roof corner gusset	Corten A
Roof panel	Corten A

Note:

Material	Yield point (Kg/sq.mm)	Tensile strength (Kg/sq.mm)
SS41	25	41
JIS SCW49	28	49
SS50	29	50
SM50YA	37	50
Corten A	35	49
SM50A	33	50

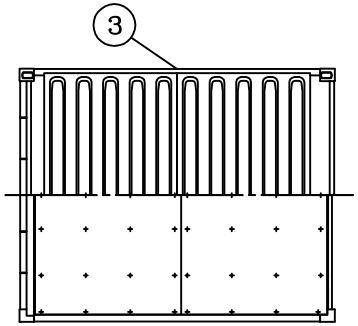


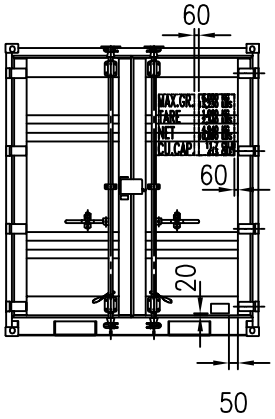
EXTERNAL	LENGTH	2,743	0 -5mm	
	WIDTH	2,300	0 -5mm	
	HEIGHT	2,240	0 -5mm	
INTERNAL	LENGTH	2,592	0 -5mm	
	WIDTH	2,212	0 -5mm	
	HEIGHT	2,042	0 -5mm	
DOOR OPENING	WIDTH	2,206	0 -5mm	
	HEIGHT	1,929	0 -5mm	
INTERNAL CUBIC CAPACITY		11.7	CU.m	
MAXIMUM GROSS WEIGHT		6,000	kg	13,230 lb
TARE WEIGHT		1,060	kg	2,340 lb
MAXIMUM PAYLOAD		4,940	kg	10,890 lb

CLASSIFICATION	DIMENSION	
000D01G1F	FRONT ASSEMBLY	
000D01G1S	SIDE ASSEMBLY	R/H:1 L/H:1
000D01G1R	ROOF ASSEMBLY	
000D01G1D	DOOR ASSEMBLY	
000D01G1B	BASE ASSEMBLY	
DRAWING NO.	DESCRIPTION	REMARK

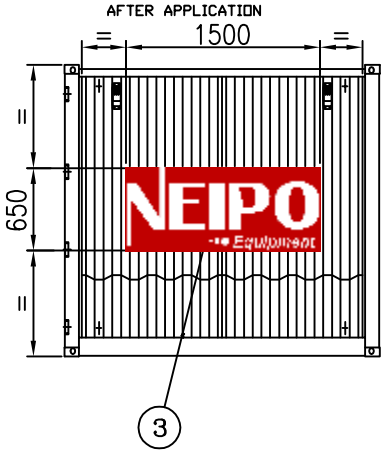
TITLE: 9'X2300X2240 GENERAL ARRANGEMENT

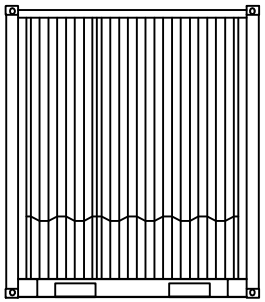
OWNED BY:				SCALE:	1 : 30
DRAWN BY:	LFZ	May.03,2022	WEIGHT: KG.	QTY.:	1
CHECKED BY:	LIU		DWG No.:	000D01G1G	
APPROVED BY:	LI	May.03,2022			
SHEET	OF	SHEETS	ISSUE:	22A-00	

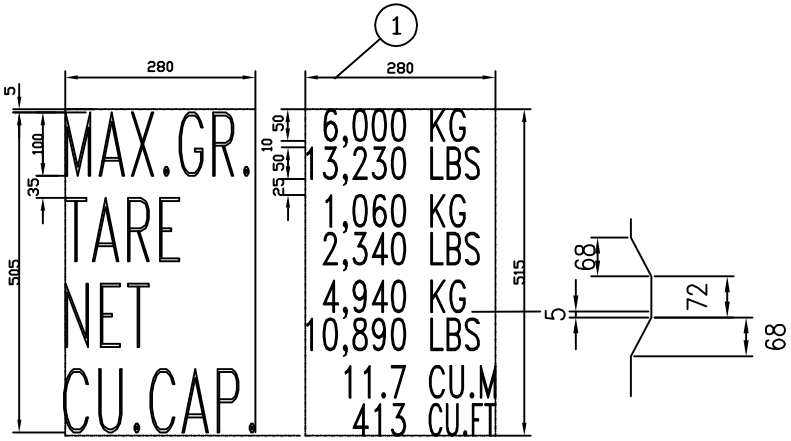


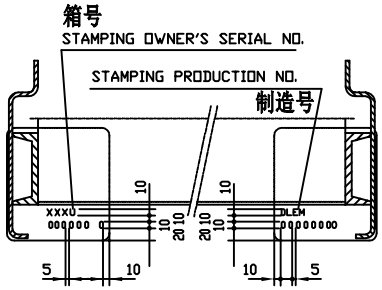


AFTER APPLICATION









REAR END BOTTOM CORNER FITTING

NOTE:
DECAL MATERIAL: Calender Vinyl film

3	SIDE LOGO		WHITE ISSUE		2
2	CIMC DECAL				1
1	WEIGHT DECAL	M100001	WHITE ISSUE		1ST

TITLE: 9'x2300x2240 GENERAL ARRANGEMENT				
OWNED BY:				SCALE: 1 : 30
DRAWN BY:	LFZ	May.03,2022	WEIGHT: KG.	QTY.: 1
CHECKED BY:	LIU		DWG No.: 000D01G1M	
APPROVED BY:	LI	May.03,2022		
SHEET	OF	SHEETS	ISSUE:	22A-00

Technical Specification

For

20' x 8' x 9'6" ISO Type

Dry Cargo Steel Container

(CIMC)

(2 vents each side wall)

Specification No. : S000A25G1

Drawing No. : 000A25G1G

Date of Issue : May. 03, 2022

This specification is used in all factories of

Dongguan Southern CIMC Logistics Equipment Manufacture Co., Ltd.

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1. Scope

This specification covers design, construction, materials, testing, inspection & prototype container. The container is built in accordance with the requirements of I.S.O. 1CCC Type steel dry freight containers by China International Marine Containers (Group) Limited (CIMC).

This Specification is for the purposes of information only and should not be copied without permission of CIMC.

2. General

2.1 Operational Environment

The container will be designed and constructed for the transportation of general cargo on sea (above or under deck) and on land (road or rail) throughout the world, and will be suitable for the environmental conditions imposed by those modes of transport. All materials used in the construction will be able to withstand extreme temperature ranging from -40°C (-40°F) to 70°C (158°F) without effect on container's strength and watertightness.

2.2 Standards & Regulations

2.2.1 Latest ISO container standard:

668	- Series 1 freight containers - Classification, external dimensions and ratings
6346	- Coding, identification and marking for freight containers
1161:1984	- Series 1 Freight Containers - Corner Fittings – Specification
1496-1	- Specification and testing of series 1 freight containers. Part 1: General cargo containers for general purposes
830	- Freight containers – Terminology.

2.2.2 Classification Certificate

All the containers shall be certified for design type and individually inspected by Classification Society DEKRA，BV, ABS, CCS, or LR.

2.2.3 BICON Certificate

Certificate of timber treatment as per the latest requirement of Australian Biosecurity Import Conditions (BICON)

2.2.4 Customs Certificate (T.I.R.)

Customs' Approval and Certificate to be issued by the Customs.

2.2.5 C.S.C. Certificate

All the containers will be certified and comply with the requirements of the International Convention for Safe Containers.

3. Handling

The container will be constructed to be capable of being handled without any permanent deformation, which will render it unsuitable for use or any other abnormality during the following conditions:

1) Lifting, full or empty, at the top corner fittings vertically by means of spreaders fitted with hooks, shackles or twistlocks.
2) Lifting, full or empty, at the bottom corner fittings using slings with appropriate terminal fittings at slings angle of forty-five (45) degrees to horizontal.
3) Lifting, full or empty, at two fork pocket by fork lift truck.

4. Transportation

The container shall be constructed to be suitable for transportation for following modes without any permanent deformation which will render the container unsuitable to use or any abnormality.

4.1 Marine:

- **In the ship cell guides:** Eight (8) high stacked based on Max. gross weight 30,480 kg.
- **On the deck:** Six (6) high stacked and secured by suitable vertical and diagonal wire lashings.

4.2 Road - On flat bed or skeletal chassis:

Secured by twistlocks or the equivalent at the four bottom corner fittings.

4.3 Rail - On the flat cars or special container car:

Secured by twistlocks or the equivalent at the four bottom corner fittings.

5. Dimensions and Ratings

5.1 Dimension

	External Dimensions	Internal Dimensions
Length	6,058 (0, -6) mm	5,898 (0, -6) mm
Width	2,438 (0, -5) mm	2,352 (0, -5) mm
Height	2,896 (0, -5) mm	2,698 (0, -5) mm

No part of the container will protrude beyond the external dimensions mentioned above.

Maximum allowable differences between two diagonals on any one of the following surfaces are as follows:

Roof, Bottom and Side Diagonals ..... 13 mm
Front and Rear Diagonals ..... 10 mm.

5.2 Door Opening

Width	2,340 (0, -5)	mm
Height	2,585 (0, -5)	mm

5.3 Fork Pocket

Width	360	mm
Height	115	mm
Center distance	2,080	mm

5.4 Inside Cubic Capacity

37.4 cu.m 1,320 cu.ft

5.5 Rating

Maximum Gross Weight	30,480 kg	67,200 lbs
Maximum Payload	28,240 kg	62,260 lbs
Tare Weight (±2%)	2,240 kg	4,940 lbs

5.6 Corner Protrusions

1) The upper faces of the top corner fittings will protrude above the highest level of the roof construction except corner plate by 6 mm.
2) For the containers under empty condition the lower faces of the cross members in their bases including their end transverse members shall be on a plane located at 12.5 (-1.5, +5) mm above the lower faces of the bottom corner fittings.
3) The outer side faces of the corner fittings will protrude from the outside faces of the corner post by minimum 3 mm. The outer side faces of the corner fittings will protrude from the outside faces of the side walls by nominal 7 mm and from the outside faces of the front end wall by 7.4 mm.
4) For the containers under the condition such as the load equal to 1.8R - T is uniformly distributed over the floor, no part of the container base will deflect by more than 6 mm below the lower faces of the bottom corner fittings.

6. Construction

6.1 General

The container will be constructed with steel frames, fully vertically corrugated steel side and end walls, die-stamped corrugated steel roof, wooden flooring, corrugated double hinged doors and ISO corner fittings at eight corners. All steelworks will be built up by means of automatic and semi-automatic CO2 gas arc welding. All exterior weldings including that on base structure will be continuous to give perfect watertightness, Interior welds will be intermittent with a minimum bead length of 25 mm for every 200 mm. All the welds, even spots, will have penetration without undercutting or porosity. The tolerance of steel plate thickness will obey JIS standard G3193-1990, table 4.

6.2 Corner Fittings

Corner fittings will be designed in accordance with ISO/1161: 1984 standard and manufactured at the workshops approved by the classification society.

6.3 Base Frame

The base frame will be composed of two (2) bottom side rails, a number of crossmembers and a pair of fork pockets, which are welded together as a sub-assembly.

6.3.1 Bottom Side Rail

Each bottom side rail is built of a double "Z" section steel pressing. The bottom flange face outwards so as to be easily repaired and hard to corrode.The thickness at bends after forming is not less than 3.6mm.

Qty. : Two (2).
Shape : Double "Z" section.
Dimension : 155 x 52 x 28 x 4.5 mm.

6.3.2 Crossmember

The crossmembers are composed of a number of small pressed channel section and some large one with three 4.0 mm thick webs located beneath each board joint of the plywood, which are placed at certain center distance.

Shape : " C " section
Small one : 122 x 45 x 45 x 4.0 mm , Qty. : 16
Large one : 122 x 75 x 45 x 4.0 mm , Qty. : 2

6.3.3 Fork Pocket

One pair of fork pockets will be provided in accordance with ISO requirements for loaded handling. Each fork pocket is constructed with two adjacent crossmembers, a top plate and two bottom end plates. An angle stiffener plate will be welded to each opening of fork pocket.

Top plate : 3.0 mm Thk.
Bottom plate : 6.0 mm Thk.
Stiffener plate : 4.0 mm Thk.

6.3.4 Reinforcement

Reinforcement plates will be welded at two ends of bottom side rail.

Dimension: 200 x 150 x 4.5 mm

6.4 Front End

The front end will be composed of corrugated end wall and front end frame, which are welded together as a sub-assembly.

6.4.1 Front End Wall

The front end wall is composed of steel sheet fully vertically corrugated into trapezium section, butt joint together to form one panel by means of automatic welding.

Thickness: 2.0 mm

Corrugation dimension- Outerface: 110 mm , Depth: 45.6 mm
Interface: 104 mm , Slope: 18 mm

6.4.2 Front End Frame

The front end frame will be composed of one front sill, two corner posts, one front header and four corner castings.

6.4.2.1 Front Sill

The front sill is made of a special "C" section steel pressed with vertical webs as the stiffener.

Front sill : 4.0 mm Thk.
Web : 4.0 mm Thk. Qty.: 3 Pcs.

6.4.2.2 Corner Post

Each corner post is made of a 6 mm thick section steel pressing to ensure the suitable strength, light-weight and easy maintenance.

6.4.2.3 Front Header

The front header is constructed of one 4.0 mm thick "Z" shaped pressing steel plate with reinforcements at each top corner. The inner part is extended inwards of the container certain distance with full width from front part of top corner fittings.

6.5 Rear End

Rear end is composed of Rear End Frame which consists of one door sill, two corner posts, one rear header with header plate and four corner fittings, which are welded together as a sub-assembly, and Door Systems with locking devices.

6.5.1 Door Sill

The door sill is built of a special channel section steel pressing with internal ribs as stiffeners at the back of each cam keeper. The upper face has a slope for better drainage and the highest part is on the same level to the upper face of the wooden floor.

a) Door sill : 4.5 mm thick Slope : 1:10 approx.
b) Stiffener ribs : 4.0 mm thick Qty. : 4 Pcs.

6.5.2 Corner Post

Each corner post is constructed from an inner part of channel shaped hot-rolled section steel and an outer part of steel pressing, welded together to form a hollow section to ensure the door opening and suitable strength against the

stacking and racking force. Four (4) sets of hinge pin lugs are welded to each outer part of the corner post.

Inner part : 113 x 40 x 12 mm
Outer part : 6.0 mm thick

6.5.3 Door Header

The door header is constructed from a lower part of a "U" shaped steel pressing with internal stiffener ribs at the location of the back of cam keeper and an upper part of steel pressing rear header plate, they are welded together to form a box section to provide a high rigidity.

Rear header : 4.0 mm thick
Header plate : 3.0 mm thick
Rib : 4.0 mm thick, Qty.: 4

6.5.4 Door Systems

Doors will consist of two door leaves, each leaf with two locking devices, four hinges and pins, seal gaskets and the door holders. The doors will be installed by hinge pins to the rear end frame and capable of swinging about 270 degrees.

6.5.4.1 Door Leaves

Each leaf consists of door panel, steel door frame which consists of horizontal (upper & lower) and vertical (inner & outer) members. They are welded together to form the rectangular door leaf. The door are so arranged that the left leaf can not be opened without displacement of the right leaf.

1) Door panel : With 2 corrugations
   Depth : 40 mm
   Interface : 70 mm
   Slope : 32 mm
   Panel thickness : 2.0 mm
2) Door frame :

a) Horizontal door member:150 x 50 x 3.0 mm, channel section
b) Vertical door member:100 x 50 x 3.2 mm RHS (inner & outer)

6.5.4.2 Hinges and Pins

Four reinforced forged hinges, providing with bushed hole, are welded to each door leaf. Each door is installed by hinge pins, washers and bushings.

Washer - SUS304, under the bottom of hinge
Bushing - Self-lubricating synthetic
Pin - SUS304

6.5.4.3 Locking Devices

Two locking bars are of steel tube with handles, anti-racking rings and cam ends, and fixed to each door leaf with bolts / nuts and six huck bolts at TIR locations, by top and bottom bearing brackets and bar guide brackets. The bars are suspended in bearing brackets with bush of self-lubricating synthetic material. Cam-keepers are welded to the door header and sill.

a) Locking device type: Saejin SJ-88MOD, HaiHang HH-ET/S MODIFIED or Suraloc SL-F/5 with secura cam & keeper.

b) Locking bars treatment: Hot-Dipped galvanized (75 Microns)
c) Bolts & nuts treatment: HDG bolts and EZP nuts.
d) Cam keeper treatment: Electro zinc plated.

6.5.4.4 Door Holder and Receptacle

A door holder per door, made of mixed nylon rope, is tied to the center side locking rod & the receptacle (door hook) is welded to each bottom side rail to remain the door at the open position.

6.5.4.5 Seal Gaskets

The black door seal gaskets are of "J-C" type EPDM rubber. They are attached to the door frame with stainless steel rivets and retainer strips. The gasket is set with adhesive sealant on the back.

6.5.4.6 Shim

The E.P.D.M shim will be placed over the holes on the door for fastener.

6.6 Side Wall Assembly

6.6.1 Top Side Rails

Each top side rail is used a square steel pipe.

Rail: 60 x 60 x 3.0 mm RHS

6.6.2 Side Walls

Each side wall will be composed of a number of sheets for the intermediate (inner) parts and outer panels at each end of side wall, fully vertically corrugated into trapezium section, butt welded together to form one panel by automatic welding.

a) Inner panel : 1.6 mm Thk. , Qty. : 3 Pcs/Each side
b) Outer panel : 1.6 mm Thk. , Qty. : 2 Pcs/Each side
c) Trapezium:

Outer face	:	72 mm ,	Slope	:	68 mm
Inner face	:	70 mm ,	Depth	:	36 mm
Pitch	:	278 mm ,			

6.7 Roof

The roof will be constructed by several die-stamp corrugated steel sheets with a certain upwards camber at the center of each trough and corrugation, these sheets are butt jointed together to form one panel by automatic welding.

Corrugation Shape	-	Depth	:	20 mm ,	Pitch	:	209 mm
		Inter face	:	91 mm ,	Slope	:	13.5 mm
		Outer face	:	91 mm ,			
		Camber upwards : 5 mm					
Panel thickness	:	2.0 mm					
Sheet Qty.	:	5 Pcs.					

6.7.1 Roof reinforcement plate

Four 3.0mm Thk. reinforcement plates shall be mounted around the four corner fittings.

6.8 Floor

6.8.1 The Floor Boards

The floor consists of plywood. The plywood is treated with wood preservative containing according to the latest requirement of Australian Biosecurity Import Conditions (BICON).

Plywood thickness	:	28 mm
Plywood moisture content	:	Less than 14 %
Plywood ply number	:	Min. 19 plies
Plywood material	:	Bamboo hybrid, Apitong or Hardwood, Hardwood with PSF.

6.8.2 Arrangement and Fixing

The plywood boards are longitudinally laid on the crossmember with a pre-blasted painted and free floating flat steel at the center. The plywood boards are tightly secured to each crossmember with countersunk self-tapping electro-zinc plated steel screws. These heads of the floor screws are countersunk below the level of the upper surface of the floor by 1.5 mm to 2.5 mm.

Screws	:	M8 x 45 x Φ16(head), Electro zinc plated
Screws' Qty.	:	6 Pcs/end row, 4 Pcs/other
Flat bar	:	50 x 4.0 mm, primed and painted

6.9 Special Features

6.9.1 Customs Seal Provision

Customs seal provisions are made on each locking handle and retainer in accordance with TIR requirements.

6.9.2 Lashing rings

1) Lashing rings are welded to each bottom and top side rail at corresponding recessed area of side wall.
   Lashing ring Qty. / Each bottom or top side rail: 5, Total: 20
2) Lashing rods are welded on each rear & front corner post slot.
   Lashing rods Qty. / Each front corner post: 3, Total: 6
   Lashing rods Qty. / Each rear corner post: 3, Total: 6
3) Capabilities of pull load of every lashing point are as following:
   a) Lashing rings on the side rails: 1,500 kg/each
   b) Lashing rods on the corner posts: 1,000 kg/each
4) Treatment of lashing ring / bar: Electro zinc plated

6.9.3 Sill Cut-Outs

200 x 75 x 9mm channel section steel recesses are provided in each end of rear and front sills adjacent to the bottom fitting to prevent damage due to any twistlock misalignment.

6.9.4 Ventilators

ventilator with E.P.D.M seal gasket is supplied on side wall when facing the outside of container, fixed by aluminum huck bolts, the seal is to be applied on

the edges except the bottom side of the ventilator, after the completion of paint.
Quantity: 2 / each side panel
Material: ABS Labyrinth Type.

7. Preservation

7.1 Surface Preparation of the Steelwork

1) All the steel surfaces prior to forming or after will be degreased and shot blasted to Swedish Standard SA 2.5 to obtain the surface roughness at 25 to 35 microns which can result in the removement of all the rust, dirt, mill scale and all other foreign materials.
2) Locking rod assemblies, which are welded with gear cams, bars holder and handle hinges, are hot dipping galvanized (Thickness: 75 microns).
3) All fasteners such as nuts, washers, self-tapping screws, which are not mentioned in this Spec. will be electro zinc plated to 13 Microns. Bolt/Huck-bolts to be H.D.G. 40 μ .
4) Hinges and cam keepers will be electro zinc plated to 13 Microns.
5) Sealant
   Each perimeter of the floor, all the overlapped joints of inside, all the holes for bolts and nuts and all the places where may leak water will be sealed to give prevention against water entry.
   Sealant Materials:
   a. Chloroprene/Neoprene/waterborne (Cargo contact area)
   b. Butyl (Hidden parts and other area)

7.2 Coating

7.2.1 Prior to Assembly

All the steel surfaces will be coated with primer paint immediately after shot-blasting.

7.2.2 After Assembly

All the weld joints will be shot-blasted to remove all the welding fluxes, spatters, burnt primer coatings caused by welding heat, and other foreign materials, and followed with the secondary paint operation immediately.

7.2.3 All the surface of the assembled container will have coating system as follows:

Process	Paint Name	DFT (μ)
Exterior Surface	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne epoxy primer	40
	Waterborne acrylic topcoat Hempel 31550 (blue)	40
	Total :	110
Interior Surface	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20
	Waterborne epoxy topcoat, RAL 7035	50
	Total:	80
Under Structure	Epoxy zinc rich primer	10
	Waterborne epoxy zinc rich primer	20

	Waterborne undercoating (Jointas JT-321, Ivan-512, JL-100)	200(steel parts) 100(floorboard)
	Total:	230(steel parts)

* The DFT decision rules in practice is 90-10:
  For each area, and coat, less than 10% of the readings may be below the DFT specified. No readings may be below 90% of the DFT specified. Areas where the total DFT is more than twice the DFT specified are not acceptable and must be redone completely.
* Epoxy zinc rich primer and epoxy topcoat are not applied to the wooden floor.

7.2.4 The paint suppliers are **KCC.**

8. Markings

8.1 Lettering

The markings will be designed decal and arranged according to buyer's requirement. The markings consist of the following contents:

1) Owner's emblems ..... according to owner's design.
2) Owner's code , serial number and check digit (outside & inside)
3) Size and type code (outside)
4) Weight details (on door)
5) Material of marking: Calender Vinyl film.

8.2 Consolidate Plate

8.2.1 The containers will bear marking plate in accordance with the requirements of the Classification Authorities and owner such as mentioned in section 2 in this specification. The plate will be permanently riveted to the specified position by rivets and adhesive tape.

Plate material : SUS304
Plate treatment : Chemically etched & enameled
Rivets material : SUS304
Plate thickness : 0.8 mm

8.2.2 Contents of the plate:

1) Owner's plate (name and address).
2) CSC approval No.
3) Customs approval No.
4) Australian wood treatment.

The engraved letters on this plate are as following:

IM : Immunization
XXXX: The name of preservative.
XXXX: The time of immunization.

5) Date of manufacture (year-engraved, month-stamped)
6) Owner's serial number (stamped)
7) Owner's model number.

9. Testing and Inspection

9.1 Proto-type Container

Proto-type container to be manufactured in accordance with this specification and shall be tested according to procedures described in the ISO 1496/1 and the Classification Society's requirements.

9.2 Container in Mass Production

9.2.1 Every container in mass production shall be manufactured under effective quality control procedures to meet the specified standards. One in every 200 of containers shall be tested for following items:

a) Stacking test
b) Lifting from top corner fitting test
c) Lifting from bottom corner fitting test
d) Floor test.

After completion, all the containers shall be subject to dimension check, door operation check, light leakage test & production type weather-proofness test. The containers shall be inspected by the surveyor of Classification Society and identified by the appropriate society seal.

9.2.2 5% of assembled corner post structure will have tension test with 0.5R after welding in the construction line.

9.3 The proposed sequence & procedure table for general prototype testing:

Sequence of test	Test Load	Procedure
a. Stacking	Internal Load: 1.8R-T Testing load: 97,200kg/post	Hydraulic cylinder load to corner post through top corner fittings.
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 fitting 45° Deg. To horizontal. Time duration: 5 mins.
d. Lifting from Fork Pocket	Internal Load: 1.6R-T	Lifted by horizontal bars. Bar length: 1828 mm, Bar width: 200 mm, Time duration: 5 mins.
e. Restraint (Longitudinal)	Testing Load: 2R(R/side) Internal Load: R-T	Hydraulic cylinder load applied to bottom side rails in compression & then tension.
f. Floor Strength	Truck Load: 7,260 kg	Special truck is used. Total contact area: 284 sq cm, Wheel width: 180 mm, Wheel center distance: 760 mm
g. Wall Strength (Front & Door)	Test Load: 0.4 P	Compressed air bag is used.
h. Side Wall Strength	Test Load: 0.6 P	Compressed air bag is used.
i. Roof Strength	Test Load: 300 kg	Applied area will be the weakest place of 600 x 300 mm longitudinal & transverse.
j. Rigidity (Transverse)	Test Force: 15,240 kg	Hydraulic cylinder will be applied to front top end rail & door header through top

	(150 kn)	corner fittings, each time pulling & pushing.
k. Rigidity (Longitudinal)	Test Force: 7,620 kg (75 kn)	Hydraulic cylinder load will applied to side top rail through top corner fittings.
l. Weather proofness	Nozzle: 12.5 mm (inside dia.) Pressure: 100 kpa (1 kg/sq.cm)	Distance: 1.5 m Speed: 100 mm/Sec.

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

9.4 Inspection

9.4.1 Materials and Component Parts Inspection

All the materials and components will be inspected by Quality Control Dept. To make sure that the most suitable and qualified components being used for the containers and to meet this specification.

9.4.2 Production Line Inspection

Every container will be manufactured under effective Quality Control procedures, and every production line of the factory will be inspected and controlled by the Quality Control Dept. to meet this specification.

10. Documents Submission

10.1 When Contracting

CIMC shall submit the specification with following drawing (3 sets):

General arrangement
Base assembly
Rear end assembly
Marking arrangement
Side wall assembly
Front end assembly
Roof assembly

10.2 When delivery

The owner shall inform CIMC all the documents needed two weeks before the date of delivery and CIMC will be submit them to the owner.

11. Guarantee

The guarantee period will commence at the day of delivery and the delivery is not later than three (3) months after the containers are accepted by the owner.

11.1 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 guarantee shall be applied to all the kinds of faults / failures affecting more than 10 % of any given part of the container, 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. Corrosion is defined as the rusting exceeding RE3 (European scale of degree of rusting).

11.2 Other Guarantee

All containers shall be guaranteed against any defects or omissions in construction, poor workmanship, or defective materials for a period of two (2) years. 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.

12. Materials

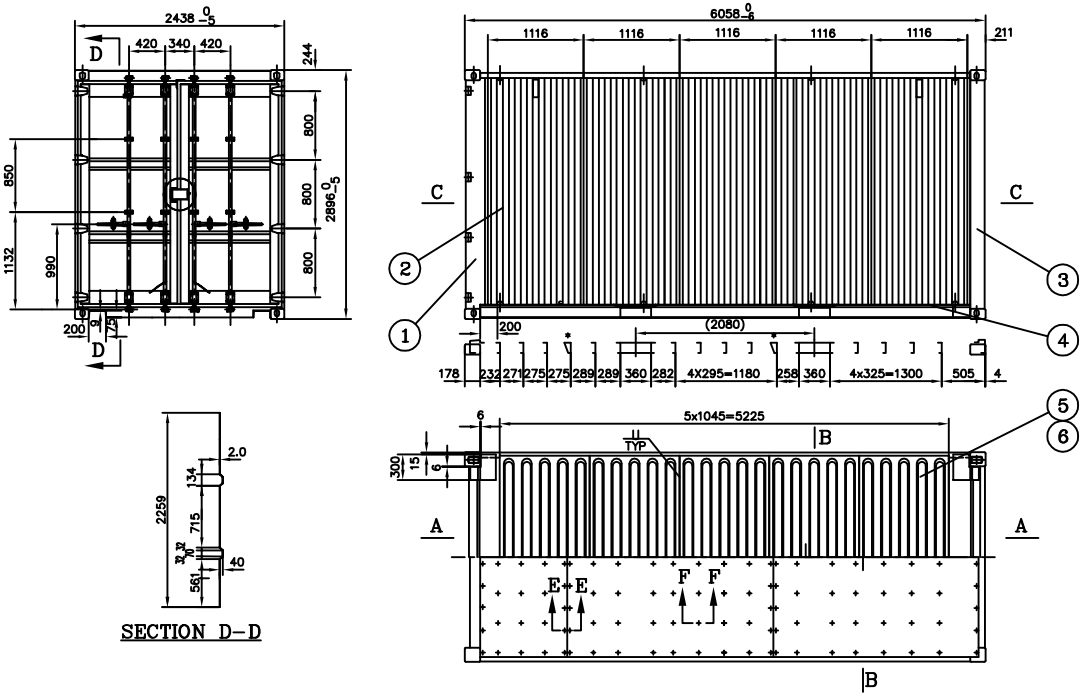
The main materials used in construction are as follows or approved equivalent:

Where used	Materials
Front End Assembly	
Front corner post	Corten A
Front sill	Corten A
Front panel	Corten A
Front header	Corten A
Base Assembly	
Bottom side rail	Corten A
Crossmember	Corten A
Fork pocket assembly	Corten A
Floor center rail	Corten A
Rear End Assembly	
Rear corner post (outer)	Corten A
Rear corner post (inner)	SM50YA (or SS50)
Rear header cap	Corten A
Door header lower	Corten A
Door sill	Corten A
Door panel frame	Corten A
Door panel	Corten A
Door hinge	SS41, Electro zinc plated
Door hinge pin	SUS304
Locking cam keeper	SS41, Electro zinc plated
Locking cam	SS41, H.D.G.
Locking rod	STK41, H.D.G.
Door gasket	E.P.D.M
Gasket retainer	SUS304
Washer	SUS304
Rivet	SUS304
Shim	E.P.D.M.
Corner fitting	SCW49
Side Wall Assembly	
Side panel	Corten A
Top side rail	Corten A
Lashing bar, lashing ring	SS41, Electro zinc plated
Ventilator	A.B.S
Roof	
Roof corner gusset	Corten A
Roof panel	Corten A

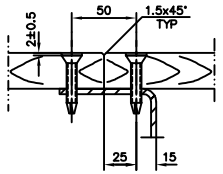
Note:

Material	Yield point (Kg/sq.mm)	Tensile strength (Kg/sq.mm)
SS41	25	41
JIS SCW49	28	49
SS50	29	50
SM50YA	37	50
Corten A	35	49
SM50A	33	50

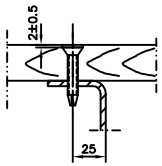
DWG No.: 000A25G1G



SECTION D–D



SECTION E–E
1 : 2

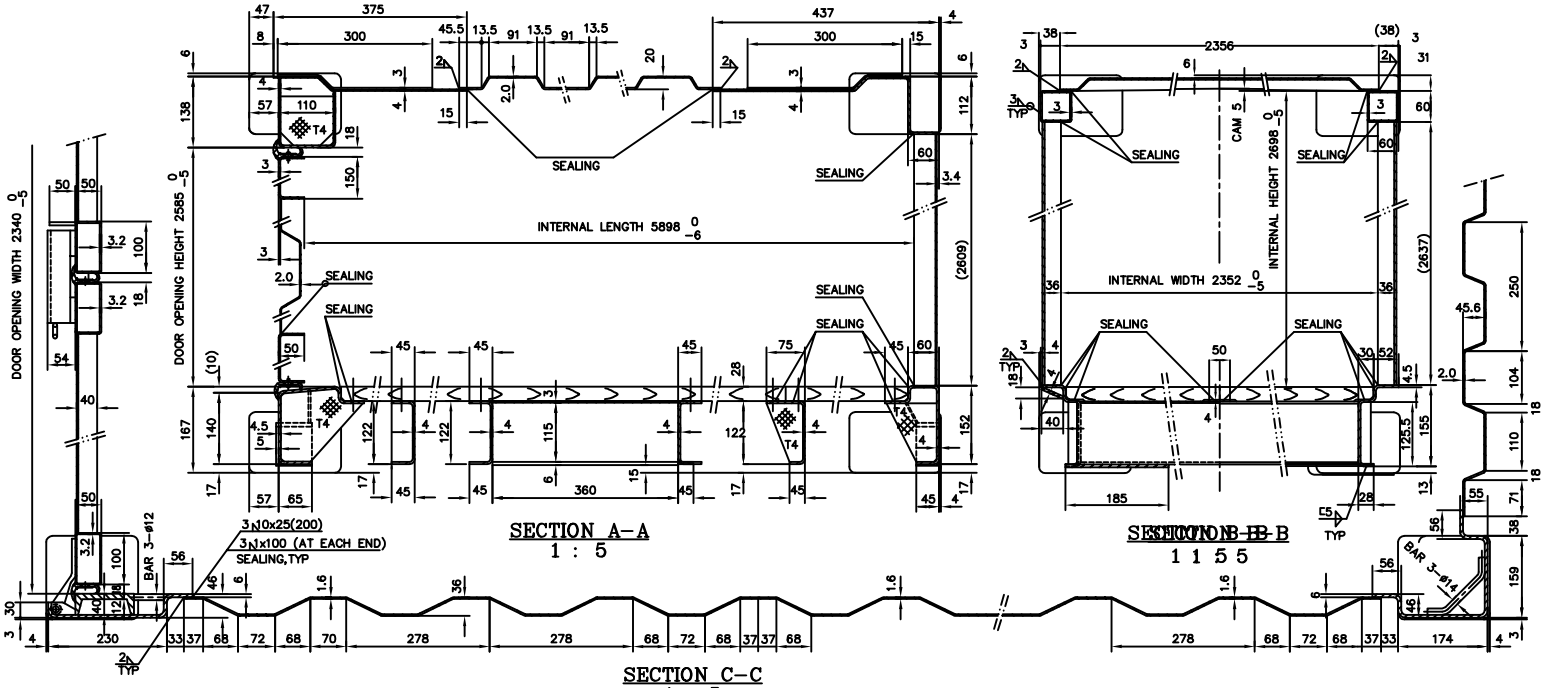


SECTION F–F
1 : 2

CLASSIFICATION		DIMENSION	
EXTERNAL	LENGTH	6058 0 -6	19' -10 1/2" 0 -15/64"
	WIDTH	2438 0 -5	8' 0 -3/16"
	HEIGHT	2896 0 -5	9' -6" 0 -3/16"
INTERNAL	LENGTH	5898 0 -6	19' -4 13/64" 0 -15/64"
	WIDTH	2352 0 -5	7' -8 19/32" 0 -3/16"
	HEIGHT	2698 0 -5	8' -10 7/32" 0 -3/16"
DOOR OPENING	WIDTH	2340 0 -5	7' -8 1/8" 0 -3/16"
	HEIGHT	2585 0 -5	8' -5 49/64" 0 -3/16"
INTERNAL CUBIC CAPACITY		37.4 M³	1320 FT³

MAX GROSS WEIGHT	30480 KG	67200 LBS
TARE WEIGHT	2240 KGS	4940 LBS
MAX PAY LOAD	28240 KGS	62260 LBS
STACKING TEST LOAD	86400 KG	190480 LBS
FLOOR STRENGTH	7260 KG	16000 LBS

ITEM	DESCRIPTION	DWG NO.	ISSUE	QTY.
6	MARKING ARRANGEMENT	087S25G1M	18A–00	1
5	ROOF ASSEMBLY	087S22G1R	18A–00	1
4	BASE ASSEMBLY	087S22G1B	18A–00	1
3	FRONT END ASSEMBLY	087S25G1F	18A–00	1
2	SIDE WALL ASSEMBLY	087S25G1S	18A–00	2
1	REAR END ASSEMBLY	087S25G1E	18A–00	1



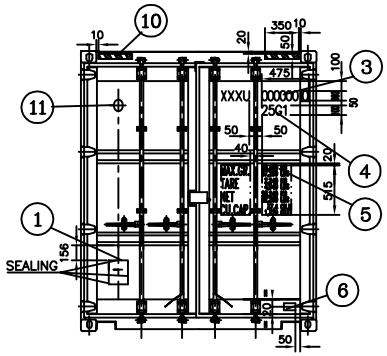
SECTION A–A
1 : 5

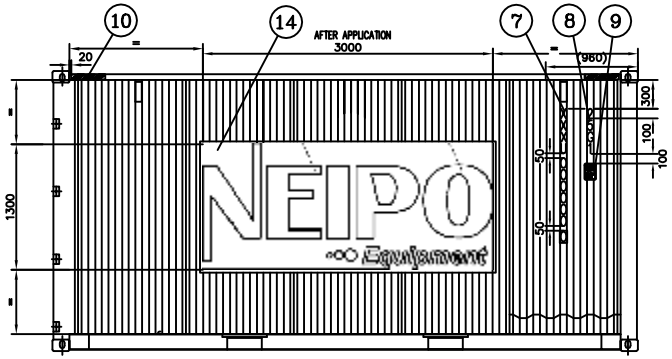
SECTION B–B
1 : 5

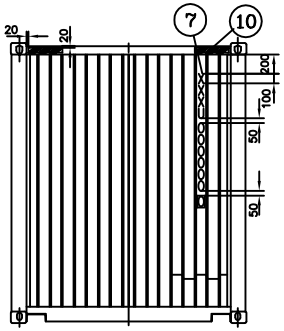
SECTION C–C
1 : 5

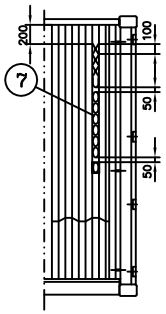
TITLE: 20'x8'x9'6" GENERAL ARRANGEMENT		
CUSTOMER: CIMC	SCALE: 1 : 30	
DESIGNED BY: LZD May.5,2022	WEIGHT: KG.	QTY.: 1
CHECKED BY: HJP May.5,2022	DWG No.: 000A25G1G	
APPROVED BY: HSD May.5,2022		
SHEET 1 OF 1 SHEETS	ISSUE: 22A–00	

DWG No.: 000A25G1M

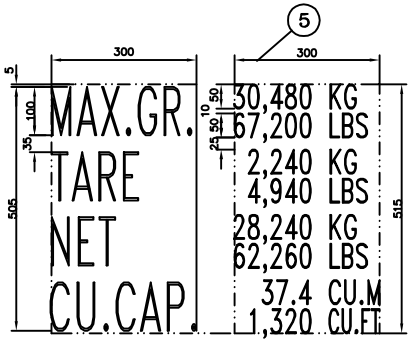


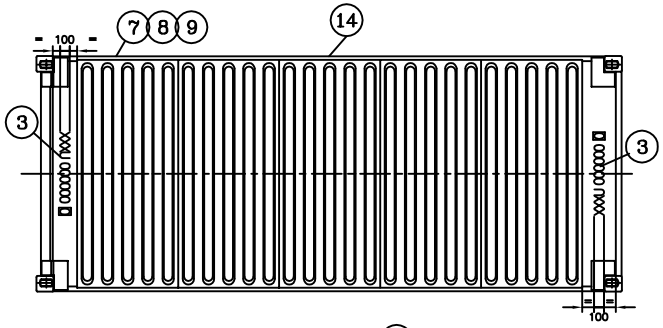


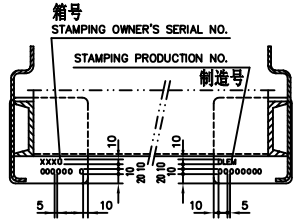




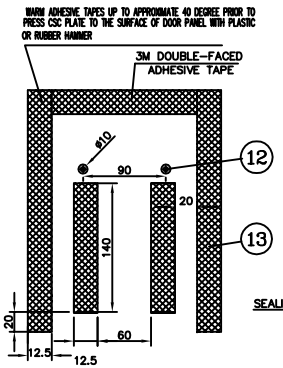
INSIDE RIGHT SIDE WALL

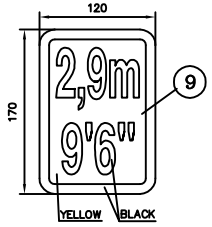


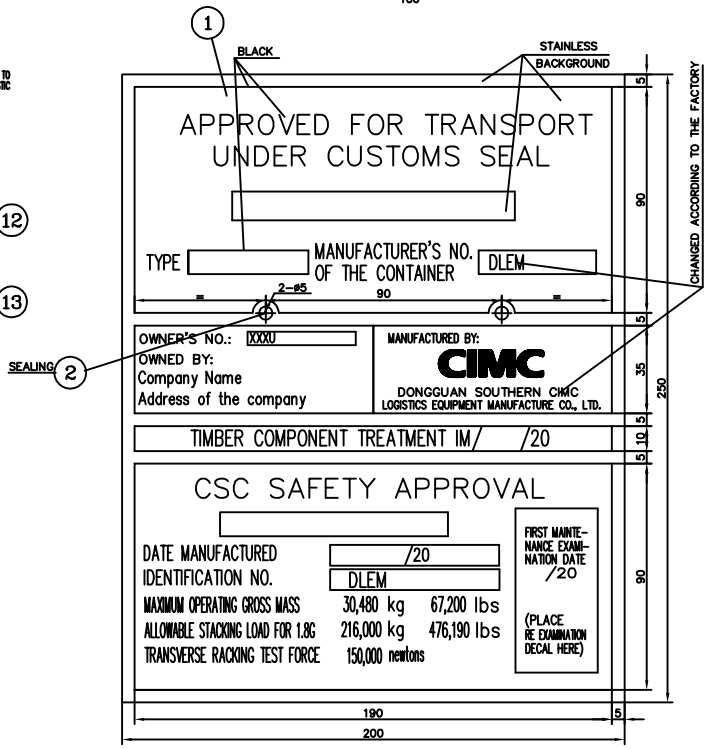




REAR END BOTTOM CORNER FITTING







NOTE:
DECAL MATERIAL: Calender Vinyl film
1. 外面漆颜色 :RAL2002
1. KISSCUT COLOUR : WHITE

ITEM	DESCRIPTION	DWG No.	MATERIAL	TH.	QTY.
14	SIDE LOGO				2
13	DOUBLE SIDE ADHESIVE TAPE	M040001			0.875M
12	PLAIN WASHER	0.8x45(ID)x410(OD)	SUS304		2
11	CLASSIFICATION DECAL				1
10	ZEBRA MARK		BLACK ON YELLOW		8
9	9'6" HEIGHT MARK		BLACK ON YELLOW		2
8	SIZE AND TYPE CODE (SIDE)		KISSCUT		2
7	OWNER'S CODE AND SERIAL NUMBERS (SIDE, FRONT, INSIDE)		KISSCUT		4
6	CIMC DECAL				1
5	WEIGHT DECAL	M100001	KISSCUT		1ST
4	SIZE AND TYPE CODE(DOOR)		KISSCUT		1
3	OWNER'S CODE AND SERIAL NUMBERS(DOOR, ROOF)		KISSCUT		3
2	RIVET (GB/T12618-90)	Φ4.8x7,OPEN TYPE	SUS304		2
1	CONSOLIDATED PLATE(T=0.8mm)	M010001	SUS304		1

TITLE: MARKING ARRANGEMENT

CUSTOMER: CIMC		SCALE: 1 : 25	
DESIGNED BY: LZD	Aug.10.2013	WEIGHT: KG.	QTY.: 1
CHECKED BY: JYQ	Aug.10.2013	DWG No.: 000A25G1M	
APPROVED BY: HSD	Aug.10.2013		
SHEET 1 OF 1 SHEETS		ISSUE: 21A-00	