

Technical Specification
For
20' x 8' x 9'6" ISO Type
Dry Cargo Steel Container
(MAERSK-S)
(4 vents each 20ft side wall and 2 vents at front wall)

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This specification is used in all factories of

China International Marine Containers (Group) Ltd.

- Including:**
1. Shenzhen Southern CIMC Containers Manufacture Co., Ltd.
 2. Shenzhen Southern CIMC Eastern Logistics Equipment Manufacture Co., Ltd.
 3. Nantong CIMC-Smooth Sail Container Co., Ltd.
 4. Dalian CIMC Logistics Equipment CO.,LTD.
 5. Xinhui CIMC Container Co., Ltd.
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 7. Tianjin CIMC North Ocean Container Co., Ltd.
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 9. Shanghai CIMC Baowell Industries Co., Ltd.
 10. Zhangzhou CIMC Container Co., Ltd.
 11. Ningbo CIMC Logistic Equipment Co., Ltd.
 12. Taicang CIMC container Co., Ltd.

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Scope

This specification covers design, construction, materials, testing, inspection & prototype container. The container is built in accordance with the requirements of 20'x8'x9'6" Type steel dry freight containers by China International Marine Containers (Group) Limited (CIMC).

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1. General

1.1 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.

1.2 Standards . Regulations and Rules

1.2.1 Standards and Regulations

Containers shall comply with following in their latest editions:

1) ISO/TC-104

- 668 - Series 1 freight containers-Classification, external dimensions and ratings
- 6346 - Coding, identification and marking for freight containers
- 1161 - Specification of corner fittings for series 1 freight containers
- 1496/1 - Specification and testing of series 1 freight containers.
Part 1 : General cargo containers for general purposes
- 830 - Freight containers-Terminology.
- 6359 - Freight containers-Consolidated data plate

3) The Customs Convention on the International Transport of Goods(TIR).

4) The International Convention for Safe Containers (CSC).

5) Transportation Cargo Containers and Unit Loads Quarantine Aspects and Procedures by Commonwealth of Australia Department of Health. (TCT)

1.2.2 To satisfy the requirements of Rules of Classification Society.

2. Approval and Certificates

2.1 Classification Certificate

All the containers shall be certified for design type and individually inspected by Classification Society.

2.2 Production Certificate

The Production Certificate of series containers to be issued by the Classification Society. The Society's seal shall be provided.

2.3 TCT Certificate

Certificate of timber treatment to the requirement of Australia Department of Health.

2.4 Customs Certificate (TIR)

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

2.5 CSC 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) degree 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:** Seven (7) high stacked base on Max. gross weight 30,480 kg (Stacking capacity : 86,400kg/post)
- **On the deck :** Four (4) 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

	<u>External Dimensions</u>	<u>Internal Dimensions</u>
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 out beyond the external dimensions mentioned above.		
Maximum allowable difference between two diagonals on any one of the following surface are as follow:		
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
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5.5 Rating

Maximum Gross Weight	30,480 kg	67,200 lbs
Maximum Payload	28,380 kg	62,570 lbs
Tare Weight	2,100 kg	4,630 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 full penetration without undercutting or porosity.

6.2 Corner Fittings

Corner fittings will be designed in accordance with ISO/1161 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. Double plate will be welded at two ends of bottom side rail to avoid the damages of twistlocks.

Qty. : Two (2).
 Shape : Double " Z " section .
 Dimension : 155 x 52 x 28 x 4.5 mm.
 Double plate end : 300 x 80 x 20 x 4.5 mm, 4 pcs

6.3.2 Crossmember

The crossmembers are composed of a number of small pressed channel section and some large one located with three 4 mm thick stiffeners beneath each board joint of the plywood, which are placed at certain center distance.

Shape	: " C " section	
Small one	: 122 x 45 x 30 x 3.5 mm ,	Qty. : 12
Fork pocket side rail	: 122 x 45 x 30 x 4.0 mm ,	Qty. : 4
Large one	: 122 x 75 x 30 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. A angle stiffener plate will be welded to each opening of fork pocket.

Top plate	: 3.0 mm Thick
Bottom plate	: 6.0 mm Thick, Depth : 185 mm
Stiffener plate	: 4.0 mm Thick

6.3.4 Reinforcement

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

Dimension: 300 x 80 x 20 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: 1.6 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 Thick	
Web	:	4.0 mm Thick	Qty.: 3 Pcs.

6.4.2.2 Corner Post

Each corner post is made of a 6.0 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 3.0 mm thick " Z " shaped pressing steel plate. 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 which are with locking devices. One lock box to be installed.(if in exceptional cases do not require them, Maersk will inform accordingly.)

6.5.1 Door Sill

The door sill is built of a special open pressed section with internal ribs as stiffeners at the back of each cam keeper. The upper face of the sill 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 10 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 : 45.6 mm
Interface : 70 mm
Slope : 32 mm
Panel thickness : 1.6 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 forged hinges with enforced type ('cross design' Hai Hang 92HH-B4-01, SaeJin HF 005/A, or 'V-Shape design' Suraloc SL-21-1C), providing with bushed hole, are welded to each door leaf. Each door is installed by hinge pins, washers and bushings.

- | | | | |
|---------|---|--|-----------------------------|
| Washer | - | Material | : SUS304 . |
| | | Location | : Under the bottom of hinge |
| Bushing | - | Nylon with incombustible properties, one piece of bush by full height of hinge | |
| Pin | - | Material | : SUS304 |

* Hinge should be supplied by the door gear vendor(s).

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 huck bolts according to TIR requirements, by top and bottom bearing brackets and bar guide bracket. The bars are suspended in bearing brackets with bush of self-lubricating synthetic material.

The EPDM shim will be placed over the holes on the door for fastener (except under large bearing brackets)

Cam-keepers are welded to the door header and sill.

Locking device type : Haihang HH-ET/S MODIFIED or Equivalence from SAE JIN SJ-88M, SURLOC SL-F/2, **without** segura cam and keeper. Holes only on the 3rd locking handles/catches, no hole on other handles.

Locking bars treatment : Hot-Dipped galvanized (75 Microns)

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 door seal gaskets (black colour) are of EPDM rubber assembled by rivets, using strip retainers and adhesive sealant on the back.

- | | | |
|----------------|---|---------------------------------|
| Gasket's shape | : | "J - C" Type |
| Retainer | : | Stainless steel / BN4 |
| Rivet | : | Stainless steel(only for shell) |

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 Thick , Qty. : 3 Pcs/Each side
- b) Outer panel : 2.0 mm Thick , 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 : 1.6 mm
- Sheet Qty. : 5 Pcs.

6.7.1 Roof reinforcement plate

Four 3.0 mm Thick 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 preservative according to the latest requirement of Commonwealth Department of Health, Australia. PSF floor only and with a minimum consumption of microns of 120g/sq.m..

- Plywood thickness : 28 mm
- Plywood moisture content : Less than 14 %
- Plywood ply number : Min.19 plies
- Plywood material : Bamboo with PSF/
Hardwood with PSF

***Only for Pentaver:** Require FSC certified floor (without FSC floor logo) for any tropical hardwood in plywood or mixed bamboo/plywood floors.

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. Each screw head should be coated with PU after fixed.

Screws	: M8 x 45 x Φ 16(head) , Electro zinc plated
Screws' Qty.	: 5 Pcs/end row, 4 Pcs/other
Floor centre rail	: 50 x 4 mm, Primed and painted

6.9 Special Features

6.9.1 Customs Seal Provision

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

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: 4, Total : 16
- 2) Lashing bars are welded on each rear & front corner post slot.
Lashing bars Qty. / Each front corner post : 3, Total : 6
Lashing bars 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 bars on the corner posts :1,500 kg/each
- 4) Treatment of lashing ring / bar : Electro zinc plated

6.9.3 Sill Cut-Outs

200 x 75 x 9.0 mm 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

Four ventilators with E.P.D.M seal gasket are supplied on each end side wall, and two ventilators with E.P.D.M seal gasket are supplied on front wall, fixed by three 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 : 4 / each side panel , 2 / front panel

Material : ABS Labyrinth Type.

7. Preservation

7.1 Surface Preparation of the Steelwork

- 1) All the steel surface 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 removal 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 bolts/nuts, washers, self-tapping screws, which are not mentioned in this Spec. will be electro zinc plated to 13 Microns .

4) 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. Waterborne or Chloroprene (Cargo contact area)
- b. Butyl (Hidden parts)

7.2 Coating

7.2.1 Prior to Assembly

All the steel surface 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 :

Only for Pentaver as below:

Solvent paint system:

Process	Paint Name	DFT (μ)	
Exterior Surface	Epoxy zinc rich primer	30	
	Epoxy primer Color: RAL 7035	40	
	Acrylic topcoat	40	
	Total :110		
Interior Surface	Epoxy zinc rich primer	25	Interior Roof 35
	Epoxy Topcoat Colour: RAL 7035	50	Interior Roof 50
	Total: 75		Interior Roof 85
Underside of the structure	Epoxy zinc rich primer	25	
	Bituminous	140	
	Total: 165		

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

* Bitumen should be on the steel parts only and not on the wooden floor.

* **The Zinc Rich primer zinc content is min 80% by weight.**

Waterborne paint system (only for Pentalver):

DOWILL paint system as below:

Process	Paint Name	DOWILL CODE	DFT(μ)
Exterior Surface	SB Epoxy Zinc Rich Primer	Dwep ZINC 500	10
	WB Epoxy Zinc Rich Primer	DWB ZNC 30	20
	WB Epoxy/Acrylic Primer, RAL7035	DWB AC PRIMER	50
	WB Acrylic Topcoat	DWB ACRYLIC 15	35
			Total: 115
Interior Surface	SB Epoxy Zinc Rich Primer	Dwep ZINC 500	10
	WB Epoxy Zinc Rich Primer	DWB ZNC 30	20 (roof 25)
	WB Epoxy/Acrylic Topcoat	DWB AC INTERIOR RAL7035	50
			Total: 80 (roof 85)
Under structure	SB Epoxy Zinc Rich Primer	Dwep ZINC 500	10
	WB Epoxy Zinc Rich Primer	DWB ZNC 30	20
	WB Undercoating	WB UNDERCOATING (JT-321, BW06-1)	100
			Total: 130

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

* Bitumen should be on the steel parts only and not on the wooden floor.

* The Zinc Rich primer zinc content is min 80% by weight.

CHUGOKU paint system as below:

Process	Paint Name	CHUGOKU CODE	DFT(μ)
Exterior Surface	SB Epoxy Zinc Rich Primer	EPICON ZINC SC B-2 M GREY	10
	WB Epoxy Zinc Rich Primer	EKOMATE ZINC M	20
	WB Epoxy/Acrylic Primer, RAL7035	EKOMATE 100 PRIMER GREY CSC-9107	40
	WB Acrylic Topcoat	EKOMATE FINISH	40
			Total: 110
Interior Surface	SB Epoxy Zinc Rich Primer	EPICON ZINC SC B-2 M GREY	10

	WB Epoxy Zinc Rich Primer	EKOMATE ZINC M	15 (roof 25)
	WB Epoxy/Acrylic Topcoat	EKOMATE INTERIOR RAL7035	50
			Total: 75 (roof 85)
Under structure	SB Epoxy Zinc Rich Primer	EPICON ZINC SC B-2 M GREY	10
	WB Epoxy Zinc Rich Primer	EKOMATE ZINC M	15
	WB Undercoating	WB UNDERCOATING (JT-321, BW06-1)	100
			Total: 125

- * Epoxy zinc rich primer and pure epoxy are not applied to the wooden floor.
- * Bitumen should be on the steel parts only and not on the wooden floor.
- * The Zinc Rich primer zinc content is min 80% by weight.

KCC paint system as below:

Process	Paint Name	DOWILL CODE	DFT(μ)
Exterior Surface	SB Epoxy Zinc Rich Primer	EZ175(C)-4184	10
	WB Epoxy Zinc Rich Primer	WZ3300-1184	20
	WB Epoxy Primer,	WP3400-RAL7035	40
	WB Acrylic Topcoat	WT3500	40
			Total: 110
Interior Surface	SB Epoxy Zinc Rich Primer	EZ175(C)-4184	10
	WB Epoxy Zinc Rich Primer	WZ3300-1184	15 (roof 25)
	WB Epoxy Topcoat	WT3600-RAL7035	50
			Total: 75 (roof 85)
Under structure	SB Epoxy Zinc Rich Primer	EZ175(C)-4184	10
	WB Epoxy Zinc Rich Primer	WZ3300-1184	15
	WB Undercoating	WB UNDERCOATING (JT-321, BW06-1)	100
			Total: 125

- * Epoxy zinc rich primer and pure epoxy are not applied to the wooden floor.
- * Bitumen should be on the steel parts only and not on the wooden floor.
- * The Zinc Rich primer zinc content is min 80% by weight.

For Container-IT and other owner as below:

Process	Paint Name	DFT (μ)
Exterior Surface	Epoxy zinc rich primer	30
	Epoxy primer Color: RAL 7035	40
	Acrylic topcoat	40
	Total :110	
Interior Surface	Epoxy zinc rich primer	25
	Epoxy Topcoat Colour: RAL 7035	50
	Total: 75	
Underside of the structure	Epoxy zinc rich primer	25
	Bituminous	140
	Total: 165	

- * Epoxy zinc rich primer and pure epoxy are not applied to the wooden floor.
- * Bitumen should be on the steel parts and the wooden floor.
- * **The Zinc Rich primer zinc content is min 80% by weight.**

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) UIC marking
- 6) Other marking: According to owner's requirements.
e.g. corten decal
- 7) Material of marking : Calander Vinyl
- 8) Supplier of marking : Lettering Supplier marking can be all approved from Maersk line decal suppliers.

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 2.2 in this specification. The plate will be fitted by adhesive tape and with two closed type SUS rivet in centre.

Plate material	:	Stainless steel
Plate treatment	:	Chemically etched & enameled
Rivets material	:	Stainless steel (only for shell)
Plate thickness	:	0.8 mm

8.2.2 Contents of the Plate :

- 1) CSC approval No.
- 2) Next examination date
- 3) Customs approval No.
- 4) Australian wood treatment .

The engraved letters on this plate are as following :

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

- 5) Date of manufacture (year & month-engraved or stamped)
- 6) Owner's serial number (stamped)
- 7) Owner's model number.
- 8) Side Wall Tested To 0.5P

In case the production is for Container-it then the name of container-it should be mentioned on the plate (CIU units). For MGBU and PSSU no owner should be mentioned.

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. The containers will be fabricated & tested in advance of the mass production.

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) Transverse racking
- 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 Each assembled corner post structure will have tension test with 15,240 kgs after welding in the construction line.

9.3 The proposed criteria table for general prototype testing:

Test No.	Test Load	Method
a. Stacking	Internal Load: 1.8R-T Testing load: 86,400kg/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 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 . Time duration : 5 mins .
f. Floor Strength	Truck Load: 5,460 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. Time duration : 5 mins.

h. Side Wall Strength	Test Load: 0.5P	Compressed air bag is used. Time duration : 5 mins.
i. Roof Strength	Test Load: 300 kg	Applied area will be the weakest place of 600 x 300 mm longitudinal & transverse. Time duration : 5 mins .
j. Rigidity (Transverse)	Test Force: 15,240 kg (150 kn)	Hydraulic cylinder will be applied to front top end rail & door header through top corner fittings, each time pulling & pushing. Time duration : 5 mins .
k. Rigidity (Longitudinal)	Test Force: 7,620 kg (75 kn)	Hydraulic cylinder load will applied to side top rail through top corner fittings. Time duration : 5 mins .
l. Uneven Ground Test	Test Load: P	One rear corner fittings raised 12 mm above datum. Door to operate easily.
m. 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 containers 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	Side wall assembly
Base assembly	Front end assembly
Rear end assembly	Marking arrangement

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. Materials

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

Where used	Materials
<u>Front End Assembly</u>	
Front corner post	SM50A
Front sill	Corten A
Front panel	Corten A
Front header	Corten A

Front rail	Corten A
<u>Base Assembly</u>	
Bottom side rail	Corten A
Crossmember	Corten A
Fork pocket	Corten A
Floor centre rail	Corten A
Floor support angle	Corten A
<u>Rear End Assembly</u>	
Rear corner post (outer)	SM50A
Rear corner post (inner)	SM50YA (or SS50)
Door sill	Corten A
Door header lower	Corten A
Rear header cap	Corten A
Door panel frame	Corten A
Door panel	Corten A
Door hinge	S20C
Door hinge pin	Stainless steel
Locking cam, cam keeper	S20C
Locking rod	STK41
Door gasket	EPDM
Gasket retainer	Stainless steel / BN4
Washer	Stainless steel
Rivet	Stainless steel
Shim	EPDM
Corner fitting	SCW49
<u>Side Wall Assembly</u>	
Side panel	Corten A
Top side rail	STKR41
Lashing bar, lashing ring	SS41, Electro zinc plated
Ventilator	A.B.S
<u>Roof Assembly</u>	
Roof corner gusset	Corten A
Roof panel	Corten A
<u>Floor</u>	
Floor board	Plywood
Floor screw	Electro zinc plated

Note :

Material	Yield point (Kg/sq.mm)	Tensile strength (Kg/sq.mm)
SS41	25	41
JIS SCW49	28	49
SS50	29	50
S20C	25	42
S25C	28	46

SM50YA	37	50
Corten A	35	49
SM50A	33	50

Exterior Color Option:

1. RAL 5010

*The exterior color is according to the Contract.

12. Vendors

Note, once a vendor is chosen, manufacturer must use said vendor for the entire order, and NOT change vendor during production. In case the manufacture suggest to use a different vendor then first the written approval should be obtainer from Maersk.

Note: For floorboard only

Floorboard vendor can be chosen per batch but only one vendor is to be used per batch.

Classification society

China Classification Society Company (CCSC)

Corner Casting

Xinhui Yili Cont.	China
Fujian Duoling	China
Jiangmen Guang Jin Casting	China
Hengshui Tianqu	China
Yi Xing Pacific Corner Casting Ltd.	China

Decal Converters

New Century Decal Shenzhen	China
Ocean Shine Shenzhen	China
New Sunshine Decal	China

Decal film

3M
Avery
QMS
Meyercord, Arlon

Door Gasket

Qingdao Shunlian	China
Wuxi Haida	China
Taicang Sae Jin	China/Korea

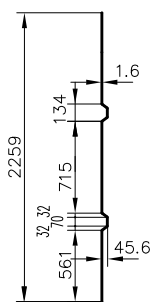
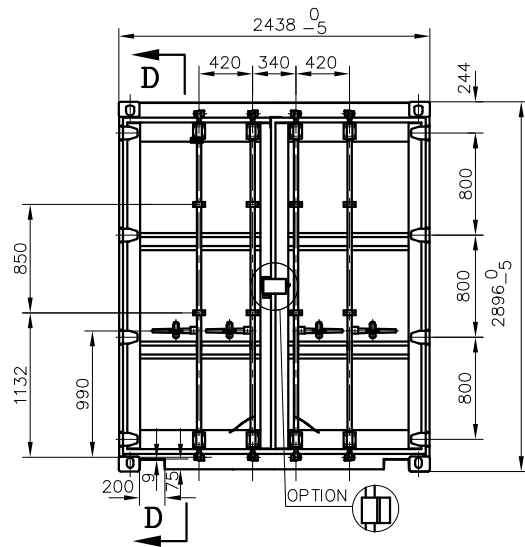
Door Gear

Hai Hang	China
Sae Jin	China
Suraloc	China

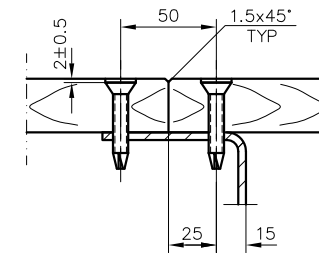
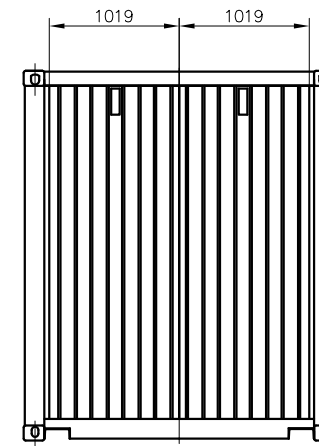
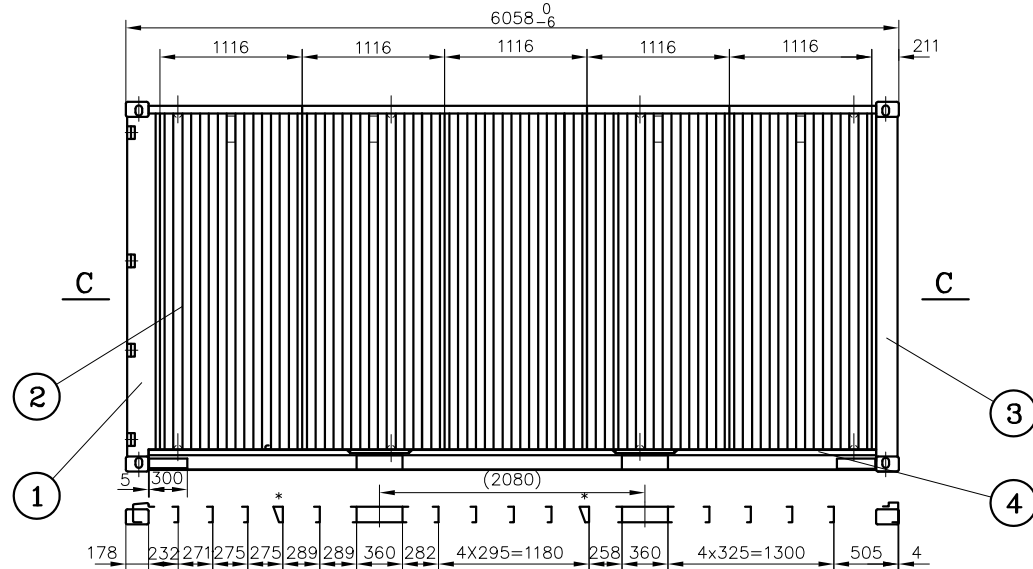
Floorboard

New Atlantic Nantong	China
P.T. Erna Djuliawati	Indonesia

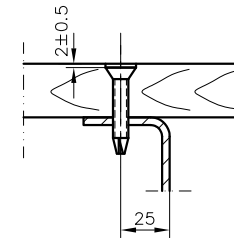
CIMC Floor	China
M.Y. Timber	China
Jiaxing Ri Hui	China
DongTai Sunrise Lumber Co., Ltd.	China
Foshan Shunde Dong Shun Timber Industry	China
Xuzhou Tiandelifa	China
Jiangsu Happy Wood Industry	China
Paint	
Chugoku	China/Japan
Hempel	China
Kumgang Korea Chemical	Korea/Singapore
Kansai	China
Waterborne paint	
Dowill	China
Chugoku	China
KCC	China
Hempel	China
Paint Marking	
New Century (Shenzhen)	China
Ocean Shine (Shenzhen)	China
New Sunshine Decal	China
Sealing	
Jointas Chemical	China
Baojun	China
Lida Chemical	China
Qindao Huayu Sealing	China
Qingdao Haiming SGA Chemical	China
ACST	China
Ventilator	
Qingdao Shunlian	China
Jiangyin Plastic Electrical Apparatus Works	China



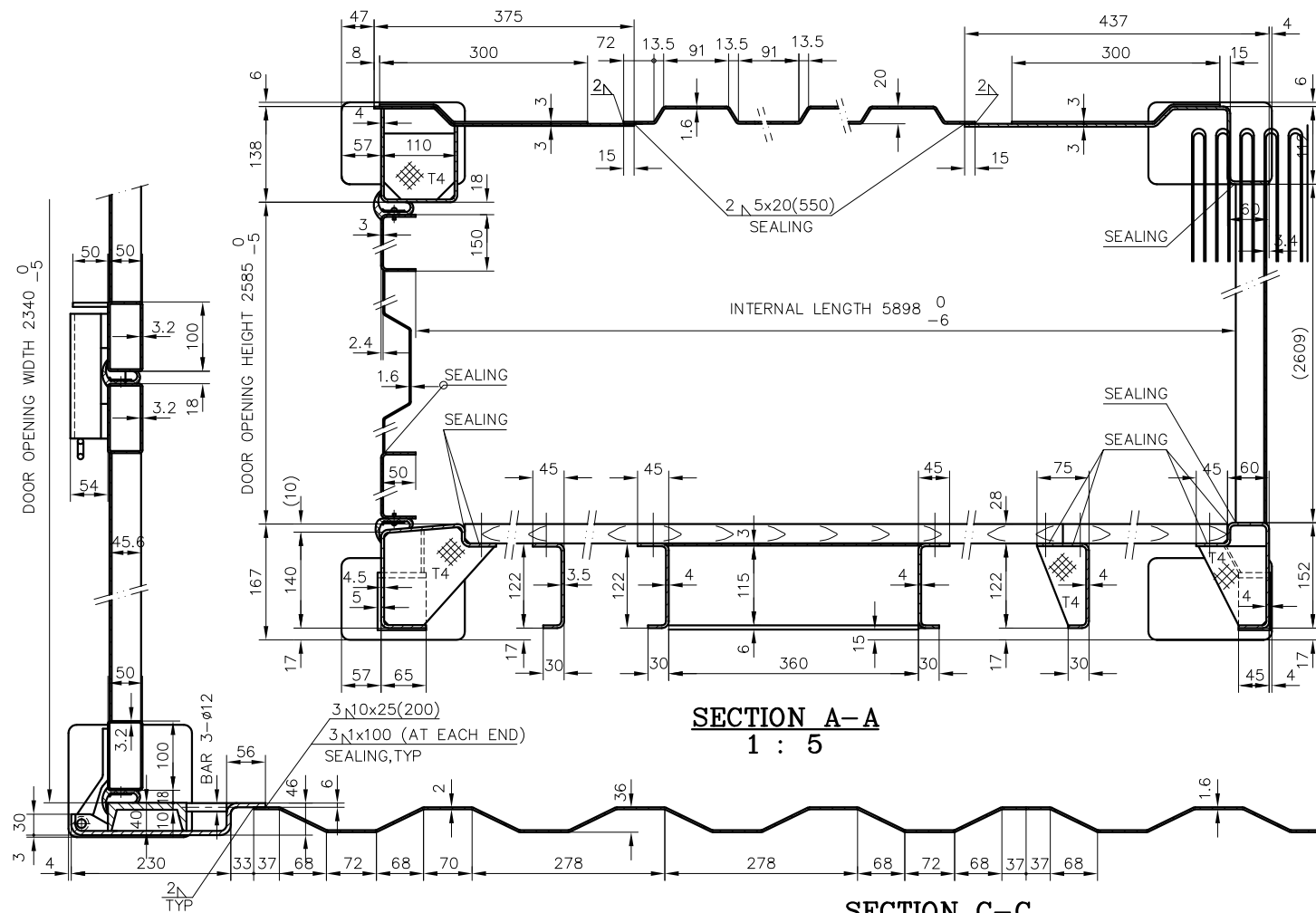
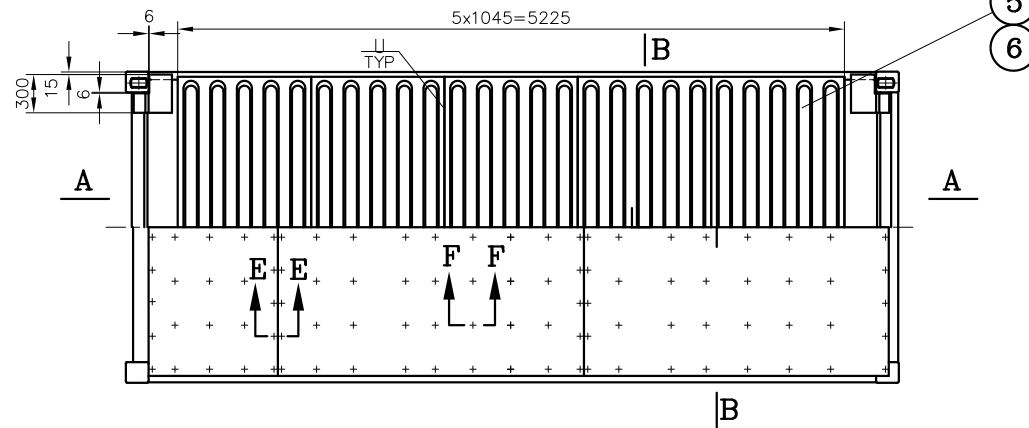
SECTION D-D



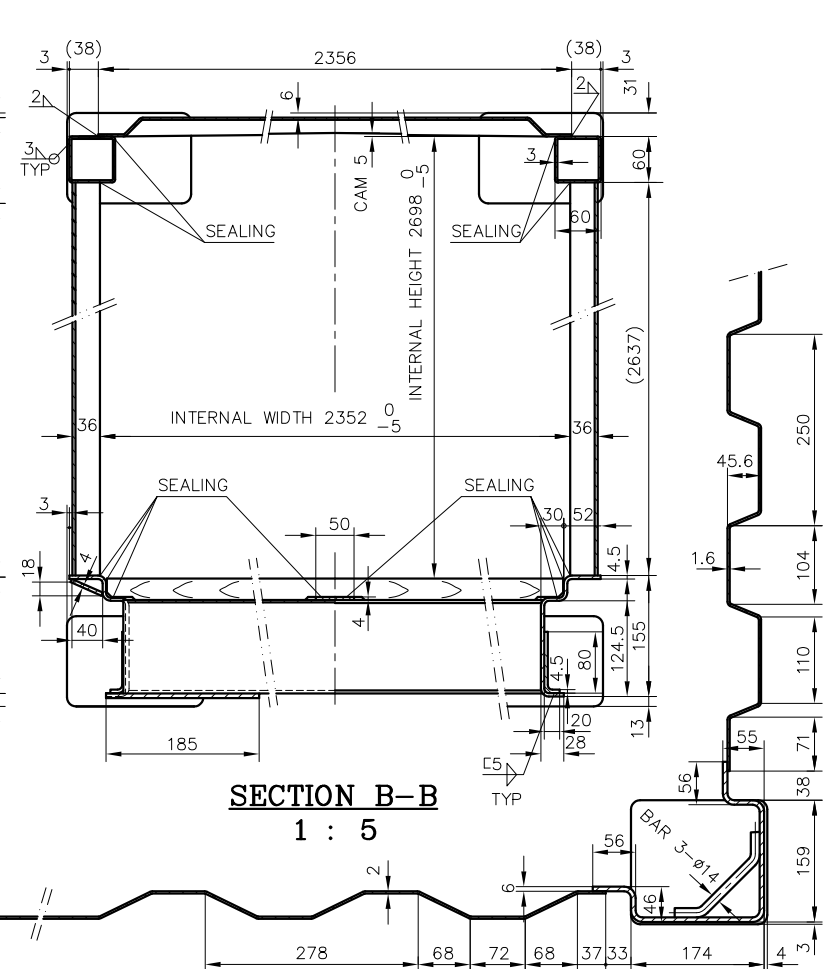
SECTION E-E
1 : 2



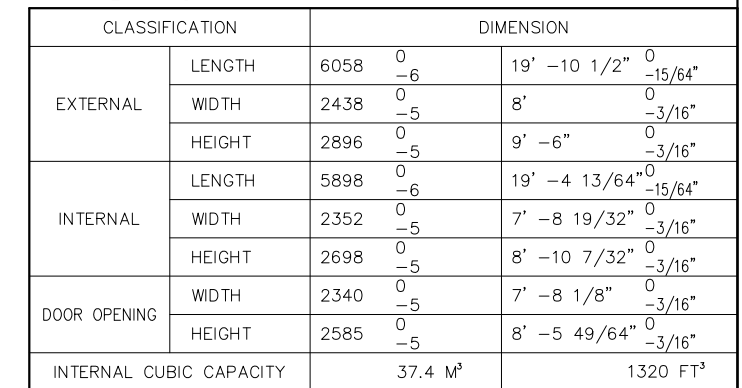
SECTION F-F
1 : 2



SECTION A-A
1 : 5



SECTION B-B
1 · 5



MAX GROSS WEIGHT	30480 KG	67200 LBS
TARE WEIGHT	2100 KG	4630 LBS
MAX PAY LOAD	28380 KG	62570 LBS
STACKING TEST LOAD	86400 KG	190480 LBS
FLOOR STRENGTH	5460 KG	12030 LBS

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

ITEM	DESCRIPTION	DWG NO.	ISSUE	QTY.
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TITLE: 20'x8'x9'6" GENERAL ARRANGEMENT

CUSTOMER: MAERSK-S	SCALE: 1 : 30
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DESIGNED BY: LZD	Jul.10,2018		

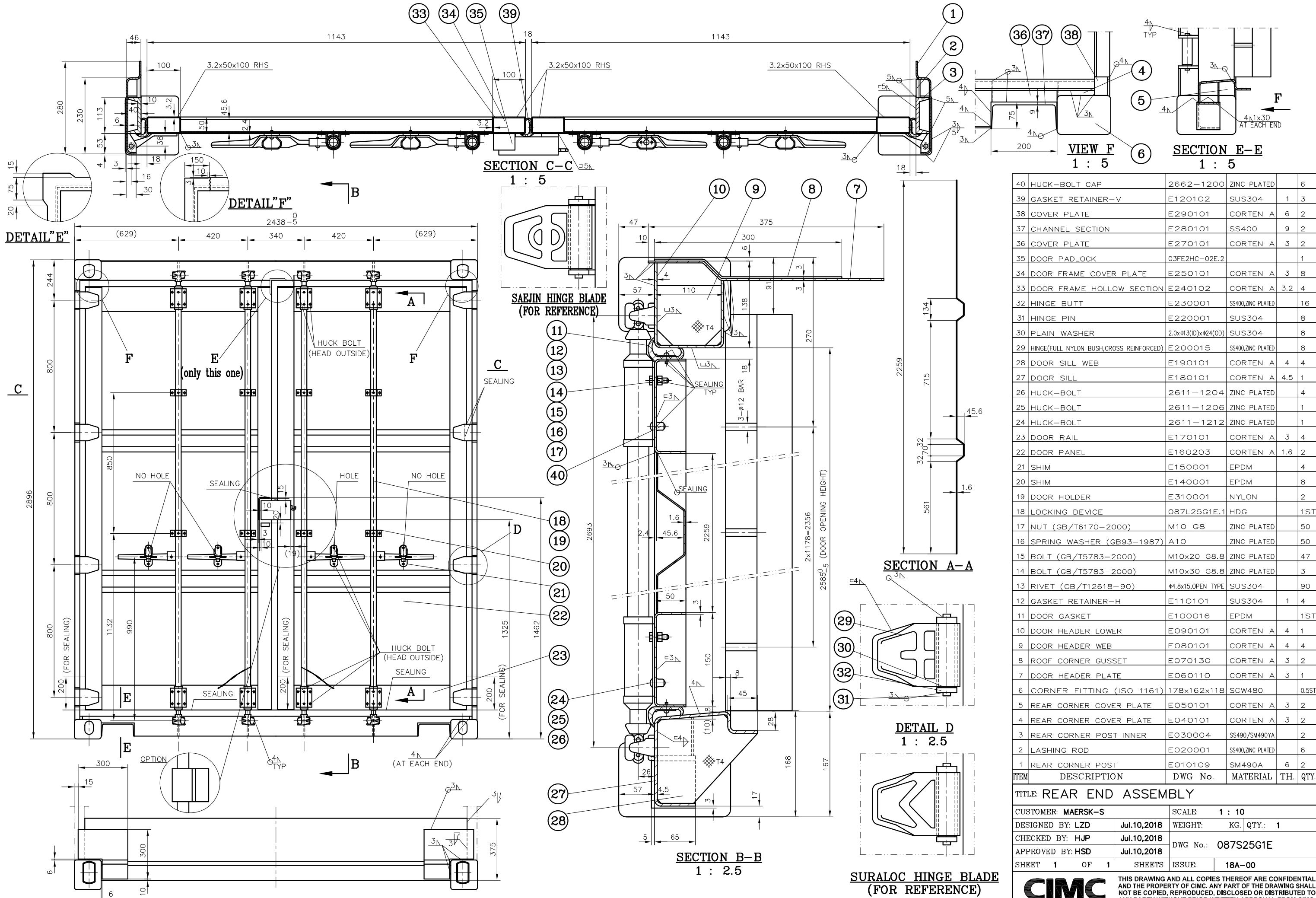
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APPROVED BY: HSD	Jul.10,2018	

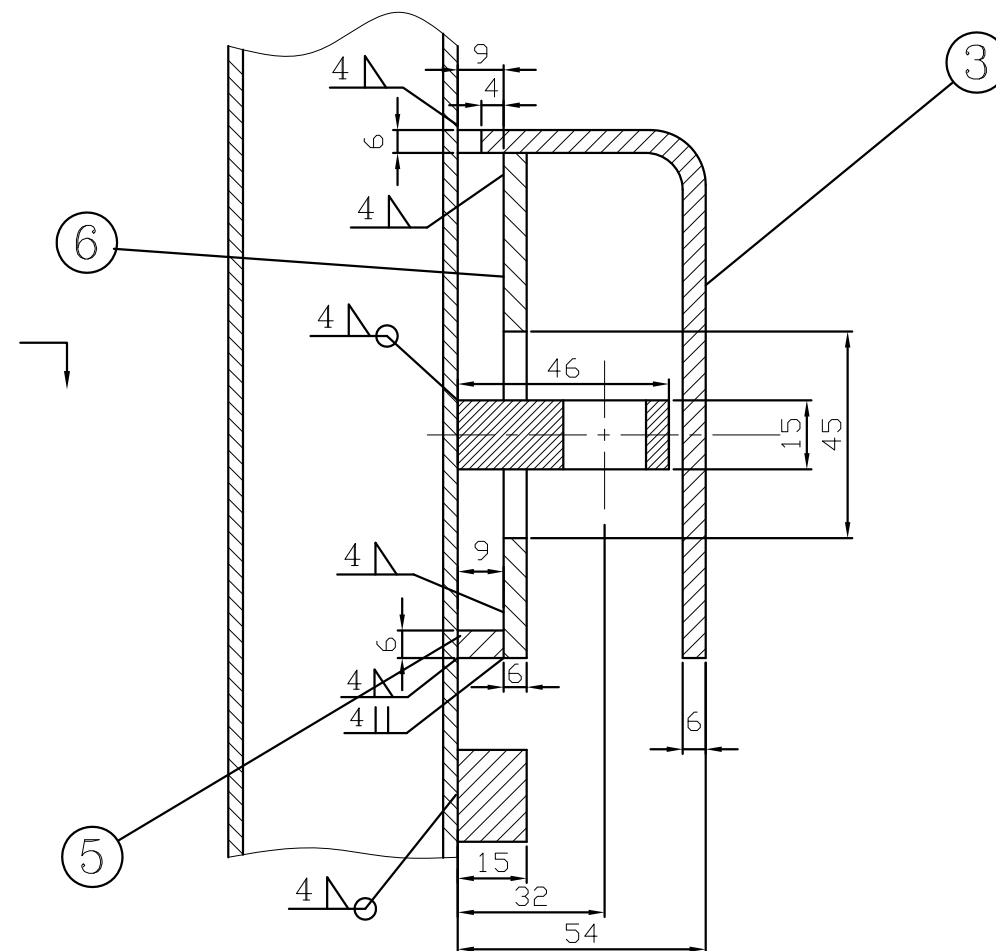
APPROVED BY: NSD		DATE: 10/20/2018	
SHEET 1 OF 1 SHEETS		ISSUE:	18A-00

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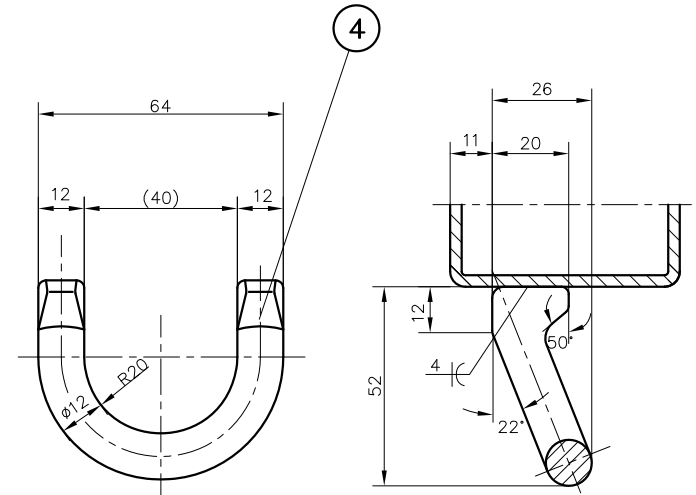
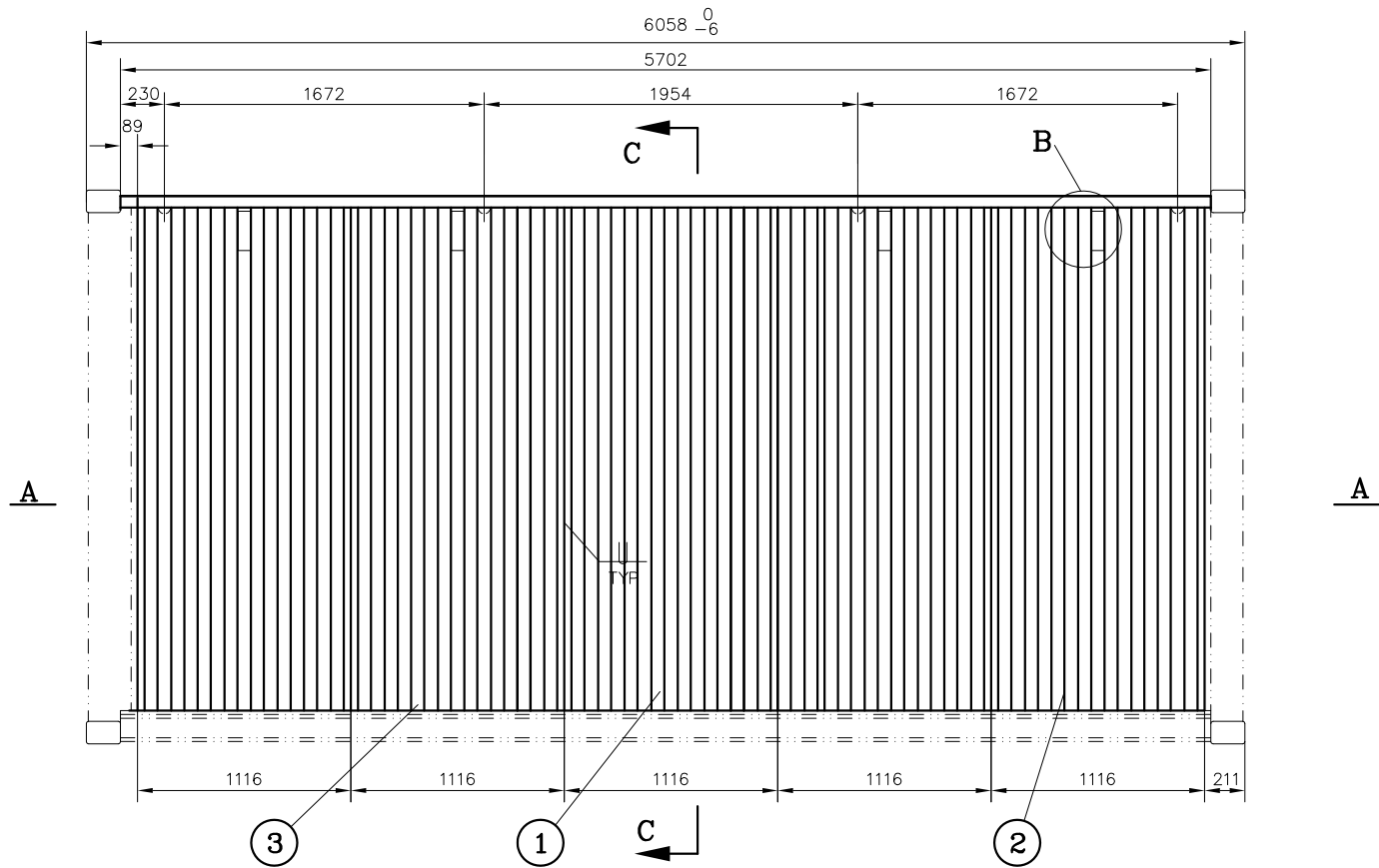
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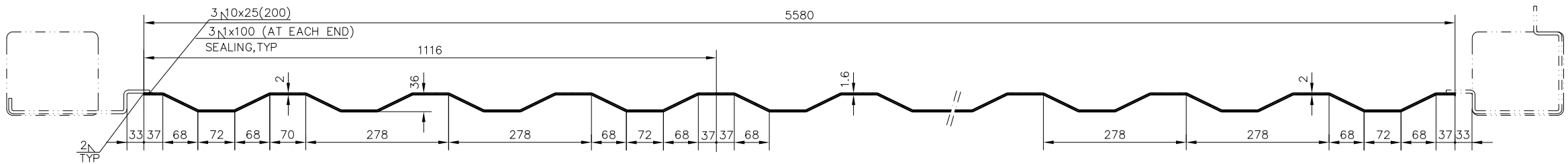


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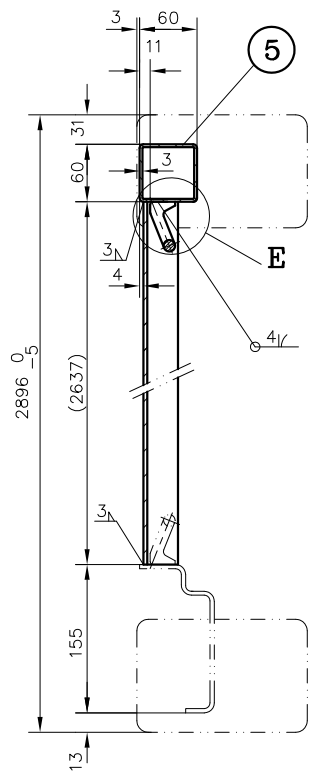
9	边框	lockbox-9	CORTEN A	1	
8	锁钩	lockbox-8	SS41	1	外购
7	锁芯	lockbox-7	SS41	1	外购
6	锁片	lockbox-6	CORTEN A	1	
5	垫块	lockbox-5	CORTEN A	1	
4	边框	lockbox-4	CORTEN A	1	
3	盖子	lockbox-3	CORTEN A	1	
2	挡块	lockbox-2	SS41	1	
1	挡板	lockbox-1	CORTEN A	1	
REF. NO.	DESCRIPTION	DRG.NO.	MT'L	PCS	REMARKS
		THIS DRAWING AND ALL COPIES THEREOF ARE CONFIDENTIAL AND THE PROPERTY OF CIMC. ANY PART OF THE DRAWING SHALL NOT BE COPIED, REPRODUCED, DISCLOSED OR DISTRIBUTED TO ANY PARTY WITHOUT PRIOR WRITTEN APPROVAL FROM CIMC.			
DRAWN BY	CHECKED BY	REVIEW BY	APPROVED BY	lock box	
SCALE	DATE	OWNER:		DRG. NO. lockbox	
FREE	20091026	MODEL:			



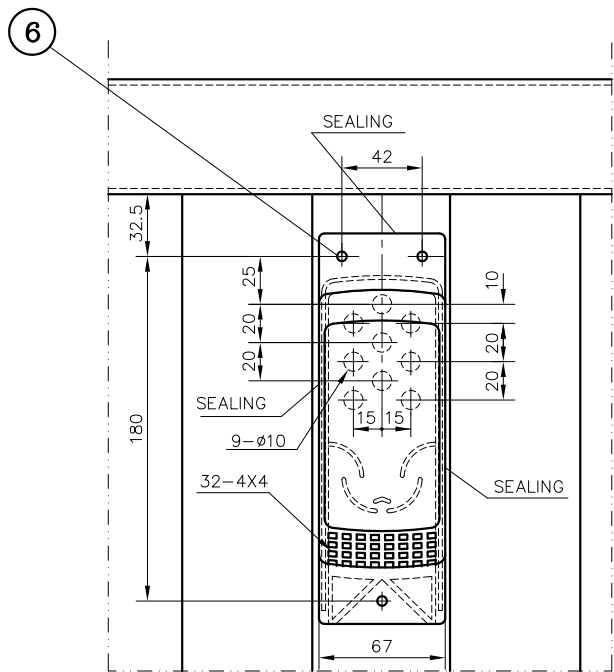
DETAIL E
1 : 1



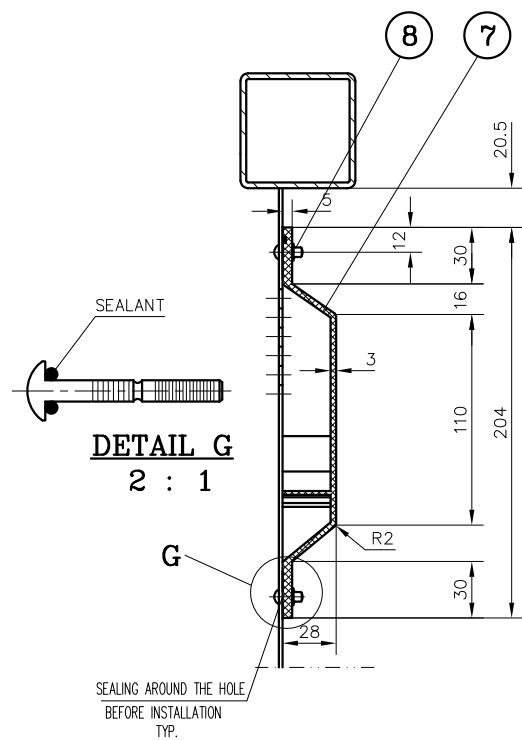
SECTION A-A
1 : 5



SECTION C-C
1 : 4



DETAIL B
1 : 2



DETAIL G
2 : 1

NOTE:

1. R.H. AS SHOWN.
2. L.H. SYMMETRICALLY OPPOSITE.

8	HUCK-BOLT CAP	2662-0600	ALUMINIUM		12
7	VENTILATOR	SO50006	ABS		4
6	HUCK-BOLT	2611-0604	ALUMINIUM		12
5	TOP SIDE RAIL	SO40108	SS400	3	1
4	LASHING RING	SO60001	SS400,ZINC PLATED		4
3	SIDE PANEL (HOLE)	SO30109	CORTEN A	1.6	2
2	SIDE PANEL (HOLE)	SO30102	CORTEN A	2	2
1	SIDE PANEL	SO10103	CORTEN A	1.6	1
ITEM	DESCRIPTION	DWG No.	MATERIAL	TH.	QTY.

TITLE: SIDE WALL ASSEMBLY

CUSTOMER: MAERSK-S

SCALE: 1 : 20

DESIGNED BY: LZD

Jul.10,2018 WEIGHT: KG. QTY.: 2

CHECKED BY: HJP

Jul.10,2018

APPROVED BY: HSD

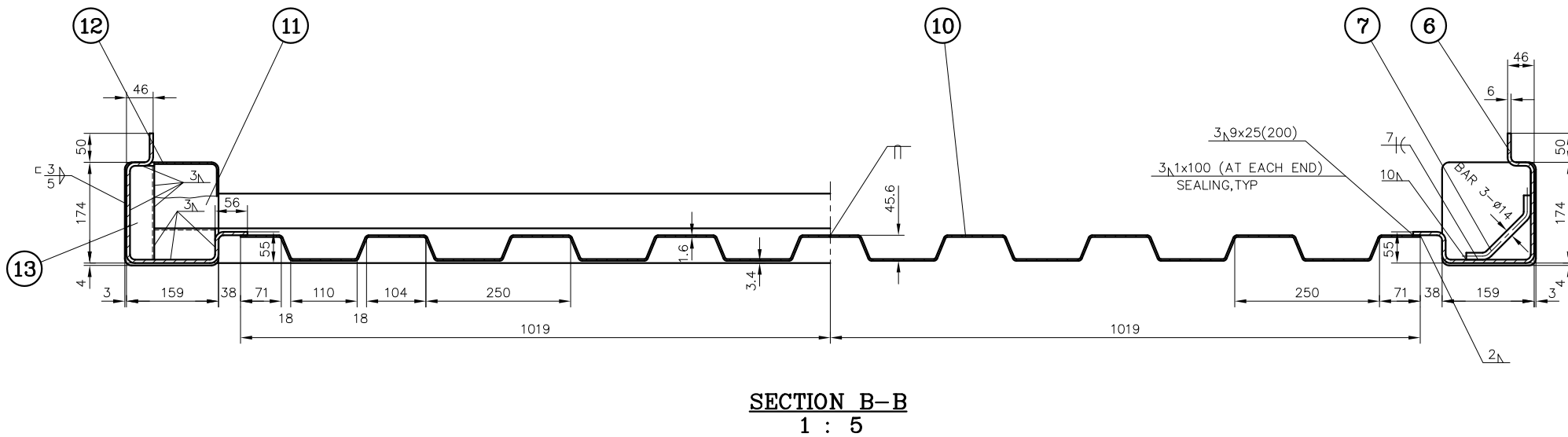
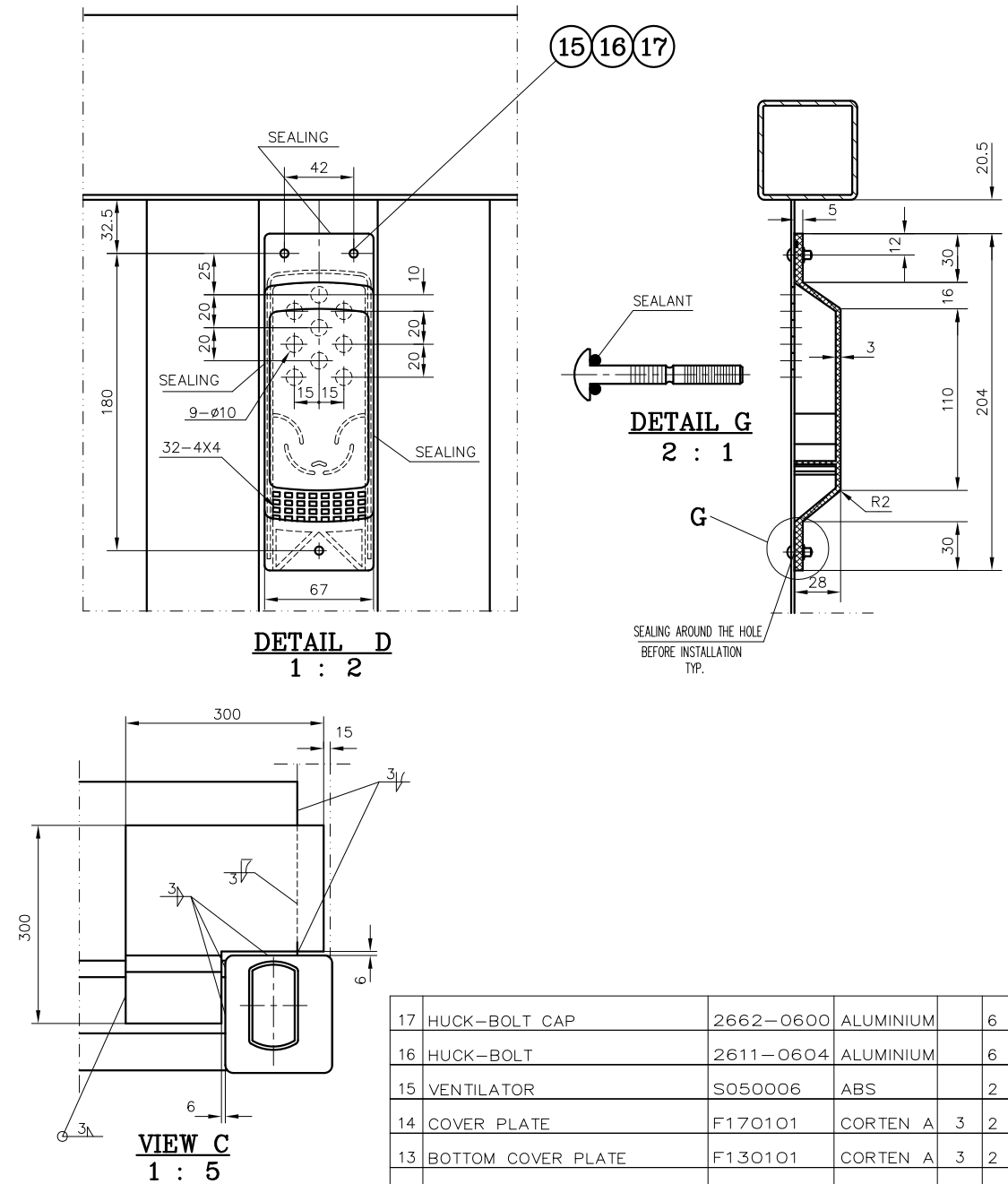
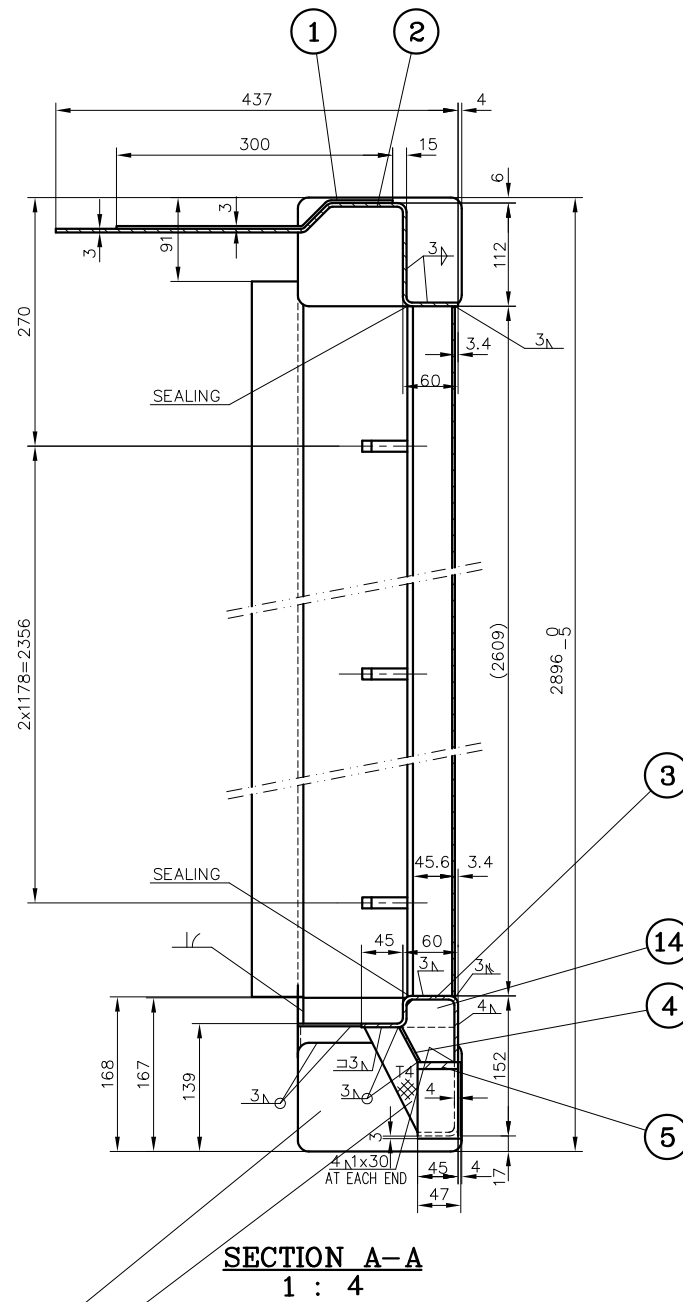
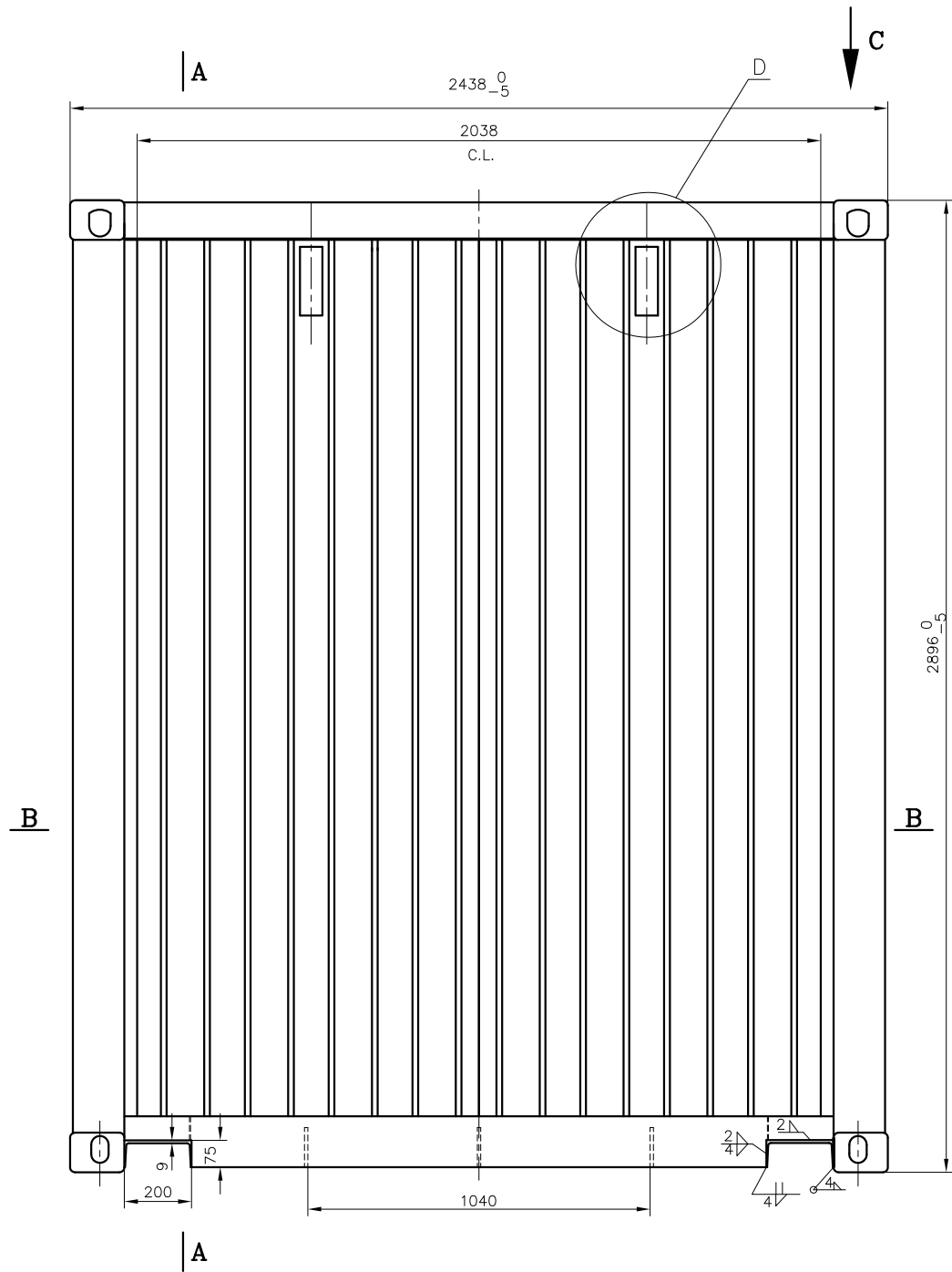
Jul.10,2018 DWG No.: 087S25G1S

SHEET 1 OF 1 SHEETS

ISSUE: 18A-00

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17	HUCK-BOLT CAP	2662-0600	ALUMINIUM		6
16	HUCK-BOLT	2611-0604	ALUMINIUM		6
15	VENTILATOR	S050006	ABS		2
14	COVER PLATE	F170101	CORTEN A	3	2
13	BOTTOM COVER PLATE	F130101	CORTEN A	3	2
12	BOTTOM SUPPORT ANGLE	F120101	CORTEN A	3	2
11	CORNER FLOOR SUPPORT	F110101	CORTEN A	3	2
10	FRONT PANEL	F080121	CORTEN A	1.6	2
9	CORNER FITTING (ISO 1161)	178x162x118	SCW480		0.55T
8	FRONT SILL WEB	F150101	CORTEN A	4	3
7	LASHING ROD	F060002	SS400,ZINC PLATED		6
6	FRONT CORNER POST	F050210	SM490A	6	2
5	CHANNEL SECTION	F040201	SS400	9	2
4	COVER PLATE	F160101	CORTEN A	3	2
3	FRONT SILL	F140101	CORTEN A	4	1
2	FRONT HEADER PLATE	F200107	CORTEN A	3	1
1	ROOF CORNER GUSSET	F010120	CORTEN A	3	2
ITEM	DESCRIPTION	DWG No.	MATERIAL	TH.	QTY.

TITLE: FRONT END ASSEMBLY

CUSTOMER: MAERSK-S

SCALE: 1 : 10

DESIGNED BY: **LZD**

Jul.10,2018	WEIGHT:	KG.	QTY.: 1
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CHECKED BY: HJP

Jul.10,2018	DWG No. 087C25C15
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APPROVED BY: HSD

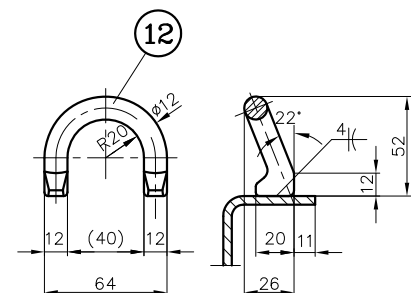
DWG No.: 08/S25G1F

SHEET	1	OF	1
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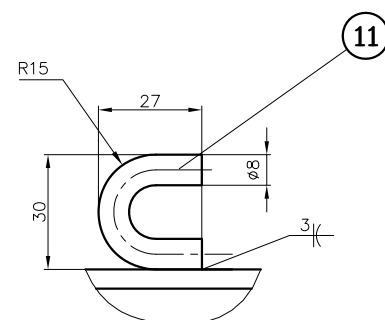
ISSUE:	18A-00
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CIMC

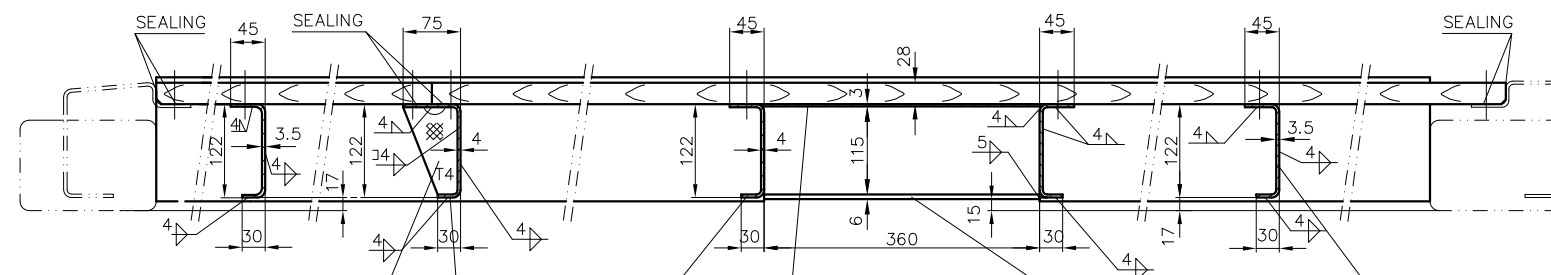
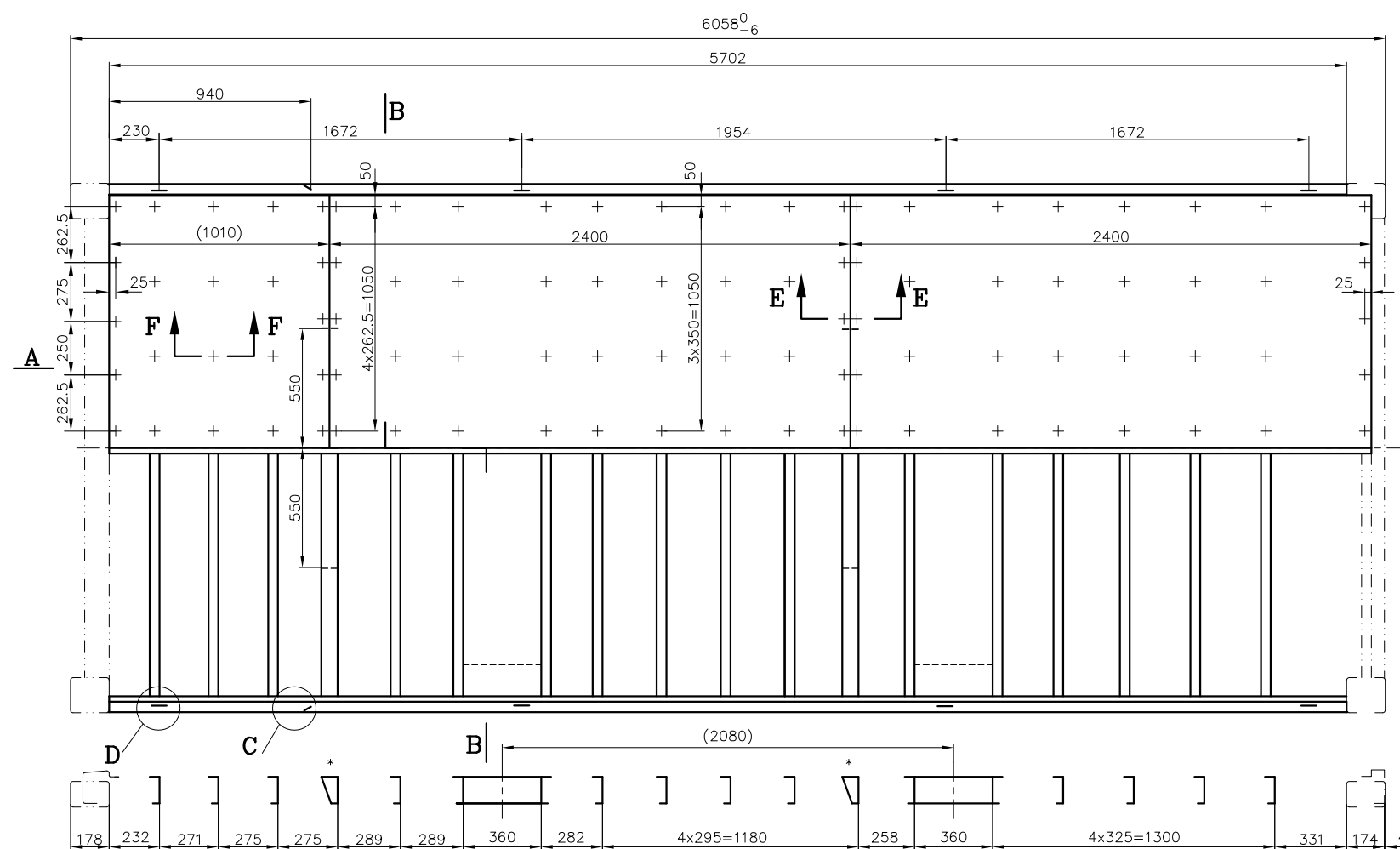
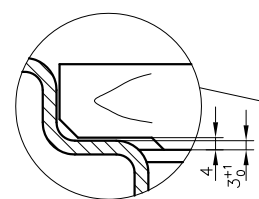
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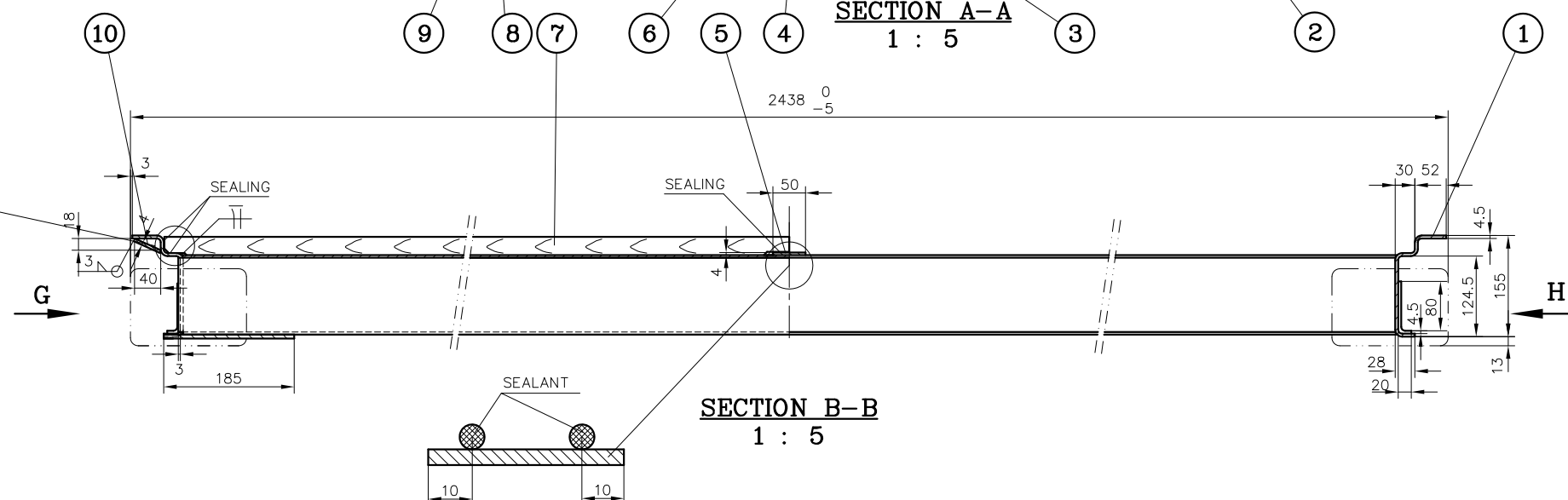
DETAIL D
1 : 2



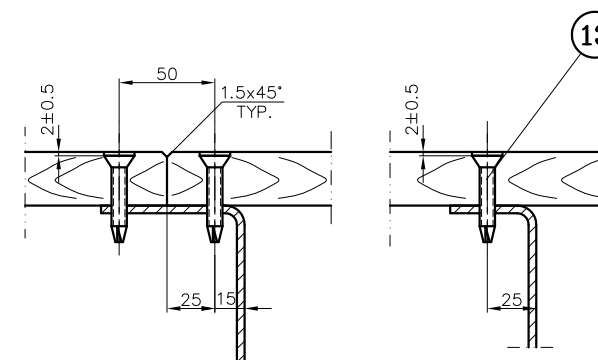
DETAIL C
1 : 1



SECTION A-A
1 : 5

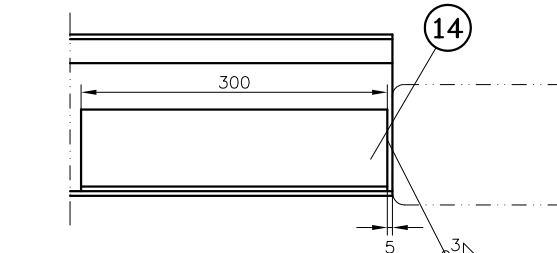


SECTION B-B
1 : 5

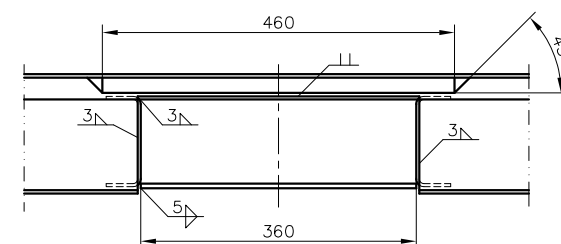


SECTION E-E
1 : 2

SECTION F-F
1 : 2



SECTION H-H
1 : 5



VIEW G
1 : 5

14	CORNER GUSSET PLATE	B140301	CORTEN A	4.5	4
13	SELF-TAPPING SCREW	M8x45x#16(HEAD)	ZINC PLATED		18
12	LASHING RING	S060001	SS400,ZINC PLATED		8
11	DOOR HOOK	B090002	SS400,ZINC PLATED		2
10	FORK POCKET SUPPORT PLATE	B250101	CORTEN A	4	4
9	WIDE CROSSMEMBER WEB	B150108	CORTEN A	4	6
8	WIDE CROSSMEMBER	B070108	CORTEN A	4	2
7	FLOOR ASSEMBLY	B100001	PLYWOOD		1S
6	FORK POCKET SIDE RAIL	B220110	CORTEN A	4	4
5	FLOOR CENTER RAIL	B110101	CORTEN A	4	1S
4	FORK POCKET TOP PLATE	B240101	CORTEN A	3	2
3	FORK POCKET BOTTOM PLATE	B230101	CORTEN A	6	4
2	CROSSMEMBER	B080111	CORTEN A	3.5	12
1	BOTTOM SIDE RAIL	B130301	CORTEN A	4.5	2
ITEM	DESCRIPTION	DWG No.	MATERIAL	TH.	QT

TITLE: BASE ASSEMBLY

CUSTOMER: MAERSK-S

SCALE: 1 : 15

DESIGNED BY: LZD

Jun.13,2018	WEIGHT:	KG.	QTY.: 1
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CHECKED BY: HJP

	Jun.13,2018
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8	
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APPROVED BY: HSD

Jun.13.2018

DWG No.: 087S220

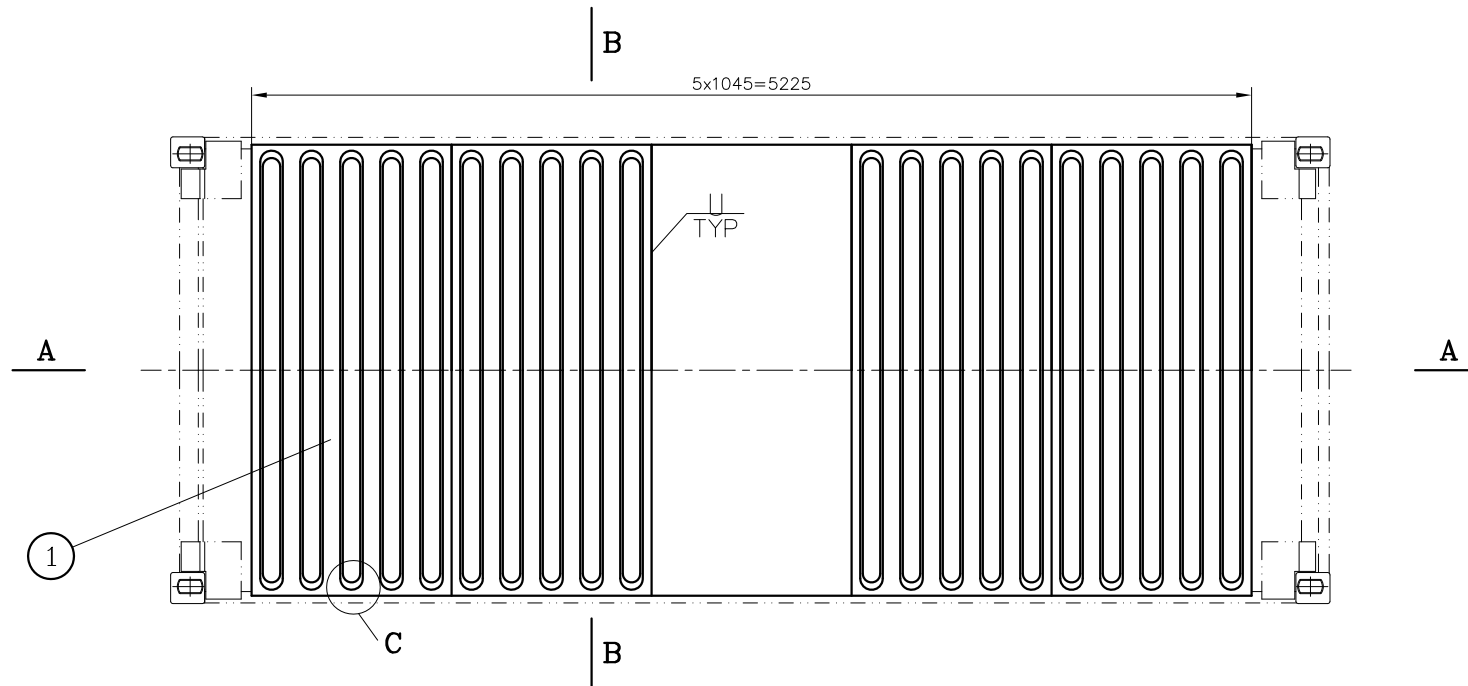
SHEET 1 OF 1

1	SHEETS
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S	ISSUE:	18A-00
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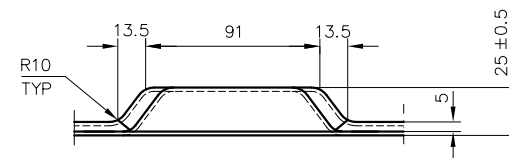
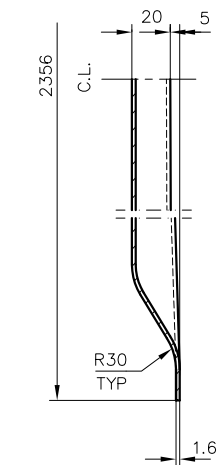
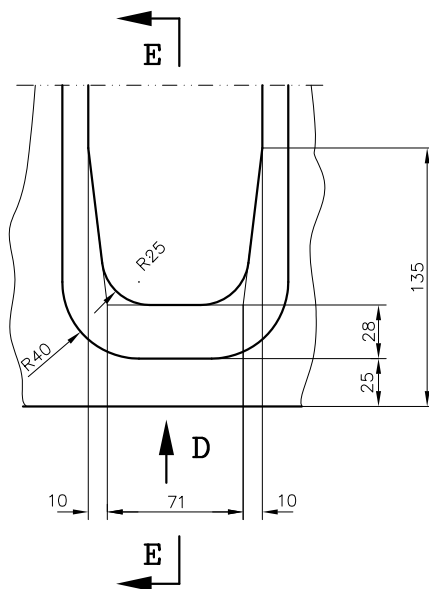
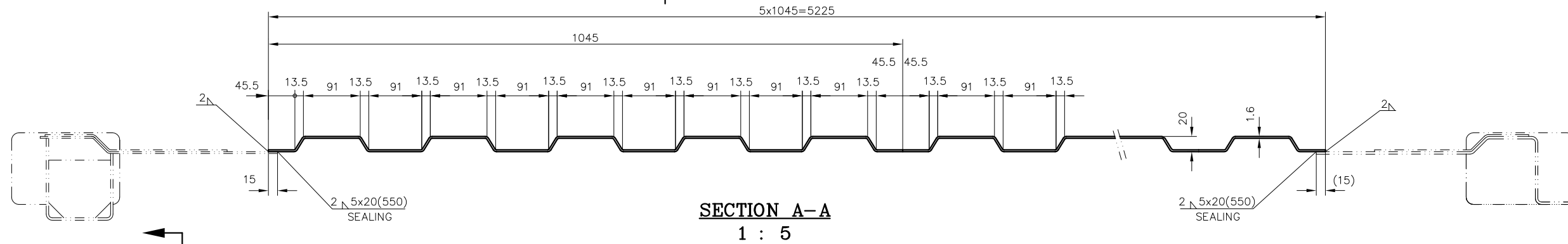


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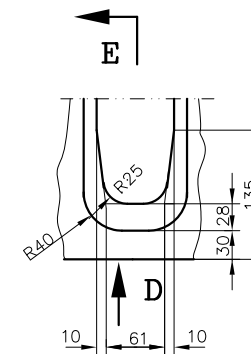


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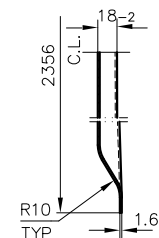
1. DIAGONAL TOLERANCE OF EACH ROOF PANEL IS 2 MM.
2. PARALLEL EDGES DEVIATION OF EACH ROOF PANEL
WITHIN THE TOLERANCE OF ± 0.5 MM



VIEW D
1 : 2

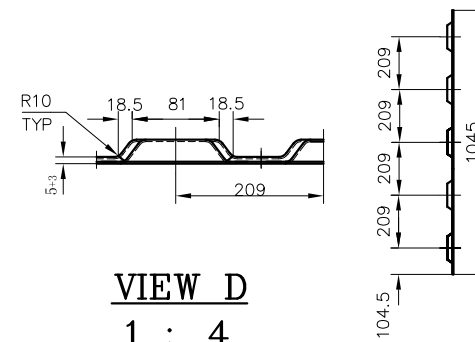
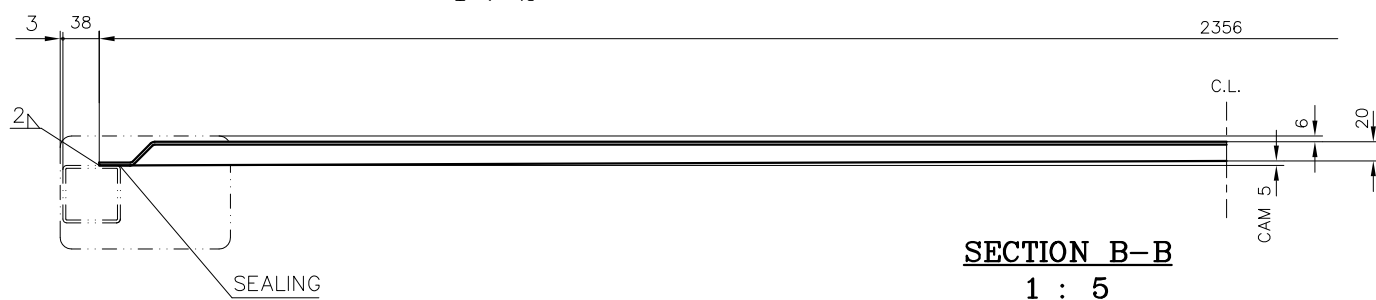


DETAIL C
1 : 4



OPTION FOR ONE HIT ROOF PANEL
ACCEPTED BY MAERSK FOR SLEM,TCMC
AND SCBC.

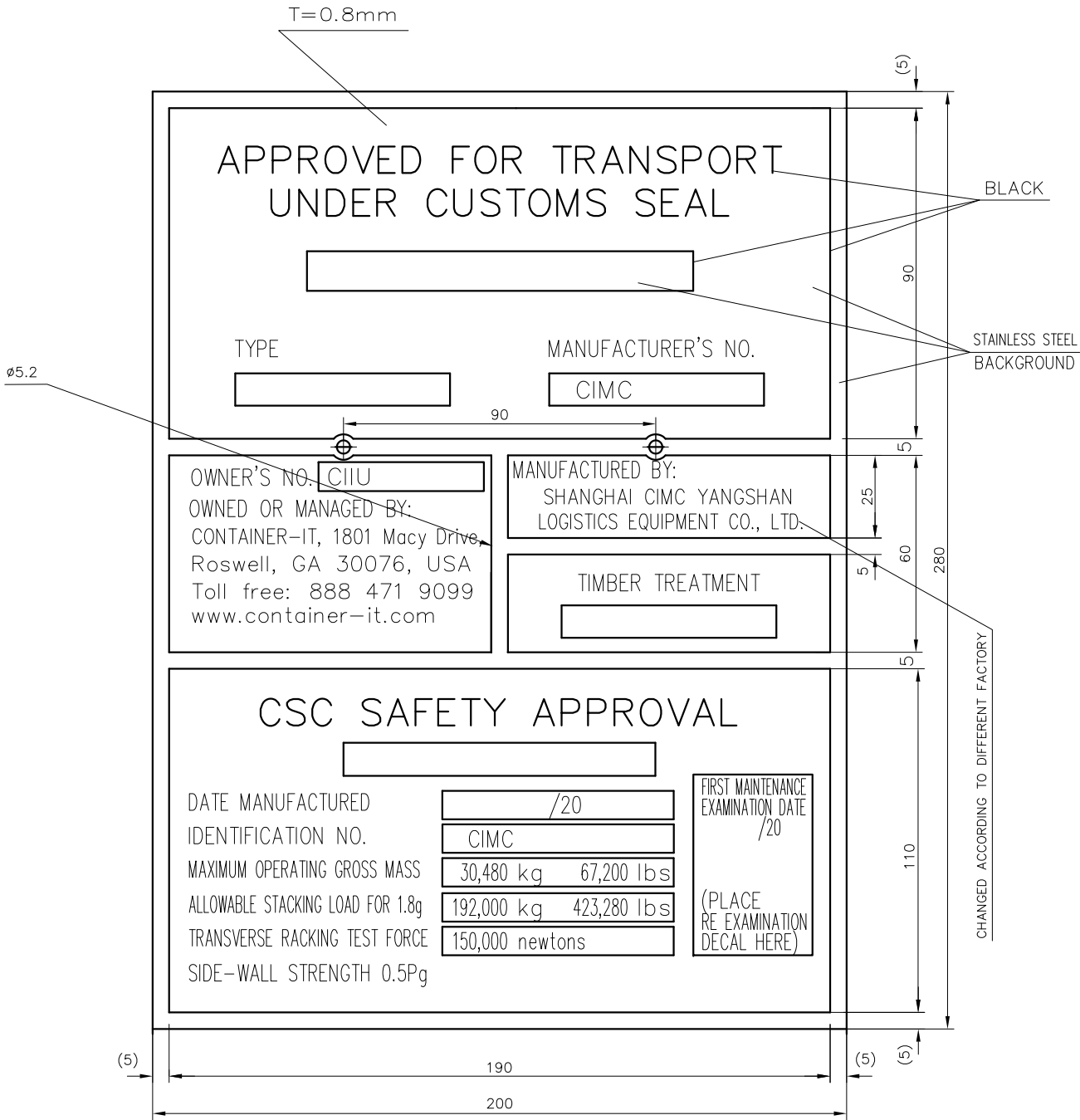
SECTION E-E
1 : 4



1	ROOF PANEL	RO10202	CORTEN A	1.6	5
ITEM	DESCRIPTION	DWG No.	MATERIAL	TH.	QTY.
TITLE: ROOF ASSEMBLY					
CUSTOMER: MAERSK-S		SCALE: 1 : 20			
DESIGNED BY: LZD	Jun.13,2018	WEIGHT:	KG.	QTY.: 1	
CHECKED BY: HJP	Jun.13,2018	DWG No.: 087S22G1R			
APPROVED BY: HSD	Jun.13,2018				
SHEET 1 OF 1 SHEETS		ISSUE:	18A-00		

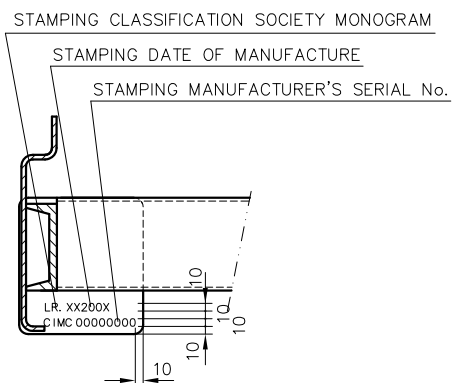
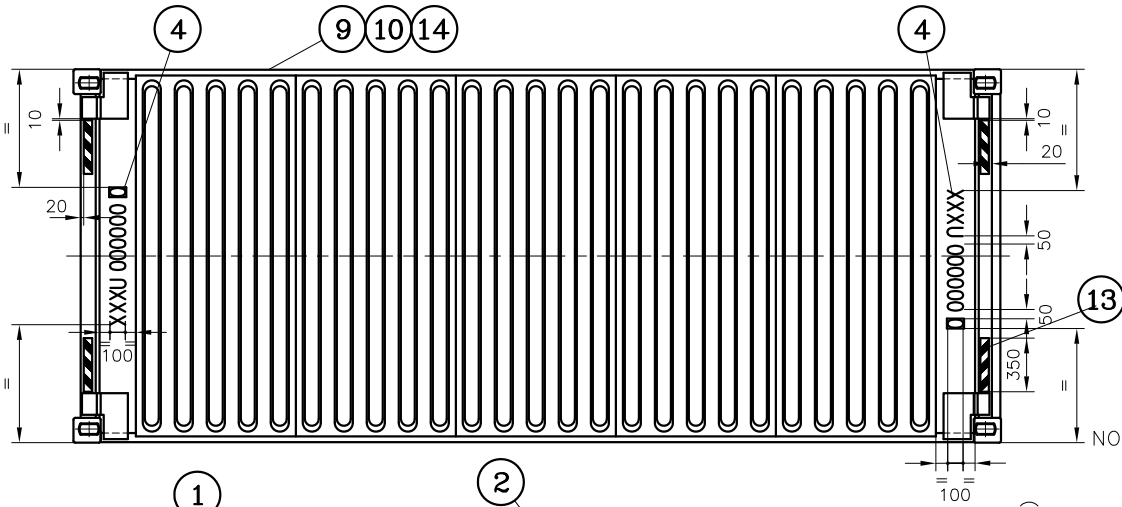
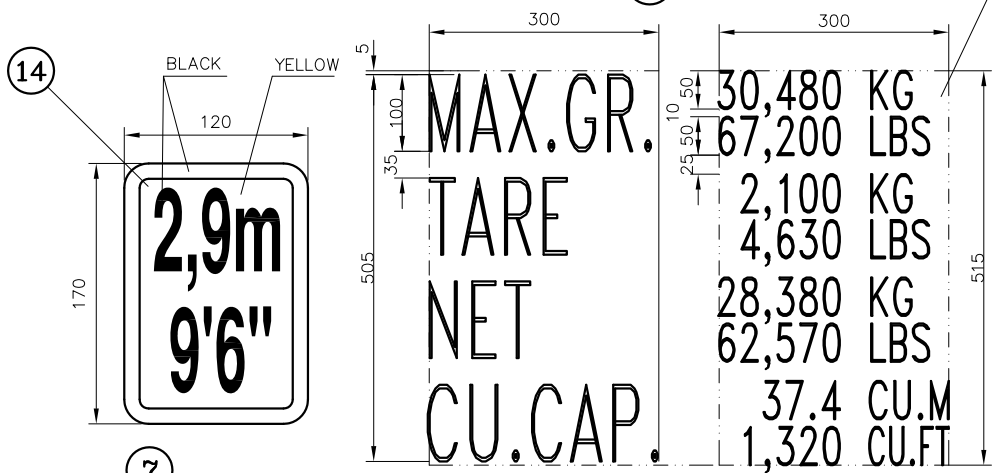
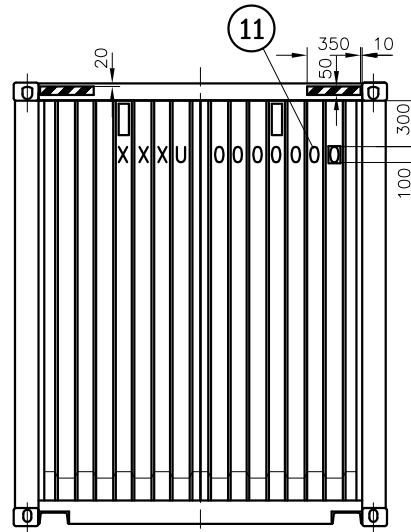
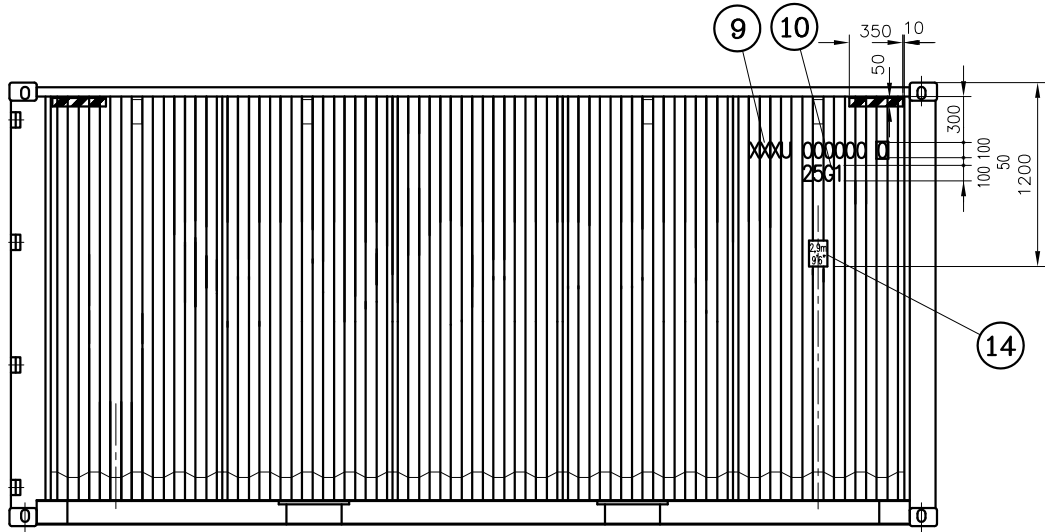
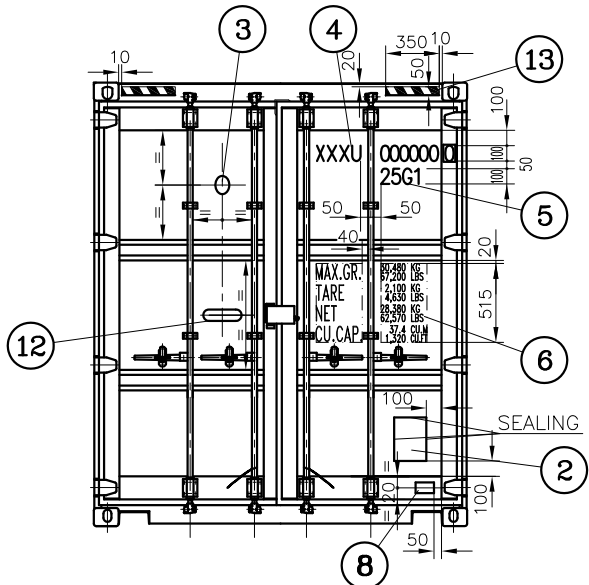
CIMC

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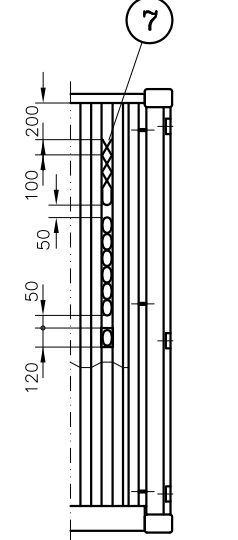


LAYOUT OF CSC PLATE FOR CONTAINER-IT
(FOR REFERENCE ONLY)

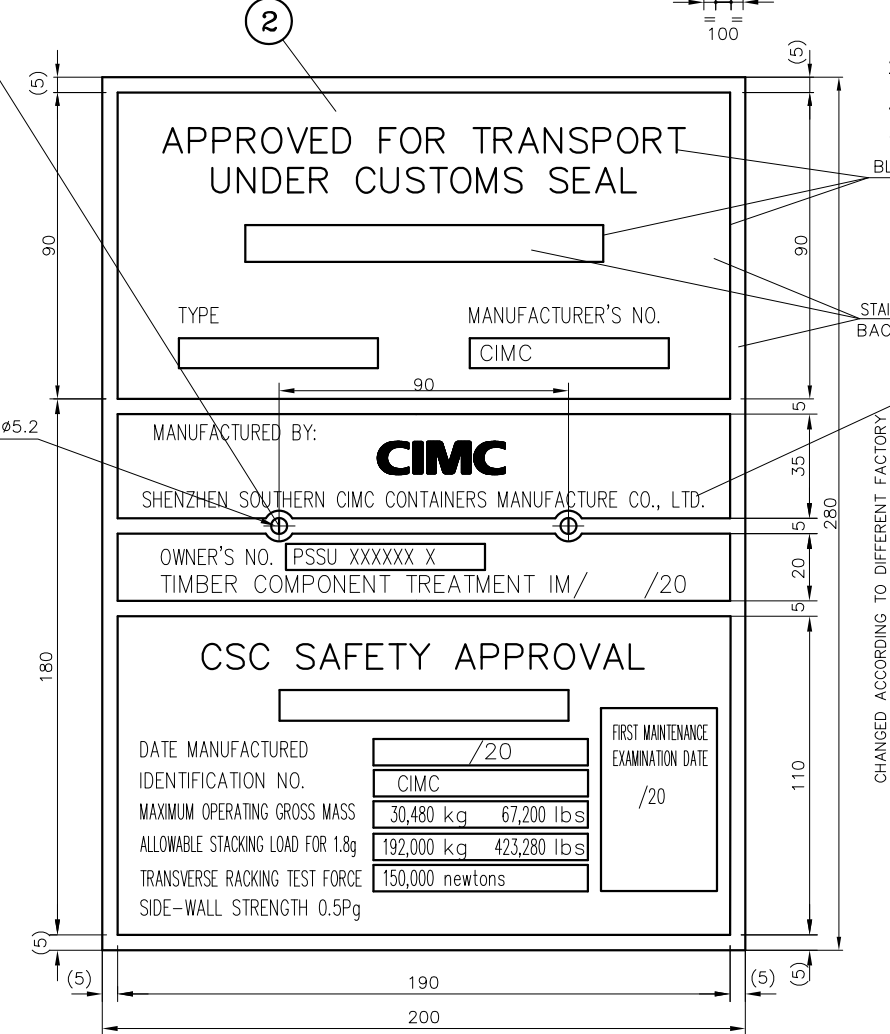
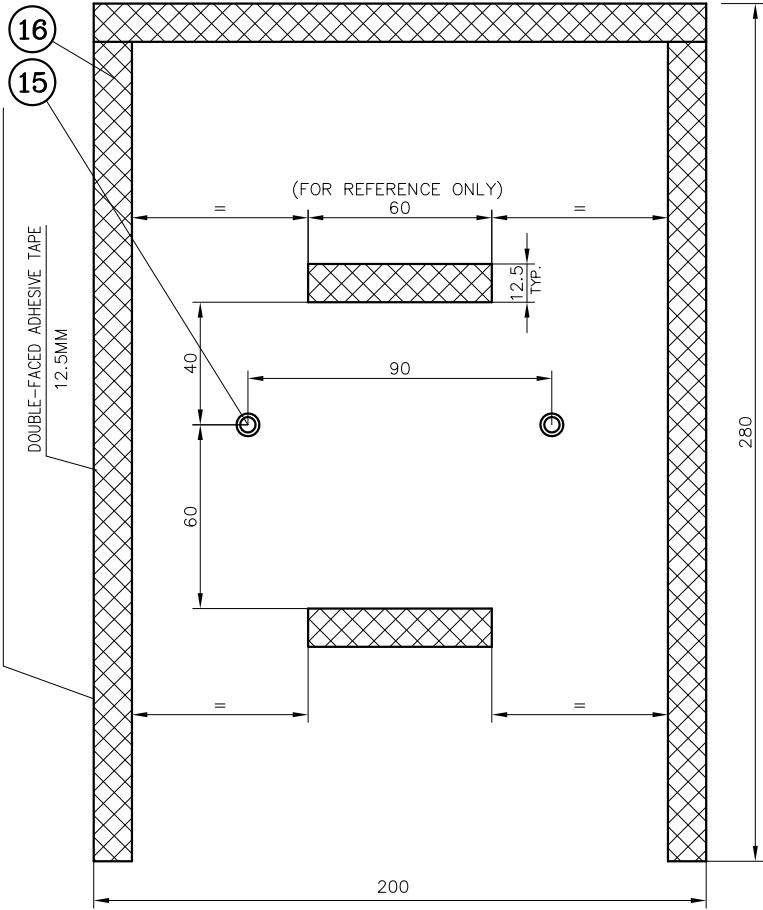
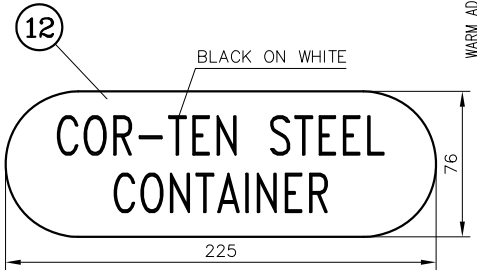
TITLE: MARKING ARRANGEMENT				
CUSTOMER: MAERSK-S			SCALE: 1 : 25	
DESIGNED BY: LZD	Jul.10,2018	WEIGHT:	KG.	QTY.: 1
CHECKED BY: HJP	Jul.10,2018	DWG No.: 087S25G1M		
APPROVED BY: HSD	Jul.10,2018			
SHEET 2	OF 2	SHEETS	ISSUE:	18A-00
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REAR END BOTTOM
CORNER FITTING



INSIDE RIGHT
SIDE WALL



- 1) In case the production is for Container-it then the name of container-it should be mentioned on the plate (CIU units).
2) For MGBU and PSSU no owner should be mentioned.
3) Material of marking : Calander Vinyl
4) Kisscut color:white or black to stand out against the exterior topcoat color.

16	DOUBLE SIDE ADHESIVE TAPE	MO40003			0.84M
15	PLAIN WASHER	0.8x#5(D)x#10(OD)	SUS304		2
14	2.9M HEIGHT DECAL		BLACK ON YELLOW		2
13	ZEBRA STRIP (50X350)		BLACK ON YELLOW		12
12	CORTEN DACAL		BLACK ON WHITE		1
11	OWNER'S CODE AND SERIAL NUMBERS (FRONT)		WHITE,KISSCUT		1
10	SIZE AND TYPE CODE (SIDE)		WHITE,KISSCUT		2
9	OWNER'S CODE AND SERIAL NUMBERS (SIDE)		WHITE,KISSCUT		2
8	CIMC DECAL				1
7	OWNER'S CODE AND SERIAL NUMBERS (INSIDE)		BLACK,KISSCUT		1
6	WEIGHT DECAL	M100097	WHITE,KISSCUT		1ST
5	SIZE AND TYPE CODE (DOOR)		WHITE,KISSCUT		1
4	OWNER'S CODE AND SERIAL NUMBERS (DOOR, ROOF)		WHITE,KISSCUT		3
3	CLASSIFICATION DECAL				1
2	CONSOLIDATED PLATE(T=0.8mm)	MO10004	SUS304		1
1	RIVET (GB/T12615-90)	4.8x7,CLOSED END	SUS304		2
ITEM	DESCRIPTION	DWG No.	MATERIAL	TH.	QTY.

TITLE: MARKING ARRANGEMENT

CUSTOMER: MAERSK-S		SCALE: 1 : 25	
DESIGNED BY: LZD	Jul.10,2018	WEIGHT:	KG. QTY.: 1
CHECKED BY: HJP	Jul.10,2018	DWG No.: 087S25G1M	
APPROVED BY: HSD	Jul.10,2018		
SHEET 1	OF 2	SHEETS	ISSUE: 18A-00