

**Short Specification  
FOR  
40'×8' ×9'6" TYPE  
MGSS REEFER CONTAINER**

BASE STRUCTURE: CORRUGATED TYPE  
END FRAME: CORTEN A  
SIDE/ROOF/DOOR PANEL: MGSS  
SIDE /ROOF LINING: HGSS

**1. GENERAL**

Standards: ISO/TC-104 CSC  
Classification:  
Installed reefer unit: TK UNIT

**2. DIMENTIONS & RATINGS**

2.1 Dimensions (Installed unit)

Dimension	External (mm) (inch)		Internal(mm) (inch)	
Length	12192	0/- 5 (40' 0/-25/64")	11537	0/-15(37'- 10 7/32" 0 -19/32")
Height	2896	0/- 5 ( 9' 6" 0/- 3/16")	2,420	0/-10 (7'- 11 9/32" 0 -25/64")
Width	2,438	0/- 5 ( 8' 0/- 3/16")	2,058	0/-10 (6'-9 1/32" 0 -25/64")

2.2 Internal capacity: internal cubic capacity **57.4 m<sup>3</sup> (2026 CU.FT)**

2.3 Ratings

Max. Gross Weight	34,000kg (74,960 LBS)
Tare Weight	5,250kg ( 11,570 LBS)
Tare Weight (incl. Unit)	5,860kg ( 12,920 LBS)
Max. Payload	28,140kg ( 62,040 LBS)

(The actual weight will be depend on the proto type container)

2.4 Heat leakage value:  $U_{max} = \underline{24}$  kcal / deg.c.hr. at the mean wall temperature 283K (10 °C) incl. cooling unit.(Will verify the value after proto type unit test)

2.5 Air leakage value = 4 CU.M/hr. ( Will verify the value after proto type unit test)

**3. CONSTRUCTURE**

3.1 Container frame

End frames shall be made of folded steel, welded to the upper and lower ISO-corner castings.

3.2 Insulated floor

The base structure is composed of corrugation type steel base frame and aluminum T-floor with insulation of polyurethane.

3.3 Insulated side walls

Outer cladding shall be made of automatically butt-welded MGSS sheets (1.0/0.8mm thick) with tension corrugations reinforced by side posts. Inner linings shall be made of HGSS sheets (0.7mm thick) with 4mm depth inverted small die-stamped corrugations and insulation of polyurethane..

#### 3.4 Insulated roof

Outer cladding shall be made of automatically butt-welded MGSS sheets(1.0/0.8mm thick) with tension corrugations, Inner linings shall be made of automatically butt-welded HGSS sheets (0.7mm thick) with small corrugation with insulation of polyurethane.

#### 3.5 Insulated rear door outer

Composed of MGSS sheets panel(1.6mm thick) and small corrugation HGSS inner lining (0.7mm thick)with polyurethane insulation.

Door gasket: Outer: EPDM "C" section, Inner: EPDM "O" section.

Each door is equipped with 5 hot- dip galvanized steel hinges with stainless steel pins and brass bushes and with 2 hot-dip galvanized locking rods system Saejin or Haihang equivalent type.The door hardware is fixed with stainless steel bolts and galvanized nuts.

#### 3.6 Edge covers

All inner edges are covered by aluminum or HGSS, special PVC sections, all sealed and riveted or glued to the inner lining.

### 4. PRESERVATION

1. All steel parts shall be shot-blasted to Swedish Standard Sa 2.5.

2. Polyurethane contact surfaces

a) Main foaming area

Special foam adhesive will only be applied to inner linings contact surfaces for good adhesion with PU (at Ultra-low temperature). Outer panel surface will still use normal adhesive primer or foam bond.

b) Residual foaming area of Corten parts

Polyamide epoxy primer will be applied to the insulation foam contact surface.

3. All CONTENT steel out surface shall be primed with 30 microns of Zinc rich primer, 40 microns of Epoxy zinc phosphate primer and 50 microns of Acrylic topcoat.

4. All MGSS parts (roof and side panel) shall be primed **40** microns of Epoxy zinc phosphate primer and **60** microns of Acrylic topcoat.

5. Steel door panel shall be painted 40 microns of Epoxy zinc phosphate primer and 50 microns of polyurethane topcoat.

6. Under coating shall be primed with 30 microns zinc rich primer 40 microns Epoxy zinc phosphate primer and 150microns of Tectyl 121B.

Topcoat (Including steel door panel) Color : white (RAL 9010) .

Paint supplier: KCC /HEMPEL (except shop primer)

## 5. TESTING & INSPECTION

### 5.1 **Prototype container**

A prototype container need not to be built if one of the first containers out of the series serves as a prototype container. This container will be tested and certified by inspectors nominated by the owner.

### 5.2 **Production line of container**

Every container is manufactured under effective quality control procedures to meet the specified standards.

After completion all container dimensions will be checked and door operation checked.

### 5.3 **Proposed criteria table for general prototype**

	<b>Item</b>	<b>Test Load and Method</b>
5.3.1	Stacking	Load: 86,400 kg/post Offset: 38mm longitudinally 25mm laterally Internal load: 1.8 R-T Internal load: 2 R-T (vertical)
5.3.2	Lifting from top Corner fittings	Internal load: 2 R-T (30deg)
5.3.3	Lifting from bottom Corner fittings	Internal load: 2 R-T (30deg)
5.3.4	Floor Strength	7,260kg (16,000LBS)
5.3.5	Restraint	R: 34,000 kg/side Internal load: R-T
5.3.6	End Wall Strength	0.4P Uniform Load by Air Bag
5.3.7	Side Wall Strength	0.6P Uniform Load by Air Bag
5.3.8	Roof Strength	300kg (660LBS) (300×600mm)
5.3.9	Racking (transverse)	15,240kg (33,600LBS)
5.3.10	Racking (longitudinal)	7,620kg (16,760LBS)
5.3.11	Air-tightness Test	Internal pressure: 250±10Pa
5.3.12	Thermal Test In compliance with ISO 1496-2	
5.3.13	Pull down time test	Outer of container temperature +30°C Inner of container temperature -60°C

The pull down time about ten hours(the inside temperature of container from +30°C to -60°C)  
(Will verify the pull down time after proto sample unit test)

Note: R: Max gross weight.

P: Max payload.

T: Tare weight.

## 6. MARKING

Data plate be of 0.7mm stainless steel (SUS304).

## 7. GUARANTEE

### 7.1 **Paint guarantee**

5 years, except as otherwise stated in purchase order, and based on standard “RE 3” of the “European degree of rusting standards”. Normal wear / tear, or corrosion caused by fish oil, animal and vegetable oils, strong solvents, impact and accident is excluded.

The warranty shall be applied to all kinds of faults or failures affecting more than 10% of the painted surface and partial or total repainting shall be assured for the container(s) at manufacturer's expense.

## **7.2 Decal guarantee**

7 years

## **7.3 Other guarantee**

- All containers (except gaskets, sealant, adhesive, special PVC and insulating foam) are guaranteed by the manufacturer against any defects or omissions in construction, poor workmanship, defective materials within 1 year after delivery.
- Delamination caused by mishandling, missecuring, misloading, impact, accident, fire or acid spillage are not covered by this warranty.
- A manufacturing defect is established if
  - (a) The adhesion primer or foam bond between the METAL and the foam is separating from the METAL. (primer remains on the foam)
  - (b) The adhesion primer or foam bond is separating within itself (primer remains on the METAL and the foam)
  - (c) The adhesion primer or foam bond is separating from the foam (primer remains on the METAL without a foam cell layer on its surface)
- The warranty shall be applied to delaminations if the structural integrity is compromised by more than 3sq. meters (as per latest version of IICL dated June, 2005, page 31), as long as neither the length nor the width of the affected area exceeds 1.73 meter.
- Any damages caused by mis-handling, mis-securing, mis-loading, impact and other natures of ancient are excluded.
- Those materials that need withstand ultra- low temperature, such as gaskets, sealant, adhesive, special PVC and insulating foam, the manufacturer don't supply quality and using time guarantee.

