

ISO 40 FEET HIGH CUBE REEFER CONTAINER



Max Gross Weight: 34,000kg
External DIM: 12192x2438x2896mm
Internal capacity: 67.9cu.m.
Internal temperature: -30~ +30°C

Max Payload: 29,360kg
Internal DIM: 11590x2294x2554mm

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

BASE STRUCTURE: **CORTEN CORRUGATED TYPE**
 END FRAME: **CORTEN**
 SIDE /ROOF PANEL: **MGSS**
 DOOR PANEL: **MGSS**

1. GENERAL

Standards: ISO, CSC, UIC, and TIR.
 Classification: BV, ABS, GL, LR or CCS.
 Installed reefer unit: To be discussed.

2. DIMENSIONS & RATINGS

2.1 Dimensions (INSTALLED UNIT)

Dimension	External (mm/inch)	Internal (mm/inch)
Length	12,192 0/-10 (40' 0 -25/64")	11,590 0/-15 (38'- 19/64" 0 -19/32")
Width	2,438 0/- 5 (8' 0 - 3/16")	2,294 0/-10 (7'-6 5/16" 0 -25/64")
Height	2,896 0/- 5 (9'-6" 0 - 3/16")	2,554 0/-10 (8'-4 35/64" 0 -25/64")

2.2 Internal capacity

67.9 m³ (2,398 Cu.ft).

2.3 Door opening dimensions

Width	2,290 0/-5mm (7'-6 5/32" 0 -3/16")
Height	2,569 0/-5mm (8'-5 9/64" 0 -3/16")
Cargo access height	2,502 0/-5mm (8'-2 1/2" 0 -3/16")

2.4 Gooseneck tunnel

Length	3,174mm
Width	1,029mm (+3/0)
Height	120mm (0/-3)

2.5 Ratings

Max. Gross Weight	34,000 kg (74,960 lbs)
Tare Weight	4,100 kg (9,040 lbs)
Tare Weight (incl. Unit: 540kg)	4,640 kg (10,230 lbs) as per weight of RF. unit
Max. Payload	29,360 kg (64,730 lbs) as per weight of RF. unit

2.6 Insulation

Item	Thickness (mm) *	Overall Density (kg/cu.m) **	Core Density (kg/cu.m) **
Roof	80	50	40
Side walls	60	55	45
Door panels	74	65	50
Floor	76/110	55	45

* Thickness: excluding the thickness of outer and inner claddings.

** Density: the average density not less than -5%.

2.7 Heat leakage value

$U_{max} = 37.5$ kcal/deg.c.h at the mean wall temperature 293K (20 °C) including reefer unit.

2.8 Air leakage value

$Q_{max} = 5$ m³/hr. (incl. reefer unit max. 0.5m³/hr.) measured at 250±10Pa.

3. MATERIAL

3.1 Materials of main parts

Item	Part	Material	Note
1	Front sill & inner	CORTEN A or Equivalent	T=4.0/4.0
	Front header & protector		T=4.0/3.5
	Front corner post & inner		T=6.0/3.0 (close)
	Door sill & inner		T=6.0/4.0
	Rear header & inner		T=4.0/3.5
	Rear corner post outer & inner		T=6.0/6.0
	Top side rail		T=4.0
	Bottom side rail		T=4.0/4.5
	Gooseneck tunnel		T=4.0
	Bolster		T=4.0/4.0
	Load transfer member		T=4.0
	Subfloor		T=1.6
	Side post		T=4.5/3.0/1.6
	2		Side panel
Roof panel		T=0.8	
Door panel		T=1.6	
Side stringer		T=0.8	
Roof bow		T=0.8	
Clip on device angle		T=0.8	
Hinge lug		T=6.0	
3	Door lining	HGSS	T=0.7
4	Roof lining	5052-H44	T=0.8(pre-painted)
	Side lining		T=1.2(pre-painted)
5	Corner fitting	SCW49	
6	Floor rail & floor stringer Scuff liner	6061-T6	
7	Rear corner post inner (B)	SS50	T=10.0
8	Door hinge	SS41	H.D.G.
9	Door lock	Forged steel	H.D.G.
10	Insulation tape	Electrolytic buffer of P.E.or P.V.C.	
11	Foam tape	Adhesive of P.V.C.	
12	Insulation foam	1) Rigid polyurethane foam 2) Blowing agent: R141b (HCFC)	
13	Exposed sealer	MS (inner)	Silicone (outer)
14	Hidden sealer	Butyl	

3.2 Properties of material

Material	Y.P. (kg/mm ²)	T.S. (kg/mm ²)
CORTEN A	35	49
M.G.S.S. (t≤2)	25	36
M.G.S.S. (t>2)	32	44
HGSS	21	53
SCW49	28	49
5052-H44	15	23
6061-T6	25	27
SS41	25	41
Forged steel	23	45
SS50	28	49

4. CONSTRUCTION

4.1 Container frame

End frames shall be made of pressed steel, welded to the upper and lower ISO-corner castings. The side frame will be welded to top and bottom side rail. Top and bottom side rails to be of cold rolled sections.

Two (2) sets of Generator Mounting device will be provided on front header and corner posts for clip on type generator sets.

4.2 Insulated floor

The floor shall be composed of flatter corrugated Corten subfloor and extrusion aluminum T-floor rail with insulation of polyurethane. One pressed hat section gooseneck tunnel will be provided and the T-floor will be reinforced with extruded aluminum profiles.

Front/Rear end equipped with 4 sets of auto type drainers.

4.3 Insulated side walls

Outer cladding shall be made of automatically butt-welded MGSS sheets with vertical tension corrugations reinforced by Corten side posts. Inner linings shall be of pre-painted AL sheets to be jointed by pressing and reinforced by AL stringers. The bottom side lining (Scuff liner) is 2.7mm thick, 400mm height, aluminum extruded profile. Insulation of PU foam.

4.4 Insulated roof

Outer cladding shall be made of automatically butt-welded MGSS sheets with tension corrugations reinforced by MGSS roof bows. Inner lining shall be die-stamped corrugated aluminum pre-painted sheets to be jointed by pressed clips and reinforced by AL roof stringers. Insulation of PU foam.

4.5 Insulated rear door

Composed of MGSS steel outer panel and corrugated HGSS steel inner lining with polyurethane insulation reinforced by beams.

Each door is suspended by hot dip galvanized steel hinges with bushes and washers placed at the MGSS hinge lug of the rear corner post.

Door gasket: Outer: E.P.D.M. "C" section double lips; Inner: EPDM "O" section.

Locking rod ass'y: Saejin, Haihang or equivalents type. Treatment: hot dip galvanized (70u).

5. PRESERVATION

1. All CORTEN steel parts shall be shot-blasted to Swedish Standard Sa 2.5.
2. All CONTENTEN steel out surface shall be primed with 30 microns Zinc rich primer, 50 microns of Epoxy phosphate primer and 40 microns of Acrylic top coating.
3. All MGSS parts (roof and side panel) shall be primed with 40 microns Epoxy phosphate primer and 40 microns of Acrylic top coating.
4. Door panel shall be primed with 40 microns Epoxy phosphate primer and 40-50 microns of Polyurethane top coating.
5. Under structure shall be primed with 30 microns Zinc rich primer, 40 microns Epoxy phosphate primer and 150microns of Bitumen.
6. The painting supplier will be KCC, KANSAI, CHUGOKU or HEMPEL.
7. The body color shall be white (RAL 9010) or light gary (RAL 7035) or nominated by owner.

6. MARKING

ISO and owner's marking shall be made of self-adhesive PVC vinyl foils. Data plate will be of stainless steel.

7. TESTING & INSPECTION

As per requirement of ISO, the tests shall be carried out in our factory under the supervision and the certification of the Classification Society.

7.1 Proposed criteria table for general prototype

	Item	Test Load and Method
7.1.1	Stacking	Load: 86,400kg/post Offset: 38mm longitudinally, 25mm laterally Internal load: 1.8 R-T
7.1.2	Lifting from top Corner fitting	Internal load: 2 R-T (vertical)
7.1.3	Lifting from bottom Corner fitting	Internal load: 2 R-T (30deg)
7.1.4	Floor Strength	7,260kg (16,000LBS)
7.1.5	Restraint	R / side
7.1.6	End Wall Strength	0.4P Uniform Load by Air Bag
7.1.7	Side Wall Strength	0.6P Uniform Load by Air Bag
7.1.8	Roof Strength	300kg (300×600mm)
7.1.9	Racking (transverse)	15,240kg
7.1.10	Racking (longitudinal)	7,620kg
7.1.11	Air-tightness Test	
7.1.12	Thermal Test In accordance with ISO requirement.	
7.1.13	Performance test In accordance with ISO requirement.	

7.2 Batch test

One (1) units out of every 250 containers.

8. GUARANTEE

8.1 Paint guarantee: 5 years.

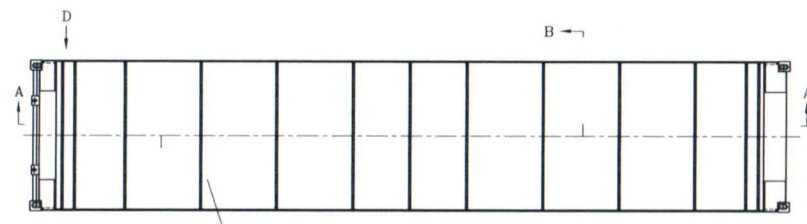
8.2 Decal guarantee: 7 years.

8.3 Other guarantee: 1 year.

9. **Specifications may change without notice.**

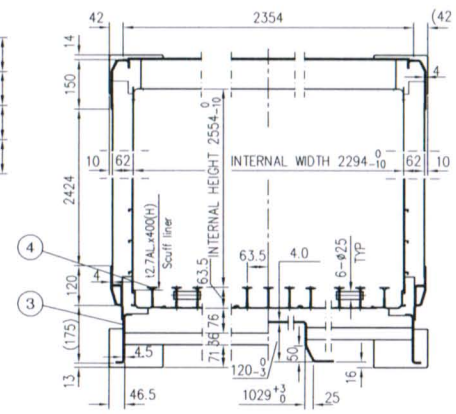
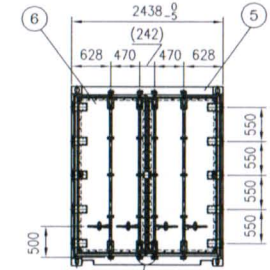
CLASSIFICATION		DIMENSION		
EXTERNAL	LENGTH	12192 ⁰ ₋₁₀	40'	-25/64"
	WIDTH	2438 ⁰ ₋₅	8'	-3/16"
	HEIGHT	2896 ⁰ ₋₅	9'-6"	-3/16"
INTERNAL	LENGTH	11590 ⁰ ₋₁₅	38'-19/64"	-19/32"
	WIDTH	2294 ⁰ ₋₁₀	7'-6 5/16"	-25/64"
	HEIGHT	2554 ⁰ ₋₁₀	8'-4 35/64"	-25/64"
DOOR	WIDTH	2290 ⁰ ₋₅	7'-6 5/32"	-3/16"
OPENING	HEIGHT	2569 ⁰ ₋₅	8'-5 9/64"	-3/16"
CARGO ACCESS HEIGHT		2502 ⁰ ₋₅	8'-2 1/2"	-3/16"
INTERNAL CUBIC CAPACITY		67.9 CU.M	2397 CU.FT	

MAX GROSS WEIGHT (INDICATED)		34000 KGS
TARE WEIGHT (±2%)	EXCLUDING UNIT	4110 KGS
	INCLUDING UNIT (UNIT: 540KG)	4650 KGS
MAX PAYLOAD		29350 KGS
STACKING TEST LOAD		86400 KGS
FLOOR STRENGTH		7260 KGS
HEAT LEAKAGE (293K M.W.T.)		37.5 kcal/hr.°c
AIR LEAKAGE (1" WGP)		5 CU.M/hr.

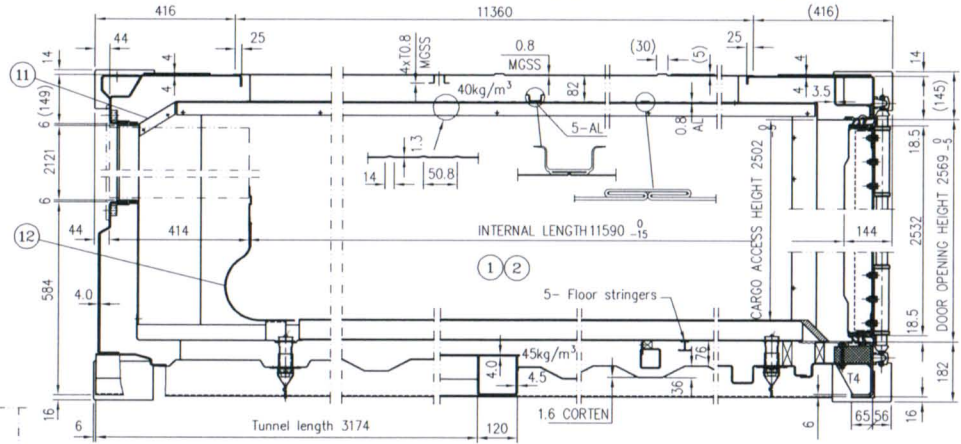
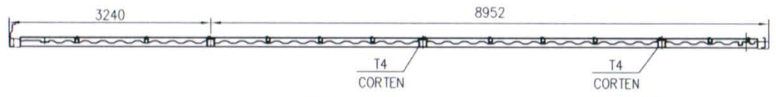
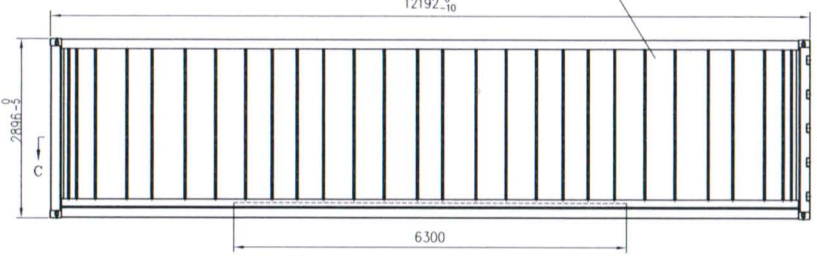
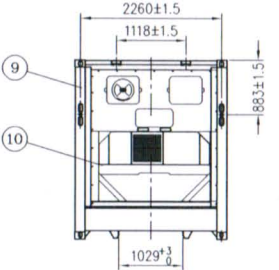


AEI tag recess area
(Right-Front only)

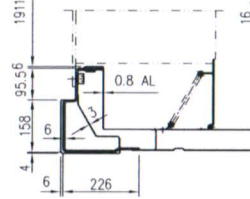
VIEW D



SECTION B-B
1 : 15



SECTION A-A
1 : 15



SECTION C-C
1 : 15

14	Marking arrangement		
13	Reefer unit	XXXXXX	
12	Unit lining		
11	Front & Rear lining		
9	Front frame assembly		
8	Roof assembly		
7	Side wall assembly		
6	Door assembly		
5	Rear frame assembly		
4	Floor assembly		
3	Base frame assembly		
2	Reefer general assembly (II)		
1	Reefer general assembly (I)		
ITEM	DESCRIPTION	DWG No.	MATERIAL

Cargo Equipment Solutions, Inc.

TITLE: 40'x8'x9'6" REEFER

12301 SW 128th Court, Suite # 104, Miami, Florida 33186
 Phones: (1) 305-259.4537 / 259.4538 Fax: (1) 305-259.4539
 Email: sales@cargoequipmentsolutions.com