Technical Guidelines for STEEL COILS in ISO Containers.

By CMA CGM M&R
UDATED: 18/06/2013

Loading Instructions

1. 20’ ST CNTR의 경우, Max Gross Weight가 about 30ton 입니다. 이에 일반적으로 짐을 실을 경우, Max Payload는 Tare 무게를 제외한 about 28ton, 본 무게에서 70%~80%를 적정수준의 Cargo Max weight 로 잡고 있으며, 20ton이 넘는 경우 LOI를 화주로부터 받으셔야 합니다. (컨테이너에 DM가 발생할 수 있기 때문입니다.)
2. Steel Coil의 경우, 컨테이너 Floor 바닥에 직접 닿아서는 되지 않습니다. 아무리 BEDDING & LASHING 을 안전하게 하였다 하더라도, COIL이 바닥에 닿는 순간 둥근 Coil의 무게 중심이 한점으로 만나, 집중 하중이 생겨 컨테이너 DM를 유발할 수 있기 때문입니다.
3. Steel Coil을 싣을 경우, Dunnage (support) 길이를 5ton당 1m를 길이 방향으로 기준으로 잡고 BEDDING하여 주셔야만 합니다. 이는 컨테이너를 구성하는 부품중 하나인 CROSS MEMBER라는 COMPONENTS에 3개 이상을 걸치게 하여 무게를 충분히 분산하기 위한 필수 조건입니다.

Loading Instructions (acceptable or not ?)

Typical Dimensions for all size/type

Tare Weight:	2,200.000 KGM	Max. Gross Weight:	30,480.000 KGM	Max. Payload Weight:	28,280.000 KGM		
Allow Stack Weight:		Racking Test Load Value:		Material:			
Length:	6.07 M	Width:	2.44 M	Height:	2.59 M	Volume:	38.331 MTQ
I Length:	5.90 M	I Width:	2.35 M	I Height:	2.39 M	I Volume:	33.196 MTQ
I width door opening:	2.34 M	I height door opening:	2.28 M				
Volume 1:		Volume 2:		Volume 3:		Volume 4:	

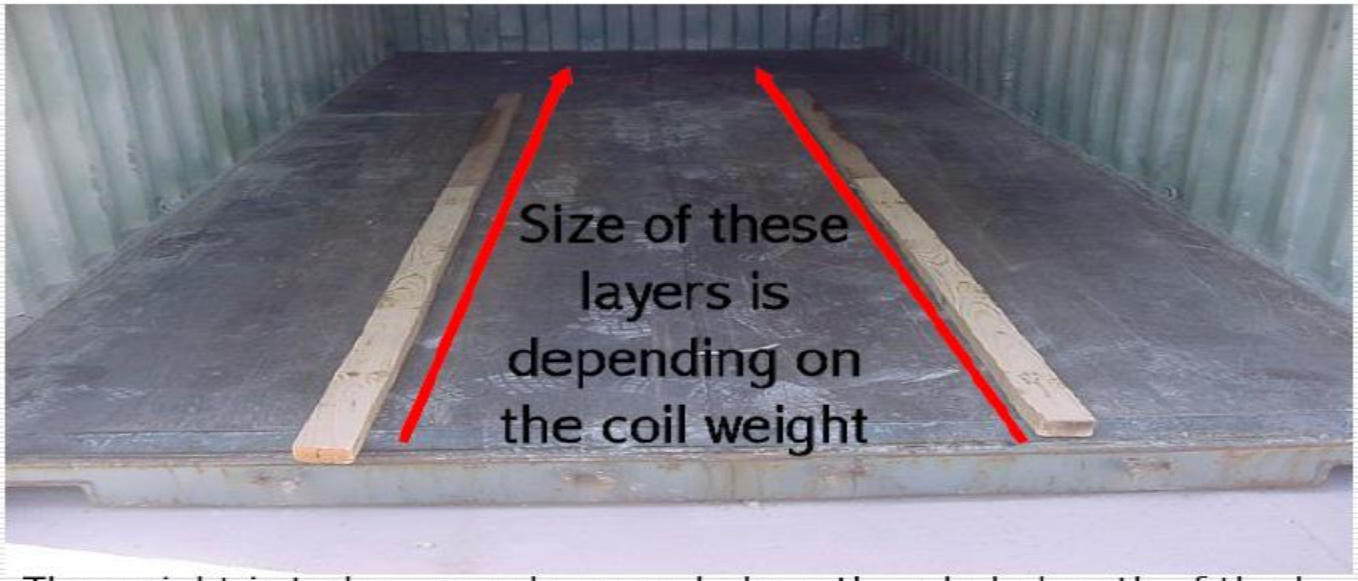
Loading Instructions (사고발생의 예 Dunnage 사용치 않음

Size/Type: 20 ST General Purpose cntr W/T vent
Equipment Num: TGHU3384632
Unit to be Remarked
Description: General Purpose cntr W/T vent
Remarked Resource Code:
Book Ref:
Grade: GC General Cargo
Lease Num: NEUL0198
Lease Type: L Long term
Lessor: 0000220619 001 TEXTAINER
Operator:
Serial Number 1:
Serial Number 2: 20' DRY
Year of Manufacture: 2004
Floor Wood Teatment:
Depreciate Value
Sale Reference:
Floor Type:
Claim Reference:
Recovery Reference:
End Billing Date:
Dimensions: Operations: Financial: Additional Info: Security Data:

Coil Loading Guidelines ……

1. **Coil**을 싣을 경우, **10**년 미만의 컨테이너로 상태가 양호한 컨테이너만을 선별하여 선적하도록 진행 합니다. **(MGW 30,480KG** 이상, **24,000KG** 사용금지)
2. **Coil**을 싣을 경우, 적정한 **BEDDING** 처리를 완료하였다면, **Coil**의 무게를 충분히 분산 시킬 수 있습니다. 여기서 가장 중요한 것은 **Longitudinal (**길이**)**방향으로 **DUNNAGE**를 깔아야만 합니다. **(1m per 5ton)**

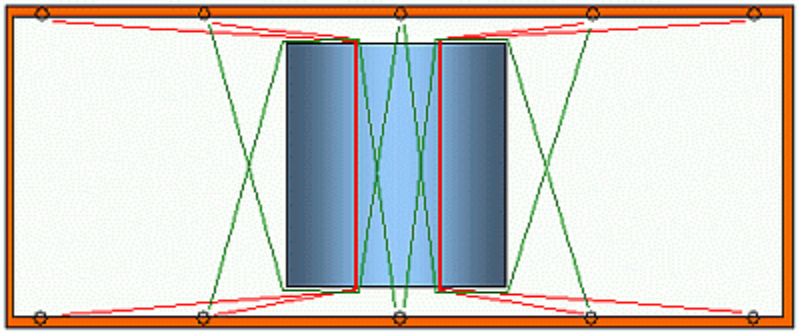
Avoid Point Pressure



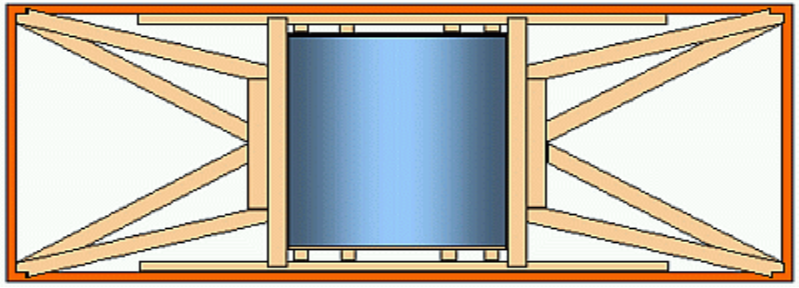
The weight is to be properly spread along the whole length of the box.

Coil Loading Guidelines ……

1. 무게 중심이 컨테이너 세로로 가로 지름으로써 **Container** 바닥 전체에 **Coil**의 무게를 분산 시킬 수 있습니다.
2. 양쪽과 **Door**방향으로의 적절한 **Bedding, Lashing, Blocking** 은 아주 중요합니다.



Longitudinal and transverse lashing of the coil



Longitudinal and transverse shoring of the coil

Coil Loading Guidelines ..... (가벼운 coil)

1. 작고, 좁은 코일의 경우 드럼과 같이 서로 서로 쌓아 올릴 수 있으며, 안정성을 위해 **Steel straps & wood pallet**를 이용하여 묶어야만 합니다.
2. **Stack** 하는 경우, 상위에 있는 **Coil**이 바닥에 있는 **Coil**을 길이나 세로 방향으로 덥히게 되는 경우는 절대 허락하지 않습니다.

•Coil은 특별히 제작된 Pallets에 올려둡니다.
•Coil은 Pallets의 모서리보다 튀어나오지 않게 합니다.
•Coil은 Pallet와 Container security rings 으로 확고히 고정시킵니다. (이때 각 Strap의 파괴강도는 해당 컨테이너의 Securing ring의 강도보다 낮아야 합니다.)
•Steel Strap의 총 강도는 Coil 무게의 5배가 되어야 합니다.
•Loading 시 일반적으로 Wooden Pallet는 포크리프트에 의해 옮겨지고 정리되어집니다.

Coil Loading Guidelines …… (special frame)

Heavy steel coil의 경우 steel or wood로 만들어진 받침대를 통해 packing되어져야만 한다. (아래 그림 참조.)

Picture for Non Acceptable

본건의 경우, **Dunnage**가 세로방향이 아닌 가로 방향으로 놓여 있어 **DM**를 유발하기에 재 작업해야만 합니다.

반듯이 길이방향 **5ton**당 **1meter** 되어야 합니다

본건의 경우, 적합하지 않은 지지대로, 컨테이너 내부에 장치되어진 **Lashing Bar & Ring**을 이용하여 **Wire**로 **Bind** 되어져야 합니다.

외부에서 물리적인 힘을 가하면 **wood support broken** 되어 **coil**을 지탱할수 없습니다

Damages due to coils

Coil에 의해 집중하중을 받은 CONTAINER 이로 인해 Downward dent X-mbr and Floor cracked DM 발생.

적절하지 못한 Bedding, Lashing, Blocking 으로 인해 발생되어진 완전히 붕괴되어진 컨테이너 하부.

DM EXAMPLE (사고발생 예)

Repair Estimate Example (평균수리비 in EU)

COMPONENT	REPAIR	DAMAGE	QTY	HOURS	LAB	MATL	TOTAL	
PLYWOOD FLOOR	RENEW	CRACKED	4	15	345	200	545	
X MEMBER	RENEW	BENT	6	12,50	287,50	155,76	443,26	
			TOTAL	16,50	379,50	191,98	988,26 EUR	= USD 1264

SHIPPER RESPONSIBILTIY.

1. **Steel Coil**을 싣기 위해 사용 되어진 장비 또는 **Container**가 파손 **or** 손실된 경우에 대해서는 완전히 보상 해야 한다.

2. 최초 청구 시, 특정한 수리 비용 및 수리 교체 가치를 지불해야 한다.

3. **CMA CGM**에 의해 발급되어진 감가 삼각 비용의 단서가 제공되면, 해당 비용은 지불 되어져야 한다.

4. **CMA CGM**에서 공인된 **DEPOTS / COMPANY**서 발급되어지진수리 견적서가 제공되어지는 경우, 해당 수리 비용에 대해 받아들여야 한다.

5. **Steel Coil**에 의해 야기되어진 직, 간접적 파손에 대한 손해의 경우, 이에 해당하는 **Claim**에 대해서는 완전히 보상해야 한다.

Application (요청시 정보)

> Coil 관련 stuffing 요청시 하기와 같은 정보 필요합니다

> 1. 각 coil의 무게및 total 무게 into 20'ST
> 2. 각 coil의 dimension (가로, 세로, 높이, 무게)
> 3. Stuffing & Lashing 사진
> 4. Dunnage size (3 pcs wood 15x15x ? Length)
> 4. 최소 선적 5일전에 통지 바람.
> 5. LOI 작성

Letter of Indemnity

LETTER OF INDEMNITY

Date of issuance: DD/MM/YYYY

To: CMA CGM Head Office

4, Quai d'Arenc

13002 Marseille France

M.S…… Voyage number:……

POD…… FPD……..

B/L N° …… Goods Description …….

Dear Sirs,

The above goods will be shipped on the above vessel by Messrs ……. and consigned to Messrs ……

In consideration of you carrying the above consignment we hereby agree as follows:

Upon your first written demand we full and unconditionally indemnify you against:

1: Any damages and/or losses that may be sustained by the containers/equipment due to cargo or improper/insufficient stuffing or wedging.

To pay for the repair costs/replacement values ascertained by you upon your first demand.

The repair costs will be deemed accepted upon provision of the Estimate Repairs Forms issued by your depots/company.

The replacement values will be deemed accepted upon provision of the Depreciated Value issued by your company.

2: To fully indemnify your company for any claim for consequential direct or indirect damages or losses that may be caused due to cargo or improper/insufficient stuffing or wedging.

Any disputes arising between your company and ours regarding the equipment handling shall be submitted to the French Law and the jurisdiction of the Commercial Court of Marseille, France.

Yours sincerely,

Signature of Authorised Signatory Company Official Stamp

Full Name of Authorised Signatory

Designation of Authorised Signator

Safe Transport of Steel Products ON CMA-CGM LINE VESSEL

The weather is not always like this!!!

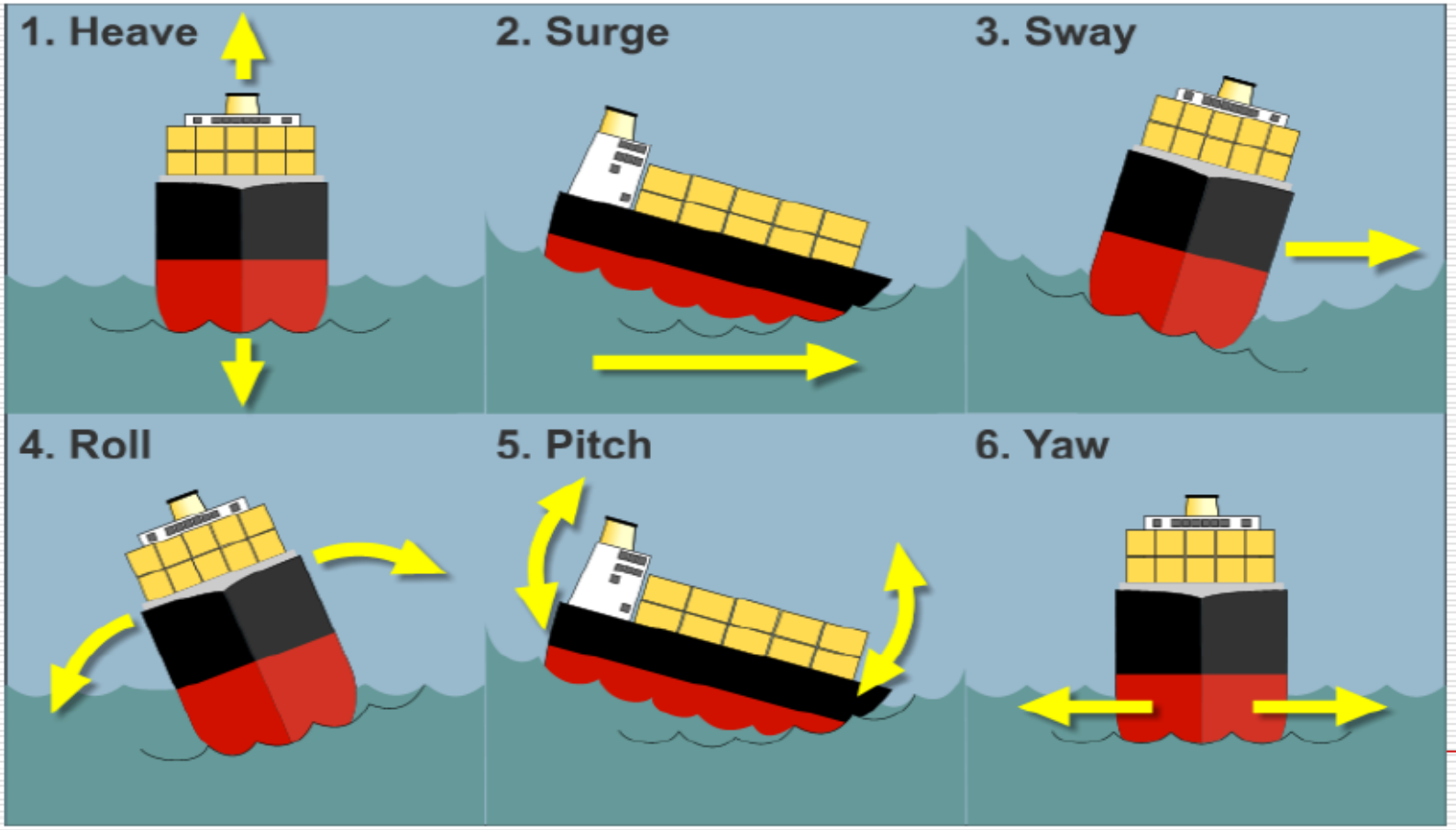
Ordinary Sea Passage

Specially in winter periods, sea passages are often like this, meeting adverse conditions in gale force winds.

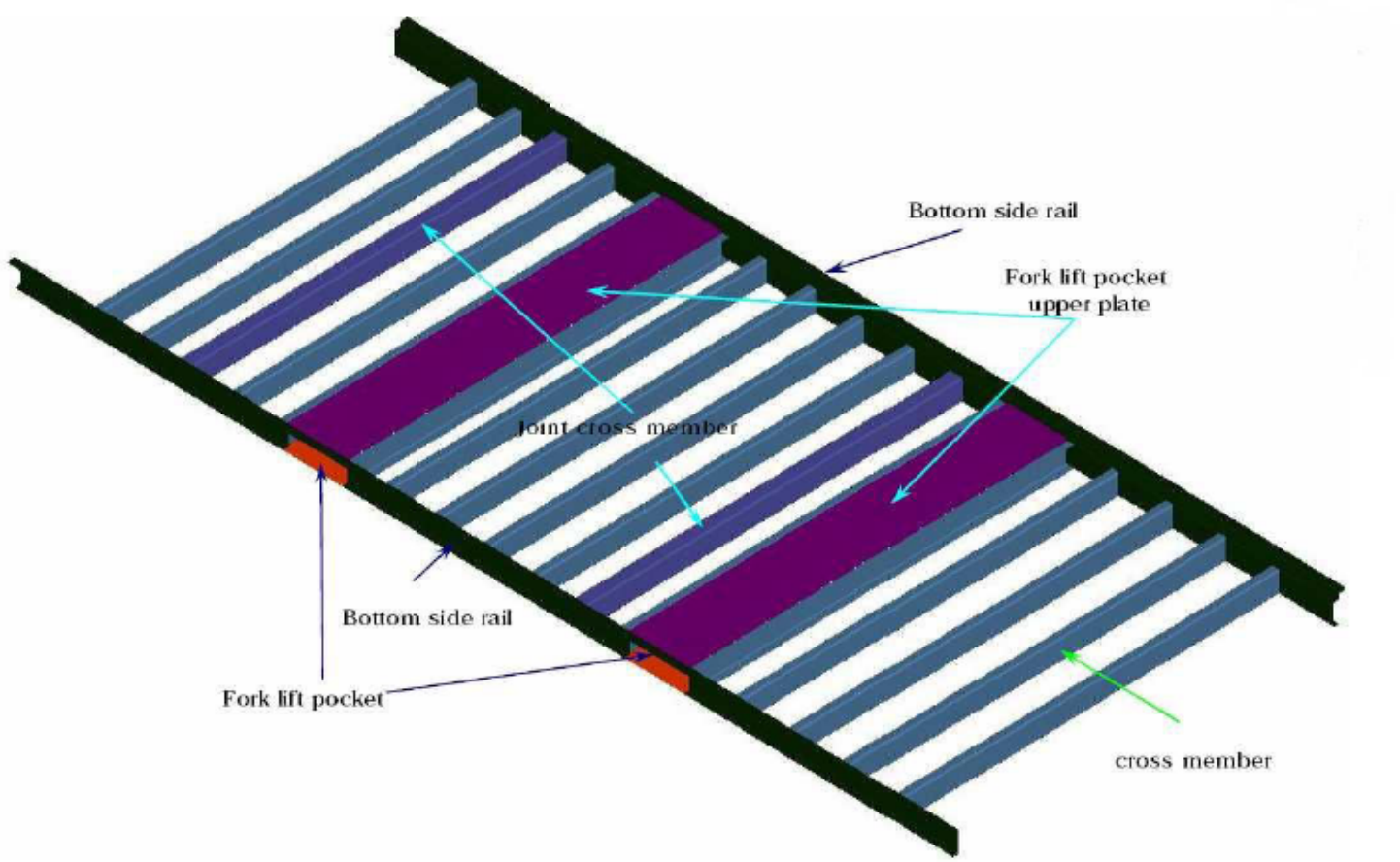
Size no matter

Not just small ships do meet adverse weather.

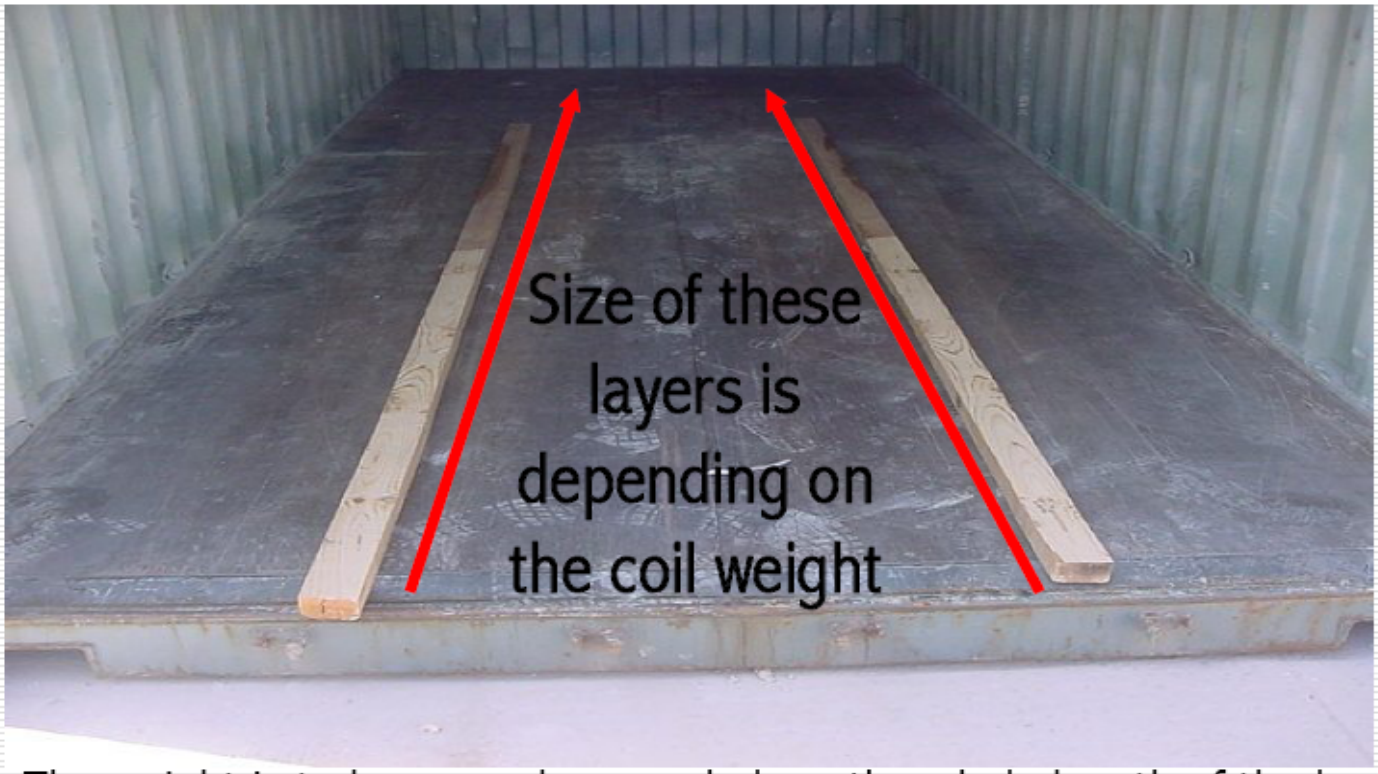
Ship Movements



Bottom Structure of a 20’ Container

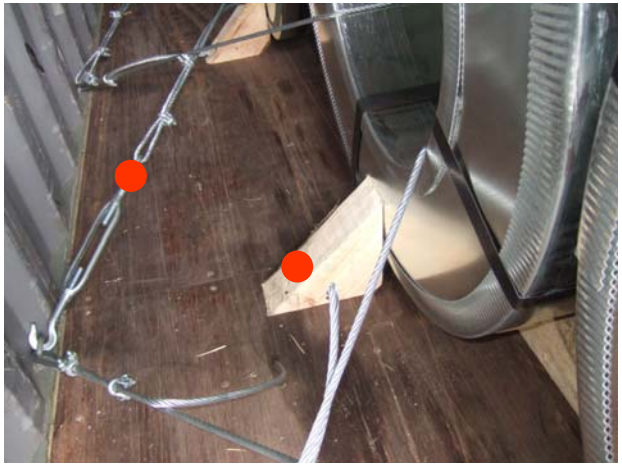


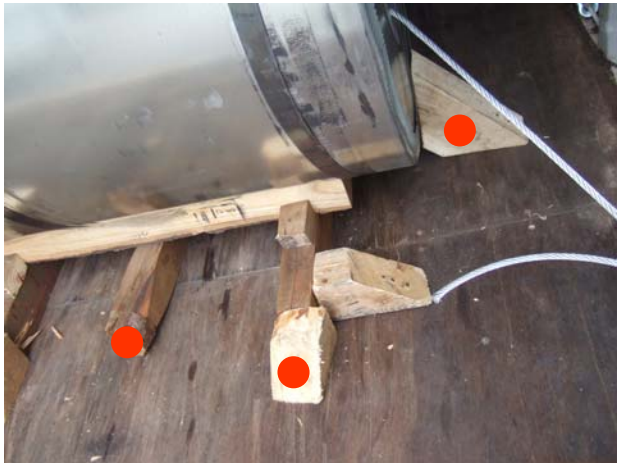
Avoid Point Pressure



The weight is to be properly spread along the whole length of the box.

STEEL COILS





STEEL COIL

- 3 wood timber usded as supporting battens with size “Square 15x15cm”.
- Put the supporting battens longitudinally.
- Minimum length of supporting battens is 1m thus to distribute weigh to 3 crossmembers.
- Every 5 tons require 1 meter wood timber supporting. E.g. 8tons = 8/5 = 1.6metre.
- Chock off each set in all direction, left/right/fore/aft. (chock size “Square 15x15cm”)
- Use cord-strap and turnbuckle or strap and tensioner for lashing. (钢索和紧固器或布条紧固器)

ANGEL IRON

- Plank board protection fore & aft.
- 3 lashings at the fore/middle/aft.
- a triangle of wood frame for supporting left or right side.

STEEL TUBE

- Make sure the center of gravity in the middle of container, no left/right/fore/aft.
- Side panels are protected by wood battens.
- Proper lashing used to make sure no possibility of rolling during sea transport.
- Lashing and then plank board protection fore & aft.

STEEL BAR

- Light & Thin : the same as steel tube.
- Heavy & Thick (local suggestion, no standard right now)
  1. DO MORE LASHING, use with cord-strap with larger diameter.
  2. Big Chock Needed reaching the height of the bar, 4 sides.

APPLICATION FORM

Subject: Loading application on BX485W STEEL PIPE/TUBE/BAR/ANGEL IRON TSWD003716

S/Sino Steel

M/v:

Etd:

Pol:Xng

Pod:

Booking: TSWD003716

Commodity: Steel Pipe

Vol: 1x40'st

Weight per unit: 22,000kgs

Loading history of same account/same commodity:

B/L no.

Vsl/Voy.:

Atd:

Subject: Loading application on BX485W STEEL COILS TSWD003716

S/Sino Steel

M/v:

Etd:

Pol:Xng

Pod:

Booking: TSWD003716

Commodity: Steel coils

Vol: 20x20'st

Weight per unit: 24,000kgs

Dimensions: ttl: 6 pcs, 4 mt each

Length: 1m each

Diameter: 1m each

Lengh of wood timbers: 1meter

Loading history of same account/same commodity:

B/L no./Vsl/Voy.:/Atd:

LETTER OF INDEMNITY

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M.S…… Voyage number:……

POD…… FPD……..

B/L N° …… Goods Description …….

Dear Sirs,

The above goods will be shipped on the above vessel by Messrs ……. and consigned to Messrs ……

In consideration of you carrying the above consignment we hereby agree as follows:

Upon your first written demand we full and unconditionally indemnify you against:

- To fully indemnify you for any damages and/or losses that may be sustained by the containers/equipment which used for the loading of steel coils by our company.

- To pay for the repair costs/replacement values ascertained by you upon your first demand.
  The repair costs will be deemed accepted upon provision of the Estimate Repairs Forms issued by your depots/company.
  The replacement values will be deemed accepted upon provision of the Depreciated Value issued by your company.

- To fully indemnify your company for any claim for consequential direct or indirect damages or losses that may be caused by the steel coils

Any disputes arising between your company and ours regarding the equipment handling shall be submitted to the French Law and the jurisdiction of the Commercial Court of Marseille, France.

Yours sincerely,

Signature of Authorised Signatory Company Official Stamp

Full Name of Authorised Signatory

Designation of Authorised Signator

If you want to get approval quickly, please

1. **All item in the application is inserted.**
2. **Check the photos that it's clearly show that EVERY requirement of our standard is followed.**
3. **Make sure photos you attached is CLEAR. (no photoshop pls)**
4. **Correct subject/full e-mail address including Y.S.Yoo/JM Lee/Max/Lion/Carol.**
5. **As for more equipments in one booking order, you may stuff 1 container only at the beginning.**

Advantages & Disadvantages

- Steel Coil- no survey report needed for cma while other shipping co. need it.
- Other steel products like tube/bar/angle iron-a little more cost occured for wood protection

CONTAINER IS A SAFE AND SECURE WAY OF MOVING CARGO BUT WE NEED YOUR COOPERATION IN AN EFFORT TO MINIMIZE POTENTIAL DAMAGE TO THE CARGO AND TO THE SHIP, TO MAINTAIN INTEGRITY OF THE CONTAINER AND TO REDUCE THE RISK OF INJURY OR EVEN DEATH ON BOARD VESSELS AS WELL AS ASHORE ON TRUCKS, WAGONS OR BARGES

----------Quoted from **Safety Security Environment Dept**

THANK YOU!

CMA CGM group	Safety Security and Environment Management (SSE) Group SSE Cargo Division	
BEST PRACTICES	**Original Version : 02/15/2011**	**Update :**

OUT OF GAUGE CONTAINERS: BASICS of CARGO SECURING

CMA CGM IS CURRENTLY EXPERIENCING SERIOUS DAMAGES PERTAINING FROM IMPROPER SECURING OF CARGO UNITS ON FLAT RACK CONTAINERS.

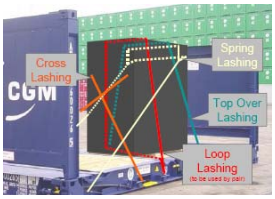
OVERVIEW

Lashing a cargo unit is intended to prevent it from moving longitudinally or laterally and to stop it tipping.

Lashing refers to the use of strapping, chains, steel wire, ropes and other securing materials which are fixed, on one hand, to the package and, on the other hand, to the container.

TYPES OF LASHING

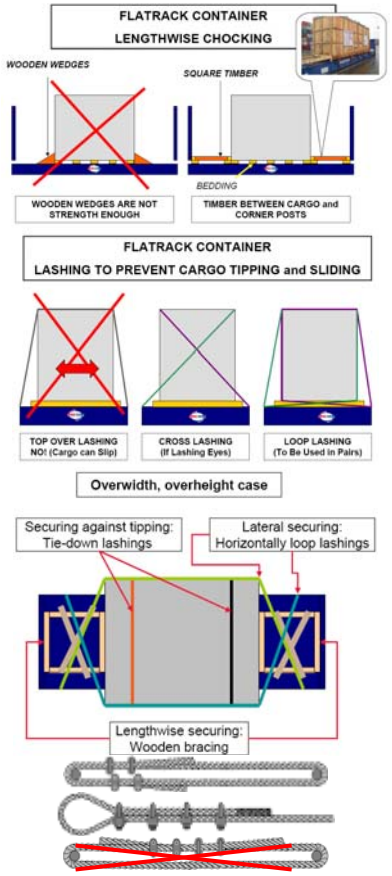
- Top Over Lashing: Increase friction only.
- Cross Lashing: Prevents sliding and tipping but needs securing points on the cargo unit.
- Loop Lashing: Prevents transverse sliding and tipping but to be used by pair.
- Spring Lashing: Prevents longitudinal sliding and tipping.
- Round turn lashing: Ropes or belts wound around a piece of cargo. Not recommended as the cargo can move freely in the loop.



BEST PRACTICES

The important factors that determine the effectiveness of the lashings are the quality of the materials and the fixing points as well as the directions in which the lashings work.

- The weight of the cargo unit does not exceed the container Max Payload and the container floor load limit (see BP card “Container weight limits”).
- Gravity center: As close to the centre of the container, to an height not exceeding the limit specified by Shipping Line’s instructions (CMA CGM SSE department do recommend not to exceed the height of the container end walls”).
- Shipper provides the Shipping Agent with accurate description of cargo dimensions and extent of oversize (For example, an overlength cargo can exceed the distance between quay crane portal beams…).
- Using dunnage, top over lashing you increase friction and you avoid steel to steel contact.
- Check container lashing points MSL (7/8” # 49 kN # pull strength 5000 kg or 1” # 65kN).
- Shipper/Packer assess the securing arrangements according the IMO “*Code of Safe Practice for Cargo Stowage and Securing*” (CSS Code). See below BP card.
- Ship’s officer, Surveyor (the NCB for the USA) or Terminal Operator to inspect the container and the securing arrangement prior loading. The shipment is rejected if:
  - Container capabilities are exceeded.
  - Lengthwise, transverse or securing against tipping or sliding are insufficient or inadequate.
  - For under deck stow, it overhangs too near the container corners (at least 30 cm from outer end of the flat needed for cell guide clearance).
  - Corrective action cannot be performed on site
- Cable wire eyes:
  - U bolts on the free end, 4 clips (3 clips achieve only 75% of cable MSL), spaced with 6 rope diameter apart.
  - Clips are tightened to a sufficient torque If free end of the wire cable is crushed to half the thickness of the wire.



MORE INFORMATION

CMA CGM intranet Mira links: Best Practices Cards : « Cargo Securing Assessment » « Container Weight Limits » « Cargo Stowage and Securing: NE P&I » « Safe Transport of Containers by sea: ICS-WSC »

Web: « Container Handbook: Securing the product in the container »
« Container handbook: Permissible loading capacity of container »
« European Guidelines on Cargo Securing for Road Transport »
« Industry Guidance for Shippers: Safe Transport of Containers by Sea »

CMA CGM
ADVANCED SHIPPING

CMA CGM group	Safety Security and Environment Management (SSE) Group SSE Cargo Division	
BEST PRACTICES	**Original Version : 02/15/2011**	**Update :**

OUT OF GAUGE CONTAINERS: BASICS of CARGO SECURING

DON'ts ✗	
Poor lengthwise securing with wooden wedges	
Carterpillars are partly outside the container	
Inadequate lateral securing	
The container is full, wooden wedges are not strength enough	
No roof bows, tyres not lashed together and to the container	
No lateral and no longitudinal securing, straps only increase pressure onto container's floorboard	
Wire cables are loose, no transverse securing	
Handling with slings and elephant hooks/top lifting lugs	
No lateral securing	

DO's ✓	
Lengthwise securing with wooden bracing, transverse securing with loop lashing	
Axles have been raised and the excavator stands on wooden sleepers.	
Lateral securing with wooden wedges supported on container stanchions	
Lengthwise securing with wooden bracing, cross lashing, top over lashing and loop lashing through forklift pockets…	
Open Top: Roof bows in place as much as possible and tyres lashed together and to the container	
The sailing boat is secured in all the directions	
Crosslashing with chains	
Handling with Overheigh frame	
Lateral securing using loop lashings