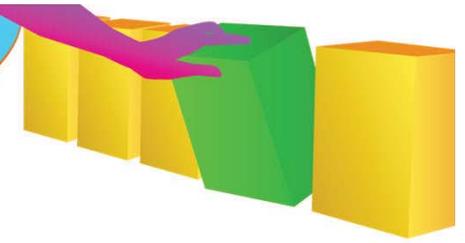


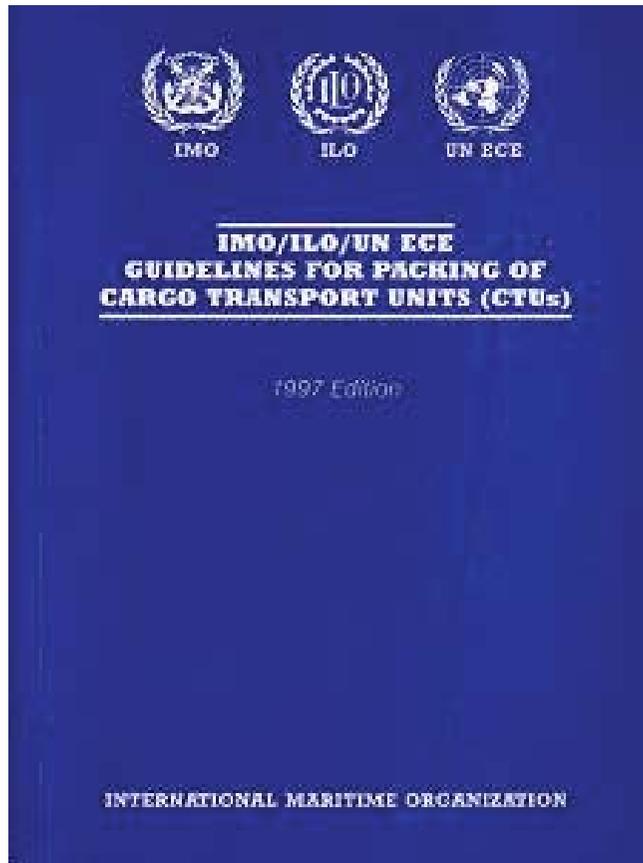
Code of Practice for Packing of Cargo Transport Units

Presented during the Performance BIB meetings in Bristol, England
24 & 25 October 2012

By Bill Brassington
ETS Consulting



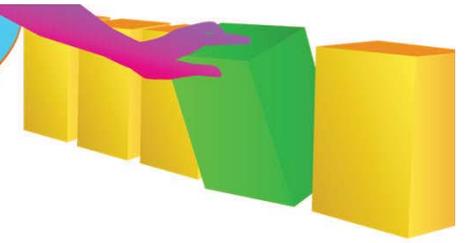
IMO / ILO / UN ECE Guidelines for packing Cargo Transport Units (CTUs)



Scope

These Guidelines are essential to the safe packing of CTUs by those responsible for the packing and securing of the cargo and by those whose task it is to train people to pack such units. However, they are not exhaustive and other sources of information may be relevant. Training is essential if safety standards are to be maintained. These Guidelines detail practical measures to ensure the safe packing of cargo onto or into CTUs. As such they are concerned with issues of safety and are not intended to address practical measures to enhance security, *per se*.

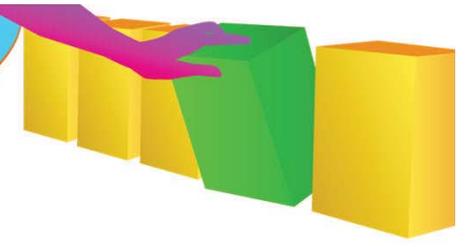
These Guidelines are not intended to conflict with, or to replace or supersede, any existing regulations or recommendations which may concern the carriage of cargo in CTUs. They do not cover the filling or emptying of tank containers, portable tanks or road tank vehicles, or the transport of any bulk cargo in bulk containers



IMO / ILO / UN ECE Guidelines for packing Cargo Transport Units (CTUs)

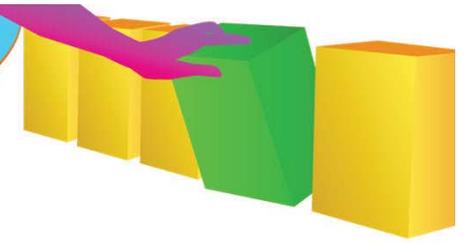
The Code of Practice

"Both guidelines and codes of practice are instruments that, without being binding nor imposing legal obligations upon member states, provide guidance to governments, employers and workers concerning a particular sector. They may be distinguished as follows. While guidelines aim to provide broad orientations, codes of practice are typically more detailed and technical. Codes of practice are intended to assist governments and employers' and workers' organizations in drawing up regulations and can thus be used as models for national legislation."



IMO / ILO / UN ECE Guidelines for packing Cargo Transport Units (CTUs)

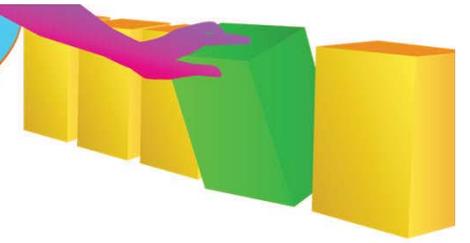
Oct 2011	Group of Experts 1
Apr 2012	Group of Experts 2
Jun 2012	Submit Progress report to DSC
Aug 2012	Paper to IMO
Sept 2012	DSC 17
Oct 2012	Group of Experts 3
Dec 2012	Final draft circulated
May 2013	Final draft agreed
Jun 2013	Submit final draft To DSC
Sept 2013	DSC 18 Final Draft revision
Nov 2013	UN ECE WP 24 Group of Experts 4
Mar 2014	UN ECE General session ILO Governing Body
May 2014	MSC 93 Agree final draft Final Publication



The Code of Practice

What format?

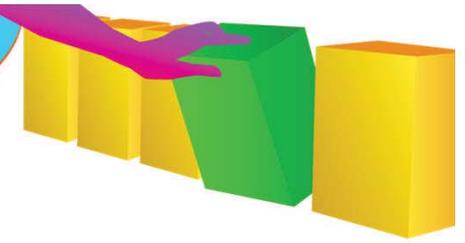
- **Simple**
- **Understandable**
- **Easy to get the right information**
- **Detailed when required**



The Code of Practice

What should it include?

- **General overview for general management**
- **Detailed information for supervision**
- **Detailed packing procedures for packing operative.**



What are Containers and CTUs?

Box



Flat

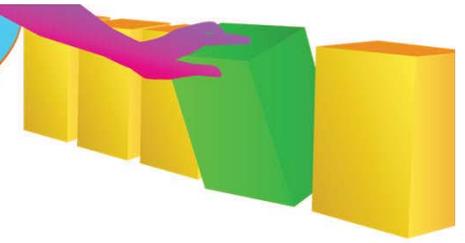


Tank



These are all Cargo Transport Units
CTUs

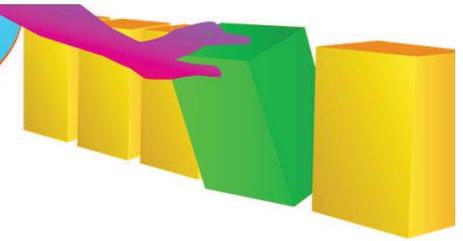




Why am I here?

Code of practice chapters:

1. Introduction
2. Definitions
3. Key requirements
4. Consequences of improper packing
5. Chains of responsibility and information
6. General transport conditions
7. CTU properties
8. CTU suitability
9. Arrival, checking and positioning of CTUs
10. Packing cargo into CTUs
11. Additional advise on packing dangerous goods
12. On completion of packing
13. Basic principles for safe handling and securing of CTUs
14. Advice on receipt and unpacking of CTUs
15. Training on packing of CTUs



Why am I here?

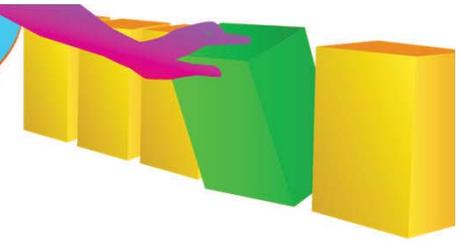
Code of practice chapters:

1. Introduction

5. Chains of responsibility and information

5.2.2 The packer should be responsible for

- ensuring that a suitable cargo transport unit (CTU) is used, according to the properties of the cargo;
- ensuring that the CTU is checked with respect to serious deficiencies;
- ensuring that the floor of the CTU is not overstressed during packing operations;
- ensuring that the cargo is correctly distributed in the CTU and properly supported where necessary;
- ensuring that the CTU is not overloaded;
- ensuring that the cargo is sufficiently secured in the CTU;
- properly closing the CTU and sealing it if so required by the applicable mode of transport and reporting seal details to the shipper;
- fitting marks and placards to the CTU as required by Dangerous Goods Regulations;
- properly determining the gross mass of the CTU and transmitting it to the shipper;
- reporting any container CTU with a reduced stacking capacity (less than 192,000 kg marked on the CSC Safety Approval Plate) , to the carrier;
- completing the CTU packing certificate including declaring that the goods have been packed in accordance with the applicable provisions and the document forwarded to the shipper.



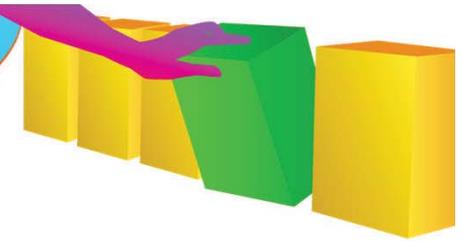
Why am I here?

Code of practice chapters:

1. Introduction
2. Definitions
3. Key requirements
- 10. Packing cargo into CTUs**
4. Consequences of improper packing

10.5.2 Non-hazardous liquids in flexi-tanks

- 10.5.2.1 Flexi-tanks used for the transport of bulk liquids by road, rail or sea should carry a label that confirms the type approval by a recognised consultative body. The transportation of dangerous goods in flexi-tanks is prohibited.
- 10.5.2.2 During transport the contents of a flexi-tank will be subject to dynamic forces without significant retention from friction. These forces will act upon the boundaries of the CTU and may cause damage or complete failure. Therefore the payload of a CTU should be appropriately reduced, when it is used for carrying a loaded flexi-tank. The reduction depends on the type of CTU and on the mode of transport. When a flexi-tank is loaded into a general purpose ISO box container, the mass of the liquid in the flexi-tank should not exceed [50%] of the payload of the container, to prevent the container from suffering bulging damages.
- 10.5.2.3 Road vehicles intended to carry loaded flexi-tanks should have boundaries of a certified strength that is sufficient to confine the weight of the cargo under the accepted load assumptions. The certification of fitness of the vehicle should explicitly address the bulk transport of liquid under the assumption of zero-friction. Nevertheless, the lining of the bottom of the loading area with friction increasing material and the application of over-the-top fibre belt lashings every two metres is recommended for stabilising the position and the strength of the flexi-tank.
- 10.5.2.4 Before being fitted with a flexi-tank, the CTU should be carefully inspected for structural integrity and fully functional locking bars for each door panel. The CTU should then be prepared by thorough cleaning, removing of all obstacles like protruding nails and by lining the bottom and walls with cardboard. [In 40'-containers plywood should be used for lining of the side walls in order to avoid bulging damage.] The door end of the CTU should be reinforced by battens, fitted into suitable recesses, and by a strong lining of cardboard or plywood. If the flexi-tank is equipped with a bottom connection tube, this lining should have an aperture matching with the position of the tube in way of the right hand door. The empty flexi-tank should be unfolded and laid out accurately to facilitate a smooth filling process.
- 10.5.2.5 For filling an empty flexi-tank the left hand door of the CTU should be firmly closed so that the inserted barrier is appropriately supported. The flexi-tank should be filled at a controlled rate. The use of spill protection devices like collecting bag or drip tray is recommended. After filling and sealing the tank the door of the CTU should be closed and a warning label should be attached on the left hand door panel.
- 10.5.2.6 For unloading a flexi-tank, the right hand door of the CTU should be opened carefully for getting access to the top or bottom connection tube of the flexi-tank. The left hand door must be kept closed until the flexi-tank is substantially empty. The use of spill protection devices like collecting bag or drip tray is recommended. The empty flexi-tank should be disposed according to applicable regulations.



Why am I here?

Post Presentation comment

In the meeting of the group of experts meeting in Geneva held on October 15th to 17th it was agreed that the maximum volume should be 24,000 litres or the maximum mass should be 24,000 kg whichever is the greater. In addition the packer should be directed by the CTU operator to any industry standard. The group of experts agreed that the appropriate industry guidelines is the Container Owners Association's "*Code of practice for flexitanks*"

closed and a warning label should be attached on the left hand door panel.

- 10.5.2.6 For unloading a flexi-tank, the right hand door of the CTU should be opened carefully for getting access to the top. The right hand door must be kept closed until the flexi-tank is substantially empty. The use of spill protection devices like collecting bag or drip tray is recommended. The empty flexi-tank should be disposed according to applicable regulations.

COA - Container Owners Association

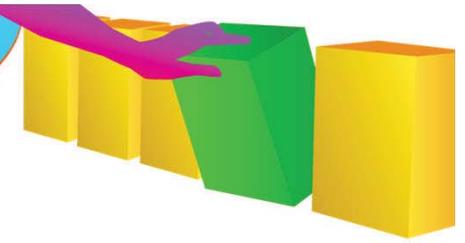
Code of Practice for Flexitanks

A Code of Practice, developed by the Container Owners Association, for the Testing and Manufacturing of Flexitanks and for the Operation of Flexitank/Container Combinations.



Discussion





For those that have, thank you for listening

Bill Brassington
ETS Consulting
bill.brassington@ets-consulting.org

“A well known lawyer, now a judge, once grouped witnesses into three classes: simple liars, damned liars and experts”
Nature Magazine November 26th 1885

For an informal 1st draft (20 March 2012 version) of the “Code of Practice for Packing of Cargo Transport Units (CTUs)”, see:
http://www.unece.org/fileadmin/DAM/trans/doc/2012/wp24/Informal_document_EG_GPC_No3_2012.pdf