

SUB-COMMITTEE ON DANGEROUS  
GOODS, SOLID CARGOES AND  
CONTAINERS  
18th session  
Agenda item 8

DSC 18/8/2  
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## REVISION OF THE GUIDELINES FOR PACKING TRANSPORT UNITS

### Draft Code of Practice for Packing of Cargo Transport Units (CTUs)

Submitted by Belgium

#### SUMMARY

*Executive summary:* This document contains comments on the draft Code of Practice for Packing of Cargo Transport Units (CTUs)

*Strategic direction:* 5.2

*High-level action:* 5.2.3

*Planned output:* 5.2.3.9

*Action to be taken:* Paragraph 6

*Related document:* DSC 18/8

#### General

1 The Group of Experts for the revision of the IMO/ILO/UNECE Guidelines for packing of cargo transport units held three sessions in Genève and with the assistance of a consultant worked out the draft CTU Code, which is ready for comments by IMO, as attached in the annex of document DSC18/8.

2 Belgium would like to congratulate the group, the consultant, the secretariat and all who have participated to work out this important and very complete document.

#### Comments

3 The IMO delegate of Belgium was not able to participate in the work and would like to apologize for the comments in this final stage of work. At the end of last year, the IMO delegate of Belgium was totally unaware of the development of the work and asked the Secretariat to refer this draft Code to the E&T Group in order that the Group members would be informed by the secretariat.

4 At that time there was confusion about which version of the draft Code was the latest one and, after corresponding with the IMO Secretariat and the UNECE Secretariat, the version in document DSC 18/8 was published. Only then was the IMO delegate from Belgium able to study the draft Code.

5 Some of the remarks prepared by Belgium are fundamental, whilst others are editorial. The remarks do not interfere with the structure and the editorial remarks, only serve to make a better, more readable document which is contained in annex 1 to this document. Annex 2 contains the friction factors of the European norm EN 12195-1:2010.

**Action requested of the Sub-Committee**

6 The Sub-Committee is invited to consider the remarks and to take action, as deemed necessary.

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## ANNEX 1

### REMARKS ON THE CTU CODE

Draft version April 2013

#### Main Part

- 1 The table of contents should also contain the annexes.
- 2 Throughout the text abbreviations are used. Abbreviations can only be used after they are explained. This is not always the case (e.g. table of contents CTU, 1.3.6 CTU, 2.5.2 OOG). Perhaps annex 21 should come first.
- 3 In 1.1.1 write "Code of Practice for Packing of Cargo Transport units (CTU code)" instead of this Code of Practice (CTU code)". In the rest of the text replace "this Code of Practice" by "this code"
- 4 In chapter 2 Definitions replace the definition of Cargo Transport Unit (CTU) by the definition in the United Nations Model Regulations on the Transport of Dangerous Goods ("*a road transport tank or freight vehicle, a railway transport tank or freight wagon, a multimodal freight container or portable tank, or a MEGC*"), define "roll on/roll off ship" instead of "roll on/roll off vessel" and the definition itself by "*a ship which has one or more decks, either closed or open, not normally subdivided in any way and generally running the entire length of the ship, carrying goods which are normally loaded and unloaded in a horizontal direction*" and the definition of "Unit Load" by the definition in the IMDG code ("*a number of packages that are either: .1 placed or stacked on and secured by strapping, shrink-wrapping, or other suitable means to a load board, such as a pallet; .2 placed in a protective outer enclosure, such as a pallet box; .3 permanently secured together in a sling*").
- 5 Add in 3.7 Unpacking a warning that the atmosphere within the CTU can be dangerous. This can be done by adding a new 4th bullet with the following text:

*"Do pay attention that the atmosphere in the CTU may be dangerous – ventilate before entering"*.
- 6 4.2.3 Sums up the items for which the packer of the CTU is responsible. The packer is also responsible for the segregation requirements of dangerous goods and that no incompatible dangerous goods are loaded. This item is not in the list. As it is an important issue for safe sea transport of dangerous goods, a new bullet point, at least before the last one, should be added which could read as follows:

*"ensuring that no incompatible dangerous goods are loaded. Account should be taken of all dangerous goods legislations during the complete transport chain."*

- 7 In 4.2.3 last bullet: the container/vehicle packing certificate is asked for. This can be done by the completion of the statement in the Dangerous goods documentation or by a separate document. I suggest that the last bullet should be replaced by:

*"provide the container/vehicle packing certificate (new document or signed statement in the dangerous goods transport documentation as appropriate) and forwarding any documentation to the shipper."*

- 8 In 6.2.1 Belgium prefers the definition of a container as in the United Nations Model Regulations on the Transport of Dangerous Goods. It reads as follows:

*"A container is a means an article of transport equipment that is of a permanent character and accordingly strong enough to be suitable for repeated use; specially designed to facilitate the transport of goods, by one or other modes of transport, without intermediate reloading: designed to be secured and/or readily handled, having fittings for these purposes, and approved in accordance with the International Convention for Safe Containers (CSC), 1972, as amended. The term "container" includes neither vehicle nor packaging. However a container that is carried on a chassis is included."*

- 9 Start 8.2.3.1 with the following sentence:

*"Before opening care should be taken of signs that the atmosphere in the CTU may be dangerous. Signs can be e.g. taped ventilation openings, remainders of warning signs, etc.. Also the nature of the cargo or its origin can be an indication. A measurement of the atmosphere is than necessary."*

- 10 In 10.1.5 is stated that national rules can differ from the UN Recommendations, but international rules also differ from the United Nations Recommendations. The last sentence shall be replaced by:

*"However, international (ADR, IMDG, ...) and national rules (CFR49, ...) may differ from the United Nations Recommendations on the Transport of Dangerous Goods"*

- 11 For each figure (label or mark) it should be made clear that the figure is an example. If used for the transport of dangerous goods, the figures in the relevant regulations should be used (e.g. 10.3.8, 12.1.6, Annex 12: 4.1.1.1,...).

- 12 Delete 10.3.10 completely. The amount is the prerogative of the Dangerous Goods regulations and can be changed easily.

- 13 The discussions on how to determine the weight of a CTU is still ongoing (11.3.1). Therefore, the CTU code should only focus on the necessity for having the correct weight of a CTU and the risks involved in a wrong declared weight.

- 14 12.1.5 deals with a dangerous atmosphere in the container. As the atmosphere of the container can be a danger already during the opening of the doors, a new third sentence should be inserted. It could read as follows:

*"Care should be taken not to come into contact with the internal atmosphere when opening the doors."*

15 The sequence of paragraphs 12.15 and 12.16 should be changed.

16 In the light of comment nr. 12, the second sentence of 12.16 should read as follows:

*"Before opening the doors and entering such unit, ...."*

### **Annexes**

17 Annex 3, Quick lashing guide P10 and 11: it was agreed in the meeting of experts in Geneva that the friction factors of EN12195-1:2010 should be used. The table provided in annex 3 is not the same table as in EN12195-1:2010. A copy of the table of EN12195 is added in annex 2 of this document.

18 Annex 5, 1 Introduction: condensation can also be caused by high humidity at high temperatures. This should be part of the summing up. In the summation in the 3rd sentence the end should be as follows:

*"... during rain or snow or loading in an atmospheric condition of high humidity and high temperature."*

19 Annex 14, Appendix 7: page 226 to 234 must be deleted. Arguments:

- The major part of this appendix has been copied from an informative annex to a standard. The annex is informative because there was no agreement in the standardization commission to include it as a normative annex.
- The inclination test in this appendix is not safe because all dynamic effects are neglected.
- The inclination test in this appendix is not safe since not even a single safety factor is included. Therefore it does not correspond to the spirit nor to the calculations of EN12195-1:2010.
- Publications in peer reviewed journals show that an inclination test is not equivalent to the acceleration as described in this appendix.
- The theoretical background of this appendix is a pseudo-scientific article since it is based on Newton's law for undeformable goods. Even for small deformations this law is not valid.

20 Annex 12: In 5.2.1 delete the last sentence. The prohibition or permission is the prerogative of the dangerous goods legislation. There have already been competent authority approvals for dangerous goods in flexitanks.

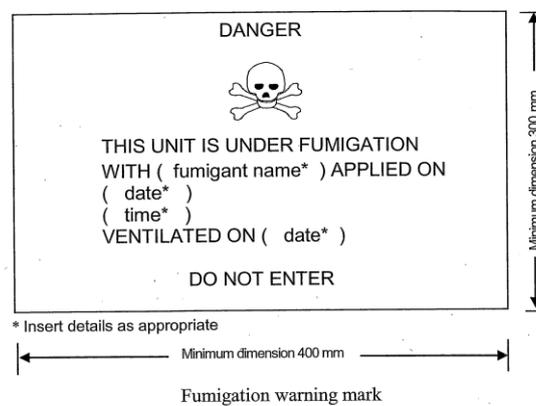
21 Annex 12: 5.3 should be revised because certain dangerous goods can be loaded in bulk in a CTU. The provisions in the CTU-code should at least be compatible with chapters 4.3 and 6.9 of the IMDG code.

22 Annex 12, Appendix 1 Packing marks, before 1 Introduction, include a note in order that the users of the CTU-code are directed to the legislation for the labels and marks for dangerous goods. The note could read as follows:

*"Note: The labels and marks required for the transport of dangerous goods can be found in the applicable dangerous goods regulation."*

- 23 Annex 12, Appendix 1 Packing marks: what is the difference between 8 and 9?
- 24 Annex 12, Appendix 2 Carton performance. This Appendix serves no purpose in the CTU code and can be deleted.
- 25 Annex 18 Fumigation: the fumigation mark is regulated in the regulations for the transport of dangerous goods. It would be best not to have detailed description of the fumigation mark in the CTU. Delete 3.2 and 3.3 and replace it with the following:

"3.2 *The fumigation mark shall comply with the relevant dangerous goods regulations. Hereafter is the fumigation mark as in the 18th revised edition of the United Nations Model Regulation.*"



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**ANNEX 2**

EN 12195-1:2010 (E)

Table B.1 — Friction factors  $\mu$  of some usual goods and surfaces to be used in calculations

Combination of materials in the contact surface <sup>a</sup>	Friction factor $\mu$
<b>Sawn wood</b>	
Sawn wood – fabric base laminate/plywood	0,45
Sawn wood – grooved aluminium	0,4
Sawn wood – shrink film	0,3
Sawn wood – stainless steel sheet	0,3
<b>Plane wood</b>	
Plane wood – fabric base laminate/plywood	0,3
Plane wood – grooved aluminium	0,25
Plane wood – stainless steel sheets	0,2
<b>Plastic pallet</b>	
Plastic pallet – fabric base laminate/plywood	0,2
Plastic pallet – grooved aluminium	0,15
Plastic pallet – stainless steel sheet	0,15
<b>Steel and metal</b>	
Steel crate – fabric base laminate/plywood	0,45
Steel crate – grooved aluminium	0,3
Steel crate – stainless steel sheet	0,2
<b>Concrete</b>	
Concrete rough – sawn wood battens	0,7
Concrete smooth – sawn wood battens	0,55
<b>anti-slip mat</b>	
Rubber	0,6 <sup>b</sup>
Other material	as certified <sup>c</sup>
<sup>a</sup> Surface, dry or wet but clean, free from oil, ice, grease <sup>b</sup> may be used with $f_{\mu} = 1,0$ for direct lashing <sup>c</sup> When special materials for increased friction like skid-inhibiting mats are applied, a certificate for the friction factor $\mu$ is required.	

It has to be ensured that the used friction factors are applicable to the actual transport. If the surface contacts are not swept clean, free from frost, ice and snow a friction factor larger than  $\mu = 0,2$  (for sea transport  $\mu = 0,3$ ) shall not be used. Special precautions should be taken for oily and greasy surfaces.