

Informal meeting on Code of Practice for Packing of Cargo Transport Units at the request of the United Nations Economic Commission for Europe Working Party on Intermodal Transport and Logistics

Geneva and virtual, 29-30 March 2023

Comments to changes to clause 2.3 and section 4

Submitted by the secretariat

Background

This document contains comments received from Germany to changes proposed to clause 2.3 and section 4. To facilitate the understanding of comments made, boxes provide the text with the proposals made for changes on which comments were received.

Comments received

Remark to section 2.3.5

2.3.5 ~~Blocking by nailed-on scantlings that is secured using mechanical fastenings on bedding or spreader beams~~ should be used for minor securing demands only. **The different types of fixing will provide a range of shear strength,** depending on the **type, configuration and size of the nails-fastener used.** ~~For example, the shear strength of such a blocking arrangement secured using nails may be estimated to take up a blocking force between 1 and 4 kN per nail.~~ **Nailed** ~~nailed~~ on wedges may be favourable for blocking round shapes like pipes. Care should be taken that wedges are cut in a way that the direction of grain supports the shear strength of the wedge. Any such timber beams or wedges should only be nailed to bedding beams or timbers placed under the cargo (**see figure 7.5**). Wooden floors of closed CTUs are generally not suitable for nailing. Nailing to the softwood flooring of flatracks or platforms and open CTUs may be acceptable with the consent of the CTU operator (~~see figure 7.7~~).

In the second sentence of this section, it is proposed to replace the wording „size of the nails used” by “size of the fastener used”. As subsequent sections consider fastening by nails only, it is not appropriate to amend the word “nails” by “fastener”. It is proposed to keep the actual text and not to adopt the proposed change.

Remark to 2.3.8

~~2.3.7~~**2.3.8** Gaps between cargo that is stowed on and firmly secured to pallets (by lashings or by shrink foil), need not to be filled, if the pallets are stowed tightly into a CTU and are not liable to tipping (see figure 7.8**11**). Securing of cargo to pallets by shrink foil wrapping is only sufficient if the strength of the foil is appropriate for above purpose. It should be considered that in case of sea transport repetitive high loadings during bad weather may fatigue the strength of a shrink foil and thereby reduce the securing capacity.

Large void spaces between cargo items on pallets should be filled unless the cargo is firmly secured on the pallet, which should be ensured as described in the new section 4.2 of Annex 7. Therefore, the following wording is proposed for 2.3.8:

“Gaps between cargo that is stowed on and firmly secured to pallets (by lashings or by shrink foil), need not to be filled, if the pallets are stowed tightly into a CTU and are not liable to tipping (see figure 7.11). Securing of cargo to pallets by lashing, shrink foil or winding-foil wrapping is only sufficient if the transport stability of such unit loads has been

determined by a practical test which should be documented by marking the unit with its corresponding Transport Stability Level (TSL) as provided in section 4.2 of Annex 7”.



Figure 7.11 Cargo firmly secured to pallets by textile lashings, transport stability level marked

Remark to figure 7.13

The figure illustrates an improper use of dunnage bags. Due to the irregular shape of the cargo items, the dunnage bags can be punctured. Therefore, plywood plates should have been positioned between the cargo items and the dunnage bags. Consequently, the proposed figure should be replaced by the following:



Figure 7.913 Irregular shaped packages blocked with dunnage bags

Figure 7.13 Irregular shaped packages blocked with dunnage bags, not protected against puncture

Remarks to figures 7.14 and 7.15



Figure 7.14 Floor mounted stanchions

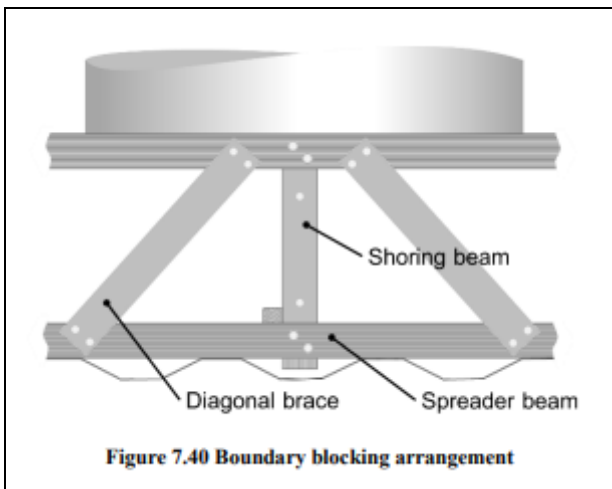


Figure 7.15 Blocking cross beams

The proposed illustrations show unsuitable examples which do not provide sufficient cargo securing and should therefore be replaced. Examples for a proper fastening of blocking cross beams are shown below.



Remarks to figure 7.40



The function of the diagonal braces is unclear. Figure 7.40 does not correlate with figure 7.41, therefore it is proposed not to include figure 7.40.

Remarks to section 4.1.7.3

4.1.7.3 The CTU doors may be tested to withstand a force equivalent to a percentage of the CTU's payload, however, for cargoes that are liable to collapse, such as bulk materials (solids and liquids), small hand-packed packages and pallets with low integral stability, the doors should not be used as the only mean to constrain the cargo as there is a risk of the cargo falling onto those who open the CTU for inspection or unpacking. In such cases the cargo should in addition be restrained by spring lashing (see Figure 7.58), a modular lashing system (see Figure 7.26) or using shoring bars / rear false bulkhead (see clause 5.3.3.4).

The reference to shoring bars and false bulkheads in clause 5.3.3.4 could be misleading and be understood that the strength of the door has to be reinforced. Therefore, it is proposed to replace the last sentence in this section in order to clarify that the doors are used to secure the cargo and only falling out of small packages should be prevented. Proposed wording:

“A possible falling out of cargo can be prevented by spring lashings (see Figure 7.59), a modular lashing system (see Figure 7.26) or a tarpaulin (see Figure 7.xx)”

The use of Nets or Net-Curtains should also be considered. These prevent loose cargo to fall out upon opening the doors.

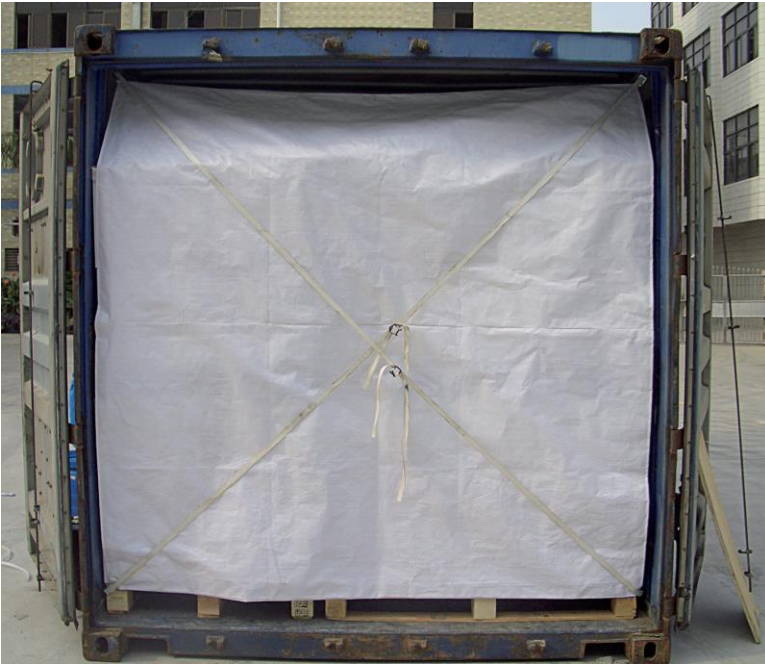


Figure 7.xx: Tarpaulin to prevent small packages falling out when stowed close to the door

Remarks to figure 7.52

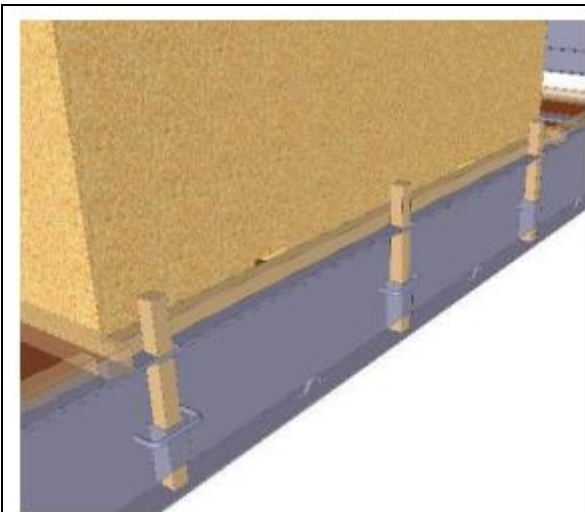


Figure 7.52 Stanchions preventing sideways sliding on platform CTUs

The proposed figure illustrates an unsafe securing arrangement. Wooden stanchions are not suitable to withstand the transversal acceleration forces of large and heavy cargo items. For such securing arrangement, steel stanchions should be used, and the illustration should be replaced as shown below.



Annex II

Remarks to 4.5.3 and 4.6

4.5.3 Dunnage bags mark with Level 1 to 5 according to the Association of American Railroads criteria have the following minimum bursting pressure:

Level 1 - 0.55 bar

Level 2 - 1.2 bar

Level 3 - 1.7 bar

Level 4 - 2.1 bar

Level 5 - 1.5 bar

Level 1 to 4 dunnage bags are tested at a gap of 30 cm while Level 5 dunnage bags are tested at a gap of 46 cm.

4.6 Recommended marking for dunnage bags

Blocking capacity in tonnes of various size dunnage bags marked Level 3 and having a bursting pressure of 1.7 bar at a gap of 30 cm.

Fillable gap size	Bursting pressure	Dunnage bag dimension (cm)				
		60 x 100	100 x 120	100 x 150	120 x 200	120 x 250
10 cm	2.3 bar	4.2	10	13	22	28
20 cm	2.0 bar	1.9	6.0	8.1	15	19
30 cm	1.7 bar	n/a	3.3	4.6	9.5	13
45 cm	1.3 bar	n/a	n/a	n/a	4.1	5.6

Table 7.14 Blocking capacity example

The “Association of American Railroads criteria” is not an internationally recognized standard and a reference to a dunnage bag marking according to these criteria is not appropriate in the context of the CTU Code. Therefore, the proposed new sections 4.5.3 and 4.6 should not be approved and not be included in the CTU Code.