

**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals**

17 June 2020

**Sub-Committee of Experts on the Transport of
Dangerous Goods**

Fifty-seventh session

Geneva, 29 June-8 July 2020

Item 6 (b) of the provisional agenda

**Miscellaneous proposals for amendments to the
Model Regulations on the Transport of Dangerous
Goods: packagings**

Stacking test according to 6.1.5.6

Transmitted by the observer from Turkey

Introduction

1. Currently paragraph 6.1.5.6.3 defines the criteria for passing stacking test as follows (relevant parts underlined):

“6.1.5.6.3 *Criterion for passing the test:* no test sample may leak. In composite packagings or combination packagings, there shall be no leakage of the filling substance from the inner receptacle or inner packaging. No test sample may show any deterioration which could adversely affect transport safety or any distortion liable to reduce its strength or cause instability in stacks of packages. Plastics packagings shall be cooled to ambient temperature before the assessment.”

2. Test can be carried with unguided load, guided load set-up or test machine (guided).

3. Stacking test of plastic jerricans is performed at 40°C with water or filling substance or standard liquids. For assessment packaging is cooled to ambient temperature after test.

4. Test may result in elastic or plastic deformation on plastic packaging.

5. We would like to receive opinions about the evaluation of the test. To which extent deformation is acceptable to say that there is no strength reduction or there is not any instability?

6. EN ISO 16495 I.5 has an approach to assess the stability of packagings as follows:

“.....

A suitable method for guided loads is as follows. The packagings are removed from the stack rig. For stackable packaging, two filled of the same type should be placed centrally on the tested packaging. For not individually stackable packaging the stacked samples may be arranged as Figure I.1 on which two identical layers are placed on top using intermediate plates of suitable material. In both cases the packaging should maintain their position for one hour.

Where unguided loads have been used, this may be assessed by the angle of the top plate an angle of 5° or more may be considered to show significant deformation. The 5° criterion has been found to accord with the UN requirements in relation to stack stability.”

Is this method applicable or is there any country that is already applying it?

7. In order to achieve a worldwide harmonization on evaluation of this performance test, we seek for a consensus with other countries. If there is not any evaluation apart from leakage, it will be a better option to delete other criteria from UN Recommendations. If there is any evaluation other than leakage, it is necessary to indicate solid criteria or, if applicable, to refer to EN ISO 16495 Annex I.