

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

Sub-Committee of Experts on the Transport of Dangerous Goods

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Item 5 (a) of the provisional agenda

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

Vibration tests for IBCs over 1,500 kg gross mass carrying liquids

Comments Transmitted by International Confederation of Container Reconditioners (ICCR) and International Confederation of Plastics Packaging Manufacturers (ICPP)

Introduction

1. ICCR and ICPP welcome ST/SG/AC.10/C.3/2011/7, the paper submitted by the expert from the United Kingdom addressing concerns about provisions requiring vibration testing of intermediate bulk containers (IBCs) over 1,500 l/kg for liquids. The United Kingdom expert has asked for comments on the matter.
2. The United Kingdom expert notes that during the debate leading up to the adoption of a vibration test for IBCs, concerns were raised by several Experts, including the United Kingdom, regarding the safety benefits of the vibration test and the availability of adequate testing apparatus in various nations.
3. These issues, among many others, were studied by industry and governmental Experts over the course of several years. Taking into account these and opposing views, the United Nations experts determined that vibration tests are in fact a valuable measure of safety, particularly for composite IBCs, and that IBC vibration test apparatus is sufficiently available on an international basis to move forward with the new test requirement. Industry was granted an implementation grace period until 1 January 2011.
4. The United Kingdom expert states that vibration testing of IBCs design types below 1,500 kg gross mass (liquids) has been accomplished in Europe “without difficulty.” This is due to the fact that the main package testing facilities in Europe have the capability of testing IBCs up to 1,500 kg gross mass. Facilities for the testing of IBC design types below 1,500 kg gross mass is widely available in the United States.
5. However, according to the UK Expert, only a limited number of testing facilities in Europe are capable of testing the larger IBCs, and these have apparently refused to perform the tests for various technical and/or safety reasons. In addition, the United Kingdom notes that there are a relatively small number of IBC designs greater than 1,500 kg gross mass (liquid); that many of these IBCs are used within fixed distribution chains; and, that the cost of testing these few units outweigh the safety benefits.

6. Based upon these facts, the United Kingdom has initiated a multi-lateral agreement under RID and ADR that would exempt from the vibration test “IBCs for liquids with a gross mass exceeding 1,500 kilograms when filled....”
7. The United Kingdom proposes three possible solutions to this problem. These are:
 - (a) Remove entirely the vibration test for IBCs from Chapter 6.5;
 - (b) Retain the vibration test for IBCs up to 1,500 kg and eliminate this requirement for IBCs above 1,500 kg; or,
 - (c) Eliminate the vibration test for IBCs “not suitable for stacking.” The United Kingdom asserts that the original vibration test was adopted to identify weak IBCs that, if stacked, could fail; and, that most IBCs that are stacked have capacities of 1,000 l.

Comments from ICCR and ICPP

8. Before discussing the three options ICCR and ICPP want to draw the Sub-Committee’s attention to the fact that the problem raised by the Expert from UK is related to IBCs with a **maximum capacity** of more than 1500 liters and not to IBCs with a gross mass above 1,500 kg. There are composite IBCs on the market with a gross mass up to 2,000 kg approved for products with higher density but those IBCs have a maximum capacity of 1,250 l. The mass of those IBCs to be tested in the vibration test is less than 1,500 kg because the vibration test has to be run with water (e.g. 1,250 kg water plus 60 kg weight of the empty IBC). Based upon this clarification, i.e. that we are referring to IBCs with a maximum capacity above 1,500 l, ICCR and ICPP would like to offer the following comments.
9. ICCR and ICPP participated in the UN effort to study IBC transport safety issues and assisted in the development of recommended revisions to the Model Regulations. Based upon transport safety concerns, the UN Experts approved the addition of a vibration test for all IBCs. At the time, the Experts agreed that not all nations possessed the capability to test IBCs, but noted that since there are a limited number of IBCs producers, this technical variation from the UN basic test principals was insufficient to override the safety benefits derived from the test.
10. ICCR and ICPP note that several governments, including the United States, believe that vibration tests are an excellent way to identify design flaws and structural weaknesses in intermediate bulk containers. The U.S. commented that several IBC designs have failed design test conducted by the Agency.
11. ICCR and ICPP recognize that vibration testing of large IBCs above 1,500 l maximum capacity presents technical difficulties in some parts of the world. However, both industries
12. ICCR and ICPP do not agree with the UK view that the decision to adopt vibration testing for IBCs was based largely on concerns regarding IBCs designed for stacking. Both associations believe that vibration is a ubiquitous aspect of the transportation environment and presents a hazard to IBC packaging integrity that can and should be mitigated by testing in the design phase. IBC designs are tested individually – not in a stacked format. Therefore, ICCR and ICPP would not support a proposal to eliminate the vibration testing requirement for IBCs “not suitable for stacking.” (Option (c))

13. ICCR and ICPP are sympathetic to the concerns raised by the UK Expert that adequate numbers of vibration testing apparatus capable of testing IBCs larger 1,500 kg mass to be tested are not available at the present time. Therefore, until such test apparatus is available, it may be acceptable to delay implementation of the vibration test requirements for IBCs with a maximum capacity greater than 1,500 l.
 14. ICCR and ICPP look forward to participating in a discussion of this issue.
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