DANGEROUS GOODS PANEL (DGP)

TWENTIETH MEETING

Montréal, 24 October to 4 November 2005

Agenda Item 2: Development of recommendations for amendments to the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284) for incorporation in the 2007-2008 Edition

PRESSURE DIFFERENTIAL

(Presented by H. Brockhaus)

1.   **INTRODUCTION**

1.1   At DGP-WG05 (see IP/13 and Flimsy No. 5) it became evident that not all commonly used test methods are able to fulfil the pressure differential requirements of 4;1.1.6 and of packing instructions 602 and 650. Taking into account that a fundamental discussion about the need of the pressure differential test (see option 2 of DGP-WG/05-IP/13) cannot be expected to be finished at DGP20, more guidance is needed for the users now. In the absence of detailed test procedures notes inserted into Part 4 of the ICAO-TI could provide for the necessary guidance on the correct choice of appropriate pressure differential test methods.

2.   **PROPOSAL**

2.1   Insert a note at the end of 4;1.1.6 as follows:

Note. — The capability of a packaging to withstand an internal pressure without leakage that produces the specified pressure differential should be determined by testing samples of inner packagings of combination packagings and single packagings. Pressure differential is the difference between the pressure exerted on the inside of the packaging and the pressure on the outside. The appropriate test method should be selected based on packaging type. Acceptable test methods include any method that produces the required pressure differential between the inside and outside of a single packaging or an inner packaging of a combination packaging. The test may be conducted using internal hydraulic or pneumatic pressure (gauge) or external vacuum

test methods. Internal hydraulic or pneumatic pressure can be applied in most cases as the required pressure differential can be achieved under most circumstances. An external vacuum test is not acceptable if the specified pressure differential is not achieved and maintained. The external vacuum test is a generally acceptable method for rigid packagings but is not normally acceptable for

-    flexible packagings,

-    packagings filled and closed under an absolute atmospheric pressure lower than 95 kPa or for liquids in Packing III of Class 3 or Division 6.1 with an absolute pressure of 75 kPa,

-    packagings intended for the transport of high vapour pressure liquids (i. e. vapour pressure greater than 111 kPa at 50 °C or 130 kPa at 55 °C and accordingly greater than 100 kPa at 50 °C or 117 kPa at 55 °C for liquids in Packing III of Class 3 or Division 6.1

2.2   Make consequential amendments inserting slightly modified notes in packing instructions 602 and 650 as follows:

Note. —. The capability of a packaging to withstand an internal pressure without leakage that produces the specified pressure differential should be determined by testing samples of primary receptacles or secondary packagings. Pressure differential is the difference between the pressure exerted on the inside of the receptacle or packaging and the pressure on the outside. The appropriate test method should be selected based on receptacle or packaging type. Acceptable test methods include any method that produces the required pressure differential between the inside and outside of a primary receptacle or a secondary packaging. The test may be conducted using internal hydraulic or pneumatic pressure (gauge) or external vacuum test methods. Internal hydraulic or pneumatic pressure can be applied in most cases as the required pressure differential can be achieved under most circumstances. An external vacuum test is not acceptable if the specified pressure differential is not achieved and maintained. The external vacuum test is a generally acceptable method for rigid receptacles and packagings but is not normally acceptable for

-    flexible receptacles and flexible packagings,

-    receptacles and packagings filled and closed under a absolute atmospheric pressure lower than 95 kPa

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