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Items 5 (a) and 6 of the provisional agenda
Proposals of amendments to the ATP: Pending proposals
ATP Handbook

Proposals to amend the ATP and the ATP Handbook

Transmitted by the German Government

I. Proposed amendment regarding acceptable changes to insulated equipment

Introduction

1. At its sixty-seventh session in 2011 and at its sixty-eighth session in 2012, WP.11 considered proposals on acceptable changes to insulated equipment presented by Germany (ECE/TRANS/WP.11/2011/8 and ECE/TRANS/WP.11/2012/15). The present proposal takes into account the discussion and the comments made during those two meetings of WP.11.

Proposal to amend the ATP

2. The new text to be added to paragraph 6 (c) of annex 1, appendix 1 appears in bold. New text added since the sixty-eighth session is underlined.

"(c) A unit shall not be regarded as being of the same type as the unit tested unless it satisfies the following minimum conditions:

(i) If it is insulated equipment, in which case the reference equipment may be insulated, refrigerated, mechanical refrigerated or heated equipment;

- the construction shall be comparable and, in particular, the insulating material and the method of insulation shall be identical;

- the inside surface area of the body shall not be as much as 20% greater or smaller;
- the thickness of insulating material shall not be less than that of the reference equipment;
- the interior fittings shall be identical or simplified;
- **minor and limited modifications of added or exchanged interior and exterior fittings may be permitted;**
- **if the equivalent volume of accumulated insulation material of all components is less than 1/100th of the total volume of the insulating material in the insulated unit; and**
- **if the K coefficient of the tested reference equipment, corrected by a calculation of the added thermal losses, is less than or equal to the K coefficient limit of the category of the equipment."**

Proposal to amend the ATP Handbook

3. Insert the following comment after comment 2.1 in annex 1, appendix 1, paragraph 6 (c), (i):

- " recessed interior and exterior fittings mentioned in a test report count as a reduction in the volume of insulating material, and the sum of these volumes may be used for any other minor modifications no matter where they are situated in the unit, as long as one of the following conditions is met:
  - the thickness of the remaining insulation material is not less than that of the tested reference equipment at the locations of the fittings; and
  - the minimum thickness of the remaining insulation material is at least 20mm and
- the number of openings, such as doors, hatches or air flaps shall be the same or less or may be increased by more openings of smaller sizes provided that the total perimeter of the seals is equal or less."

II. K values of in-service vehicles: proposal to amend Annex 1, paragraph 2

Introduction

4. In annex 1, paragraph 2 (and similar wording in paragraphs 3 and 4) of ATP can be found the phrase “The K coefficient of refrigerated equipment of classes B and C shall in every case be equal to or less than 0.40 W/m².K”.

5. Some Contracting Parties to ATP have implemented K value testing for the renewal of ATP certificates after 6 years.

6. It has long been established from test data from ATP test stations, and is also supported by different research papers, that the average ageing of insulation is 5% per annum. This is also generally accepted by the manufacturers of insulated bodies.

7. Type approval testing of new bodies yields K values in the region of 0.37 - 0.39 for IR or FRC class equipment, approaching the maximum value of 0.4 W/m².K. The situation is similar for class A equipment.

8. With the possibility of using a prototype test report to request an ATP certificate for an insulated body with a ± 20 % variation of the inside surface area, anecdotal evidence suggests that K values could be closer to or perhaps higher than the type approval limits. Also, this testing of the K-value gives only the base for box type IR or IN. Generally when the box is completed with a refrigerating unit after a test, the K-value of the completed box will increase.

9. When the ageing coefficient of 5% per annum is added, it is clear that the requirement in ATP, that K values "shall in every case be equal to or less than" the limits set for type approval testing, cannot be met. K value testing after 6 or 9 years would result in a K value higher than 0.4 W/m².K. The practical and commercial impact of this interpretation is that the vehicle would have to be declassified with a potential consequential devaluation of the asset value of the vehicle and a restriction on its operational ability to carry frozen products. This lack of flexibility also impacts on the earning capability of the vehicle for its owner. Furthermore, shortening the lifecycles of the vehicle is counterproductive to the set goals of global CO_2 reduction, as increased production of new vehicles itself contributes to higher CO_2 exhaust.

10. Therefore the use of the temperature pull-down tests originally drafted by France is supported. It is important that the tests are conducted in strict accordance with the minimum and maximum ambient temperature requirements. This would avoid the need for K value testing and provide practical, easily reproducible proof that a vehicle can safely transport perishable products in accordance with the requirements of ATP.

11. It is also important that due consideration is given to the need to retain the type approval class categorization of the vehicle and its overall energy consumption. The industry has been working for years on the improvement of the insulation properties of vehicles. This work has a very high priority in the temperature controlled business and is driven by a strong market demand for good K-values. However, the improvements that can be achieved with today's technologies are only small steps in a continued product improvement process. The acknowledgement of the ageing of insulating material and the fact that K-values can physically not be maintained over the long term at equal to or below K=0,4 is - with today's legal requirements on the weight and dimensions of trailers and without reducing transport capacity - a simple truth.

Proposal

12. Remove the wording "shall in every case" in paragraphs 2, 3 and 4 of annex 1.

13. Modify the wording of annex 1, paragraph 2, last sentence to read as follows:

"The K coefficient of new refrigerated equipment of classes B and C shall refer to IR type approved insulated equipment".