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Proposals of amendments to the ATP: Pending issues

K values of in-service vehicles: proposal to amend annex 1, paragraph 2

Transmitted by Transfrigoroute International

Preface

1. To understand the problem that is attributed to the defined K value in annex 1, paragraph 2 (and similar wording in paragraphs 3 and 4) of the ATP that stipulates: "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", it is necessary to look at the development of vehicles transporting temperature-controlled goods.

2. It was in the 1980s that, in order to increase and handle movements of goods more efficiently in shops, warehouses and cold stores, the conventional transportable pallet with dimensions of 1200 x 800 mm began its journey to become the standard for the palletized format. The Official Journal of the European Communities recognized this with a guideline of the Council that defined the width of refrigerated lorries and trucks as 2.60m at maximum including a sidewall thickness of at least 45 mm. These developments have led to some 500 million pallets with the above mentioned format in use worldwide today.

3. However, the ATP that dates from the 1970s never took account of these changes. Neither did the ATP and the originally defined K value take into account the various forms of temperature-controlled vehicles, classes and categories that have developed since then. This would require a much more differentiated approach notably with regards to insulation requirements. Very important is the fact that in the 1970s, the ageing of insulation materials was an issue more or less unknown and completely disregarded when the ATP was formulated. It is undeniable that the different classes of vehicles and formats will, given their surface/volume ratio, all impact differently on the issue of insulation ageing. This may become problematic for insulated trailers. Thanks to the technical advances made since and the developments in research, this phenomenon is much more present and calls for a correction of the ATP in order to conform with the existing knowledge on insulation materials available today.

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 using test data from ATP test stations, and is also supported by different research papers, that the average ageing of insulation is 5% per annum. Obviously, this can only be an average value since the different materials, fibre glass, steel or aluminium surface sheets, whether in a continuous sheet or a composite, do age differently. This is also generally accepted by 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 a box type IR or IN. Generally when a refrigerating unit is added to the box after a test, the K value of the combined equipment 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 lifecycles of vehicles is counterproductive to the set goals of global CO2 reduction, as increased production of new vehicles itself contributes to higher CO2 emissions.

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 avoids the need for K value testing and provides practical, easily reproducible proof that a vehicle can safely transport perishable products in accordance with the requirements of the 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 materials and the fact that K values can physically not be maintained at the same level in the long term is a long overlooked problem that needs to be corrected.

12. Temperature controlled transport is a low margin activity. The economic impact of prematurely declassifying a vehicle from FRC to FNA limits or even prevents and transporter from getting a return on his initial investment despite the fact that the vehicle is still fit for purpose.

13. The environmental consequences of premature obsolescence of equipment are not only serious but also expensive. As in the markets to which obsolete equipment may be shipped, the costs for destruction of insulated bodies are high and not available in all Contracting Parties to the ATP. The energy needed to dispose of these insulated bodies should also be taken into consideration.

Proposal

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

15. 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."