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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on the Transport of Perishable Foodstuffs

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Item 5 (c) of the provisional agenda

**PROPOSALS OF AMENDMENTS TO THE ATP**

New proposals

Annex 1, Appendix 2, paragraph 49

Transmitted by the Government of the Netherlands

**SUMMARY**

<b>Executive summary:</b>	Introduce additional requirements to support a uniform way of in-use testing of thermal appliances.
<b>Action to be taken:</b>	Amend paragraph 49 (b) of Annex 1 Appendix 2.
<b>Related documents:</b>	TRANS/WP.11/2002/6, 2003/6, 2004/9, 2005/7, 2005/9, 2006/5, INF 6 (2006).

### Introduction

1. In 2002, France introduced for national use different maximum cooling down times for in-use tests of the cooling appliance dependent on the ambient temperature. WP.11 was informed about this in document ECE/TRANS/WP.11/2002/6, which contained a complete procedure. Germany proposed to adopt only the timetable of this procedure for introduction in the annexes of the ATP. Although there was agreement on the principle of the proposal that passing the test should not be dependent on the ambient temperature, the appropriateness of the proposed times remained unproven.

2. Because the proposed data were not justified in an acceptable way for the Netherlands and because many bodies in the Netherlands use thin sidewalls of 45 mm, it was decided to ask the Dutch national testing station to perform some tests under controlled circumstances. In addition to this, a number of field tests are being carried out on 9 year old equipment to gather practical information.

3. However, the first test in the testing station in the spring of 2007 was not completely successful; some factors arose, which had a direct influence on the time needed to reach the class temperature for an in-use cooling appliance test. These factors need to be dealt with before amendments to test times based on ambient temperatures can be adopted.

4. The factors are:

- The number and placing of the temperature sensors in and outside the body and, if more than one sensor is used, which sensor is used to determine test time (needs to be laid down in the ATP);
- The time needed for defrosting the evaporator.

### Proposal

5. The following amendments are proposed:

- In paragraph 49 (b) of Annex 1, Appendix 2, introduce the following text before the last sentence:

"The outside temperature shall be measured on the centre of one of the sides of the body, 10 cm from the surface. If the test is conducted outside, the side not directly in the sun shall be used. The internal temperature shall be measured at the outlet of the evaporator and at 2/3 distance from the front of the body 10 cm below the top. The temperature of the last temperature sensor to reach the class limit shall be used to determine the test time. The time used by the cooling appliance to defrost the evaporator shall be deducted from the total test time."

Optional if part 1 is adopted: The following table may be adopted in paragraph 49 (b) of Annex 1, Appendix 2 for independent mechanically refrigerated equipment.

Outside temperature	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	°C
Class A, D	240	232	224	216	208	200	192	184	176	168	160	152	144	136	128	120	min
Class B, E	300	292	284	276	268	260	252	244	236	228	220	212	204	196	188	180	min
Class C, F	360	352	344	336	328	320	312	304	296	288	280	272	264	256	248	240	min

### Justification

6. Test results can only be compared if the circumstances of testing are more or less identical. By fixing the number and place of the temperature sensors, the test times will become more comparable making the adoption of more precise testing times possible in the future. It is therefore of paramount importance to adopt the amendments in part one of the proposals.

7. If the number and place of the sensors and the deduction of defrosting times can be decided upon it will become possible to adopt a table of test times in relation to ambient temperature, as presented in part 2 of the proposal as a starting point. The data are based on the field tests performed over 2007 in the Netherlands (see annex 1). The tests in the Netherlands can be considered to be more severe than in other countries because of the high placing in the body of the temperature sensors (see annex 2). In the future, it may be possible to fine-tune the test times if the main circumstances are comparable.

8. The position of the temperature sensor at 2/3 distance from the front of the body for in-use testing of the thermal appliance in the Netherlands is based on the place of the sensors for the temperature recorder. In daily use the temperature in this position should be able to be maintained by the cooling appliance for conformity with EC legislation.

9. Time to defrost the evaporator should be deducted from the total test time because the amount of moisture in the body is a factor dependent on the weather and on the previous use of the individual equipment. Equipment used for relatively moist goods should not be discriminated against in relation to equipment used for the transport of drier goods.

10. The deduction of defrost time is a practice in many Contracting Parties of the ATP.

11. With the adoption of provisions for multi-temperature multi-compartment (MTMC) equipment it may be possible that special conditions are necessary for in-use tests. The way to deal with older MTMC equipment and the equipment according to the new provisions should be discussed in relation to these proposals.

**Safety:** safety is not impaired.

**Feasibility:** no problems expected with the introduction of the amendments. Additional costs can be expected for testing bodies using only 1 temperature sensor at this moment. The standard transitional period of 6 months after the amendment coming into force is sufficient.

**Enforceability:** no problem foreseen.

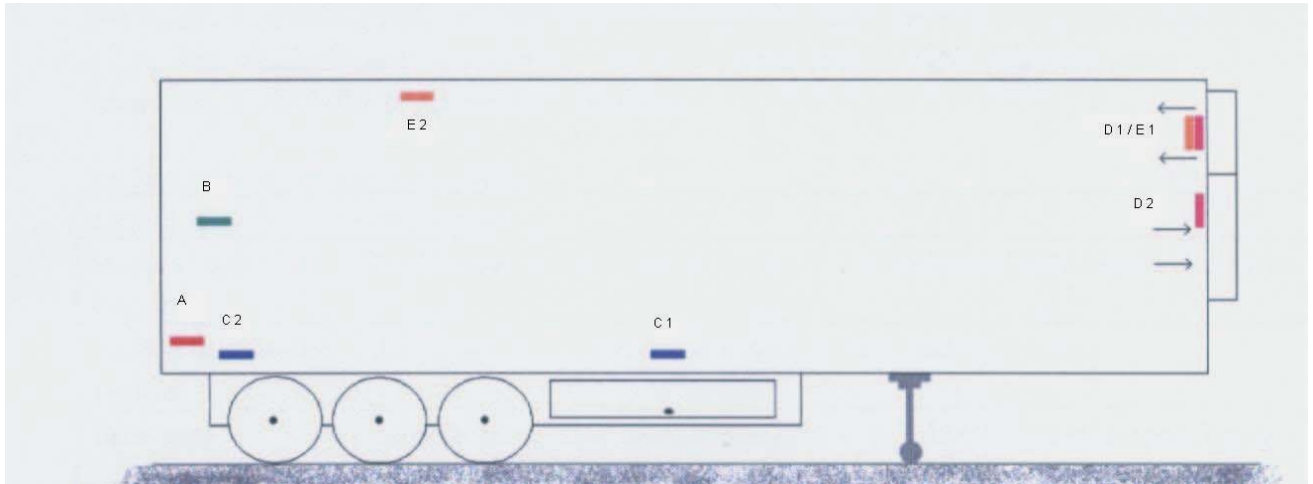
Annex 1

Data on in-use tests of thermal appliances performed in the Netherlands in the first months of 2007

Certificate no.	vehicle type	Brand body	coeff K	Year of constr	Brand Appl.	Refrigerant	Year of constr	T Outside	T class	actual test time	safety factor nw	date of test
5102-017	semi tr	Luchtenberg	0,366	07-1998	TK SMX II TCI	R 404a	12-1997	17	- 20	3h45	2,99	15-03-07
5102-020	semi tr	Luchtenberg	0,366	06-1998	TK SMX II TCI	R 404a	03-1998	16	- 20	4h45	2,99	15-03-07
5102-018	semi tr	Luchtenberg	0,366	04-1998	TK SMX II TCI	R 404a	02-1998	17	- 20	3h00	2,99	15-03-07
5102-021	semi tr	Luchtenberg	0,366	05-1998	TK SMX II TCI	R 404a	02-1998	17	- 20	3h45	2,99	15-03-07
T2710-139	semi tr	VéDéCar	0,322	1997	TK SL- 200e	R 404a	2006	17	- 20	3h00	3,05	26-03-07
2080-317	semi tr	Norfrig	0,34	1997	TK SMX II	R 404a	06-1997	15	- 20	2h15	2,85	3-04-07
3110-093	semi tr	Schmitz	0,397	1998	Carr Maxima	R 404a	1998	28	- 20	3h45	2,14	25-04-07
5130-057	semi tr	Unitrans	0,352	01-1998	TK SB III SLE	R 404a	01-1995	16	- 20	2h30	3,68	8-05-07
5130-058	semi tr	Unitrans	0,352	02-1998	TK SB I	R12/R40 3b	04-1989	16	- 20	3h30	2,33	8-05-07

Annex 2

## Place and number of temperature sensors



Drawing used with kind permission of A&F, the ATP testing station in the Netherlands (part of Wageningen University)

A: United Kingdom (CRT).

B: Proposed by Sweden in INF 6, 62<sup>nd</sup> session of WP.11.

C: Germany (Tüv)

C 1: centre of interior

C 2: rear part of vehicle

D: France

D 1: exit of evaporator into interior of the body

D 2: intake of evaporator from the interior of the body

E: Netherlands (RDW)

E 1: exit of evaporator into interior of the body

E 2: at 2/3 of interior behind front wall.