

# FINLANDS FÖRFATTNINGSSAMLING

Utgiven i Helsingfors den 1 juli 2020

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526/2020

## Statsrådets förordning

om ändringar i bilaga 1 till överenskommelsen om internationell transport av lättfördärliga livsmedel och om specialutrustning för sådan transport

I enlighet med statsrådets beslut föreskrivs:

### 1 §

De i Geneve den 6 januari 2020 gjorda ändringarna i bilaga 1 till överenskommelsen om internationell transport av lättfördärliga livsmedel och om specialutrustning för sådan transport (ATP) (FördrS 48/1981), vilka godkänts av republikens president den 5 juli 2019, träder i kraft den 6 juli 2020 enligt vad som har avtalats.

### 2 §

Bestämmelserna i ändringarna i bilaga 1 till överenskommelsen ska gälla som förordning.

### 3 §

Denna förordning träder i kraft den 6 juli 2020.

*Ändringarna i bilaga 1 till överenskommelsen finns till påseende och de är tillgängliga hos Livsmedelsverket, som även lämnar uppgifter om dem på finska och svenska.*

Helsingfors den 25 juni 2020

Jord- och skogsbruksminister Jari Leppä

Lagstiftningsråd Hannu Miettinen



Reference: C.N.19.2019.TREATIES-XI.B.22 (Depositary Notification)

AGREEMENT ON THE INTERNATIONAL CARRIAGE OF PERISHABLE  
FOODSTUFFS AND ON THE SPECIAL EQUIPMENT TO BE USED FOR SUCH  
CARRIAGE (ATP)

GENEVA, 1 SEPTEMBER 1970

PROPOSAL OF AMENDMENTS TO THE ATP AND ITS ANNEXES

The Secretary-General of the United Nations, acting in his capacity as depositary,  
communicates the following:

On 25 January 2019, the Working Party on the Transport of Perishable Foodstuffs of the United Nations Economic Commission for Europe (UNECE) transmitted to the Secretary-General, in accordance with article 18 (1) of the above Agreement, proposed amendments to the ATP which were adopted at its seventy-third and seventy-fourth sessions held in Geneva from 10 to 13 October 2017 and from 8 to 12 October 2018, respectively.

The Secretary-General wishes to refer to paragraphs 1 to 7 of article 18 which provide that:

“1. Any Contracting Party may propose one or more amendments to this Agreement. The text of any proposed amendment shall be communicated to the Secretary-General of the United Nations, who shall communicate it to all Contracting Parties and bring it to the notice of all other States referred to in article 9, paragraph 1, of this Agreement.

The Secretary-General may also propose amendments to this Agreement or to its Annexes which have been transmitted to him by the Working Party on the Transport of Perishable Foodstuffs of the Inland Transport Committee of the Economic Commission for Europe.

2. Within a period of six months following the date on which the proposed amendment is communicated by the Secretary-General, any Contracting Party may inform the Secretary-General

(a) that it has an objection to the amendments proposed, or

(b) that, although it intends to accept the proposal, the conditions necessary for such acceptance are not yet fulfilled in its country.

3. If a Contracting Party sends the Secretary-General a communication as provided for in paragraph 2 (b) of this article, it may, so long as it has not notified the Secretary-General of its acceptance, submit an objection to the proposed amendment within a period of nine months following the expiry of the period of six months prescribed in respect of the initial communication.

4. If an objection to the proposed amendment is stated in accordance with the terms of paragraphs 2 and 3 of this article, the amendment shall be deemed not to have been accepted and shall be of no effect.

5. If no objection to the proposed amendment has been stated in accordance with paragraphs 2 and 3 of this article, the amendment shall be deemed to have been accepted on the date specified below:

(a) if no Contracting Party has sent a communication to the Secretary-General in accordance with paragraph 2 (b) of this article, on the expiry of the period of six months referred to in paragraph 2 of this article;

(b) if at least one Contracting Party has sent a communication to the Secretary-General in accordance with paragraph 2 (b) of this article, on the earlier of the following two dates:

- the date by which the Contracting Parties which sent such communications have notified the Secretary-General of their acceptance of the proposed amendment, subject however to the proviso that if all the acceptances were notified before the expiry of the period of six months referred to in paragraph 2 of this article the date shall be the date of expiry of that period;
- the date of expiry of the period of nine months referred to in paragraph 3 of this article.

6. Any amendment deemed to be accepted shall enter into force six months after the date on which it was deemed to be accepted.

7. The Secretary-General shall as soon as possible inform all Contracting Parties whether an objection to the proposed amendment has been stated in accordance with paragraph 2 (a) of this article and whether one or more Contracting Parties have sent him a communication in accordance with paragraph 2 (b) of this article. If one or more Contracting Parties have sent him such a communication, he shall subsequently inform all the Contracting Parties whether the Contracting Party or Parties which have sent such a communication raise an objection to the proposed amendment or accept it.”

The text of the proposed amendments appears in Annex I to the report ECE/TRANS/WP.11/237 and Annex I to the report ECE/TRANS/WP.11/239. These documents can be accessed on the website of the UNECE Sustainable Transport Division at the following address: <http://www.unece.org/trans/main/wp11/wp11rep.html>.

31 January 2019



**Annex I****Proposed amendments to the ATP****Proposal of amendment 1****1. Annex 1, appendix 2, Model Nos., 5, 7, 9 and 11**

Under “**Refrigerant Charge**”, Replace “Refrigerant fluid: Nature” by “Refrigerant fluid: (ISO/ ASHRAE designation)<sup>a)</sup>”.

The footnote will read:

<sup>a)</sup> *If existing*”

(Reference document: ECE/TRANS/WP.11/2017/10, as amended)

**Proposal of amendment 2****2. Annex 1, appendix 2, Model Test Reports 2 A, 2 B, 3, 4 A, 4 B, 4 C, 5, 6, 7, 8, 9, 10 and 11**

Replace “Done at: .....

on ..... Testing Officer”

by “Done at: .....

Date of test report ..... Testing Officer”.

(Reference document: ECE/TRANS/WP.11/2017/11)

**Proposal of amendment 3****3. Annex 1, appendix 2, section 4**

Add a new section 4.5 to read as follows:

**“4.5 Procedure for testing mechanically refrigeration units if there is a change of refrigerants**

**4.5.1 General principles**

The test is in line with the procedure described in section 4, paragraphs 4.1 to 4.4 and based on a complete test of the refrigeration unit with one refrigerant, the reference refrigerant.

The refrigeration unit, its refrigeration circuit and the components of the refrigeration circuit shall not be different when using replacement refrigerants. Only very limited modifications are permitted that are:

- Modification and change of expansion device (type, setting);
- Exchange of the lubricant;
- Exchange of gaskets.

Making it a retrofit refrigerant, a replacement refrigerant must have thermo-physical and chemical properties similar to the reference refrigerant and shall result in a similar behaviour in the refrigeration circuit especially in terms of refrigerating capacities.

#### 4.5.2 Test procedure

Due to the similar behaviour of the retrofit and the reference refrigerants the number of tests necessary for a type approval can be reduced. In terms of refrigerating capacity the retrofit refrigerants must comply with a criterion of equivalence which allows an at maximum 10 % lower refrigerating capacity for the retrofit refrigerant when compared with the approved reference refrigerant.

The criterion of equivalence is defined by the formula:

$$\frac{Q_{retrof}-Q_{ref}}{Q_{ref}} \geq -0,10 \quad (1)$$

where:

$Q_{ref}$  is the refrigerating capacity of the unit tested with the reference refrigerant,

$Q_{retrof}$  is the refrigerating capacity of the unit tested with the retrofit refrigerant,

The number of tests and the evaluation of the retrofit refrigerants is based on the differences in test results when compared with the reference refrigerant. At least a test at the lowest and at the highest temperature of the respective temperature class in the mode of drive with the highest refrigerating capacities has to be carried out.

In the case of a range of refrigeration units the test program may be further reduced according to paragraph 4.5.3.

Dependent on the results of these tests further measurements may be necessary. Distinctions are made for the following cases:

- **Strict equivalence:** is the case when the difference between the refrigerating capacities of the retrofit refrigerant is lower than or equal to 10 % less at all tested temperatures of the respective temperature class when compared to the reference refrigerant. In the case of higher or up to 5 % lower refrigerating capacities, the refrigerating capacities of the reference refrigerant can be kept in the test report of the retrofit refrigerant. In the case of more than 5 % lower refrigerating capacities, the refrigerating capacities of the retrofit refrigerant may be calculated based on the test results.
- **Restricted equivalence:** is the case when at least at one tested temperature of the respective temperature class the difference between the refrigerating capacities of the retrofit refrigerant is less than or equal to 10 % lower when compared to the reference refrigerant. In this case a further measurement at an intermediate temperature as specified by the manufacturer is necessary in order to confirm the tendency of the deviation and to calculate the refrigerating capacities of the retrofit refrigerant based on the test results.

If the power consumption tested with the retrofit refrigerant deviates from the results obtained with the reference refrigerant, the data of power consumption shall be adjusted according to the measured values by means of calculation, as well in case of strict as in case of restricted equivalence.

#### 4.5.3 Test procedure for a range of refrigeration units

A range of refrigeration units describes a model range of a specific type of refrigeration units of different sizes and different refrigerating capacities but with the same setup of refrigeration circuit and same type of components of the refrigeration circuit.

In case of a range of refrigeration units a further reduction of tests is possible.

If at least two refrigeration units of the range including the units with the smallest and the highest refrigerating capacities tested with the retrofit refrigerant have been proven by the test procedure described in 4.5.2 to be equivalent to the results of the approved reference refrigerant, test reports for all other units of this range of refrigeration units may be established by calculating the refrigerating capacities based on the test reports of the refrigerating units operating with the reference refrigerant and based on this limited number of tests with the retrofit refrigerant.

The conformity of the tested refrigeration units and each other regarded refrigeration unit with the range of refrigeration units has to be confirmed by the manufacturer. In addition, the competent authority shall take adequate measures to verify that each regarded unit is in conformity to this range of refrigeration units.

#### 4.5.4 Test report

An addendum containing both, the test results of the retrofit refrigerant and the approved reference refrigerant, shall be added to the test report of the refrigeration unit operated by a retrofit refrigerant. All modifications of the refrigerating unit according to 4.5.1 have to be documented in this addendum.

In case the refrigerating capacities and maybe also the power consumption of the refrigeration unit containing the retrofit refrigerant have been established by calculation, the procedure of calculation has to be described in this addendum too.”

*(Reference document: ECE/TRANS/WP.11/2017/23 as amended)*

### **Proposal of amendment 4**

#### **4. Annex 1, Appendix 2**

Add the following new paragraphs:

“3.1.7 If a refrigerating appliance of paragraph 3.1.3 (c) with all its accessories has undergone separately, to the satisfaction of the competent authority, the test in section 9 of this appendix to determine its effective refrigerating capacity at the prescribed reference temperatures, the transport equipment may be accepted as refrigerated equipment without undergoing an efficiency test if the effective refrigerating capacity of the appliance in continuous operation exceeds the heat loss through the walls for the class under consideration, multiplied by the factor 1,75.

3.1.8 If the refrigerating appliance is replaced by a unit of a different type, the competent authority may:

- (a) Require the equipment to undergo the determinations and verifications prescribed in paragraphs 3.1.3 to 3.1.5; or
- (b) Satisfy itself that the effective refrigerating capacity of the new refrigerating appliance is, at the temperature prescribed for equipment of the class concerned, at least equal to that of the unit replaced; or
- (c) Satisfy itself that the effective refrigerating capacity of the new refrigerating appliance meets the requirements of paragraph 3.1.7.

3.1.9 A refrigerating unit working with liquefied gas is regarded as being of the same type as the unit tested if:

- The same refrigerant is used;
- The evaporator has the same capacity;
- The regulation system has the same characteristics;

- The liquefied gas tank has the same design and its capacity is equal or upper to the capacity stated in the test report;

The diameters and the technology of the supply lines are identical.”.

(Reference document: ECE/TRANS/WP.11/2017/5)

## 5. Annex 1, Appendix 2

Add a new section 9 to read as follows:

### “9. PROCEDURE FOR MEASURING THE CAPACITY OF LIQUEFIED GAS UNITS AND DIMENSIONING THE EQUIPMENT THAT USES THESE UNITS

#### 9.1 Definitions

- (a) A liquefied gas unit is composed of a tank containing liquefied gas, a regulating system, an interconnection system, a muffler if applicable and one or more evaporator;
- (b) Primary evaporator: any minimal structure comprising a liquefied gas unit intended to absorb thermal capacity in an insulated compartment;
- (c) Evaporator: any composition made up of primary evaporators located in an insulated compartment;
- (d) Maximum nominal evaporator: any composition made up of primary evaporators located in one or more insulated compartments;
- (e) Mono-temperature liquefied gas unit: liquefied gas unit made up of a liquefied gas tank connected to a single evaporator for regulating the temperature of a single insulated compartment;
- (f) Multi-temperature liquefied gas unit : liquefied gas unit made up of a liquefied gas tank connected to at least two evaporators, each regulating the temperature of a single, distinct insulated compartment in the same multi-compartment equipment;
- (g) Mono-temperature operation: operation of a mono- or multi-temperature liquefied gas unit in which a single evaporator is activated and maintains a single compartment in mono-compartment or multi-compartment equipment;
- (h) Multi-temperature operation: operation of a multi-temperature liquefied gas unit with two or more activated evaporators that maintain two different temperatures in insulated compartments in multi-compartment equipment;
- (i) Maximum nominal refrigerating capacity (Pmax-nom): the maximum specified refrigerating capacity set by the manufacturer of the liquefied gas unit;
- (j) Nominal installed refrigeration capacity (Pnom-ins): the maximum refrigeration capacity within the maximum nominal refrigerating capacity that can be provided by a given configuration of evaporators in a liquefied gas unit;
- (k) Individual refrigerating capacity (Pind-evap): the maximum refrigerating capacity generated by each evaporator when the liquefied gas unit is operating as a mono-temperature unit;
- (l) Effective refrigerating capacity (Peff-frozen-evap): the refrigerating capacity available to the lowest temperature evaporator when the liquefied gas unit is operating as described in paragraph 9.2.4.

## 9.2 Test procedure for liquefied gas units

### 9.2.1 General procedure

The test procedure shall be as specified in annex 1, appendix 2, section 4, of ATP, taking account of the following particularities.

The tests shall be conducted for the different primary evaporators. Each primary evaporator shall be tested on a separate calorimeter, if applicable, and placed in a temperature-controlled test cell.

For mono-temperature liquefied gas units, only the refrigeration capacity of the regulating unit with the maximum nominal capacity evaporator will be measured. A third temperature level is added in accordance with annex 1, appendix 2, para. 4 of ATP.

For multi-temperature liquefied gas units, the individual refrigerating capacity shall be measured for all primary evaporators, each operating in mono-temperature mode as specified in paragraph 9.2.3.

The refrigerating capacities are determined by using a liquefied gas tank provided by the manufacturer that allows a complete test to be carried out without intermediate refilling.

All the elements of the liquefied gas refrigeration unit shall be placed in a thermostatic enclosure maintained at an ambient temperature of  $30 \pm 0.5$  °C.

For each test, the following shall also be recorded:

The flow, temperature and pressure of the liquefied gas emerging from the tank in use;

The voltage, electrical current and total electrical consumption absorbed by the liquefied gas unit (i.e. fan...).

The gas flow is equal to the mean mass consumption of fluid throughout the test in question.

Except when determining the liquefied gas flow, each quantity shall be physically captured for a fixed period equal to or less than 10 seconds and each quantity shall be recorded for a fixed maximum period of 2 minutes, subject to the following:

Each temperature recorded at the air intake of the ventilated evaporator or each air temperature recorded inside the body of the non-ventilated evaporator shall comply with the expected class temperature  $\pm 1$  K.

If the electrical components of the liquefied gas unit can be fed by more than one electrical power supply, the tests shall be repeated accordingly.

If the tests show equivalent maximum nominal refrigerating capacities, regardless of the operating mode of the liquefied gas refrigeration unit, then the tests may be restricted to a single electrical power supply mode, taking into account the potential impact on the air flow expelled by the evaporators, where applicable. Equivalence is demonstrated if:

$$\frac{2 * |P_{nom-max,1} - P_{nom-max,2}|}{P_{nom-max,1} + P_{nom-max,2}} \leq 0,035$$

Where:

$P_{nom-max,1}^{\square}$  : The maximum nominal capacity of the liquefied gas unit for a given electrical power supply mode,

$P_{nom-max,2}^{\square}$  : The second maximum nominal capacity of the liquefied gas unit for a different electrical power supply mode.



#### 9.2.2 Determination of the maximum nominal refrigerating capacity of the liquefied gas unit

The test shall be conducted at reference temperatures of -20 °C and 0 °C.

The nominal refrigerating capacity at -10 °C shall be calculated by linear interpolation of the capacities at -20 °C and 0 °C.

The maximum nominal refrigerating capacity of the regulating unit in mono-temperature operation shall be measured with the maximum nominal evaporator offered by the manufacturer. This evaporator is formed of the primary refrigeration evaporator(s).

The test shall be conducted with the unit operating at a single reference temperature, corresponding to the temperature of the air intake in the case of ventilated evaporators or the temperature of the air inside the body in the case of non-ventilated evaporators.

The maximum nominal refrigerating capacity shall be estimated at each level of temperature as follows:

A first test shall be carried out, for at least four hours, under control of the thermostat (of the refrigeration unit) to stabilize the heat transfer between the interior and exterior of the calorimeter box.

After re-filling of the tank (if needed), a second test shall be carried out for at least three hours for the measurement of the maximum nominal refrigerating capacity in which:

- (a) The set point of the liquefied gas unit shall be set to the chosen test temperature with a set point shift if necessary, in accordance with the instructions of the test sponsor;
- (b) The electrical power dissipated in the calorimeter box shall be adjusted throughout the test to ensure that the reference temperature remains constant.

The refrigerating capacity drift during this second test shall be lower than a rolling average of 5 % per hour and shall not exceed 10 % during the course of the test. If this is the case, the refrigeration capacity obtained corresponds to the minimum refrigeration capacity recorded during the course of the test.

Only for the measurement of the maximum nominal refrigerating capacity of the liquefied gas unit, a single additional test of one hour shall be conducted with the smallest tank sold with the unit to quantify the impact of its volume on the regulation of the refrigerating capacity. The new refrigerating capacity obtained shall not vary by more than 5 % from the lower value or compared to the value found with the tank used for the tests of three hours or more. Where the impact is greater, a restriction on the volume of the tank shall be included in the official test report.

#### 9.2.3 Determination of the individual refrigerating capacity of each primary evaporator of a liquefied gas unit

The individual refrigerating capacity of each primary evaporator shall be measured in mono-temperature operation. The test shall be conducted at -20 °C and 0 °C, as prescribed in paragraph 9.2.2.

The individual refrigerating capacity at -10 °C shall be calculated by linear interpolation of the capacities at -20 °C and 0 °C.

#### 9.2.4 Determination of the remaining effective refrigerating capacity of a liquefied gas unit in multi-temperature operation at a reference heat load

Determination of the remaining effective capacity of a liquefied gas refrigeration unit requires the simultaneous use of two or three evaporators, as follows:

- For a two-compartment unit, the evaporators with the highest and lowest individual refrigerating capacities;
- For a unit with three or more compartments, the same evaporators as above and as many others as needed, with intermediate refrigerating capacity.

Setting of the reference heat load:

- The set points of all but one of the evaporators shall be set in such a way as to obtain an air intake temperature, or, if not applicable, an air temperature inside the body, of 0 °C;
- A heat load shall be applied to each calorimeter/ evaporator pair under control of the thermostat, except the one not selected;
- The heat load shall be equal to 20 % of the individual refrigerating capacity at -20 °C of each evaporator.

The effective capacity of the remaining evaporator shall be determined at an air intake temperature, or, if not applicable, an air temperature inside the body, of -20 °C.

Once the effective capacity of the remaining evaporator has been determined, the test shall be repeated after conducting a circular permutation of the temperature classes.

### 9.3 Refrigerating capacity of evaporators

Refrigeration evaporators can be created on the basis of refrigeration capacity tests carried out on primary evaporators. The refrigeration capacity and liquefied gas consumption of the evaporators equal the arithmetic sum of the refrigeration capacity and of the liquefied gas consumption, respectively, of the primary evaporators within the limit of the maximum nominal refrigerating capacity and of the associated flow of liquefied gas.

### 9.4 Dimensioning and certification of refrigerated multi-temperature liquefied gas equipment

The dimensioning and certification of refrigerated equipment using liquefied gas refrigeration units shall be carried out as prescribed in section 3.2.6 for mono-temperature equipment, with the following capacity equivalents:

$$P_{\text{nom-ins}} = P_{\text{eff}} \text{ (effective refrigerating capacity)}$$

or section 7.3 for multi-temperature refrigerating equipment, with the following capacity equivalents :

$$P_{\text{max-nom}} = P_{\text{nominal}}$$

In addition, the usable volume of liquefied gas tanks shall be such as to permit the liquefied gas unit to maintain the temperature for that class of equipment for a minimum of 12 hours.”.

(Reference document: ECE/TRANS/WP.11/2017/5 as corrected by ECE/TRANS/WP.11/2017/5/Corr.1)

**6. Annex 1, Appendix 2**

Add a new test report model to read as follows:

**“Model No. 13****TEST REPORT**

Prepared in conformity with the special provisions of the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such carriage (ATP)

Test Report No. ....

Determination of the effective refrigeration capacity of a refrigeration unit in accordance with section 9 of ATP Annex 1, Appendix 2

Tests carried out from mm/dd/yyyy to mm/dd/yyyy

Approved testing station

Name: .....

Address: .....

Refrigerating unit presented by: .....

[(a declaration by the manufacturer shall be provided if the applicant is not the manufacturer)]

**(a) Technical specifications of the unit:**

Make/Brand :  
Type designation :  
Type of liquefied gas :  
Serial number :

Date of manufacture (month/year): (The tested unit shall not have been built more than 1 year prior to ATP tests.)

Description:

.....  
.....  
.....

Regulating valve (if different types of fans are used repeat information below for each type)

Make/Brand :  
Type :  
Serial number :

Tank (if different types of fans are used repeat information below for each type)

Make/Brand :  
Type :  
Serial number:  
Capacity [l] :  
Gas pressure at tank outlet :  
Method of insulation :  
Material of inner tank :  
Material of outer tank :

Supply of liquefied gas : (internal pressure, pressure by heat exchanger, pump)<sup>1</sup>

Pressure regulator

Make/Brand :

Type :

Serial number :

Gas pressure at pressure outlet :

Supply liquefied gas line (on the test bench)

Diameter :

Length :

Material :

Number of connections :

Defrosting device (Electric / Combustion unit)<sup>1</sup>

Make/Brand :

Type :

Supply :

Declared heating capacity :

Regulator

Make/Brand :

Type :

Hardware version :

Software version :

Serial number :

Power supply :

Possibility for Multi-temperature operation : (yes/no)<sup>1</sup>

Number of compartments able to work in multi-temperatures:

## HEAT EXCHANGERS

		Condenser	Evaporator
Make-Type			
Number of circuits			
Number of rows			
Number of blankets			
Number of tubes			
Fin pitch [mm]			
Tube : nature and diameter [mm]			
Total exchange surface [m <sup>2</sup> ]			
Face area [m <sup>2</sup> ]			
FANS	Make-Type		
	Number		
	Blade per fan		
	Diameter [mm]		
	Power [W]		
	Nominal speed [rpm]		
	Total nominal output airflow [m <sup>3</sup> /h] at a pressure of 0 Pa		
	Method of drive (Description direct current / alternative, frequency, etc.)		

## (b) Test method and results:

Test method<sup>1</sup>: Heat balance method/enthalpy difference methodIn a calorimeter box of mean surface area of = ..... m<sup>2</sup>

Measured value of the U-value of the calorimeter box fitted with the liquefied gas unit: ..... W/°C,

At a mean wall temperature: ..... °C.

In a transport equipment

Measured value of the U-value of the transport equipment fitted with the liquefied gas unit: ..... W/ °C,

At a mean wall temperature: ..... °C.

The formula employed for the correction of the U-value of the calorimeter box as a function of the mean wall temperature is:

.....

Maximum errors of determination of:

U-value of the body: .....

Refrigerating capacity of the liquefied gas unit: .....

Mean air temperature at the tank outside: ..... °C								
Electric power supply: .....								
Liquefied gas consumption	Electrical consumption	Pressure at the tank outlet	Temperature of the liquid at the evaporator	External temperature	Internal temperature	Heating power	Evaporator air intake temperature	Useful refrigerating capacity
[kg/h]	[Vdc] and [A]	[bar abs]	[°C]	[°C]	[°C]	[W]	[°C]	[W]

Corrected cooling capacity [W]:

(c) Checks:

Temperature regulator: Setting ..... °C  
Differential ..... °C

Functioning of the defrosting device<sup>1</sup>: satisfactory / unsatisfactory

Airflow volume leaving the evaporator:

Value measured: ..... m<sup>3</sup>/h  
At a pressure of ..... Pa  
At a temperature of ..... °C  
At a rotation speed of ..... tr/min.

Minimum capacity tank: .....

(d) Remarks

.....  
.....  
.....

This test report is valid for a maximum duration of six years after the date of the end of the tests.

Done at: .....

On: .....

Testing officer

.....

<sup>1</sup> Delete where applicable.

<sup>2</sup> Value indicated by the manufacturer".

(Reference document: ECE/TRANS/WP.11/2017/5)

**Proposal of amendment 5****7. Annex 1, appendix 2**

In paragraph 6.2, add a new subparagraph (iii) to read as follows and renumber existing subparagraphs (iii) and (iv) accordingly:

**“(iii) Multi-compartment equipment**

The test prescribed in (i) shall be conducted simultaneously for all compartments. During the tests, if the dividing walls are movable, they shall be positioned such that the volumes of the compartments correspond with the maximum refrigeration demand.

Measurements shall be taken until the warmest temperature measured by one of the two sensors located inside each compartment matches the class temperature.

For multi-compartment equipment whose compartment temperatures may be modified, a supplementary reversibility test shall then be conducted:

The temperatures of the compartments shall be selected in such a way that adjacent compartments are, to the extent possible, at different temperatures during the test. Certain compartments shall be brought to the class temperature (-20 °C) while others shall be at 0 °C. Once such temperatures are reached, the temperature settings shall be reversed for each compartment, thus bringing the compartments that were at 0 °C to -20 °C and those that were at -20 °C to 0 °C.

It is verified that compartments at 0 °C have a correct temperature regulation at  $0\text{ °C} \pm 3\text{ °C}$  for at least 10 minutes when the other compartments are at -20 °C. Subsequently, the settings for each of the compartments shall be reversed and the same verifications shall be conducted.

In the case of equipment fitted with a heating function, the tests shall begin after the efficiency test when the temperature is -20 °C. Without opening doors, the compartments whose settings had been set at 0 °C shall be warmed, while the other compartments are kept at a temperature of -20 °C. When the control criterion is met, the compartments' settings shall be reversed. There shall be no time limit to carry out these tests.

In the case of equipment without a heating function, it shall be permitted to open the doors of the compartments to expedite the temperature rise of the compartments in question.

The equipment shall be considered compliant if:

- For each compartment, the class temperature has been reached within the time limit shown in the table in (i). To define this time limit, the lowest (coldest) mean outside temperature shall be selected from the two sets of measurements taken with the two outside sensors; and

The additional tests mentioned in (iii), when required, are satisfactory.”.

*(Reference document: ECE/TRANS/WP.11/2017/8 as corrected by ECE/TRANS/WP.11/2017/8/Corr.1)*

**Proposal of amendment 6****8. Annex 1, appendix 2, paragraphs 2.1.8, 2.2.9, 3.1.4, 3.2.3 and 3.3.4**

Amend to read as follows:

"The mean outside temperature and the mean inside temperature of the body shall each be read at least every 5 minutes."

*(Reference document: ECE/TRANS/WP.11/2017/9, proposal 2)*

**Proposal of amendment 7****9. Annex 1, appendix 4**

Add the following text after the table:

"In the case of multi-compartment road equipment divided in two compartments the equipment mark shall consist in the distinguishing marks of each compartment (example: FRC-FRA) starting with the compartment located at the front or on the left side of the equipment;

In the case of other multi-compartment equipment the distinguishing mark shall be selected only for the highest ATP class, i.e. the class that permits the highest difference between inside and outside temperatures, and supplemented by the letter M (example: FRC-M).

This marking is mandatory for all equipment, which is built from 1 October 2020."

*(Reference documents: ECE/TRANS/WP.11/2017/6 and informal documents INF.8 and INF.13, as amended)*

**10. Annex 1, appendix 2**

Add the following text after the present text of 7.3.6:

"A declaration of conformity shall be provided in a supplementary document to the certificate of compliance issued by the competent authority of the country of manufacture. The document shall be based on information given by the manufacturer.

This document shall include at least:

- A sketch showing the actual compartment configuration and evaporator arrangement;
- Proof by calculation that the multi-compartment equipment meets the requirements of ATP for the user's intended degree of freedom with regards to compartment temperatures and compartment dimensions."

*(Reference documents: ECE/TRANS/WP.11/2017/6 and informal documents INF.8 and INF.13, as amended)*



## Annex I

### Proposed amendments to ATP

#### Proposal of amendment 1

##### 1. Annex 1, appendix 2, section 1.2

Replace “ $S_i = (((W_i \times L_i) + (W_i \times L_i) + (W_i \times W_i)) \times 2)$ ” by “ $S_i = (((W_i \times L_i) + (H_i \times L_i) + (H_i \times W_i)) \times 2)$ ”.

Replace “ $S_e = (((W_e \times L_e) + (W_e \times L_e) + (W_e \times W_e)) \times 2)$ ” by “ $S_e = (((W_e \times L_e) + (H_e \times L_e) + (H_e \times W_e)) \times 2)$ ”.

Replace “ $W_i$  is the Z axis of the internal surface area” by “ $H_i$  is the Z axis of the internal surface area”.

Replace “ $W_e$  is the Z axis of the external surface area” by “ $H_e$  is the Z axis of the external surface area”.

Replace “ $W_i = (W_{ia} \times a/2 + W_{ib} (a/2 + b/2) + W_{ic} (b/2) / (a + b))$ ” by “ $W_i = (W_{ia} \times a/2 + W_{ib} (a/2 + b/2) + W_{ic} (b/2)) / (a + b)$ ”.

Replace “ $W_i = ((W_{ib} \times b) + (W_{ib} \times c) - ((W_{ib} - W_{ic}) \times c) + (2 \times ((W_{ib} - W_{ia}) \times a))) / (a + b + c)$ ” by “ $W_i = (W_{ia} \times a + W_{ib} \times b + (W_{ib} + W_{ic})/2 \times c) / (a + b + c)$ ”.

Replace “ $W_i = (W_i \text{ back} + W_i \text{ front}) / 2$ ” by “ $W_i = (W_i \text{ back} + W_i \text{ front}) / 2$ ”.

Replace “ $W_i \text{ back}$  is the width at the bulkhead” by “ $W_i \text{ back}$  is the width at the bulkhead”.

Replace “ $W_i \text{ front}$  is the width at the door end” by “ $W_i \text{ front}$  is the width at the door end”.

Replace “ $W_e = W_i + \text{declared mean thickness}$ ” by “ $W_e = W_i + \text{declared mean thickness} \times 2$ ”.

Replace “ $L_e = L_i + \text{declared mean thickness}$ ” by “ $L_e = L_i + \text{declared mean thickness} \times 2$ ”.

Replace “ $W_e = W_i + \text{declared mean thickness}$ ” by “ $H_e = H_i + \text{declared mean thickness} \times 2$ ”.

(Reference document: ECE/TRANS/WP.11/2018/7)

#### Proposal of amendment 2

##### 2. Annex 1, appendix 2, section 2.3.2

Replace “maximum margin of error” by “an expanded uncertainty”.

Add a new last sentence to read as follows: “In calculating the expanded uncertainty of measurement of the K coefficient, the confidence level should be at least 95%.”.

(Reference document: ECE/TRANS/WP.11/2018/20, as amended)

**3. Annex 1, appendix 2, Model Nos. 2A and 2B**

Replace “Maximum error of measurement with test used ... %” by “Expanded uncertainty with test used ... % (coverage factor  $k = \dots$  for an accepted confidence level ... %)³”.

New footnote 3 reads as follows: “³ The present provisions concerning the use of expanded uncertainty instead of the maximum error are applicable to the tests carried out after 1 January 2021”.

Renumber existing footnote 3 to 4.

*(Reference document: ECE/TRANS/WP.11/2018/20, as amended)*

**Proposal of amendment 3****4. Annex 1, appendix 2, Model No., 2A and 2B**

Replace “Power absorbed by fans” by “Portion of power absorbed by the fans entering the body”.

*(Reference document: ECE/TRANS/WP.11/2018/23, as amended)*

**Proposal of amendment 4****5. Annex 1, appendix 2, section 2.1.4**

*The amendment only applies to the English and Russian versions of the ATP.*

Remove “, to within  $\pm 0.5$  K”.

*(Reference document: ECE/TRANS/WP.11/2018/16)*

**Proposal of amendment 5****6. Annex 1, appendix 2, section 3.4.3**

Renumber existing text as subparagraph (b) and amend the beginning to read as follows: “When the measurement is carried out on equipment, the basic requirements...”. Remainder unchanged.

Insert a new subparagraph (a) to read as follows:

“(a) The general procedure for measuring the effective refrigerating capacity of mechanically refrigerated appliances stipulated in paragraph 4.1 and 4.2 shall be applied after adapting it such that it can be used to measure heating appliances using a calorimeter box.

The temperature at the air inlet of the thermal appliance or at the air inlet of the evaporator inside the calorimeter box shall be  $+12^{\circ}\text{C}$ .

For the measurement of the effective heating capacities of classes A, E and I, one test at a mean outside temperature ( $T_e$ ) of  $-10^{\circ}\text{C}$  shall be carried out.

For the measurement of the effective heating capacities of classes B, F and J, tests at two mean outside temperatures ( $T_e$ ) shall be carried out: one at  $-10^{\circ}\text{C}$  and the other at  $-20^{\circ}\text{C}$ .

For the measurement of the effective heating capacities of classes C, D, G, H, K, or L, three tests shall be carried out. One test at a mean outside temperature ( $T_e$ ) of  $-10^{\circ}\text{C}$ , another test at the minimum outside temperature required by the class and one test at an intermediate outside temperature to allow an interpolation for the effective heating capacities for other in-between class temperatures.

For purely electric heating systems a minimum of one test shall be carried out to measure the effective heating capacities of classes A, B, C, D, E, F, G, H, I, J, K or L. This test should be carried out at  $+12^{\circ}\text{C}$  at the air inlet of the evaporator and the minimum outside temperature required by the class.

- (i) If the measurement of the effective heating capacity is carried out at the lowest outside temperature required by the class, no further test shall be required.
- (ii) If the measurement of the effective heating capacity is not carried out at the lowest temperature required by the class, an additional functional test of the heating appliance shall be carried out. This functional test shall be done at the minimum temperature required by the class (e.g.  $-40^{\circ}\text{C}$  for class L) to verify that the heating appliance and its drive system (e.g. diesel engine driven generator) starts and works properly at the lowest temperature."

*(Reference documents: ECE/TRANS/WP.11/2018/11 and -/Corr.1)*

#### **Proposal of amendment 6**

##### **7. Annex 1, appendix 2, section 4.2.1**

In the penultimate paragraph, replace "total heat flow" by "effective refrigerating capacity".

In the last paragraph, replace "heavily insulated" by "at least normally insulated".

*(Reference document: ECE/TRANS/WP.11/2018/14 as amended)*

#### **Proposal of amendment 7**

##### **8. Annex 1, appendix 2, section 4.3.4**

Replace "ISO 5801: 2008, AMCA 210-99 and AMCA 210-07" by "ISO 5801: 2017 and AMCA 210-16".

*(Reference document: ECE/TRANS/WP.11/2018/12)*

#### **Proposal of amendment 8**

##### **9. Annex 1, appendix 2, Models 5 and 7**

In the section for "Compressor", in the subsection for "Drive", after "hydraulic", add "/other".

*(Reference document: ECE/TRANS/WP.11/2018/18, as amended)*

**10. Annex 1, appendix 2, Model 12**

In the section for “Methods of drive”, after “vehicle motion”, add “, other”.

After the section for “Alternator” and before the section for “Speed of rotation” add a new line reading “Other: ...”

(Reference document: ECE/TRANS/WP.11/2018/18, as amended)

**Proposal of amendment 9****11. Annex 1, appendix 2, section 6.2**

Create a new subsection 6.2.1 at the beginning of section 6.2 such that the existing line “Independent equipment” is the heading of the new subsection.

Create a new subsection 6.2.2 immediately before current item (iii) with the heading “6.2.2 Non-independent equipment”.

Renumber the existing items (iii) and (iv) to (i) and (ii).

Insert a new subsection 6.2.3 to read as follows:

“6.2.3 At the request of the manufacturer, replacement of the original refrigerant fluid of a mechanically refrigerated equipment in service is allowed for the refrigerants described in the table below on the following conditions:

Original refrigerant	Drop-in refrigerant
R404A	R452A

- a test report or addendum confirming equivalence to a similar mechanically refrigerated unit with the drop-in refrigerant fluid is available; and

- an efficiency test according to 6.2.1 has been successfully carried out.

The manufacturer plate shall be modified or replaced to indicate the replacement refrigerating fluid and the required charge.

The original test report number shall be retained on the ATP certificate of compliance supplemented by a reference to the test report or addendum on which the replacement is based.”

(Reference documents: ECE/TRANS/WP.11/2018/8 and ECE/TRANS/WP.11/2018/10 as amended)



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Reference: C.N.5.2020.TREATIES-XI.B.22 (Depositary Notification)

AGREEMENT ON THE INTERNATIONAL CARRIAGE OF PERISHABLE  
FOODSTUFFS AND ON THE SPECIAL EQUIPMENT TO BE USED FOR SUCH  
CARRIAGE (ATP)

GENEVA, 1 SEPTEMBER 1970

ACCEPTANCE OF AMENDMENTS TO ANNEX 1 TO THE AGREEMENT

The Secretary-General of the United Nations, acting in his capacity as depositary, and with reference to depositary notification C.N.19.2019.TREATIES-XI.B.22 of 31 January 2019 concerning the proposed amendments to Annex 1 to the Agreement, communicates that:

Following the communication received from Germany on 6 January 2020<sup>1</sup> and in accordance with paragraphs 5 and 6 of article 18 of the Agreement, the proposed amendments to Annex 1 are deemed accepted and shall enter into force on 6 July 2020.

8 January 2020

A handwritten signature in black ink, consisting of a stylized 'D' and 'N' with a horizontal line underneath.

<sup>1</sup> Refer to depositary notification C.N.4.2020.TREATIES-XI.B.22 of 8 January 2020 (Communication pursuant to article 18 (5) (b) of the Agreement: Germany).