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agenda item 4.1.)

PROPOSAL FOR AMENDMENTS TO REGULATION No. 67

(Specific LPG components)

Transmitted by the expert from Italy

Note: The text reproduced below was prepared by the expert from Italy in order to introduce some editorial changes to the text of the Regulation. In addition, some prescriptions are suggested in order to improve safety of the 80 per cent stop valve and to introduce a new test on compatibility of non-metallic materials with heat exchange fluids. The text was distributed without a symbol (informal document No. 2) during the forty-third session of GRPE (TRANS/WP.29/GRPE/43, para. 33).

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Note: This document is distributed to the Experts on Pollution and Energy only.

**A. PROPOSAL**

Paragraph 6.15.1.3., amend to read:

"... that limits the filling at 80 per cent +0/-5 per cent of the capacity of the container, for which the 80 per cent stop valve is designed, shall withstand a pressure ... not exceed 500 cm<sup>3</sup>/minute. The valve must be tested with all the containers on which it is intended to be fitted."

Paragraph 6.15.4.1., add at the end:

"... exchange medium. The material shall meet the prescriptions laid down in annex 15, paragraph 17."

Paragraph 6.15.11.1., amend to read:

" ... the electric power connections should meet IP54 specifications according to IEC EN 60529:1997-06."

Annex 3,

Paragraph 3.6., delete reference to the following tests:

"Overpressure test .... Annex 15, para. 4  
Endurance ..... Annex 15, para. 9  
(with 6,000 operation cycles)"

Paragraph 7.6., delete reference to the following test:

"Endurance ..... Annex 10, para. 2.7."

Annex 7, paragraph 3.6., delete reference to the following tests:

"Overpressure test .... Annex 15, para. 4  
Endurance ..... Annex 15, para. 9  
(with 6,000 operation cycles)"

Annex 8, paragraph 3.3.2.3., correct the reference from "3.3.1.1." to "3.3.2.1."

Annex 9, paragraph 5., delete the reference to paragraph "6.15.9. Non return valve"

Annex 10,

Paragraph 2.1.2.2.2.2., amend to read:

"2.1.2.2.2.2. The tensile strength value obtained must meet the minimum levels required by EN 10120."

Paragraph 2.2.2.1.2., amend to read:

"2.2.2.1.2. Examination of the tear and the shape of its edges. bursting pressure."

Annex 15,

Table 1,

(i) add a new "X" to the row dealing with "Resistance to dry heat" under Class 3 column.

(ii) add at the end the following row:

"

Compatibility with heat exchange fluid		X		
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"

(iii) delete all footnotes, the relevant references to them in the table and the text following the footnotes themselves up to the end of paragraph 2.

Paragraph 5.1., add at the end the following sentences:

" .... . The above prescriptions are deemed to be satisfied, if the provisions of paragraph 5.4. are met."

Paragraph 8.4., delete the words "of air"

Paragraph 8.8., correct the pressure value "2,300 kPa" to read "2,600 kPa"

Insert a new paragraph 9.5., to read:

"9.5                   Endurance for 80 per cent stop valve

9.5.1                The 80 per cent stop valve shall be capable to withstand 6,000 complete filling cycles to the maximum filling degree."

Paragraph 10.3.1., amend to read:

" ..... of 20, 50 and 80 l/min or to the maximum flow rate under an upstream pressure of 700 kPa abs".

Paragraph 12.1., delete the reference to "DIN 50021"

Paragraph 12.2., delete the reference to "DIN 50916"

Add a new paragraph 17., to read:

"17.                   Compatibility with heat exchange fluids of non metallic parts

17.1.                Test samples shall be submerged in heat exchange medium (off the shelve cooling liquid "ready to use") for 168 hours at 90 °C; then they shall be dried for 48 hours at a temperature of 40 °C.

17.2.                The test is deemed to be satisfactory if the change in volume is less than 20 per cent, the change in mass is less than 5 per cent, the change in tensile strength is less than -25 per cent and the change in elongation at break is within -30 per cent and +10 per cent."

General amendment:

Include in all the annexes reference to footnote "\*\*/ only for non-metallic parts", when reference is made to "Resistance to Dry heat"

**B: JUSTIFICATION**

Re. para. 6.15.1.3.:

Lack of tolerances in the existing draft and inclusion of the new concept that each 80 per cent stop valve shall operate correctly with all containers for which it is intended to be fitted.

Re. para. 6.15.1.3.:

Test procedure is missing to evaluate compatibility; therefore a reference to a new test procedure has been added

Re. para. 6.15.11.1.:

Class I is a wrong reference

Re. Annex 3 para. 3.6.:

A pressure of 6750 kPa is not consistent with the test for the verification of a component that must open at 2700 kPa. No endurance test is necessary.

Re. Annex 3 para. 7.6.:

The endurance test is already laid down in the annex 3, para. 7.7.

Re. Annex.7 para. 3.6.:

Senseless requirements

Re. Annex 8 para. 3.3.2.3.:

Typing error

Re. Annex 9 para. 6.15.9.:

This paragraph is not appropriate because it refers to pump power dissipation

Re. Annex 10, para. 2.1.2.2.2.2.:

Requirements referred to parent material are not correct, due to difficult reproducibility of test on samples deriving from the container. A reference to the levels insured by an European standard is more significant than a reference to a single tensile test.

Re. Annex 10, para. 2.2.2.1.2.:

Typing error; The deleted text already appears in paragraph 2.2.2.1.1 and in the title of paragraph 2.2.2.1.2

Re. Annex 15, para. 2.:

- i) this test is still required for Class 1 components which are less stressed than Class 3 components;
- ii) the new row has been added according to the amendment introduced in paragraph 6.15.4.1. all footnotes and the following sentences seem to be redundant.

Re. Annex 15, para. 5.1.:

Inconsistency between requirements of 5.1 and 5.4 (no leakage and allowed leakage)

Re. Annex 15, para. 8.4.:

Other gases can be used other than air; see paragraph 3.1.

Re. Annex 15, para. 8.8.:

Consistency with paragraph 6.15.8.4.

Re. Annex 15, paras. 12.1. and 12.2.:

The reference to national standard is not necessary when an international standard exists.

Re. Annex 15, para. 17.:

A test procedure is needed in order to evaluate the compatibility of synthetic materials with heat exchange fluid.

Re. General amendment:

Reference to footnote "/ only for non-metallic parts" is needed in all the annexes dealing with "resistance to dry heat".

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