Proposal for the Corrigendum 1 to Amendment 1 to UN Global Technical Regulation No. 13 (Hydrogen and Fuel Cell Vehicles)

Submitted by the chair of IWG on GTR13 Phase 2

The text reproduced below was prepared by the chair of Informal Working Group (IWG) on hydrogen and fuel cell vehicles (HFCV), UN Global Technical Regulation No. 13, Phase 2 (GTR13-PH2) and propose to correct editorial errors in the proposal submitted to the 190th session of WP.29.

 I. Proposal

*Section H, paragraph 2 title,* amend to read:

"**2. National Requirements Complementary to UN GTR Requirements”**

*Section I, paragraph 190,* amend to read:

"… the requirements presented as optional requirements in this document (LHSS Section G of the preamble) ~~s~~ could be adopted as requirements with appropriate modifications. "

*Section O, Table 10,* amend to read:

"Table 10

**Optional Tolerances for Test Parameters**

| *Paragraph* | *Test Parameter* | *Value* | *Optional Tolerance* | *Unit* |
| --- | --- | --- | --- | --- |
| *…* |
| *Distance* |
| 6.2.3.2. (a) (i) | Horizontal drop height | 1.8 m | ±0.02 | m |
| 6.2.3.2. (a) (ii) (iii)  | Vertical drop height | calculated drop height | ±0.02 | m |
| 6.2.3.2. (a) (iv) | 45° angle centre of gravity height | ~~≤~~ 1.8 m | **±0.02**~~0.04~~ | m |
| *…* |  |  |  |  |

"

*Table 1 in paragraph 3.52.,* amend to read:

" Table 1

**Compressed Hydrogen Density (g/l)**

|  |  |
| --- | --- |
| *Temperature**(°C)* | *Pressure (MPa)* |
| *1* | *10* | *20* | *30* | *35* | *40* | *50* | *60* | *65* | *70* | *75* | *80* | *87.5* |
| -40 | 1.0 | 9.7 | 18.1 | 25.4 | 28.6 | 31.7 | 37.2 | 42.1 | 44.3 | 46.1 | 48.4 | 50.3 | 53.0 |
| -30 | 1.0 | 9.4 | 17.5 | 24.5 | 27.7 | 30.6 | 36.0 | 40.8 | 43.0 | 45.1 | 47.1 | 49.0 | 51.7 |
| -20 | 1.0 | 9.0 | 16.8 | 23.7 | 26.8 | 29.7 | 35.0 | 39.7 | 41.9 | 43.9 | 45.9 | 47.8 | 50.4 |
| -10 | 0.9 | 8.7 | 16.2 | 22.9 | 25.9 | 28.7 | 33.9 | 38.6 | 40.7 | 42.8 | 44.7 | 46.6 | 49.2 |
| 0 | 0.9 | 8.4 | 15.7 | 22.2 | 25.1 | 27.9 | 33.0 | 37.6 | 39.7 | 41.7 | 43.6 | 45.5 | 48.1 |
| 10 | 0.9 | 8.1 | 15.2 | 21.5 | 24.4 | 27.1 | 32.1 | 36.6 | 38.7 | 40.7 | 42.6 | 44.4 | 47.0 |
| 15 | 0.8 | 7.9 | 14.9 | 21.2 | 24.0 | 26.7 | 31.7 | 36.1 | 38.2 | 40.2 | 42.1 | 43.9 | 46.5 |
| 20 | 0.8 | 7.8 | 14.7 | 20.8 | 23.7 | 26.3 | 31.2 | 35.7 | 37.7 | 39.7 | 41.6 | 43.4 | 46.0 |
| 30 | 0.8 | 7.6 | 14.3 | 20.3 | 23.0 | 25.6 | 30.4 | 34.8 | 36.8 | 38.8 | ~~406~~**40.6** | 42.4 | 45.0 |
| 40 | 0.8 | 7.3 | 13.9 | 19.7 | 22.4 | 24.9 | 29.7 | 34.0 | 36.0 | 37.9 | 39.7 | 41.5 | 44.0 |
| 50 | 0.7 | 7.1 | 13.5 | 19.2 | 21.8 | 24.3 | 28.9 | 33.2 | 35.2 | 37.1 | 38.9 | 40.6 | 43.1 |
| 60 | 0.7 | 6.9 | 13.1 | 18.7 | 21.2 | 23.7 | 28.3 | 32.4 | 34.4 | 36.3 | 38.1 | 39.8 | 42.3 |
| 70 | 0.7 | 6.7 | 12.7 | 18.2 | 20.7 | 23.1 | 27.6 | 31.7 | 33.6 | 35.5 | 37.3 | 39.0 | 41.4 |
| 80 | 0.7 | 6.5 | 12.4 | 17.7 | 20.2 | 22.6 | 27.0 | 31.0 | 32.9 | 34.7 | 36.5 | 38.2 | 40.6 |
| 85 | 0.7 | 6.4 | 12.2 | 17.5 | 20.0 | 22.3 | 26.7 | 30.7 | 32.6 | 34.4 | 36.1 | 37.8 | 40.2 |

"

*Paragraph 6.2.3.2.,* amend to read:

"6.2.3.2. Drop (impact) test (unpressurized)

…

(d) From a 45° angle from the vertical orientation with the shut-off valve interface location downward with its centre of gravity ~~≤~~ **at** 1.8 m above the ground. However, if the bottom is closer to the ground than 0.6 m, the drop angle shall be changed to maintain a minimum height of 0.6 m and a centre of gravity ~~of ≤~~**at** 1.8 m above the ground. In case of non-axisymmetric container, the line passing the shut-off valve interface location end and its centre of gravity shall be 45° angled from vertical orientation and the shut-off valve interface location shall become the lowest.

…"

*Figure 3 in paragraph 6.2.3.2.,* amend to read:

Current draft:

Figure 3

**Drop Orientations**

1.8m

**>**

**488J**

**<**

**1.8 m**

45

o

**>**

**0.6m**

**No. 1**

**N o.**

**2**

**No.**

**3\***

**No.**

**4**

**centre of gravity**

Amended:

" Figure 3

**Drop Orientations**

**1.8 m**

**≥ 488 J**

**≤ 1.8 m**

**45°**

**≥ 0.6 m**

**No. 1**

**No.**

**2**

**No.**

**3**

**No.**

**4**

**centre of gravity**

"

*Paragraph 6.2.5.4.5.3.,* amend to read:

**"**6.2.5.4.5.3. The 60-second rolling averages of individual temperature readings in the localized fire zone (i.e. TBLOC, TMFLOC, TMRLOC and TULOC) and the engulfing fire zone (i.e. TBR, TBC, TBL, TMRF, TMCF, **TMLF**~~TML~~, TMRR, TMCR, TMLR, TUR, TUC and TUL) shall be …**"**