

IWG GTR 13 TF 1, Status
June 27th 2021

Status

ITEM	STATUS	Contents	
Vehicle Class	Reached agreement, editorial revision of scope needed	Categories 1 and 2	✓
Installation requirement of container	Reached agreement	No need	✓
Hydrogen Leakage Criteria(in-use)	Reached agreement	After Crash, 118NL/min/1hr	✓
Permeation Criteria	Reached agreement	(LDV, HDV) 55°C, After 30hrs Less 46mL/h/L	✓
Crash requirements / Sled Test	Revision of EC proposal	Proposal: Acceleration pulses based on TRL study	Open
TPRD Direction	Revision of OICA Proposal	Proposal: 20 degrees upward, 45 degrees downward	Open
Service life	Revision of OICA Proposal	Proposal: No change needed	Open

1. Scope (OICA proposal)

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Changes from GTR20 or GTR13

GTR13

2. Scope

This regulation applies to all hydrogen fuelled vehicles of Category 1-1 and 1-2, with a gross vehicle mass (GVM) of 4,536 kilograms or less.

Proposal

2. Scope (revised GTR20)

2.1 This regulation applies to all hydrogen fuelled vehicles of Category 1 and Category 2 with a maximum design speed exceeding 25 km/h, equipped with electric power train consisting of high voltage bus, excluding vehicles permanently connected to the grid.

2.2 For vehicles with GVM exceeding 3,500 kg but not exceeding 4,536 kg, each Contracting Party may elect requirements in accordance with paragraphs 5(CX) and 6(CX) or in accordance with paragraphs 7(Y) and 8(Y) in paragraph 4.

(a) For all vehicles of Category 1-1 and vehicles of Categories 1-2 and 2 with GVM of 4,536 kg or less, the requirements of paragraphs 5(CX) and 6(CX) shall apply in accordance with the general requirements specified in paragraph 4.

(b) For vehicles of Category 1-2 and Category 2 with GVM exceeding 3,500 kg, the requirements of paragraphs 7(Y) and 8(Y) shall apply in accordance with the general requirements specified in paragraph 4.

2.3 Contracting Parties may exclude the following vehicles from the application of this regulation:

(a) A vehicle with four or more wheels whose unladen mass is not more than 350 kg, not including the mass of traction batteries, whose maximum design speed is not more than 45 km/h, and whose engine cylinder capacity and maximum continuous rated power in the case of hybrid electric vehicles do not exceed 50 cm³ for spark (positive) ignition engines and 4 kW for electric motors respectively, or whose maximum continuous rated power in the case of battery electric vehicles does not exceed 4 kW; and

(b) A vehicle with four or more wheels, other than that classified under (a) above, whose unladen mass is not more than 450 kg (or 650 kg for vehicles intended for carrying goods), not including the mass of traction

2. Sled test / post-crash safety (EU proposal)

- Accelerations for vehicles of categories $M_1 \leq 3\,500\text{ kg}$, $M_2 \leq 3\,500\text{ kg}$ and N_1 : *Category 1-1, 1-2 and 2 with a gross vehicle mass (GVM) of 3,500 kilograms or less*
 - (a) ~~20~~ **26** g in the direction of travel (forward and rearward direction);
 - (b) ~~8~~ **12** g horizontally perpendicular to the direction of travel (to left and right).
- Accelerations for vehicles of categories $M_1 > 3\,500\text{ kg}$, $M_2 > 3\,500\text{ kg}$ and N_2 : *Category 1-1 and 1-2 with a gross vehicle mass (GVM) of at least 3,501 kilograms up to 5,000 kilograms and category 2 with a gross vehicle mass (GVM) of at least 3,501 kilograms up to 12,000 kilograms*
 - (a) 10 g in the direction of travel (forward and rearward direction);
 - (b) ~~5~~ **8** g horizontally perpendicular to the direction of travel (to left and right).
- Accelerations for vehicles of categories M_3 and N_3 : *Category 1-1 and 1-2 with a gross vehicle mass (GVM) of at least 5,001 kilograms and category 2 with a gross vehicle mass (GVM) of at least 12,001 kilograms*
 - (a) ~~6.6~~ **8** g in the direction of travel (forward and rearward direction);
 - (b) ~~5~~ **8** g horizontally perpendicular to the direction of travel (to left and right).

3. TPRD Direction (OICA proposal)

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TPRD Direction

TPRD Direction Proposal

- (b) Storage system TPRDs. **With the vehicle on a level surface, the hydrogen gas discharge from TPRD(s) of the storage system shall be directed upwards within 20° of vertical relative to the level surface or downwards within 45° of vertical relative to the level surface. Additionally, the hydrogen gas discharge from TPRD(s) of the storage system shall not be directed:**

(i)	Into enclosed or semi-enclosed spaces;	LDV+HDV
(ii)	Into or towards any vehicle wheel housing;	
(iii)	Towards hydrogen gas containers;	
(iv)	Forward from the vehicle, or horizontally (parallel to road) from the back or sides of the vehicle.	
(v)	Towards the vehicle's REESS	
(vi)	Towards any emergency exit(s) (for Category 1-2)	HDV

Find a more generic description.

4. Service life (OICA proposal)

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3. Proposal

- “the number of cycles” at service life of 25 year is following.
 - ✓ The result was differ from each region so it should be set by each Contracting Party as previous GTR.
 - ✓ The result was completely differ from vehicle type so it shall be changed by vehicle type.
 - ✓ Japanese data shows below 6,000cycles for 25 years for LDV. So we set the number of cycles to 5,500/7,500/11,000 by considering with GTR phase1 value.
 - ✓ Data shows 9,000/14,000/17,000 cycles for Germany, Japanese and US for 25 years of HDV. So we set the number of cycles with corresponding to it.

Table4. Vehicle type and proposal of “the number of cycles”

Vehicle type	The number of cycles
LDV	5,500/7,500/11,000
HDV	9,000/14,000/17,000

8. Next Meeting

- July 27th 2021
- 6 am JST / KST (July 28th, 2021)
- 11 pm CET
- 2 pm PST