

Submitted by the expert from Republic of Korea

Informal document GRSP-63-21
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agenda item 26 (a))

Harmonization of Crash Regulations in Korea

14-18 May 2018

Republic of Korea

Purpose

- **Harmonization with UN GTR and/or UN Regulations**
 - **Occupant Protection**
 - KMVSS article 102 is harmonized with UN Regulations (R94, R95, R135 and R137)
 - **Fuel System Integrity**
 - KMVSS article 91 is harmonized with UN Regulations (UN R94, 95, 134, 135 and 137) about passenger vehicles
 - Side impact test, rear moving barrier test, and static rollover test are maintained

Timeline

- **Notice for Proposed of Rule Making**
 - 26 April 2018 – 25 June 2018

- **Implementation of the Amended Regulations**
 - New types: 1 September 2020
 - All new vehicles: [31 December 2021]

Protection of Occupants (article 102)

● Full Width Frontal Collision Test

	Current	NPRM
Scope	<ul style="list-style-type: none"> • Passenger vehicle 	<ul style="list-style-type: none"> • Passenger vehicle not exceeding 3.5 ton
Test Procedure	<ul style="list-style-type: none"> • Fixed rigid barrier • Speed: 48 km/h • Dummies: Driver & Passenger (H3 50%ile M) 	<ul style="list-style-type: none"> • Fixed rigid barrier • Speed: 50 km/h • Dummies: Driver (H3 50%ile M), Passenger (H3 5%ile F)
Requirements	<ul style="list-style-type: none"> • Injury criteria 	<ul style="list-style-type: none"> • Injury criteria, steering wheel displacement, door opening during/after impact, fuel leakage <p>→ Harmonized with UN R 137</p>

Protection of Occupants (article 102)

● Offset Frontal Collision Test

	Current	NPRM
Scope	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Passenger vehicle not exceeding 2.5 ton
Test Procedure	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Deformable barrier(40% offset) • Speed: 56 km/h • Dummies: Driver & Passenger (50%ile H3 M)
Requirements	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Injury criteria, steering wheel displacement, door opening during/after impact, fuel leakage <p>→ Harmonized with UN R 94</p>

Protection of Occupants (article 102)

● Side Impact Test

	Current	NPRM
Scope	<ul style="list-style-type: none">• Passenger vehicle	<ul style="list-style-type: none">• Passenger vehicle and truck not exceeding 3.5 ton
Test Procedure	<ul style="list-style-type: none">• Moving deformable barrier (MDB, 950kg)• Speed: 50 km/h• Dummy: Driver (ES2)	<ul style="list-style-type: none">• Moving deformable barrier (MDB, 950kg)• Speed: 50 km/h• Dummy: Driver (ES2)
Requirements	<ul style="list-style-type: none">• Injury criteria, door opening during/after impact, fuel leakage	<ul style="list-style-type: none">• Injury criteria, door opening during/after impact, fuel leakage <p>→ Harmonized with UN R 95</p>

Protection of Occupants (article 102)

● Pole Side Impact Test

	Current	NPRM
Scope	<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• Passenger vehicle and truck not exceeding 3.5 ton
Test Procedure	<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• Fixed rigid pole• Speed: 32 km/h (75 degree angle)• Dummies: Driver (WorldSID 50%ile M)
Requirements	<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• Injury criteria, door opening during/after impact, fuel leakage <p>→ Harmonized with GTR 14 and UN R 135</p>

Fuel System Integrity (article 91)

● Liquid Fuel Vehicle

	Current	NPRM
Scope	<ul style="list-style-type: none"> • Passenger vehicle and bus not exceeding 4.5 ton 	<ul style="list-style-type: none"> • Passenger vehicle • (Bus not exceeding 4.5 ton: Maintain current requirements)
Test Procedure	<ul style="list-style-type: none"> • Full width frontal collision test (48 km/h) with article 91 	<ul style="list-style-type: none"> • Revised tests: Harmonized 3 type crash tests with UN Regulations <ul style="list-style-type: none"> - Full width frontal collision test - Offset frontal collision test - Pole side impact test
	<ul style="list-style-type: none"> • Side impact test (50 km/h, 950 kg) with article 102 • Rear moving barrier impact test (48 km/h, 1,805 kg) with article 91 • Static rollover test with article 91 	<ul style="list-style-type: none"> • Maintain current tests: Side impact test, rear moving barrier test, and static rollover test

Fuel System Integrity (article 91)

● Hydrogen and Fuel Cell Vehicle

	Current	NPRM
Scope	<ul style="list-style-type: none"> Passenger vehicle and bus not exceeding 4.5 ton 	<ul style="list-style-type: none"> Passenger vehicle (Bus not exceeding 4.5 ton: Maintain current requirements)
Test Procedure	<ul style="list-style-type: none"> Full width frontal collision test (48 km/h) with article 91 	<ul style="list-style-type: none"> Revised tests: Harmonized 2 type crash tests with UN Regulations <ul style="list-style-type: none"> - Offset frontal collision test - Pole side impact test
	<ul style="list-style-type: none"> Side impact test (50 km/h, 950 kg) with article 102 Rear moving barrier impact test (48 km/h, 1,805kg) with article 91 	<ul style="list-style-type: none"> Maintain current tests: Side impact test, rear moving barrier test

Fuel System Integrity (article 91)

● Electric Vehicle

	Current	NPRM
Scope	<ul style="list-style-type: none"> Passenger vehicle and bus not exceeding 4.5 ton 	<ul style="list-style-type: none"> Passenger vehicle (Bus not exceeding 4.5 ton: Maintain current requirements)
Test Procedure	<ul style="list-style-type: none"> Full width frontal collision test (48km/h) with article 91 	<ul style="list-style-type: none"> Revised tests: Harmonized 2 type crash tests with UN Regulations <ul style="list-style-type: none"> - Full width frontal collision test - Offset frontal collision test
	<ul style="list-style-type: none"> Side impact test with article 102 Rear moving barrier impact test (48km/h, 1,805kg) with article 91 Static rollover test with article 91 	<ul style="list-style-type: none"> Maintain current tests: Side impact test, rear moving barrier test, and static rollover test