Evolution of Regulation ECE R94
Frontal Impact

Proposed by France

GRSP Informal Group on Frontal Impact

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Brussels

Test Package combining a Full Width Test associated to an Offset Test

Full Width to provide:
• acceleration severity for assessing restraint system

Offset Test to provide:
• intrusion severity for assessing occupant compartment
• structural interaction severity for assessing front end structure

ECE R94 amendments: phasing

Development phase	**Phase 1** Till 2014		**Phase 2** Till 2018*	
Under agreement	1958		1958	
Assessment	Self Protection		Self Protection + Partner protection	
Scope	Compartment +	Restraint systems	Compartment Front end +	Restraint Systems
Test Configuration	Offset +	Full width	Offset +	Full width
Dummies	HIII	HIII	THOR	THOR

*depends on THOR availability

- ➢ Phase 1: priority to restraint system
- ➢ Phase 2: priority to body structure

ECE R94 Amendments: Details

	PHASE 1		PHASE 2	
	FW	OFFSET	FW	OFFSET
BARRIER	RIGID (fixed)	EEVC (fixed)	RIGID (fixed)	PDB (fixed / mobile)
(S)everity (km/h)	50	42 < (S) <52	50	(S) > = 50
Test Speed (km/h)	50	56	50	60 / tbd
Overlap (%)	100	40	100	50
Structural criteria	none	current	none	tbd
DUMMIES	HIII	HIII	THOR	THOR
SIZE	50 eme	50 eme	50 eme	50 eme
Restraint criteria	Current + DEQ	Current + DEQ	tbd	tbd
limits	tbd	tbd	tbd	tbd

ECE R94 Amendment: Phase 1

➤ **Full Width test configuration**

- rigid wall:
    - stable and accurate
    - worldwide accepted.

- 50% HIII dummy for driver and passenger front seats
    - average of population
    - regulatory accepted

- introduction of improved dummy performance criteria (DEQ) to promote restraint system for females and elderly.

➤ **Offset test configuration**

- introduction of improved dummy performance criteria (DEQ) to promote restraint system for females and elderly.

Full Width test configuration:

• 50% THOR dummy with new criteria
  ➤ promote restraint systems

Offset test configuration:

• Update test (deformable element, test speed, overlap, fixed/mobile, dummies, criteria, limits ...):
  ➤ improve partner protection
  ➤ promote self protection
  ➤ promote force mismatch