

Informal document No. GRRF-58-18  
(58th GRRF, 20-23 September 2005,  
agenda item 5.1.)



# **Global Technical Regulation for TYRES - status -**

## *ETRTO analysis – updating*



### **Current situation in Global market:**

- A detailed worldwide analysis leads to a proliferation of test methods, approximately :
  - 27 different test methods
  - 6 different legal side-wall markings
  - 2 factory code lists
- Various administrative prescriptions (complicated, costly, time-consuming)
- Small markets are adding to the list and are usually the most demanding
- New regulations 2004 – Colombia, India, Indonesia, Peru; 2005 – Ghana, Kenya, Nigeria.

# Proliferation of Tests & Legal Marking



	ECE	EU	USA	Australia	Gulf Country	China	Indonesia	
<b>Tests (Pass. Car tyres)</b>	<b>ECE (1958)</b>	<b>UE D.92/23</b>	<b>DOT 109 139</b>	<b>ADR</b>	<b>SASO</b>	<b>CCC</b>	<b>NIS</b>	<b>Total</b>
<b>High Speed test</b>	<b>X1</b>	<b>X1</b>	<b>X2</b>	<b>X3</b>	<b>X4</b>	<b>X5</b>	<b>X6</b>	<b>6</b>
<b>Endurance</b>			<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5</b>	<b>5</b>
<b>Breaking Energy</b>			<b>Z1</b>	<b>Z1</b>	<b>Z2</b>	<b>Z3</b>	<b>Z4</b>	<b>4</b>
<b>Low pressure Perf.</b>			<b>L1</b>					<b>1</b>
<b>Bead Unseating</b>			<b>U1</b>	<b>U2</b>	<b>U3</b>	<b>U4</b>	<b>U5</b>	<b>5</b>
<b>5 different « safety » tests</b>	<b>21 different test methods for a worldwide approval for the same tyre design</b>							
<b>Physical dimensions</b>	<b>M1</b>	<b>M1</b>	<b>M2</b>	<b>M3</b>	<b>M4</b>	<b>M5</b>	<b>M6</b>	
	<b>6 different methods to measure the same tyre design</b>							
<b>Specific sidewall legal marking</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>COST ?</b>



***ETRTO proposals  
in the framework of  
1958 and 1998  
agreements***

## *Proposal to build the Test Menu*



- Invite WP 29 C.P. to submit additional tests they consider not covered in the framework the 1958 agreement and that they want to include in the Test menu
- C.P. to select the most appropriate tests.
- Establish the GTR Test Menu for tyres approved by WP29.
- Define the procedure for the possible evolutions in the framework of WP29

(C.P. : Contracting Parties)



## *Proposal to build the Test Menu*

The test menu for GTR will include :

- all the type of tests already used in the main regulations
- for each type of performance, only one harmonized test to be selected
- the best regulatory practice to be defined as reference benchmark

With the objective of:

- avoid the actual proliferation of regulations

# *The Approved List of Components (Tests)*

*(GTR Tyres – working group meeting – Apr.28 '05)*



- |   |                        |
|---|------------------------|
| 1. Tyre Sidewall Markings                 | 1. Various Regulations |
| 2. Dimensions Test                        | 2. Various Regulations |
| 3. High Speed Test (speed rating related) | 3. Various Regulations |
| 4. Low Speed Test                         | 4. Various Regulations |
| 5. Endurance Test                         | 5. Various Regulations |
| 6. Low Pressure Endurance Test            | 6. USA FMVSS139 (*)    |
| 7. Plunger Energy Test (Braking Eng.)     | 7. Various Regulations |
| 8. Bead Unseating Test                    | 8. Various Regulations |
| 9. Tyre/Road Sound Emission Test          | 9. UNECE Reg.117       |
| 10. Tyre Wet Grip Adhesion Test           | 10. ISO standard       |

Various Regulations



Harmonised Test NOT Available

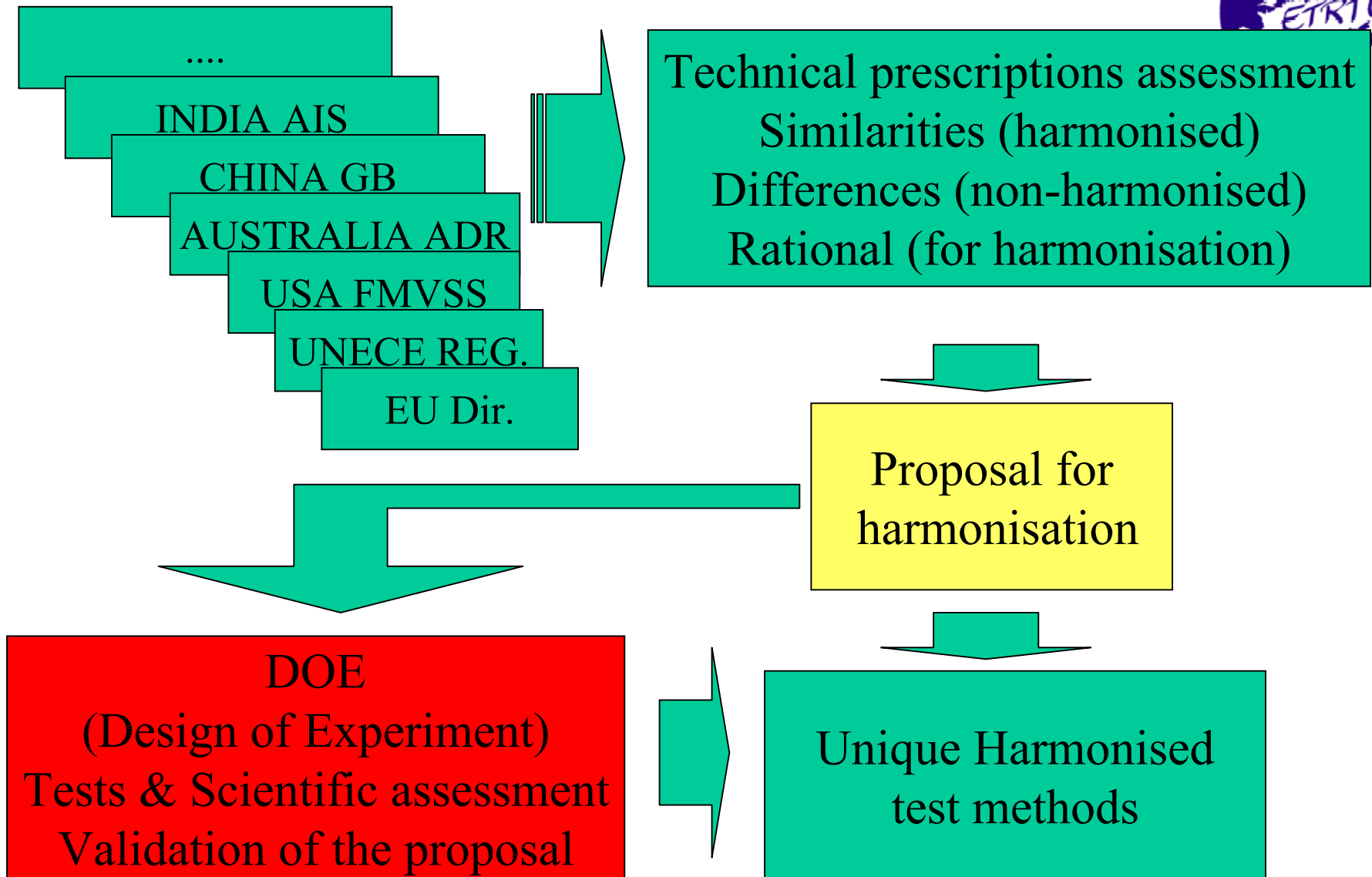
*(\*) pending review as per Tyre Industry petition for reconsideration*

The European Tyre and Rim Technical Organisation

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# TEST METHOD HARMONISATION PROCESS





# TEST METHODS HARMONISATION STATUS



REFERENCE TEST METHODS	HARMONISATION STATUS	ACTIONS
1. Tyre Sidewall Markings	1. Not harmonised	1. AD-HOC evaluation
2. Dimensions Test	2. Not harmonised	<b><u>2. Proposal</u></b>
3. Harmonised High Speed Test	3. Not harmonised and with significant differences	3. DOE to develop a new test method
a) High Speed Test (Reg.30-like)	a) Not harmonised	
b) Low Speed Test (139-like)(*)	b) Not harmonised	
4. a) Endurance, followed by	4. a) Not harmonised	4. a) On-going eval.
b) Low Pressure Test	b) USA FMVSS139 (*)	b) Consolidation
5. Plunger Energy Test (Braking Eng.)	5. Not harmonised	5. On-going eval.
6. Bead Unseating Test	6. Not harmonised	6. On-going eval.
7. Tyre/Road Sound Emission Test	7. UNECE Reg.117	7. ISO as reference
8. Tyre Wet Grip Adhesion Test	8. ISO standard	8. ISO as reference

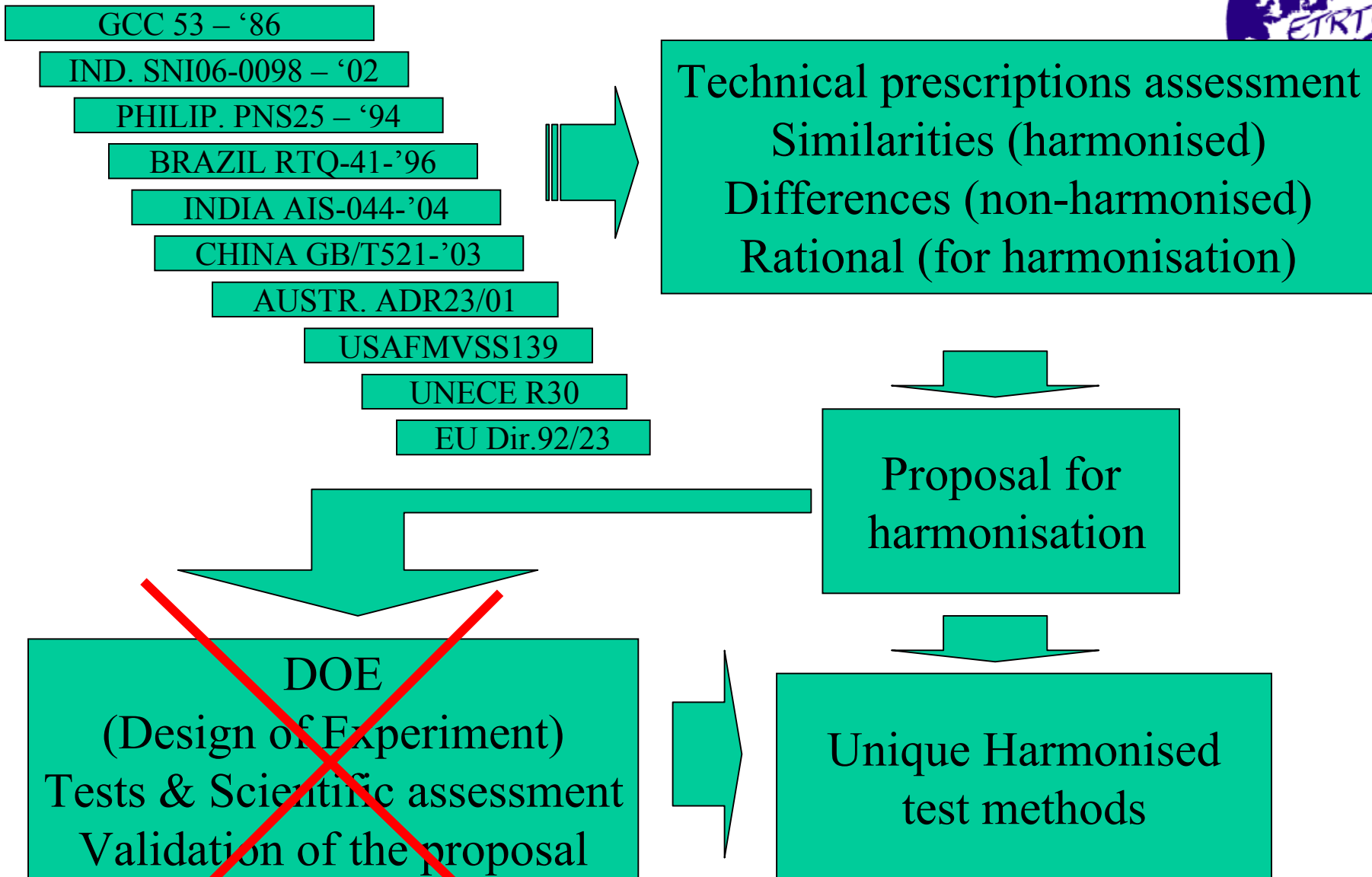
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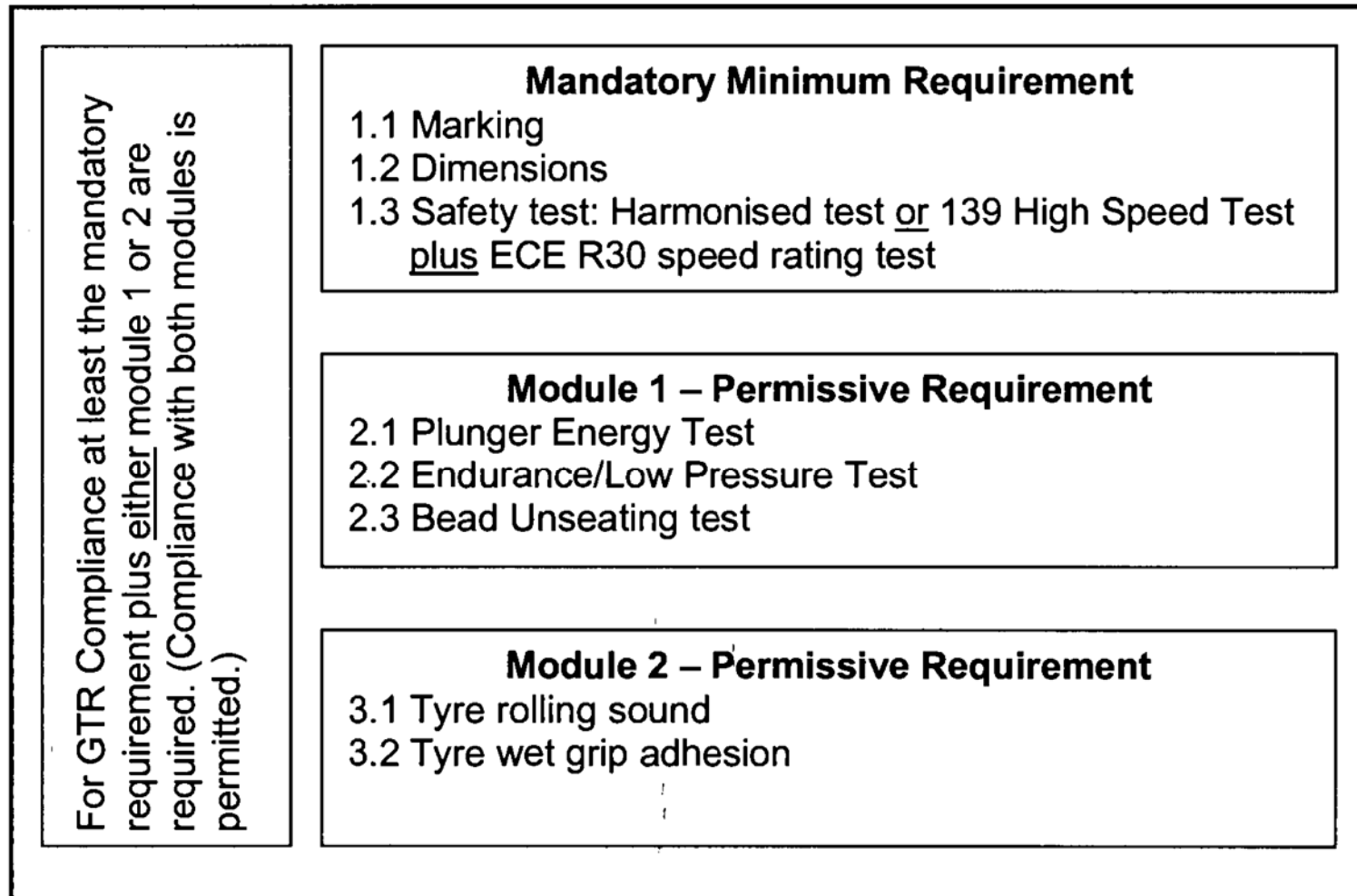
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# 2. DIMENSIONS TEST METHOD



# *The Modular Approach*

*(GTR Tyres – working group meeting – Apr.28 '05)*



# *The Modular Approach*

*(WP29 AC3 – proposal to Tyre Industry – Jun. '05)*



## **Mandatory Minimum Requirement**

- 1.1 Marking
- 1.2 Dimensions
- 1.3 Safety Test: Harmonised Test or  
139 High Speed Test plus  
ECE30 Speed Rating Test

## **Module 1 – Permissive Requirement**

- 2.1 Plunger Energy Test
- 2.2 Endurance/Low Pressure Test
- 2.3 Bead Unseating test

## **Module 2 – Permissive Requirement**

- 3.1 Tyre Rolling Sound
- 3.2 Tyre Wet Grip Adhesion

## **Mandatory Minimum Requirement**

- 1.1 Marking
- 1.2 Dimensions
- 1.3 Harmonised High Speed Safety Test
- 1.4 Endurance/Low Pressure Test
- 1.5 Tyre Wet Grip Adhesion

## **Module 1 – Permissive Requirement**

- 2.1 Plunger Energy Test
- 2.2 Bead Unseating test

## **Module 2 – Permissive Requirement**

- 3.1 Tyre Rolling Sound

*Tyre Ind. On-going Actions: evaluation of implications for next AC3*

# TEST METHODS HARMONISATION STATUS



REFERENCE TEST METHODS	HARMONISATION STATUS	ACTIONS
1. Tyre Sidewall Markings	1. Not harmonised	1. AD-HOC evaluation
2. Dimensions Test	2. Not harmonised	2. <b>Proposal</b>
3. Harmonised High Speed Test	3. Not harmonised and with significant differences	3. DOE to develop a new test method
a) High Speed Test (Reg.30-like)	a) Not harmonised	a) <u>On-going eval.</u>
b) Low Speed Test (139-like)(*)	b) Not harmonised	b) <u>On-going eval.</u>
4. a) Endurance, followed by	4. a) Not harmonised	4. a) <u>On-going eval.</u>
b) Low Pressure Test	b) USA FMVSS139 (*)	b) <i>Consolidation</i>
5. Plunger Energy Test (Braking Eng.)	5. Not harmonised	5. <u>On-going eval.</u>
6. Bead Unseating Test	6. Not harmonised	6. <u>On-going eval.</u>
7. Tyre/Road Sound Emission Test	7. UNECE Reg.117	7. ISO as reference
8. Tyre Wet Grip Adhesion Test	8. ISO standard	8. ISO as reference

*Tyre Ind. On-going Actions: evaluation of 3.a, 3.b, 4.a, 5, 6*

*(\*) pending review as per Tyre Industry petition for reconsideration*

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Thank you  
for your attention