

GTR on Tyres

Meeting in Brussels, Belgium

on April 27th and 28th, 2005

Draft Report

1. Welcome and Introductions

The Chairman, Mr. I. Yarnold, UK, welcomed everyone. There were 28 participants including representatives of Tyre Industry (TI) and its associations (i.e. ETRTO, JATMA, RMA, TRA), and Contracting Parties (CPs). The attendance list is attached to the report.

2. Approval of the agenda

The Chairman explained that the reason to have two separate parts to the agenda was to ensure that we are clear about what we are aiming (i.e. the scope) and how the Contracting Parties will implement the GTR. He reminded the participants that the last meeting discussion in December started with the presentation by the Industry of the concept of a GTR based on a menu of tests. Some CPs commented that this approach would not be considered as a global harmonisation and some CPs requested a different approach for the GTR than the one based on a unique set of tests called the "Gold Standard".

The TI informed the participants that it would like to present a document with a proposal for a GTR Compendium of tests.

The agenda was agreed as shown in **ANNEX 1**.

3. Approval of the report of last meeting

Canada pointed out a correction to the status of FMVSS 139 was needed on page 2. The report wrongly indicates that FMVSS 139 has not yet been finalized. In fact it is approved and it is going under the process of reconsideration. USA supported the correction identified by Canada.

ETRTO suggested that all future GTR meeting reports not reference individual's names regarding comments made. Everyone agreed, when appropriate, to reference the organization rather than the individual's name.

USA suggested that future meeting minutes and agendas remove the ETRTO letter heading. The Chairman indicated that, being the TI supporting the secretary and organization of the WG and meetings, it should not cause any problem having documents with those letter heading.

4. Update on progress since last meeting

The Chairman recapped discussions and outcome from last GTR meeting (kick-off meeting held December 15, 2004). The meeting was concluded on the understanding that developing a GTR that includes most requirements would be the best way forward. We all recognised that it would contain more provisions than each CPs would require but believed that the GTR could be offered as a parallel standard by CPs as an alternative rather than as a replacement for their national standards.

GTR on Tyres

Meeting in Brussels, Belgium

on April 27th and 28th, 2005

Draft Report

The Chairman indicated that some CPs will not be able to implement a parallel standard that is more rigorous than their national requirements. Thus, it was explained, that Part I of the Agenda was intended to provide the background discussion that would hopefully lead to a starting point for a new way forward and harmonization, where possible.

Part I

5. Agree way forward:

➤ Review of the proposed scope:

RMA presented a brief summary des 1, 2, 11, 12, and 13) of the industry proposed approach for tire testing, Labelling, and conformity Assessment (see **ANNEX 2**, slides 1, 2, 11, 12, and 13),

Highlights of the 1998 Geneva Agreement content and definition of GTR were also reviewed.

It was also conveyed that RMA has received from NHTSA indications that development of GTRs should be limited to product areas where completion of the GTR can reasonably be expected within 2 to 3 years. The Chairman indicated that the sponsoring country, France, expected the GTR to be completed within three years.

With this background and within this 2 to 3 year timeframe in mind, the TI indicated that the GTR focus should be narrowed to passenger car tires only, and limited to existing test methods. There was a discussion on the possible need to harmonize, or at least try and combine into one test the existing high-speed tests (R 30 and FMVSS 139).

The category 1.1 of vehicle, proposed as reference, has no more than 8 seating positions plus driver (or 9 total seats) with four or more wheels and no standing passengers.

UK presented, then, a document that summarizes his recommendation on how to approach the GTR performances (see **ANNEX 3**):

- Core requirements (high speed, endurance, dimensions and markings) that would be valid world wide,
- Add I (strength, low pressure, bead unseating) that contains mainly USA regulation's requirements and
- Add II (noise, wet grip and rolling resistance) that contain mainly the EU and UNECE regulation's requirements

GTR on Tyres
Meeting in Brussels, Belgium
on April 27th and 28th, 2005

Draft Report

CPs could require only the core requirements, or core + add I, or core + add II, or core + add I & II, which provides flexibility for the CPs. If you meet “core requirements”, you would get a global mark. Rationale behind the UK proposal: most of the CPs would have no problems to accept the core requirements. They would remain free to have Add I and/or Add II in addition to this core requirement.

USA representative indicated that if we vote on a GTR where it includes a Add II that has noise or rolling resistance then this is an environmental domain, and it would be hard for the USA to support a test or tests that USA does not plan to incorporate later on. Japan made a similar comment.

ETRTO pointed out that a major result of the GTR should be that if a particular performance requirement is needed, then the CPs, or any other country, refers to and use a “harmonized” test rather than developing a regionally customized performance test. This is the approach indicated in the TI presentation made at GRRF and WP29 level. Therefore the harmonization within the Tyre GTR should:

- first start with the evaluation for a specific performance requirement of the different test methods defined within the regulations (there are several small differences between the various test methods).(1st level harmonization)
- second with the evaluation of the possibility to harmonize specific requirements and related test method (2nd level harmonization); as already pointed out, this will required a larger time frame than the allocated 3year time frame for the GTR.

There was a general agreement (among the CPs) that Core + Add I would be the minimum requirement.

TI pointed out that the following performance requirements are to be considered for the harmonization of test methods within the GTR:

A) GTR Tests

1. Dimension
2. Bead Unseating
3. Strength
4. High Speed
5. Speed Rating
6. Endurance
7. Low Pressure
8. Noise
9. Wet Grip

GTR on Tyres
Meeting in Brussels, Belgium
on April 27th and 28th, 2005

Draft Report

B) GTR requirements

Core: tests: 1,4, 5 (separate, combined, or harmonized), plus marking;

Core + Add I: 1,4, 5 (separate, combined, or harmonized), 8, 9, plus marking;

Core + Add I and Add II: tests 1-9, plus marking

➤ **How tyre GTR would be implemented by CPs**

After some exchanges of comments, CPs gave their opinion on what the minimum requirement of a GTR for tyres should be.

The Chairman asked CPs if we should have core requirements only or different components.

Netherlands indicated that the member states within the EU would need to know how it would be treated. Would it be mandated? He personally has problems with adding noise as a EU requirement, but he knows that it is a national requirement (for his country).

France is concerned about minimum requirements. He thinks the best way is to include everything in the core requirements and then to exclude what some contracting parties dispute.

Canada indicated that it would like to accept some kind of core requirements, with Add 1 and Add 2 in a forum of optional requirements. If we include everything, it could pose an economic burden on consumers in emerging markets and in other places where all performance characteristics are not required.

The Chairman asked if the TI indicated that Core + Add 1 was no additional cost, what would the Canadian view be? Canada representative said that the government would still have an additional cost for compliance monitoring.

Japan agrees to a GTR with core requirements. If the GTR includes Add 1, it could be difficult to support. If Add 2 were included, it would make GTR even more difficult. Japan prefers to start with just the Core requirements within 2 years. Other requirements could be added later.

USA representative provided its view of the GTR that would be core requirements plus Add 1.

GTR on Tyres

Meeting in Brussels, Belgium

on April 27th and 28th, 2005

Draft Report

UK could accept Core plus Add 1. UK could live with core only and could live with core plus Add 1 (if Add 1 is a no cost option to consumers) but would still need the noise added (as community members). So we would still have to find a way to bring noise in, even if it means referencing Regulation 117.

We need to know how the local governments need to treat the GTR. Are they obligated to treat everything in there or can they indicate what performances from within the GTR they want/need.

The Chairman indicated that if noise is not in the GTR scope, then the contracting parties could do what they want for a noise requirement.

Netherlands indicated that perhaps GTR could split up requirements similar to the approach for Noise and Wet Grip in the UNECE Reg. 117.

Action Item:

There is a need to investigate 1998 Agreement and to understand whether the CPs can selectively choose what performances they need locally. This means also going back to GRRF and WP29 for an interpretation. The Chairman agreed to do this.

There are two separate areas where this will be explored:

1. Safety and durability
2. Noise and wet grip

If USA was interested in a noise regulation or put it into a GTR, the USA would conduct the NPRM in advance of agreeing for the test be incorporated into the GTR.

Suggestion was made to partition Add II separately as “environmental” requirements.

➤ **Pro's and Con's of GTR for industry/Contracting Parties**

A table of 4 different GTR optional structures with pro's and con's was developed as shown in **ANNEX 4**.

At this stage, the TI presented and explained extensively the different tests methods that would be supported with the necessary amendments as describe in **ANNEX 2** (all slides). Based on these prerequisites, the comparison table was again revised with comments indicating that the TI is giving support to some approaches only if the test methods are amended as indicated in the **ANNEX 2**.

GTR on Tyres
Meeting in Brussels, Belgium
on April 27th and 28th, 2005

Draft Report

Based on this evaluation, from ANNEX 4 the two modular approaches are considered the ones with the higher advantages

6. Agree on tests for which the methods can be harmonised

TI presented their understanding of the modular approach as per **ANNEX 5** (slide 1).

CPs questioned if there would be possibilities to merge the speed-rating test from module 1 and high-speed test from module 2. The TI answers that it is possible technically but will take too much time compared to the time frame of the GTR.

Another issue to be considered is that the tests included in module 2, if accepted, would translate into a greater burden and a higher cost for CPs and TI if those tests would have to be type approved, as opposed to self-certification (increase number of tests).

It was also underlined that the first step should be to get the approval of all CPs of the 1998 Agreement (like China for instance) on the content of module 1 & 2. Industry proposed also to have speed test together with the basic requirement for dimension and marking and to offer the option for speed rated tyres to be tested by the speed rating test and non-speed rated tyres by the high speed test method. In this case then module 1 could be removed.

TI recalled one more that harmonization of the test methods listed in the modules is already a major step forward. TI is ready to present a comparison of the existing methods world wide (not only 1998 Agreement's CPs), for each test in the list, to the CPs and to make a proposal for harmonization based on the existing differences.

7. Agree how to deal with remaining tests (if any)

Require clarification if the remainder of the tests can be included in the GTR scope or need to be outside the scope from countries' legal/regulatory standpoint.

Will seek clarification from NHTSA (legal view) and WP29 ... expected by end of June.

8. Marking Approach

The marking requirements for USA DOT regulations and UNECE Regulation 30 were identified in order to gain an understanding of the range of marking requirements that will need to be considered. Comparison is included in attachment in ANNEX 5, slide 4.

GTR on Tyres
Meeting in Brussels, Belgium
on April 27th and 28th, 2005

Draft Report

9. Dimensional Requirements

The dimensional requirements for USA DOT regulations and UNECE Regulation 30 were identified in order to gain an understanding of the range of dimensional requirements that will need to be considered. Comparison included in attachment in ANNEX 5, slide 5.

10. Action items

- a. TI needs to look at how to combine or address the two high-speed tests.
- b. TI needs to compare and complete the dimensional analysis and provide recommendations (where compromises are)
- c. Question to CPs on the possibility to accept the modular approach (The Chairman to take that question back to WP29).
- d. Need to know when GTR timing started, how long do we have and what is required when (what must be done by that time).
- e. Indicate to WP29 that some GTR objectives are complicated to be achieved and may need a longer time frame.
USA representative thinks NHTSA will need a justification on how to handle combined high-speed test from timing and assessment approach ... instead of just retaining both UNECE R30 and USA NHTSA Regulation 139 high-speed tests. Need a team to look at this and try to address this.

GTR on Tyres
Meeting in Brussels, Belgium
on April 27th and 28th, 2005

Draft Report

Part II

11. Structure of GTR

Structure to be determined after clarification is reached regarding the modular approach in the framework of 1998 Agreement.

12. Set out the timetable of the main Work Plan

RMA, TRA, ETRTO, and JATMA will identify and consolidate action items and assignments.

13. Sub-group(s)

- Chairmanship
- Convenors
- Terms of reference

14. AOB and date of next meeting

Next meeting will take place in London on July 12 at 9:30 am & July 13 at 9:00 am.

A fourth meeting will be held on October 11 & 12, 2005. Place to be determined.



European Tyre and Rim Technical Organisation

Draft Agenda for the GTR meeting in Brussels on April 27th and 28th, 2005

1. Welcome and Introductions
2. Approval of the agenda
3. Approval of the report of last meeting
4. Update on progress since last meeting

Part I

5. Agree way forward:
 - Review of the proposed scope
 - How tyre GTR would be implemented by Contracting Party's
 - Pro's and Con's of GTR for industry/Contracting Party's
6. Agree on tests for which the methods can be harmonised
7. Agree how to deal with remainder tests (if any)

(Part II - if agreement on Part I reached)

8. Structure of GTR
9. Set out the timetable of the main Work Plan
10. Sub-group(s)
 - Chairmanship
 - Convenors
 - Terms of reference
9. AOB and date of next meeting

Global Technical Regulation for Passenger Car Tires

Testing

Labeling

Conformity Assessment

GTR Tire Test Compendium

1. Inflated Dimensions of Tire
2. Tire Bead Unseating Resistance
3. Tire Strength
4. High Speed Performance
5. Speed Rating Category
6. Endurance
7. Low Inflation Pressure

Additional Harmonized Performance Tests

1. Noise

Inflated Dimensions of Tire

- Preparation of tire
 - Condition tire/wheel assembly
 - Readjust tire pressure as appropriate
- Determine overall width
 - Shall not exceed value set for size and construction type as set by industry standard publications
- Measure outer diameter
 - Shall not be outside limits which apply to difference between the overall diameter and the nominal rim diameter as listed in industry standard publications

Tire Bead Unseating Resistance

US, DOT, FMVSS 109, S5.2

as modified by ASTM

- Revisions on the “A” dimension (75% rule), and
- New block for large bead diameter tires (19 to 24 code)

Tire Strength

US DOT, FMVSS 109, S5.3

- As modified by
 - Gulf Standard GS 53/1986 (DOT test does not work for low aspect ratio tires)
 - Australian regulation ADR 23-01
- Include following phrase in GTR tire strength test: “If the plunger bottoms out without any break occurring, the tyre shall be considered to have passed the test.”

High Speed Performance

US, DOT, FMVSS 139, S6.2 High Speed Performance test

- Ambient Temperature (°C) 38 minimum
- Inflation Pressure (kPa) SL=220, XL=260
- Load (% Max.) 85
- Sequence
 - Steps (minutes) 30
 - Speed (KPH) 140, 150, 160
- Pressure Drop After Test
 - (no greater than 5% drop from original pressure)

Speed Rating Category

Procedure for load/speed performance testing per Annex 7 of ECE Regulation 30

- Ambient Temperature ($^{\circ}\text{C}$) = 25 ± 5 or higher
- Inflation Pressure (kPa) varies from 230 to 360 depending on speed category, construction type (bias/radial), ply rating, and standard vs. reinforced
- Load (% Max.) = 80
- Sequence

(Example for tires of speed symbol “L” through “W”)

– Steps and Speed:

- start-up to initial test speed (ITS) = 10 min;
- 10 min at ITS;
- ITS plus 10 KPH for 10 min;
- ITS plus 20 KPH for 10 min; and
- finally ITS plus 30 KPH for 20 min.

Endurance Test

US, DOT FMVSS 139, S6.3 Tire

- Ambient Temperature (°C) 38 min.
- Inflation Pressure (kPa) 75% of max.
- Load (% Max.) 85/90/100
- Time Schedule (Hours) 4/6/24
- Speed (KPH) 120

(to be modified for mountain-snowflake snow tire)

Low Inflation Pressure Performance

US, DOT, FMVSS 139, S6.4

- Ambient Temperature (°C) 38 min.
- Inflation Pressure (kPa) 140 (SL), 160 (XL)
- Load (% max.) 100
- Time Schedule (minutes) 90
- Speed (KPH) 120

*(Test must be conducted immediately following endurance test
using same tire also as modified for mountain-snow flake
tire)*

Optionnal Additional Harmonized Performance Test*

- Noise [Directive 2001 / 43 or Equivalent ECE Regulation 117]
- and additionnal performance and other non-core durability tests when/if harmonized

* These tests are not necessarily requested by all Contracting Parties

GTR Tire Dimensions and Durability Labeling

(In addition to customary sidewall markings such as TIN, manufacturer name, tire size, etc.)

- A “Global Mark” if tire passes minimum requirements for all seven tire durability tests in GTR Compendium
 1. Inflated Dimensions
 2. Tire Bead Unseating Resistance
 3. Tire Strength
 4. High Speed Performance
 5. Speed Rating Category
 6. Endurance
 7. Low Inflation Pressure

GTR Tire

Additional Performance Labeling

(In addition to customary sidewall markings such as TIN,
manufacturer name, tire size, etc.)

Additional suffix to the global mark for each
test qualification completed

GTR Tire Conformity Assessment

Declaration of Conformity Via:

1. Global mark, signifying certification to full compendium of tire dimension and durability tests (either self certification, third-party type approval, or combination of both)
2. Additional suffix to the global mark signifying conformance to additional harmonized performance tests

TYRE GTR

Core Requirements

- High Speed
- Endurance
- Dimensions
- Markings.

Add I

- Strength
- Low Pressure
- Bead Unseating

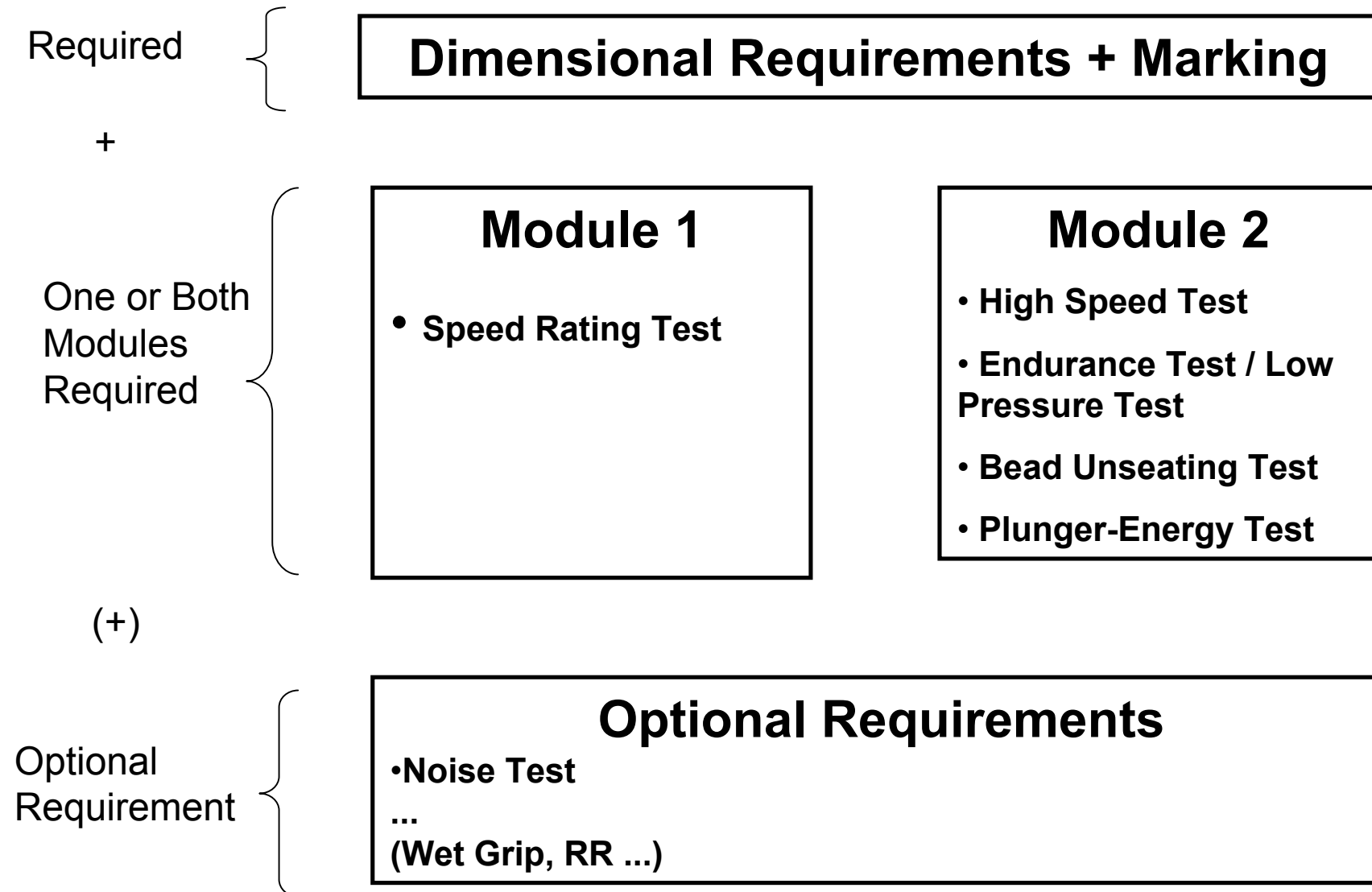
Add II

- Noise
- Wet grip
- Rolling Resistance

Option No	Outline	Advantages	Disadvantages	Comments
1.	<u>Gold Standard. GTR</u> Would establish a thorough set of technical requirements bringing together the best of R30 and FMVSS139. Fully harmonised.	1. Fully harmonized global standard 2. Access to all markets 3. Industry satisfied - Eliminates proliferations of markings/test	1. Over-engineered products for many markets 2. Cannot be implemented by all contracting parties 3. Longer approval process 4. Higher compliance costs for CPs 5. Unlikely to be able to justify cost increases	Low probability of success. D-2 needs to be verified. Industry does not support without modifications per slides presented at Brussels meeting
2	<u>Minimum Requirement GTR</u> Includes the minimum requirements that can be harmonised.	1. Acceptable to all contracting parties 2. Fastest/simplest solution for GTR 3. Helps reduce proliferation of standards – could be useful in emerging markets. 4. Less costly for industry (reduces tests, marking, and audits) 5. Requires less marking on tyres than currently required.	1. Requires contracting parties to add national/regional requirements 2. Limited harmonization 3. Doesn't help industry in traditional markets.	Not true global standard
3	<u>Modular Approach 1</u> Includes durability and marking as main requirement but noise and wet grip as sub-option.	1. Covers all current tire durability tests 2. Can complete quickly 3. Simplification of markings 4. Full support by industry 5. Eliminate proliferation of tests/markings (GTR World Mark is to be accepted as an alternate to national mark, not as a replacement)	1. Uncertain application by Contracting Parties for noise (and wet grip)	A-4. Remove word "full". Industry supports modular approach, with modifications per slides presented at Brussels meeting.

4	<p><u>Modular Approach 2</u></p> <p>Includes option 2 as minimum but provides extra durability tests and noise/wet grip in two separate sub-options.</p>	<ol style="list-style-type: none"> 1. Covers all current tire durability tests 2. Simplification of markings 3. Full support by industry 4. Eliminate proliferation of tests/markings (GTR World Mark is to be accepted as an alternate to national mark, not as a replacement) 5. Possibly greater flexibility for Contracting Parties in implementation 	<ol style="list-style-type: none"> 1. Uncertain application by Contracting Parties 	<p>See industry modular approach per Brussels meeting, to be given. A-3. Remove word “full”. Industry supports modular approach, with modifications per slides presented at Brussels meeting.</p>
---	--	--	---	---

Alternate Modular Approach



Marking for DOT

1. DOT symbol (both sides)
2. Tire size designation (both sides)
3. Max. inflation pressure
4. Max. load rating
5. Construction info and No. of plies (one side)
6. Tubeless or Tube Type
7. Radial (as appropriate)
8. TIN (full on intended outboard partial on other)
9. Manufacturer name
10. Tread wear indicator position

Marking Reg. 30

1. E Mark
2. Tire size designation
3. Service description (SS/LI)
4. Tubeless
5. Date code
6. Trade name
7. M+S if applicable
8. Reinforced or extra load if applicable
9. Run-flat symbol if applicable
10. Tire-to-rim fitment if applicable
11. Tread wear indicator position

DOT / ECE R 30 Markings

DOT

1. Tire size designation (both)
2. Max. inflation pressure
3. Max. load rating
4. DOT symbol, both sides
5. Construction info and No. of plies (one side)
6. Tubeless or Tube Type
7. Radial (as appropriate)
8. TIN (full on intended outboard partial on other)
9. Manufacturer/brand name

ECE R 30

1. Tire size designation
2. Service description (SS/LI)
3. Tubeless
4. Date code
5. Trade name
6. E Mark
7. M+S if applicable
8. Reinforced or extra load if applicable
9. Run-flat symbol if applicable
10. Tire-to-rim fitment if applicable
11. Tread wear indicator position

DOT / ECE R 30 Dimensions

[Industry to analyze and complete]

DOT

1. Section width and overall width
2. Outside diameter
3. Height of tread wear indicators
4. Description for measuring parameters (pressure and rim width). Standard load = 180 kPa, extra load = 220 kPa.

ECE R 30

1. Description for measuring parameters (pressure and rim width). Standard load = ?? kPa, extra load = ?? kPa.



European Tyre and Rim Organisation

GTR MEETING
Brussels, 27 & 28 April 2005

ATTENDANCE LIST

Name	Company	Signature	Telephone Fax E-mail
NOIRHONNE Jean-Cloude	ETRTO		+32-2-344.40.59 info@etrto.org
SPINETTO Marco	ETRTO PIRELLI		+39.02.6442.7405 marco.spinetto@pirelli.com
BRIES Nicolas	GOODYEAR		00352 8193 3882 00352 8193 3859 nicolas.bries@goodyear.com
CANDIDO DENNIS	RMA BRIDGESTONE AMERICAS		1-330-379-6356 1-330-379-6563 (fax) CandidoDennis@bfusa.com
Fujimura Koichi	JATMA		81 3 3435 9094 tel 813 3435 9097 fax fujimura@jatma.or.jp
TAIZO NAKAGAWA	JATMA (MICHELIN)		81 3 5210 2732 Taizo.nakagawa@jp michelin.com
MOTOMA SHINOHARA	JATMA		81-3-3435-9091 shinohara@jatma.or.jp



European Tyre and Rim Organisation

GTR MEETING
Brussels, 27 & 28 April 2005

ATTENDANCE LIST

Name	Company	Signature	Telephone Fax E-mail
DONALD D. AMOS	CONTINENTAL TIRE-NA	<i>Donald D. Amos</i>	001-704-583-8852 001-704-583-3975 don.amos@conti-na.com
Johannes J. Baumhöfer	Continental AG	<i>J. Baumhöfer</i>	0049 511 976 3569 " 31956 johannes-josef. baumhoefer@conti.de
H. NONAKA	BRIDGESTONE (JASIC)	<i>H. Nonaka</i>	+81-42-342-6331 +81-42-342-6293 nonaka-h@bridgestone.co.jp
Shigeo YAMAGISHI	JASIC (JAPAN)	<i>山岸重雄</i>	+41-22-731-3111 +41-22-731-3512 yamagishi@jasic.org
ERANA WONDIMNEH	USDOT/ NHTSA	<i>E. Wondimneh</i>	1-202-366-2117 ERANA.WONDIMNEH@ NHTSA.DOT.GOV
Ian YARNOLD	UK-DEPT OF TRANSPORT	<i>I. Yarnold</i>	44 (0) 20 79 44 20 86 44 — " — 20 69 ian.yarnold@dft.gsi.gov.uk
LAWRENCE THATCHER	— " —	<i>L. Thatcher</i>	+44 (0) 20 79 44 20 72 " — " — 21 96 lawrence.thatcher@dft.gsi.gov.uk



European Tyre and Rim Organisation

GTR MEETING
Brussels, 27 & 28 April 2005

ATTENDANCE LIST

Name	Company	Signature	Telephone Fax E-mail
June SATTERFIELD	Michelin North America		864-422-4704 864-422-3561 june.satterfield@us.michelin.com
JOSEPH PACUIT	TIRE & RIM ASSOCIATION (USA)		330-666-8121 330-666-8340 JP@US-Tra.org
WINSON NG	TRANSPORT CANADA		(T) 1-613-998-1949 (F) 1-613-990-2913 NGWKK@TC.GC.CA
Eddy de Haes	R.D.W. Netherlands		0031-74-3458392 0031-74-3458041 eddehaes@rdw.nl
Luc LESAGE	UTAC / FRANCE		+33 1 69 80 17 38 +33 1 69 80 17 03 luc.lesage@utac.com
DALE FREYGANG	GOODYEAR USA		330-796-7023 dfreygang@goodgear.com
MALCOLM JONES	Cooper Avon U.K.		+44 1225 357667 +44 1225 791301 mjones@cooper-tire.com



European Tyre and Rim Organisation

GTR MEETING
Brussels, 27 & 28 April 2005

ATTENDANCE LIST

Name	Company	Signature	Telephone Fax E-mail
LYLE CAMPBELL	COOPER TIRE	<i>Lyle A Campbell</i>	01-419-424-4312 01-419-424-4305 lccampbell@coopertire.com
JAMES PIPER	COOPER TIRE	<i>James F Piper</i>	01-419-424-4338 01-419-424-4305 jfpiper@coopertire.com
KEITH HODGES	MICHELIN FRANCE	<i>K. Hodges</i>	+33 473 10 7457 +33 608 464611 Keith.hodges@fr.michelin.com
LUCIANO BERGOMI	Bridgestone Europe	<i>L. Bergomi</i>	+39 335 6101730 luciano.bergomi@bridgestone-eu.com
ITALO FUNARO	Bridgestone Europe	<i>Italo Funaro</i>	+38065056312 +38065056307 italo.funaro@bridgestone-eu.com
MAURIZIO PARCA	BRIDGESTONE T.C.E.	<i>Maurizio Parca</i>	+39 06 5056264 +39 06 5056470 (FAX) +39 335 8471721 maurizio.parca@bridgestone-eu.com
Steve Butcher	R.M.A.	<i>Steve Butcher</i>	1-202-682-4841