LONG WAY TO THE RR NORMS
GRRF (2003-2013) GRB

GRB, 57-th session
5-8 February, 2013
RF Experts
GRRF consideration
Reg. 30&54 Amendments
ETRTO RR determination methods
ISO 18164
ISO 28580
Reg. 117, Annex 6
RR Norms adoption
EC Dir 2001/43
GRRF, 2005

2005: 2.0 million tons of fuel is burnt every day to counteract tyre RR
2012: 11.0

GRRF, 2005
RF experts
GRB-57, Feb. 2013
The heat effect of rolling tyres and industry

Heat dissipation into environment

<table>
<thead>
<tr>
<th>Tyre type</th>
<th>World fleet [billion]</th>
<th>R. R. power at 36 km/h [billion kW]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cars $c_r=0.009$</td>
<td>2.5</td>
<td>0.68</td>
</tr>
<tr>
<td>Light trucks and buses $c_r=0.007$</td>
<td>0.9</td>
<td>0.32</td>
</tr>
<tr>
<td>Commercial vehicles $c_r=0.005$</td>
<td>0.5</td>
<td>0.63</td>
</tr>
</tbody>
</table>

GRRF, 2005

RF experts

GRB-57, Feb. 2013

1.69 billion kW 2005

2.50 billion kW 2012

2.27 billion kW 2012
Power of automobile fleet action on environment (billion kWt).

The main uniqueness of the situation in this field is unbalanced requirements to the automotive parts of power.

GRRF, 2005
RF experts
GRB-57,Feb.2013
Checking of energy dissipation level:

World annual motor gasoline consumption (2012):

\[ Q = 1932 \text{ million tones/year} \]

Low calorific value: \( H = 44000 \text{ kJ/kg} \)

Then average power generated by gasoline automotive fleet:

\[
N = \frac{1932 \cdot 10^9 \text{kg} \cdot 44 \cdot 10^6 \text{J/kg}}{365 \cdot 24 \cdot 3600 \text{s}} = 2.69 \cdot 10^9 \text{kW}
\]

Average power generated by diesel automotive fleet:

\[
N = \frac{1003 \cdot 10^9 \text{kg} \cdot 44.8 \cdot 10^6 \text{J/kg}}{365 \cdot 24 \cdot 3600 \text{s}} = 1.43 \cdot 10^9 \text{kW}
\]

RR heat dissipation (55% of \( sN = 4.12 \cdot 10^9 \text{ kW} \)):

\[ N_{RR} = 2.27 \cdot 10^9 \text{ kW} \]
So an automotive tyre fleet is considerable socio-environmental world factor and GRB is one of the international operator in this field. In connection with very conservative features of RR norms adoption RF experts insert in 2006 and 2009 proposals to consider exchange of standardization way on consumer information strategy.
The end-user information process is de jure independent from standardization although both are naturally connected.

The UNITED NATIONS GUIDELINES FOR CONSUMER PROTECTION (09/29/2001,UNCTAD/DITC/CLP/Misc.21) declare that one the legitimate needs which the guidelines are intended to meet is "access of consumers to adequate information to enable them to make informed choices according to individual wishes and needs".

Although the Information Strategy for tyre industry is rather soft it is more effective then regulation because it gives a competitive stimulus to improve tyre quality. The end-user information strategy presented in the proposed Amendment may be put in action as soon as ISO 28580 is adopted, i.e. this year. It will be used during the period before EC RR norms adoption and then in parallel with them.
Tyre rolling resistance: points – market of year 2005 yellow lines norms of Regulations No.117, years 2012-2020

Data based on rolling resistance measurements of Original Equipment and replacement tires from Europe, North America and Asia

Statistic data from Dominique Aimon, Michelin - IEA, 2005
CONSUMER INFORMATION ABOUT TYRE ROLLING RESISTANCE.
(from EC Regulation 1222/2009).

<table>
<thead>
<tr>
<th>Class</th>
<th>PC tyres</th>
<th>LT tyres</th>
<th>TB tyres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>over – up to</td>
<td>over – up to</td>
<td>over – up to</td>
</tr>
<tr>
<td>A</td>
<td>6.5</td>
<td>5.5</td>
<td>4.0</td>
</tr>
<tr>
<td>B</td>
<td>6.5 – 7.7</td>
<td>5.6 – 6.7</td>
<td>4.0 – 5.0</td>
</tr>
<tr>
<td>C</td>
<td>7.7 – 9.0</td>
<td>6.7 – 8.0</td>
<td>5.0 – 6.0</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td>6.0 – 7.0</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>9.0 – 10.5</td>
<td>8.0 – 9.2</td>
<td>7.0 – 8.0</td>
</tr>
<tr>
<td>F</td>
<td>10.5 – 12.0</td>
<td>9.2 – 10.5</td>
<td>8.0</td>
</tr>
<tr>
<td>G</td>
<td>12.0</td>
<td>10.5</td>
<td></td>
</tr>
</tbody>
</table>

GRB-57, RF experts– Feb.2013
Tyre rolling resistance: points – market of year 2005 yellow lines UN norms (Regulations No.117, years 2012-2020)

EC grades for tyre RR from A (best) to G (bad).
So PC tyre RR norm 2012 is lower than middle level of the tyre market 2005 and equal to the worst grade from EC Regulation. The norms equal to the middle market level 2005 are directed on year 2016 and latest.

What is participants opinion about necessity to consider this situation in GRB-58 (September)?
Thank you for your attention!