

Submitted by ETRTO  
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Informal document **GRRF-75-02**  
(75<sup>th</sup> GRRF, 17-19 September 2013,  
agenda item 7(b))



# **Wet Grip for C3 tyres**

## **Minimum Type Approval Level**

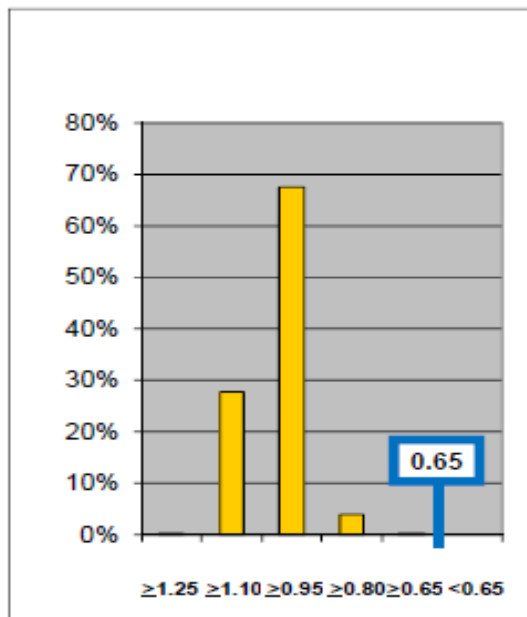


# Proposal (ref. GRRF-73-18e)

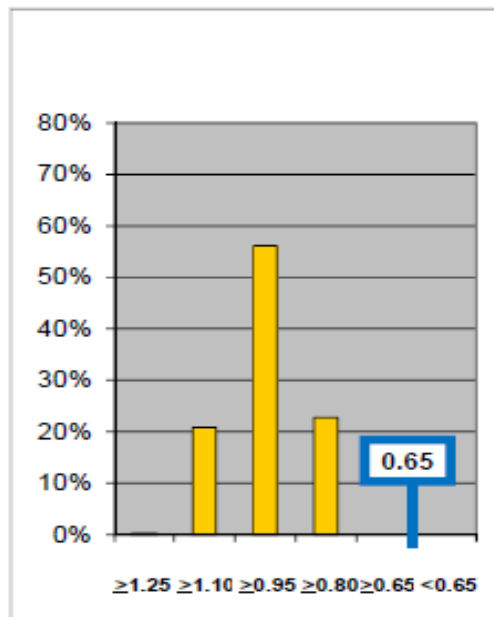
## Minimum Type Approval Value (Safety Net)

### 3. Comparison to the State of the Art: C3 tyres

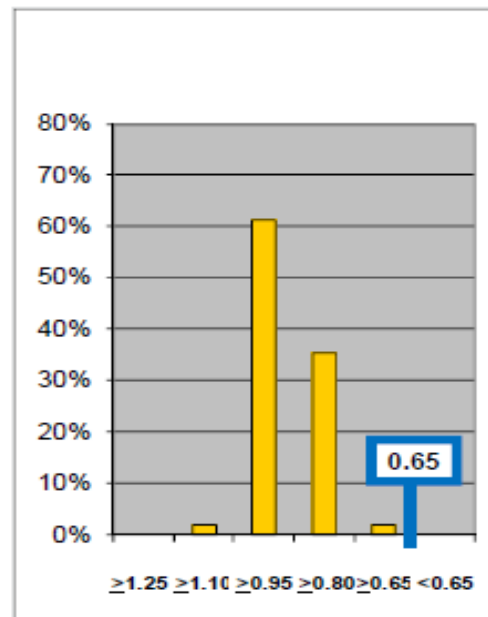
NORMAL TYRES



TRACTION TYRES



SNOW TYRES





# Justification

Due to new efforts of CO<sub>2</sub> reduction linked to heavy goods vehicles and buses, for instance within the European Union (EU), it may be expected that **tyre manufacturers will begin improving the rolling resistance of C2 and C3 tyres as we have seen for C1 tyres**. It is also commonly known that **a reduction of the rolling resistance may also lead to a reduction of the tyre's wet grip properties**.

As can also be read in the recitals (17) and (19) of the General Safety Regulation (EC) 661/2009 in force in the EU, and referring directly to Regulation No. 117, it is deemed appropriate to set out requirements concerning wet grip requirements **ensuring that tyre safety levels are maintained (safety net)**.



# Justification (con't)

Back in 2004, the **same rational was followed**, proposed and approved by the Contracting Parties of GRRF **for C1 tyres**.

It is recognized that C2 and C3 tyres available on the market today are indeed sufficiently safe in terms of wet grip and **the current minimum performance levels should be taken as a baseline for the minimum type-approval values**.

For C3 tyres, **harmonization on world-wide level** is desirable, recognizing the alignment already in place between Brazil for C1, C2 and C3 tyres and Korea for C1 and C2 tyres.



# GRRF outcome

GRRF agreed on the proposal from F, EC and ETRTO as amended in Annex VII to the report of the last February meeting and requested ETRTO to **provide technical data supporting the choice of the proposed limit values** for C3 tyres before the next GRRF session in September 2013.



# Action

For that purpose, ETRTO initiated the following:

1. To **collect market data from public databases** reporting the value of the wet grip index indicated on the tyre label of most of the tyre sizes sold in Europe.
2. To **update the State of Art 2010** as presented in the document GRB-73-18.



# Market Data (Lizeo)

## Wet Grip value per Brand

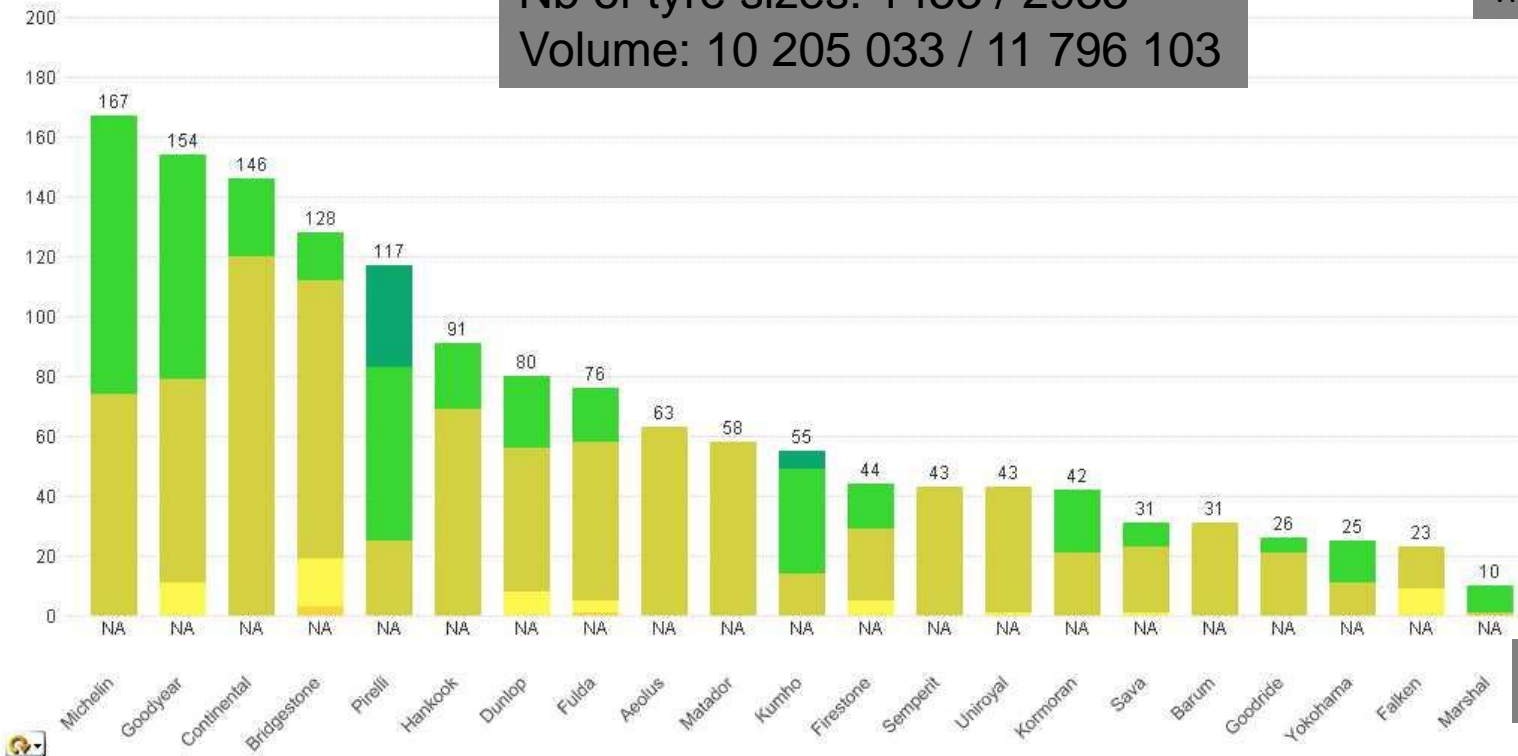
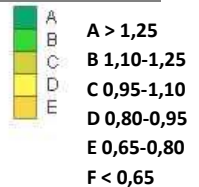
Nb of sizes

### Global market

Nb of tyre sizes: 1453 / 2933

Volume: 10 205 033 / 11 796 103

Wet Grip Index



Technology Brand



# Other data

Other public databases have been analyzed:

1. TOLEnergy with 1808 different tyre sizes
2. EDIWHEEL with 1681 different tyre sizes

The ETRTO / JATMA State of Art of 2010 has been updated.



# Comparison between market data LIZEO, EDIWHEEL and TOLEnergy and ETRTO/JATMA SoAs



	TOLEnergy		LIZEO		EDIWHEEL		ETRTO/JATMA State of Art	
							Year 2010	Year 2013
Wet Grip Index	%	Nb of sizes	%	Nb of sizes	%	Nb of sizes	%	%
> 1,25	3.3%	60	2.8%	40	2.9%	48	0.3%	2.8%
1,10-1,25	32.0%	576	30.0%	440	32.0%	539	21.3%	37.0%
0,95-1,10	59.0%	1066	64.0%	935	59.0%	995	63.2%	53.0%
0,80-0,95	5.5%	99	3.9%	57	5.4%	90	14.9%	6.7%
0,65-0,80	0.4%	7	0.3%	4	0.5%	9	0.4%	0.4%
< 0,65	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0%
Number of sizes in the database	1808		1453		1681			



# Analysis

- Both sources, ETRTO / JATMA State of Arts (SoA) and Public databases are comparable.
- The population of tyres having a WGI in the range 0,65 to 0,80 is between 0.3 and 0.5 %
- There are no tyres with WGI below 0,65.
- A deeper analysis of tyres with WGI in the range between 0,65 to 0,80 indicates that some of those tyres have been developed for specific performances like, for instance, grip in ice condition and not necessarily for rolling resistance, wet grip or rolling noise.



# Conclusions

- The above **technical data are supporting the choice of the proposed minimum type approval value of 0,65** for Normal, Traction and Snow tyres of class C3. This represent an adequate safeguard to maintain the current performance on wet grip.
- Raising the limit would **remove** from the market safe tyres that have been developed for **specific performances** (like special use, ice ...) and would need to redevelop a significant number of tyres which, consequently, **increase** the tyre manufacturer **cost** without proven benefits on safety.
- In setting minimum values, a “**margin of error**” due to the challenges posed by the Wet Grip test method variability has to be considered.
- It has to be noted that **Brazil and Korea** adopted already minimum performance level as proposed by the tyre industry, while still ensuring a **sufficient level of safety**, as no issues in the field are observed.



Thank you!