Transmitted by the experts of IWG
for Wet Grip On Worn Tyres

Informal document **GRBP-79-46**
(79th GRBP, February 6-9, 2024,
agenda item 7 (d))

IWG for Wet Grip on Worn Tyres (WGWT)

Status report to 79th GRBP (February 2024)

IWG for Wet Grip on Worn Tyres

Targets	• For tyres of Class C1
	  • Evaluate the method for preparing a tyre to be tested in worn state at its type-approval;
	  • Define the test conditions;
	  • Describe the test methods;
	  • Define the type-approval thresholds of tyre wet grip performance in worn state.
	  • Introduce “moulded SRTTworn”
	  • Define the water depth measurement methods;
	  • Improve the precision of test procedure
	• Address the suitable requirements for tyres of classes C2 and C3

Roles	• Co-chairs: France and European Commission • Secretariat: ETRTO (European Tyre and Rim Technical Organisation)
Web page	IWG Wet Grip of Worn Tyres (WGWT) - Transport - Vehicle Regulations - UNECE Wiki

IWG WGWT: facts and figures

- Meetings
  - 53rd WGWT: 5th December 2023 (webconference)
  - 54th WGWT: 26th January 2024 (webconference)
  - 55th WGWT: 6th February 2024 (hybrid)

- Attendees ~40
  - CPs:
    China, European Commission, France, Germany, Japan, the Netherlands, Spain
  - NGOs:
    ETRTO, ITMA, JATMA, OICA, ITTAC, USTMA

IWG WGWT: work progress

Reminder

- For tyres of Class C1
  - Evaluate the method for preparing a tyre to be tested in worn state at its type-approval; ☑
  - Define the test conditions; ☑ R117.03
  - Describe the test methods; ☑ (GRBP75)
  - Define the type-approval thresholds of tyre wet grip performance in worn state. ☑ (WP29-187)
  - Introduce “moulded SRTTworn” ☑ (WP29-189)
  - Define the water depth measurement methods; ☑ 2023 test campaign
  - Improve the precision of test procedure ☐ 2024-25 test campaign
- Address the suitable requirements for tyres of classes C2 and C3 ☑ R117.04

Background

- Test precision today for WGWT needs to be improved to be comparable with wet grip of tyres in new state in UNR117

IWG WGWT: work progress

Test precision improvement

2023 test campaign

- Focus on water depth measurement
  - Main parameter on wet grip measurement accuracy
  - Parameters to consider:
    - Different test tracks (MTD)
    - Different watering system (external/self-watering)
    - Different methods (vehicle/trailer)
    - Covering all the temperature range
- 14 test centers in total: 9 with trailer, 5 with vehicle
- The wet performance of SRTT16worn is sensitive to water depth & watering system
- Higher spread for SRTT16worn on trailer (TBC because different sample sizes)
- Higher spread for the SRTT16worn using the external-watering for trailer
- Gap in wet performance between external- & self-watering systems for trailer

→ Additional test campaign needed on candidate tyres (for instance to reduce range of frictional range, …)

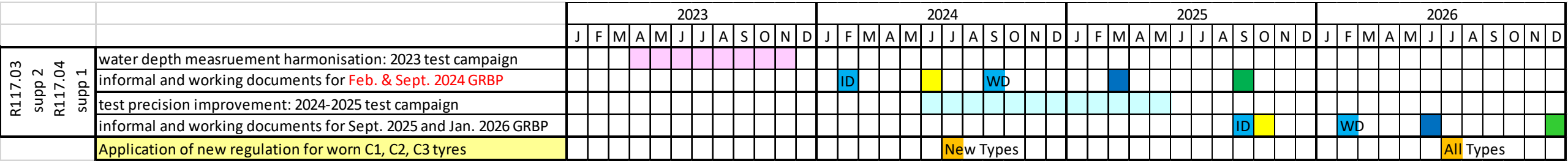
→ Working document for GRBP Sept 2024

IWG WGWT: work progress

Test precision improvement	Improvement of the test precision: additional test campaign in 2024-2025 foreseen • Confirm water height improvement on candidate tyres by reducing the allowed range of μ_{peak} and $BFC_{ave,corr}$ for SRTT16worn • Work on test method robustness (precision, repeatability, reproducibility, …)

Continuous improvement	• C1 tyres:
	  • Effect of the regulation on tyres' usage and data collection
	• C2 tyres:
	  • Assessment of hydroplaning effect

IWG WGWT timeline



document submission timeline
document adoption timeline GRBP
document adoption timeline WP29
entry into force
additional test campaign (test precision: water depth)
additional test campaign (test precision improvement depending on water depth test campaign conclusion)

Thank you for your attention!