

JASIC opinion on 2024-2025 test campaign

53rd IWG WGWT
5th December, 2023



JAPAN AUTOMOBILE STANDARDS INTERNATIONALIZATION CENTER

WT-30-06

JASIC considered that in order to improve the precision of the Wet Grip test for Worn tyres, it was necessary to validate the WWGI calculation formula, the day-to-day variation, and the relation between water depth/MTD.

Therefore, the first proposal of JASIC, proposed 30th session, was to re-conduct the screening test for the 2021 test campaign (excluding M+S tyres) and to conduct tests to assess the water depth/MTD relationship.

However, the IWG was not able to reach agreement as the workload was too heavy.

4. Test Plan



1) Assess day to day variation of Molded SRTTworn and equations of calculations

- Candidate tyres: All Normal and 3PMSF tyres provided to test centers in the first test campaign



- Participants : All Test centers

- Test sequence :

Basic sequence

Molded SRTTw – Buffed SRTTw – Candidate 1 – Candidate 2 – Molded SRTTw – SRTTn – Candidate 3 – Candidate 4 – Molded SRTTw



To assess day to day variation, the Normal tyre and the 3PMSF tyre with the lowest μ_{peak} value among each category in the first test campaign are tested for 4 consecutive days.

Day 1 Molded SRTTw – Candidate Normal (lowest μ_{peak}) – Candidate 3PMSF (lowest μ_{peak}) – Molded SRTTw
 Day 2 Molded SRTTw – Candidate Normal (lowest μ_{peak}) – Candidate 3PMSF (lowest μ_{peak}) – Molded SRTTw
 Day 3 Molded SRTTw – Candidate Normal (lowest μ_{peak}) – Candidate 3PMSF (lowest μ_{peak}) – Molded SRTTw
 Day 4 Molded SRTTw – Candidate Normal (lowest μ_{peak}) – Candidate 3PMSF (lowest μ_{peak}) – Molded SRTTw

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4. Test Plan



2) Water depth / road surface roughness

- Participants : Test center which performed water depth evaluation of analytical plan

- Test sequence :

Day1 Water depth 0.5mm

Molded SRTTw – Buffed SRTTw – Candidate A – Candidate B – Molded SRTTw – SRTTn-Candidate C – Molded SRTTw

Day2 Water depth 1.0mm

Molded SRTTw – Buffed SRTTw – Candidate A – Candidate B – Molded SRTTw – SRTTn-Candidate C – Molded SRTTw

Day3 Water depth 1.5mm

Molded SRTTw – Buffed SRTTw – Candidate A – Candidate B – Molded SRTTw – SRTTn-Candidate C – Molded SRTTw

Day4 Water depth 2.0mm

Molded SRTTw – Buffed SRTTw – Candidate A – Candidate B – Molded SRTTw – SRTTn-Candidate C – Molded SRTTw

Thus, JASIC made another proposal at the 31st session to reduce the workload to a minimum, but still could not reach an agreement.

Furthermore, at the 44th meeting, a further proposal was made to minimize the workload further on the basis that the day-to-day variation could be validated during evaluating of Mold SRTT worn.

WT-31-03

1. JASIC Proposal



Although JASIC understands capacity constraints, following assessment items are crucial to improve precision.

- Minimum assessment items

Assessment items	Expected Participants
Day to day variation	All test centers
Validation of coefficients	
Effect of water depth/road surface roughness	Test center which performed water depth evaluation of analytical plan

[JASIC proposes MINIMUM assessment plans](#)

WT-44-07

1. JASIC Proposal



JASIC proposal to assessment plans 2023.

- Proposed Test Plan for 2023 Test Campaign

Assessment items	Expected Participants
Day to day variation	All test centers
Validation of coefficients	
Effect of water depth/road surface roughness	Test center which performed water depth evaluation of analytical plan

[JASIC change the proposal of assessment plans 2023 because Day to day variation was assessed in 2022 together with Molded SRTT worn](#)

Thereafter, the decision was taken to conduct an additional testing campaign in two steps, with Step 1 being the standardization of water depth measurements in 2023.

In Step 2, which will take place in 2024-2025, screening tests for the validation of the WWGI formula will need to be conducted.

WT-53-03

IWG WGWT 2023 Test campaign – Test Plan

- **Test Centers:** 15
- **Test Methods:** Trailer & Vehicle
- **Candidate tyres:** 0
- **Reference:**
 - SRTT16 ('new' state) → RN
 - LTD SRTT16 ('worn' state - molded) → RM
- **Test Conditions:** R117.04 Annex 9
- **Track Characterization:**
 - Water Depth mapping
 - MTD mapping
- **Dataset:** 208 data points
- **Data collection status:** 80% (12/15 test centers) – 17th Nov. 2023

	Screening	Self- vs External-Watering (Trailer)
Number of Test Centers	12	3
Test Sequence	RM-RN-RM	RM-RN
Repeats	6 (2 per Temp. Range)	1
Temperature Ranges	Low: 5-14°C Medium: 15-24°C High: 25-35°C	Nominal
Water Depth [mm]	Nominal	Self-Watering: 0 / 0.5 / 1.0 / 1.5 External-Watering: 0 / 0.5 / 1.0 / 1.5

Monday, December 4, 2023

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The results of the screening test proposed by JASIC in WT-44-07 should be used, although it could be reviewed taking into account the results of the standardization of water depth measurements.

What is observed such as,

- **Data analysis status at 80% data collection at WGWT Post processing;**
 - Different trends were observed for External – Self watering comparison test, External watering has higher sensitivity to the water depth.
 - Analysis details will be provided at WGWT Post processing meeting on 6th/ Dec.

1) Assess equations of calculations

■ Candidate types:

Candidate 1-20 : 3PMSF

Candidate 21-40: Normal

■ Participants : All test centers

■ Test sequence :

Day 1

Molded SRTTw–Candidate 1–Candidate 2–Candidate 3–**Molded SRTTw**–SRTTn–Candidate 4–Candidate 5–**Molded SRTTw**

Day 2

Molded SRTTw–Candidate 6–Candidate 7–Candidate 8–**Molded SRTTw**–SRTTn–Candidate 9–Candidate 10–**Molded SRTTw**

Day 3

Molded SRTTw–Candidate 11–Candidate 12–Candidate 13–**Molded SRTTw**–SRTTn–Candidate 14–Candidate 15–**Molded SRTTw**

Day 4

Molded SRTTw–Candidate 16–Candidate 17–Candidate 18–**Molded SRTTw**–SRTTn–Candidate 19–Candidate 20–**Molded SRTTw**

Day 5

Molded SRTTw–Candidate 21–Candidate 22–Candidate 23–**Molded SRTTw**–SRTTn–Candidate 24–Candidate 25–**Molded SRTTw**

Day 6

Molded SRTTw–Candidate 26–Candidate 27–Candidate 28–**Molded SRTTw**–SRTTn–Candidate 29–Candidate 30–**Molded SRTTw**

Day 7

Molded SRTTw–Candidate 31–Candidate 32–Candidate 33–**Molded SRTTw**–SRTTn–Candidate 34–Candidate 35–**Molded SRTTw**

Day 8

Molded SRTTw–Candidate 36–Candidate 37–Candidate 38–**Molded SRTTw**–SRTTn–Candidate 39–Candidate 40–**Molded SRTTw**

2) Assess equations of calculations Confirm Water depth effect on Candidate tyres

■ Candidate tyres:

Candidate 1-6 : 3PMSF

Candidate 7-12: Normal

■ Test sequence :

Sequence 1

Molded SRTTw–Candidate 1–Candidate 2–Candidate 3–**Molded SRTTw**–Candidate 4–Candidate 5–Candidate 6–**Molded SRTTw**

Sequence 2

Molded SRTTw–Candidate 7–Candidate 8–Candidate 9–**Molded SRTTw**–Candidate 10 –Candidate 11–Candidate 12–**Molded SRTTw**

■ Participants : Test centers which are able to control water depth (External-watering, Self-watering)

■ Water depth : 3 Levels (ex:0.5mm, 1.0mm, 1.5mm)

■ Repeat : 2 per each sequence, each water depth => Maximum 12 sequences