# PERFORMANCE VALIDATION
## OF
# SRTT17 WINTER – ASTM F3675
## AND
# SRTT17 SUMMER – ASTM F3676
# PLANT TRANSFER

**OCTOBER 2025**

# ASTM F3675 & ASTM F3676

- ASTM F3675 : 225/45R17 94H XL Radial Standard Reference Test Tire
- ASTM F3676 : 225/45R17 94V XL Radial Standard Reference Test Tire

- Both tire manufacturing transfer **from Victoria (Romania) to Olsztyn (Poland)**

- Start of Production @Olsztyn : November 2025

- The tread compound is produced in the same location (Olsztyn, Poland) for both tires before and after the tire manufacturing transfer

# ASTM F3675 & ASTM F3676

- **VALIDATION OF PERFORMANCES**
  - **ASTM**
    - Dimensions & Footprint
    - Physical properties of Tread compound, including durometer hardness
  - **Performance Metrics**
    - Abrasion
    - 3PMSF
    - Noise
- **SYNTHESIS OF RESULTS**

| CONCLUSION | | ASTM | | | | PERFORMANCE | | |
|---|---|---|---|---|---|---|---|---|
| Model | Plant | Dimension | Footprint | Tread compound | Durometer hardness | Abrasion | 3PMSF | Noise |
| ASTM F3675 : 225/45R17 94H XL | Victoria | Witness | Witness | Witness | Witness | Witness | Witness | Witness |
| | Olsztyn | OK | OK | OK | OK | OK | OK | OK |
| ASTM F3676 : 225/45R17 94V XL | Victoria | Witness | Witness | Witness | Witness | Witness | N/A | Witness |
| | Olsztyn | OK | OK | OK | OK | OK | | OK |

# VALIDATION DATA PACKAGE
# DETAILED RESULTS

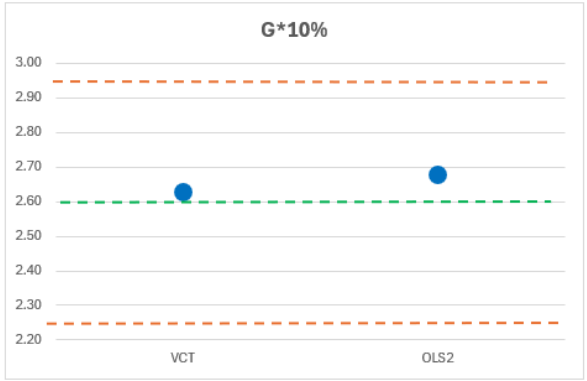
# TREAD COMPOUND

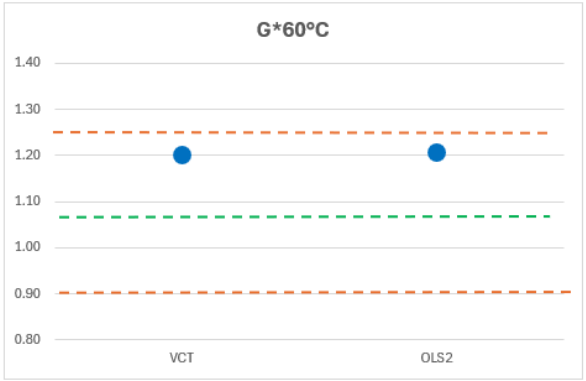
- **SUMMER SRTT TREAD MATERIALS RESULTS**
  - Tests done in Poland/OLS Michelin site, according ASTM Guide D5992
  - No change in the tread formulation
  - No change in the specifications
  - No change in production sourcing of tread compound for both VCT and OLS tires
  - **RESULT : Conform**

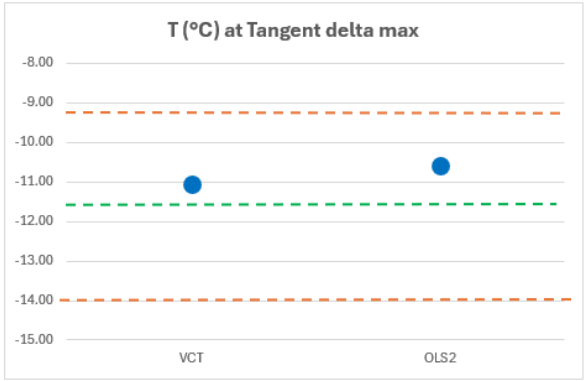
F3676-24

**TABLE 1 Physical Properties of Tread Compound**

| | |
|---|---|
| G* 10% Return (MPa) - 23°C | 2.6 ± 0.36 MPa |
| G* 60°C (MPa) - 0.7 MPa | 1.07 ± 0.17 MPa |
| T (°C) at Tangent delta max - 0.7 MPa | - 11.6 ± 2.4 °C |



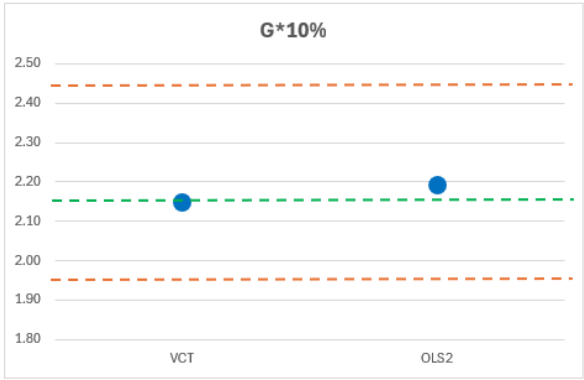
# TREAD COMPOUND

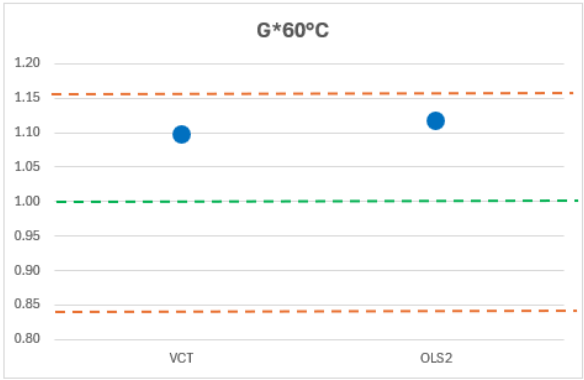
- **WINTER SRTT TREAD MATERIALS RESULTS**
  - Tests done in Poland/OLS Michelin site, according ASTM Guide D5992
  - No change in the tread formulation
  - No change in the specifications
  - No change in production sourcing of tread compound for both VCT and OLS tires
  - **RESULT : Conform**

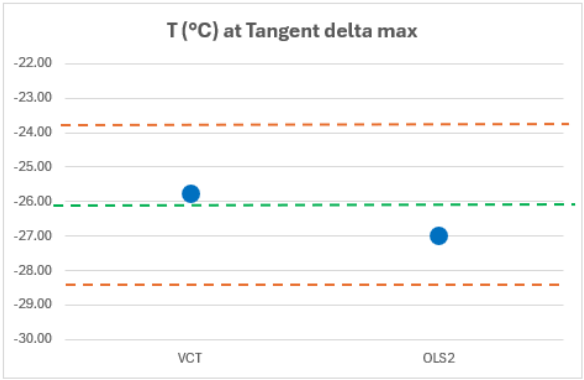
F3675-24

**TABLE 1 Physical Properties of Tread Compound**

| | |
|---|---|
| G* 10% Return (MPa) - 23°C | 2.15 ± 0.3 MPa |
| G* 60°C (MPa) - 0.7 MPa | 1.00 ± 0.16 MPa |
| T (°C) at Tangent delta max - 0.7 MPa | - 26.2 ± 2.4 °C |

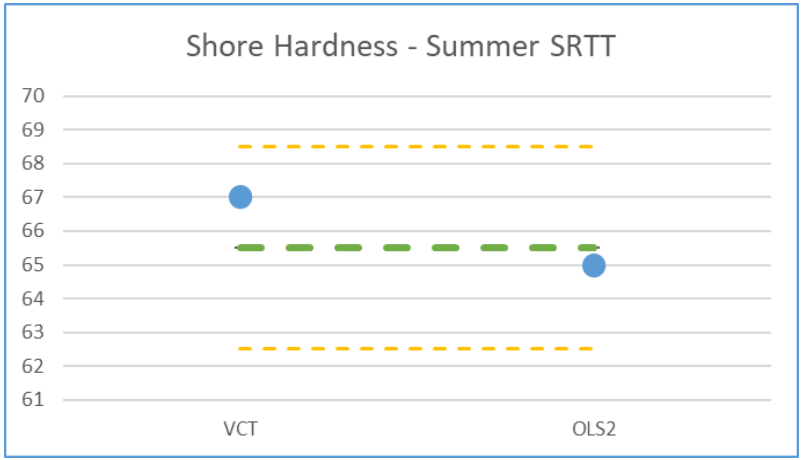


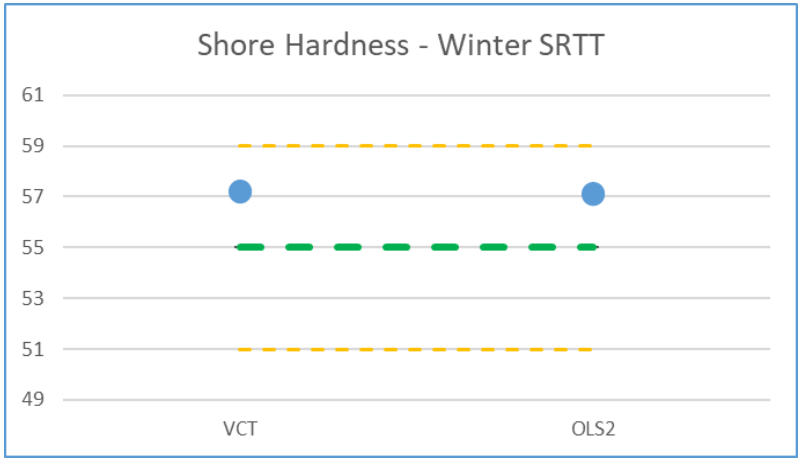



# SHORE HARDNESS

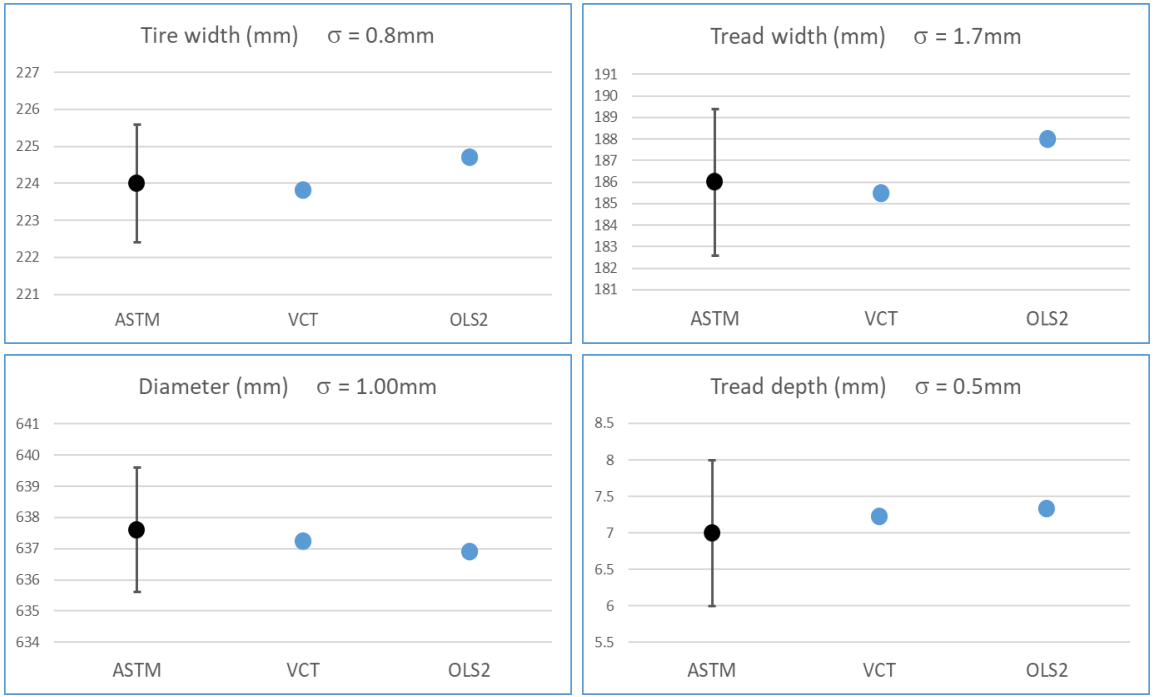
- **HARDNESS MEASUREMENT**
  - Test done in France / Ladoux Michelin site, according to ASTM Method D2240
  - The results are equivalents between OLS and VCT
  - **RESULT : Conform**



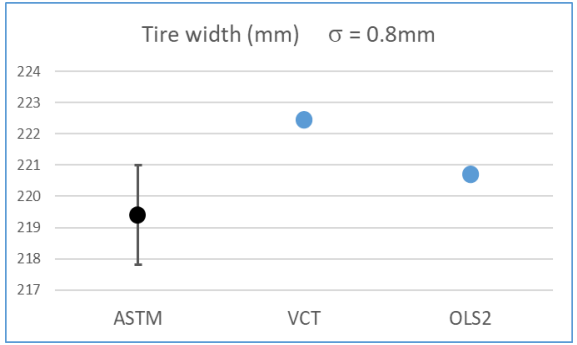
# DIMENSIONS

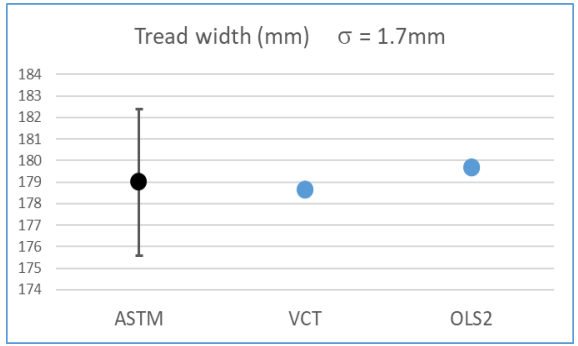
- **SUMMER SRTT MEASUREMENTS**
  - Test done in France / Ladoux Michelin Site
  - Geometrical dimensions are equivalent between OLS and VCT
  - **RESULT : Equivalent geometry**

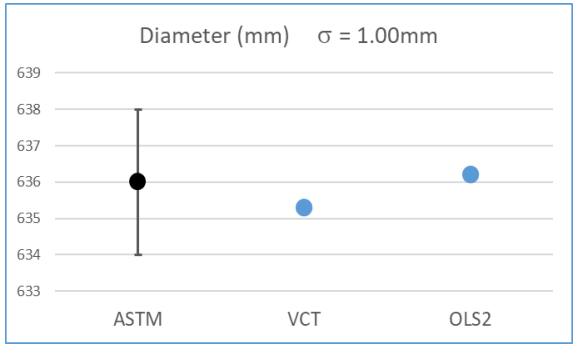


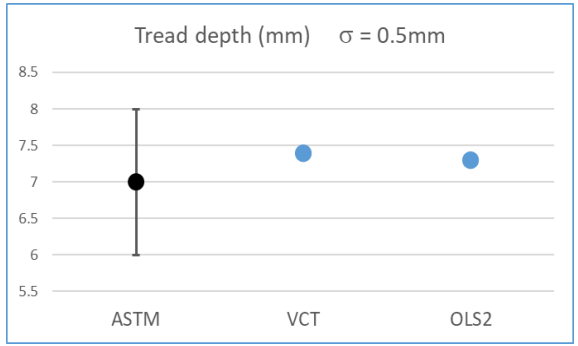
# DIMENSIONS

- **WINTER SRTT MEASUREMENTS**
  - Test done in France / Ladoux Michelin Site
  - Geometrical dimensions are equivalent between OLS and VCT
  - **RESULT : Equivalent geometry**



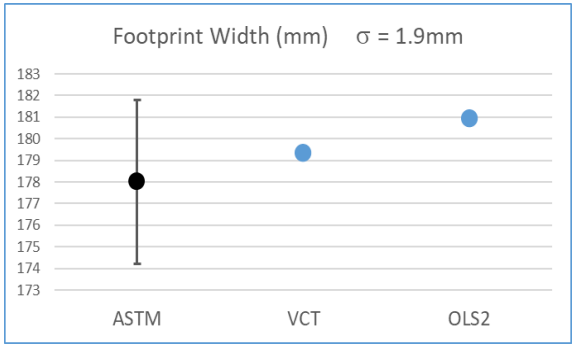



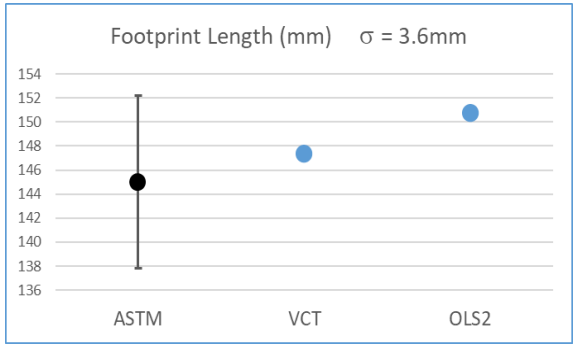



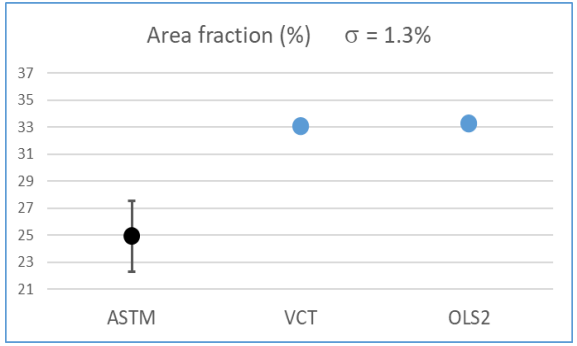
# FOOTPRINT

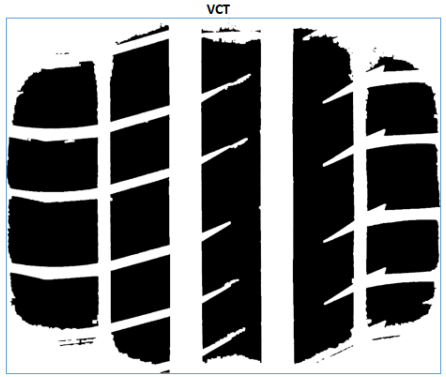
- **SUMMER SRTT FOOTPRINT**
  - Test done in France / Ladoux Michelin Site
  - Footprints are equivalent between OLS and VCT
  - **RESULT : Equivalent geometry**

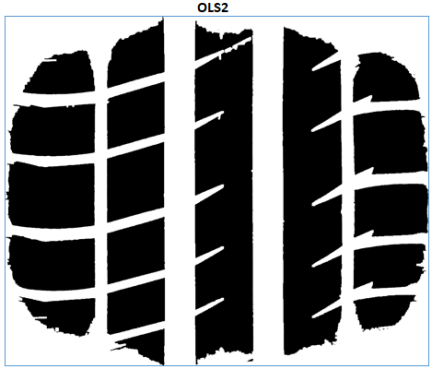



7.3 *Tread Description*—The tire shall have five ribs and four circumferential grooves (see Fig. 5) having a minimum groove depth of 7.0 mm (0.27 in.).
7.3.1 *Groove (Void) Area Fraction*—24.9 %.
7.3.2 *Number of Pitches*—75.
7.3.3 *Footprint Size*—145.0 mm long by 178.0 mm wide (5.71 by 7.01 in.).

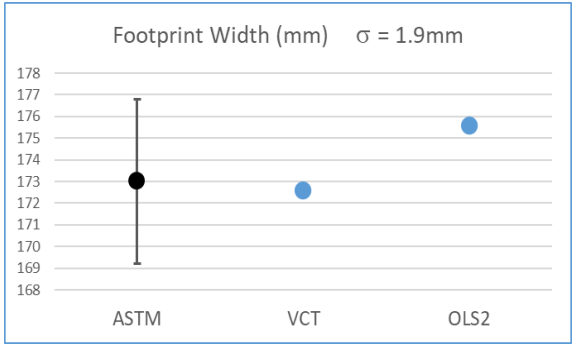


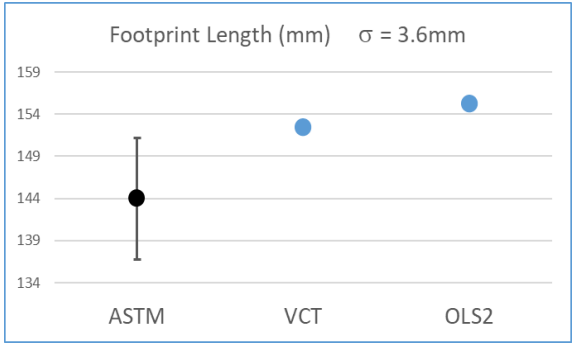



# FOOTPRINT

- **WINTER SRTT FOOTPRINT**
  - Test done in France / Ladoux Michelin Site
  - Footprints are equivalent between OLS and VCT
  - **RESULT : Equivalent geometry**



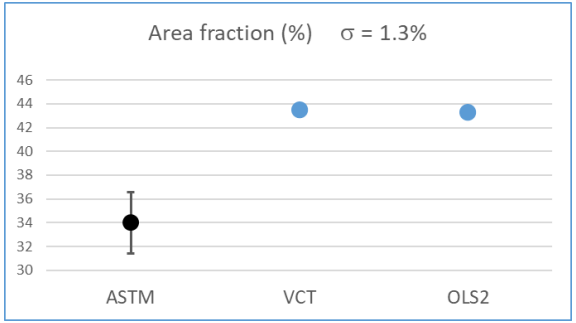



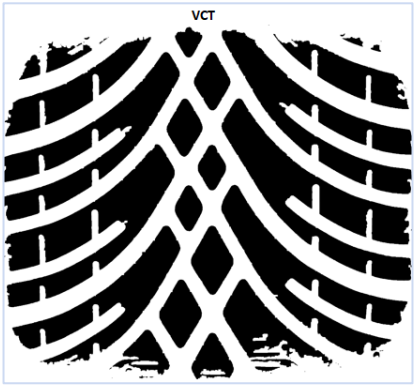

7.3 *Tread Description*—The tire shall have a directional tread pattern and the tread blocks shall be in the shape of a repeating V pattern with no continuous circumferential grooves (see Fig. 6). The tire shall have a minimum tread depth of 7.0 mm (0.27 in.) in the V-shaped grooves, within an area of 79.0 mm (3.11 in.) from the center line. Standard tread depth measurement locations are 15 mm (0.59 in.), 45 mm (1.77 in.), and 72 mm (2.83 in.) away from the center line measured along the tread surface and indicated by + marks on Fig. 6.

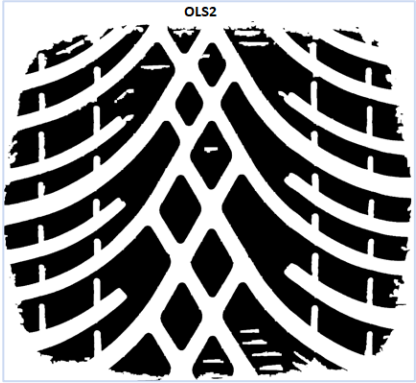
7.3.1 *Groove (Void) Area Fraction*—34 %.

7.3.2 *Number of Pitches*—50.

7.3.3 *Footprint Size*—144.0 mm long by 173.0 mm wide (5.67 by 6.81 in.).

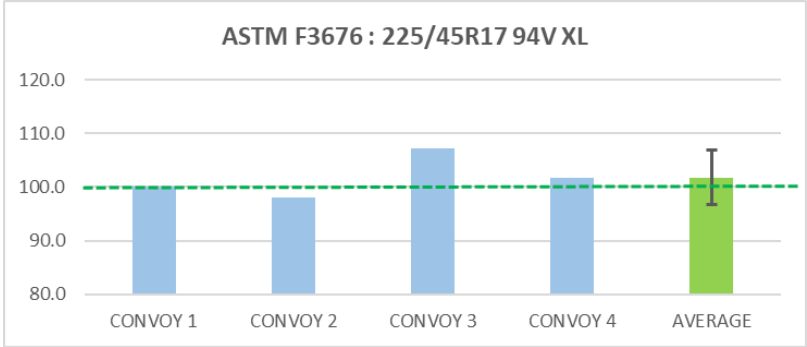


# ABRASION

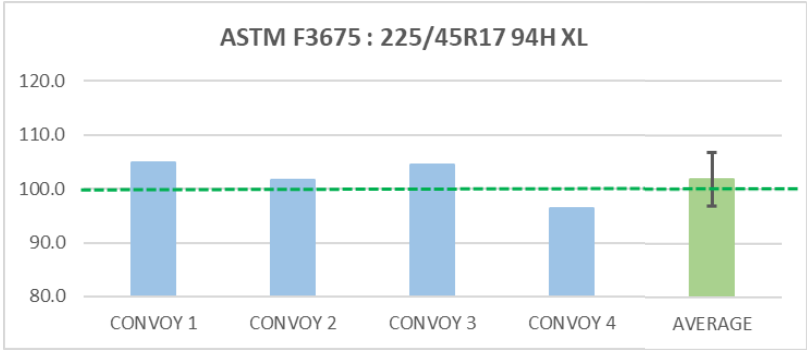
- **SUMMER SRTT**
  - Tests operated by DEKRA (France), following draft method UNECE R117/ISO 18511-1, 4 convoys : 2 vehicles : VW Golf & Audi A4, 2 temperature ranges
- **RESULT : Equivalent performance with confidence level = 95%**




| Model | Plant | CONVOY 1 VW Golf 21°C | CONVOY 2 Audi A4 26°C | CONVOY 3 VW Golf 11°C | CONVOY 4 Audi A4 16°C | AVERAGE |
|---|---|---|---|---|---|---|
| ASTM F3676 : 225/45R17 94V XL | Victoria | 100 (ref) | 100 (ref) | 100 (ref) | 100 (ref) | 100 (ref) |
| | Olsztyn | 100.1 | 98.1 | 107.2 | 101.8 | 101.8 |

# ABRASION

- **WINTER SRTT**
  - Tests operated by DEKRA (France), following draft method UNECE R117/ISO 18511-1, 4 convoys : 2 vehicles : VW Golf & Audi A4, 2 temperature ranges
- **RESULT : Equivalent performance with confidence level = 95%**

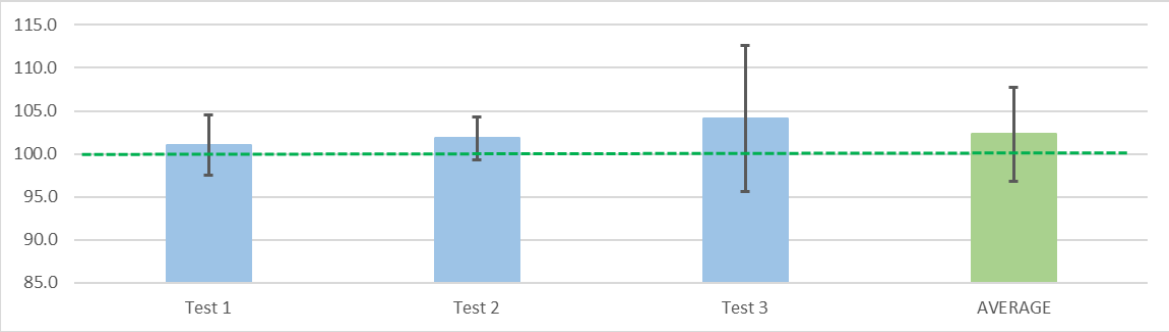



| Model | Plant | CONVOY 1 VW Golf 11°C | CONVOY 2 Audi A4 9°C | CONVOY 3 VW Golf 16°C | CONVOY 4 Audi A4 16°C | AVERAGE |
|---|---|---|---|---|---|---|
| ASTM F3675 : 225/45R17 94H XL | Victoria | 100 (ref) | 100 (ref) | 100 (ref) | 100 (ref) | 100 (ref) |
| | Olsztyn | 104.9 | 101.7 | 104.5 | 96.4 | 101.9 |

# 3PMSF – SPIN TRACTION

- Tests operated by UTAC Automotive Testing Finland Oy (indoor)
  - Following ASTM F1805-20
  - Ambient T° = -4°C to -3°C, snow T° = -7°C to -5°C, CTI = 77 to 80

- **RESULT : Equivalent performance with confidence level = 95%**

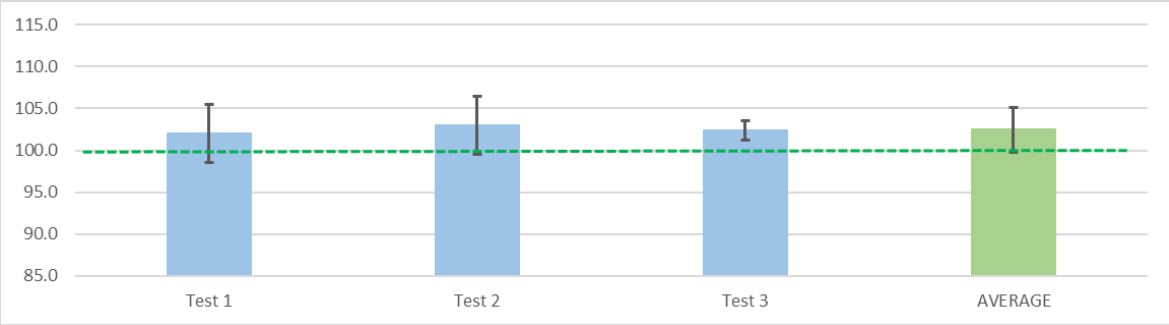



| Model | Plant | Spin Traction | | | AVERAGE |
|---|---|---|---|---|---|
| | | Test 1 | Test 2 | Test 3 | |
| ASTM F3675 : 225/45R17 94H XL | Victoria | 100 (ref) | 100 (ref) | 100 (ref) | 100 (ref) |
| | Olsztyn | 101.0 | 101.8 | 104.1 | 102.3 |

# 3PMSF – SNOW BRAKING

- Tests operated by UTAC Automotive Testing Finland Oy (indoor)
  - Following UNECE R117.4
  - Ambient T° = -8°C to -7°C, snow T° = -9°C to -8°C, CTI = 84 to 85

- **RESULT : Equivalent performance with confidence level = 95%**

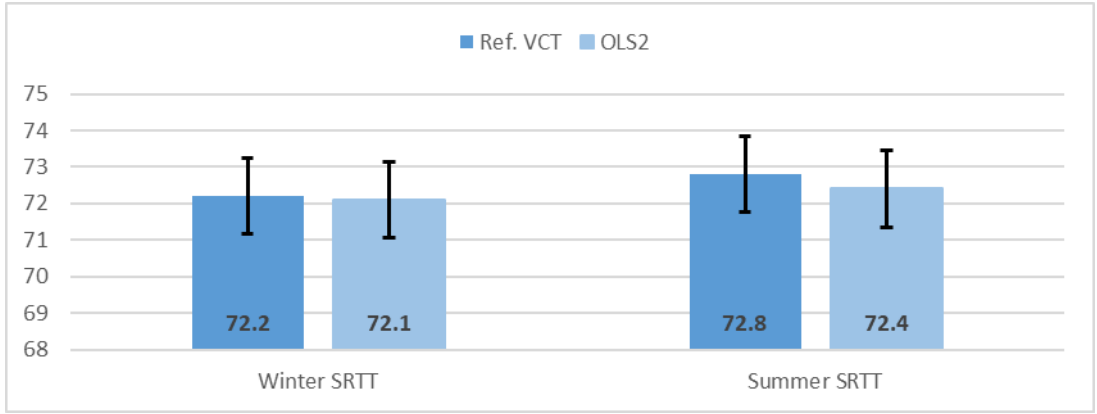



| Model | Plant | Snow Braking | | | AVERAGE |
|---|---|---|---|---|---|
| | | Test 1 | Test 2 | Test 3 | |
| ASTM F3675 : 225/45R17 94H XL | Victoria | 100 (ref) | 100 (ref) | 100 (ref) | 100 (ref) |
| | Olsztyn | 102.0 | 103.0 | 102.3 | 102.4 |

# NOISE

- Tests operated by Centro de Experiencias Michelin Almería (Spain), track ISO3, following UNECE R117.4
  - σ = 0.53 dB / test session

- **RESULT : Equivalent performance with confidence level = 95%**



# *Merci pour votre attention*