



Product Service

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TÜV SÜD - Tire Test 2019

205/55 R16 91V – Goodyear EfficientGrip Performance 2

Benchmark Test

Test Period: October – November 2019

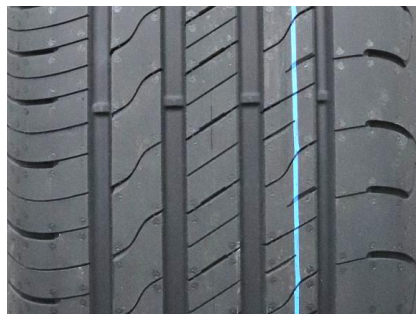
Report No. 713171748-01

TIRE DETAILS

DIMENSION: 205/55 R16 91V

TIRE BRANDS / PATTERNS IN THE TEST:

CANDIDATE TIRE:



**GOODYEAR
EFFICIENTGRIP PERF. 2
DOT H30F WU1R 3719**

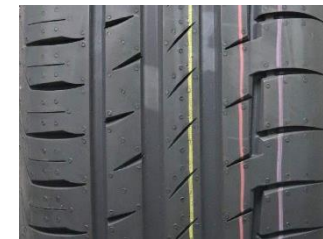


**BRIDGESTONE
TURANZA T005
DOT VR8K U3L 0519, 3919**

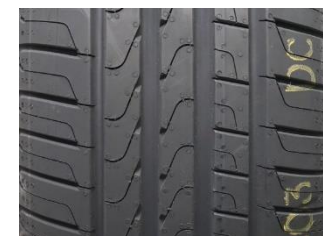


**MICHELIN
PRIMACY 4
DOT FT WC 0BKX 3419**

COMPETITORS:



**CONTINENTAL
PREMIUMCONTACT 6
DOT HW0F D8P0 0919**



**PIRELLI
CINTURATO P7 BLUE
DOT XA BK W920 1319**

- The test samples of Goodyear EfficientGrip Performance 2 were provided for the test by the client.
- All other tires were purchased in the normal market by TÜV SÜD.
- TÜV SÜD randomly selected the tires for the individual tests.



TEST DETAILS

■ Test Locations

- Wet & Dry: GPG Mireval (F), ATP Papenburg (D)
- Noise: Neubiberg (D)
- Rolling Resistance: TÜV SÜD PS Garching (D)
- Tread wear test: Testing circuit Röhn (D)

■ Test Vehicles

- VW Golf VII 2.0TDI, VW Golf VII 1.5TSI, VW Golf VII 1.4TSI

■ Procedure and Evaluation

- In most tests, the reference/control tire is tested repeatedly in the progress of the test to detect and consider changes of the ambient test parameters and correct its performance by linear interpolation.
- Generally, all tires in a test are primarily evaluated in relation to the reference/control tire.
- The performance is expressed as a percentage value, calculated on the basis of the measured and corrected test data.
- In this present evaluation, the performance of each tire is assessed relative to the reference tire (Goodyear \triangleq 100%).
- In all evaluations, a percentage $\geq 100\%$ means better and $\leq 100\%$ means worse.



TEST DETAILS

■ Tread Wear Test – Procedure and Evaluation

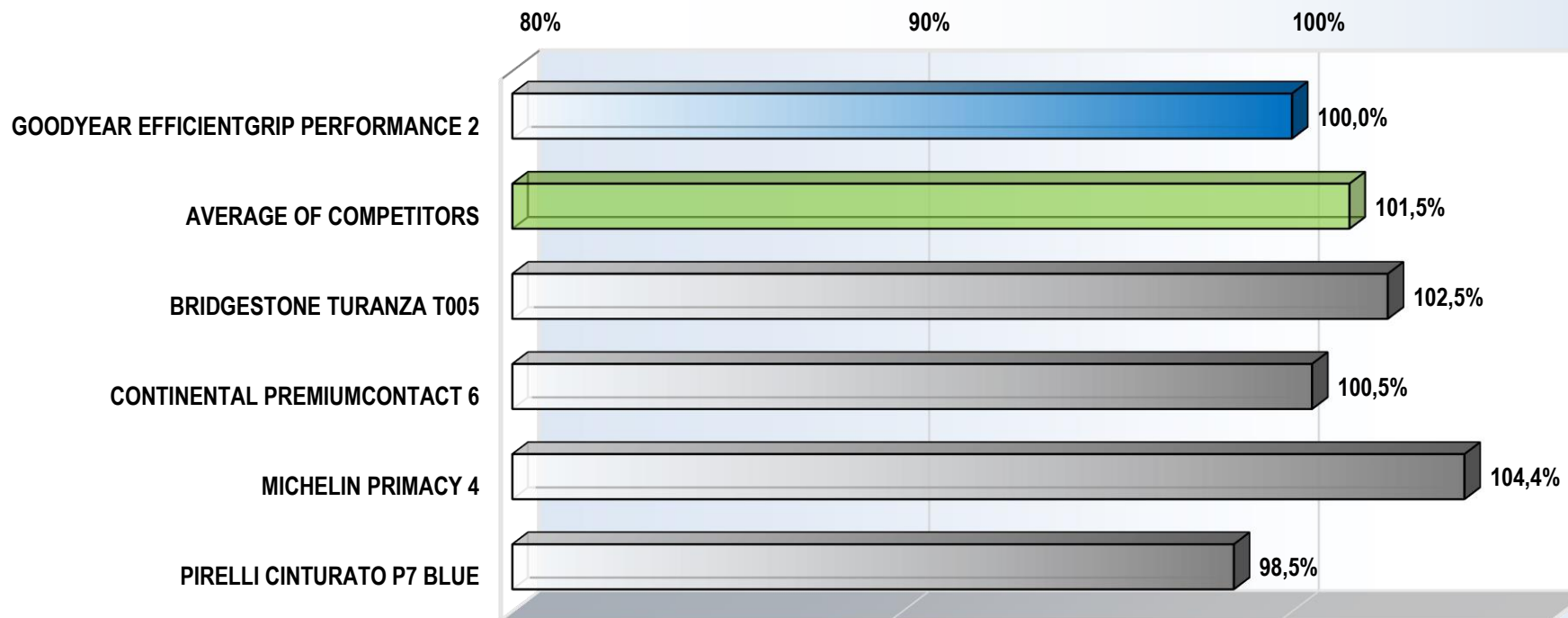
- 4 identical VW Golf VII 2.0TDI driving in convoy on an approved route. In order to avoid any unwanted influence on the tread wear, drivers, tires, cars and positions in the convoy are changed according to an approved systematic scheme which leads to equal conditions and test parameters within each measuring interval.
- Circuit course on public roads in Central-Germany (course "Röhn"). The selected route consists of country roads with a larger share of curvy and gradient roads which contributes to accelerated tire wear compared to the regular wear in customary everyday driving.
- Road type distribution: 68% Autobahn, 30% country/federal road, 2% city
- The minimum ambient temperature during the test runs shall be at least 7°C.
- Before the start of the test, each ~ 5.000 km and at the end of the test (~ 15.000 km) the tread depth of each tire is measured by a 3D laser scanner over the complete circumference.
- The chassis alignment is checked and adjusted if necessary, at 0 km, 5.000 km, 10.000 km and at the end of the test to avoid influences on the wear behavior of the test tires.
- The tire life is calculated by linear extrapolation of the tread wear until the legal tread wear limit is reached. The life time performance is based on the smallest extrapolated value. The final result is built by the average of both front axle tires.

TEST RESULTS

■ AQUAPLANING STRAIGHT-LINE

- Water depth: ~ 9 mm - Aquaplaning speed at 15% slip difference
- Result Goodyear EfficientGrip Performance 2: Ø Aquaplaning speed: 79.2 km/h

AQUAPLANING STRAIGHT-LINE PERFORMANCE * [%]



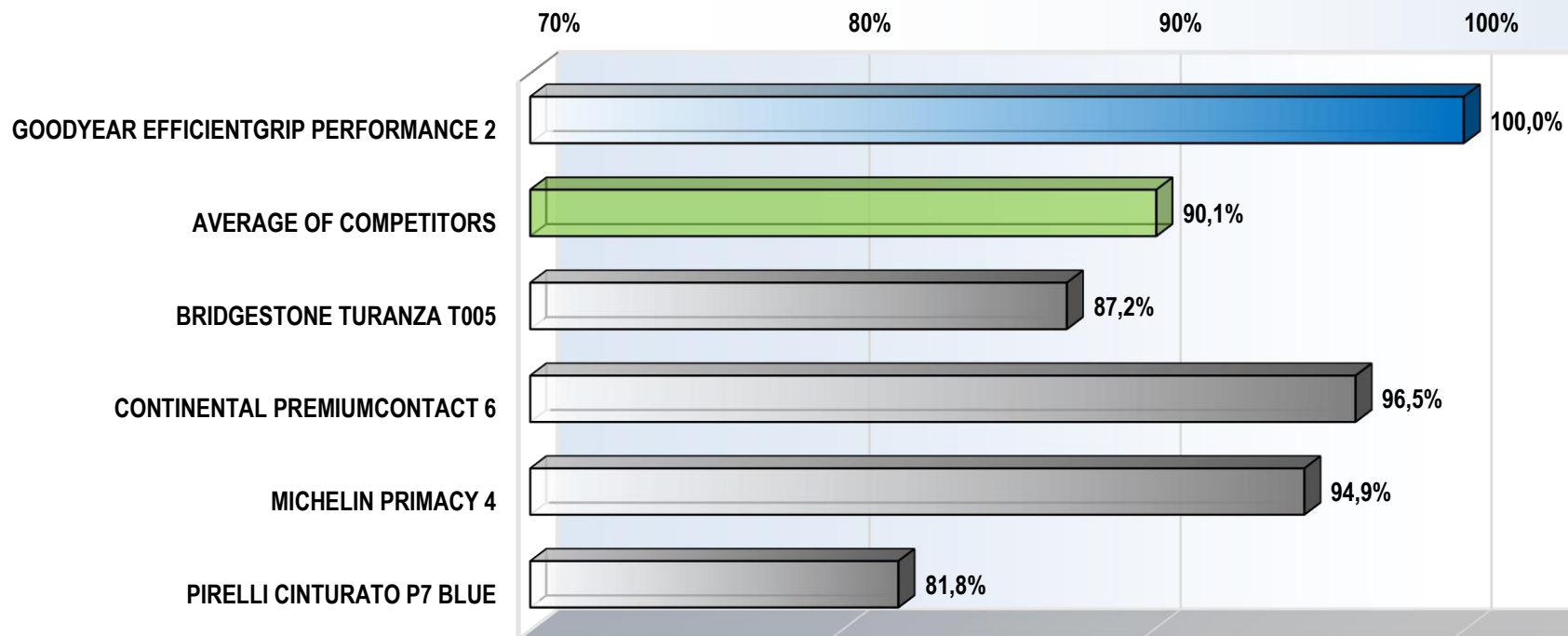
*) The calculation of the percentage performance is based on the aquaplaning speed.

TEST RESULTS

■ WET BRAKING

- ABS-braking
- Speed range: 80 to 20 km/h
- Tested on wet asphalt
- Result Goodyear EfficientGrip Performance 2: Ø Stopping distance / mean deceleration: 35.2 m / 6.58 m/s²

WET BRAKING PERFORMANCE * [%]



*) The calculation of the percentage performance is based on the mean deceleration values resulting from the measured braking distances.

TEST RESULTS

■ LATERAL WET GRIP

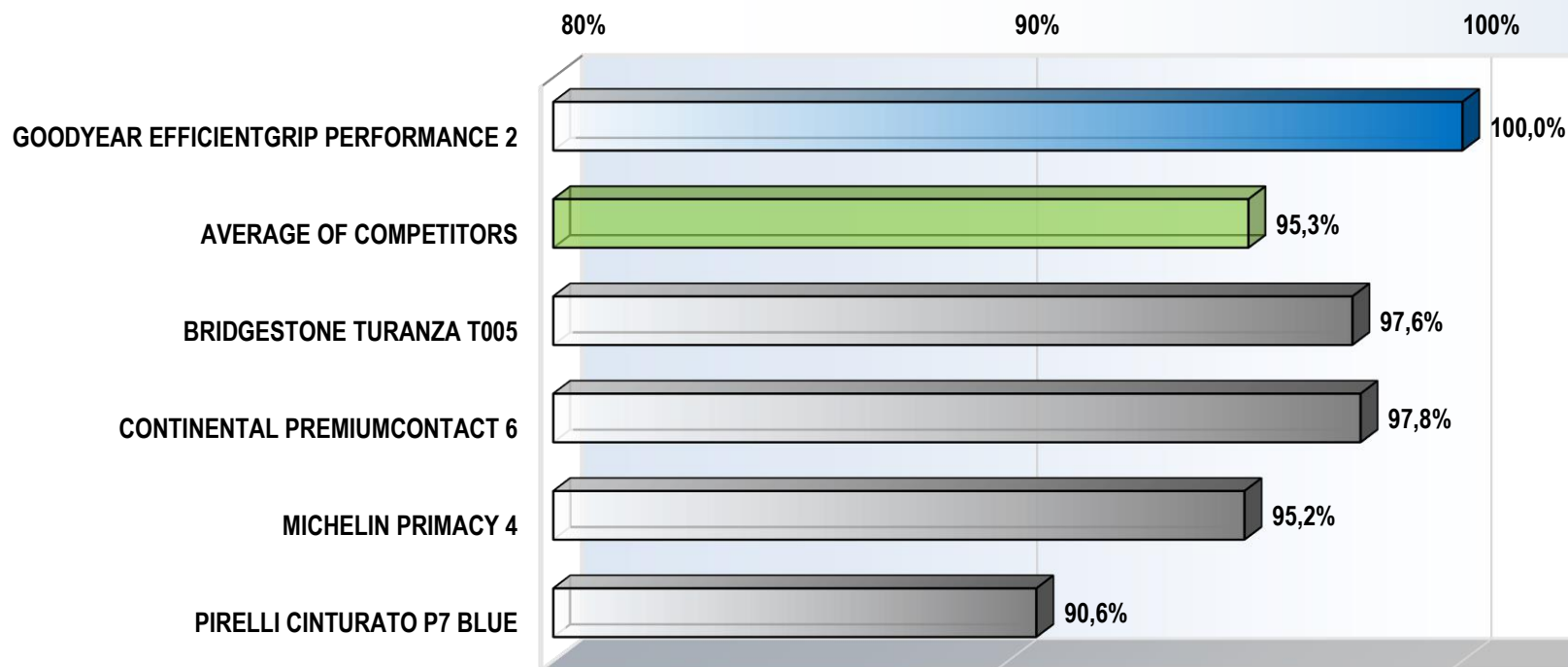
- ESP off

- Circle radius: 42 m

- Test surface: wet asphalt circle

- Result Goodyear EfficientGrip Performance 2: Ø Lap time / mean lateral acceleration: 14.67 sec / 7.71 m/s²

LATERAL WET GRIP PERFORMANCE * [%]



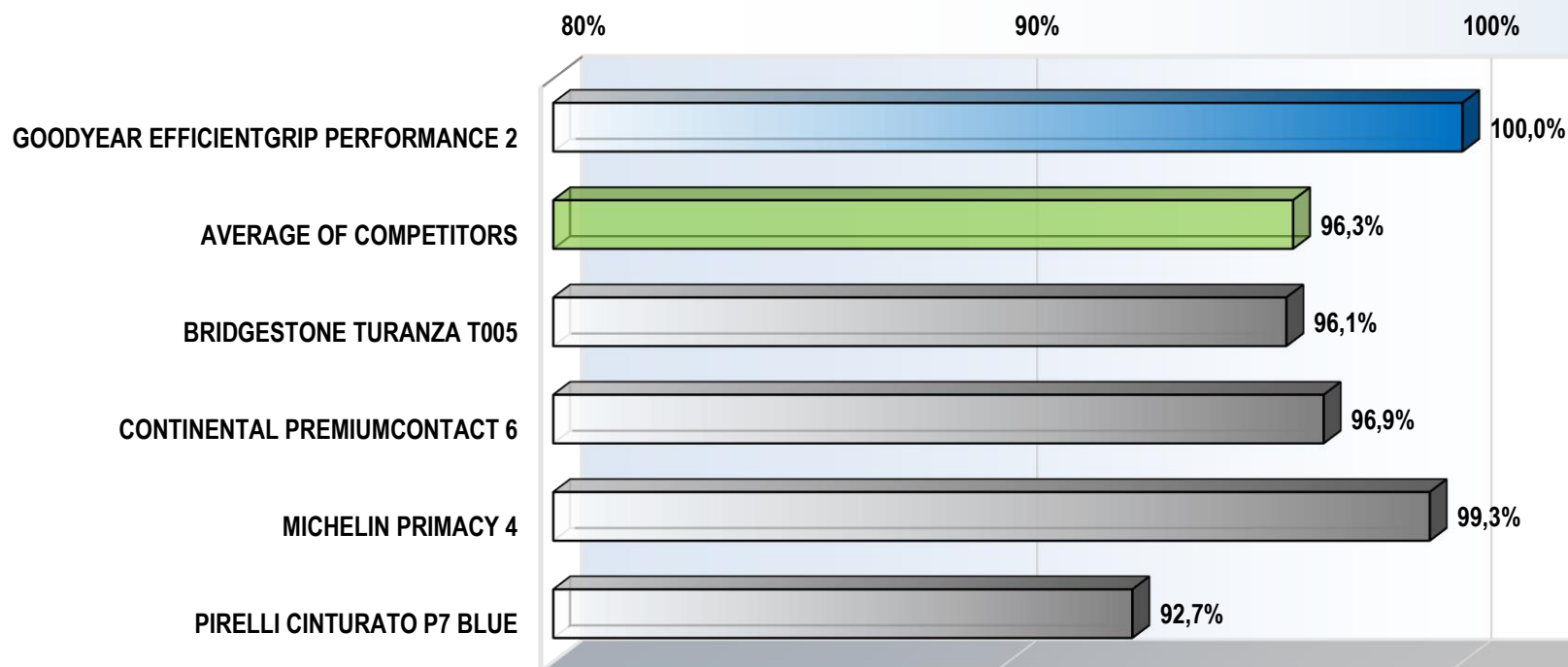
*) The calculation of the percentage performance is based on the mean lateral acceleration values resulting from the measured lap times.

TEST RESULTS

WET HANDLING

- ESP off
- Subjective assessment & lap times
- Handling track with wet asphalt, length: 1700 m
- Result Goodyear EfficientGrip Performance 2: Ø Speed: 86.24 km/h Ø Rating (out of max. 10): 8.33

WET HANDLING PERFORMANCE * [%]



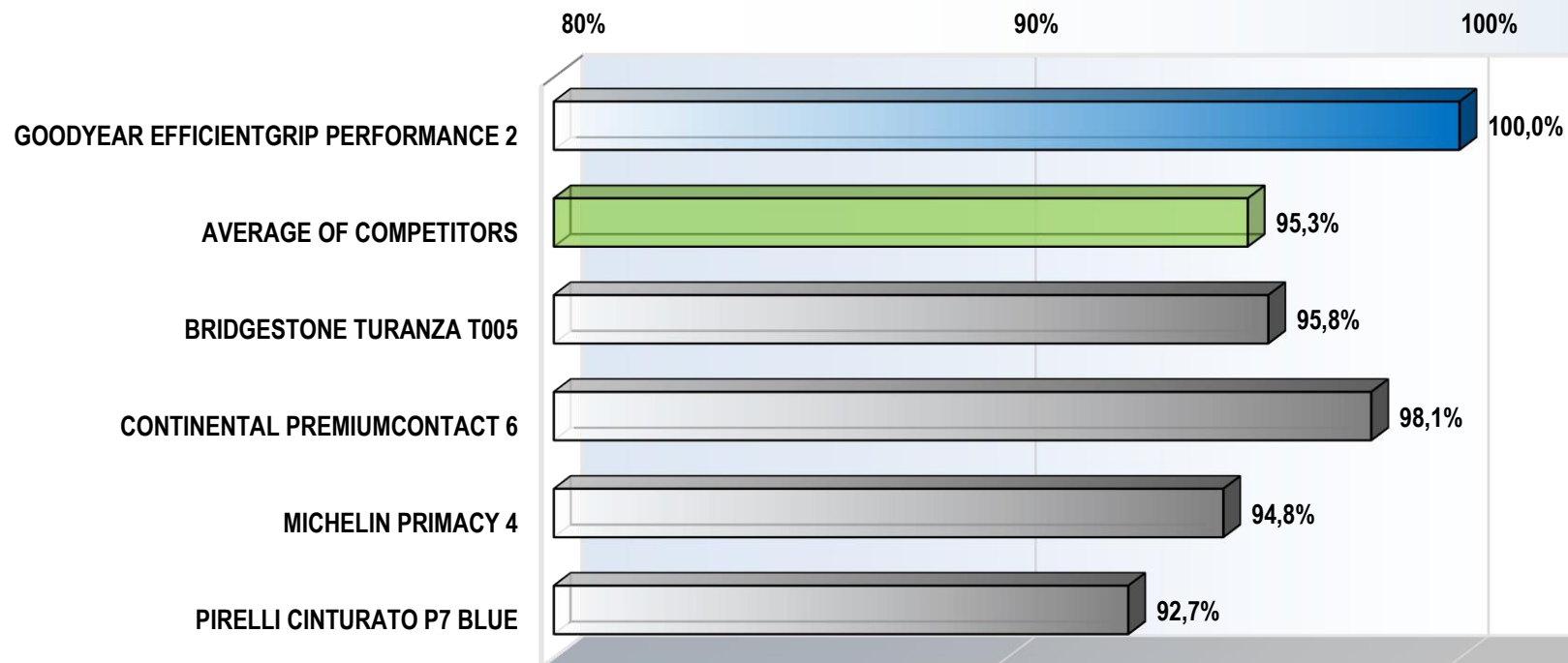
*) The calculation of the percentage performance is based on the speed and the rating scores (at the ratio 2:1).

TEST RESULTS

■ DRY BRAKING

- ABS-braking
- Speed range: 100 to 0 km/h
- Test surface: dry asphalt
- Result Goodyear EfficientGrip Performance 2: Ø Stopping distance / mean deceleration: 33.3 m / 11.59 m/s²

DRY BRAKING PERFORMANCE * [%]



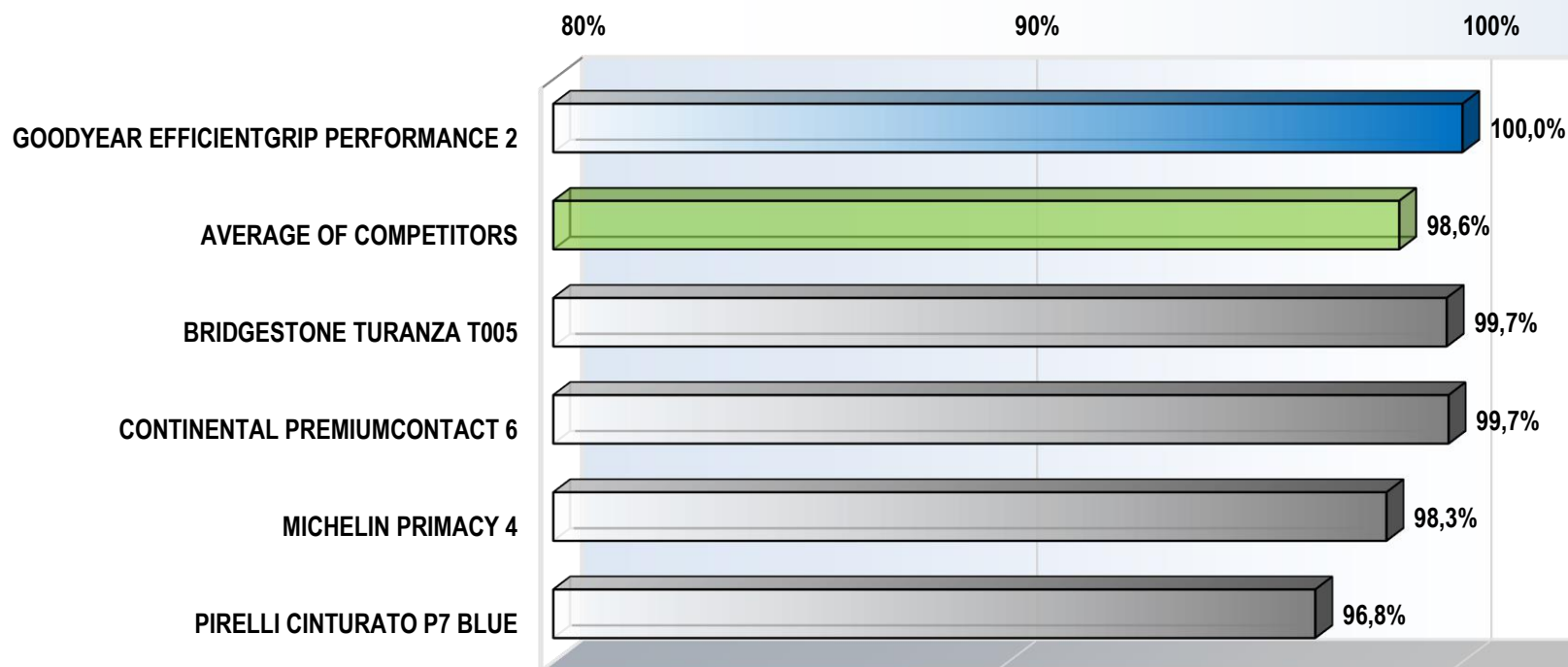
*) The calculation of the percentage performance is based on the mean deceleration values resulting from the measured braking distances.

TEST RESULTS

■ DRY HANDLING

- ESP off
- Subjective assessment & lap times
- Handling track with dry asphalt, length: 3100 m
- Result Goodyear EfficientGrip Performance 2: Ø Speed: 109.98 km/h Ø Rating (out of max. 10): 8.11

DRY HANDLING PERFORMANCE * [%]



*) The calculation of the percentage performance is based on the speed and the rating scores (at the ratio 2:1).

TEST RESULTS

■ ROLLING RESISTANCE

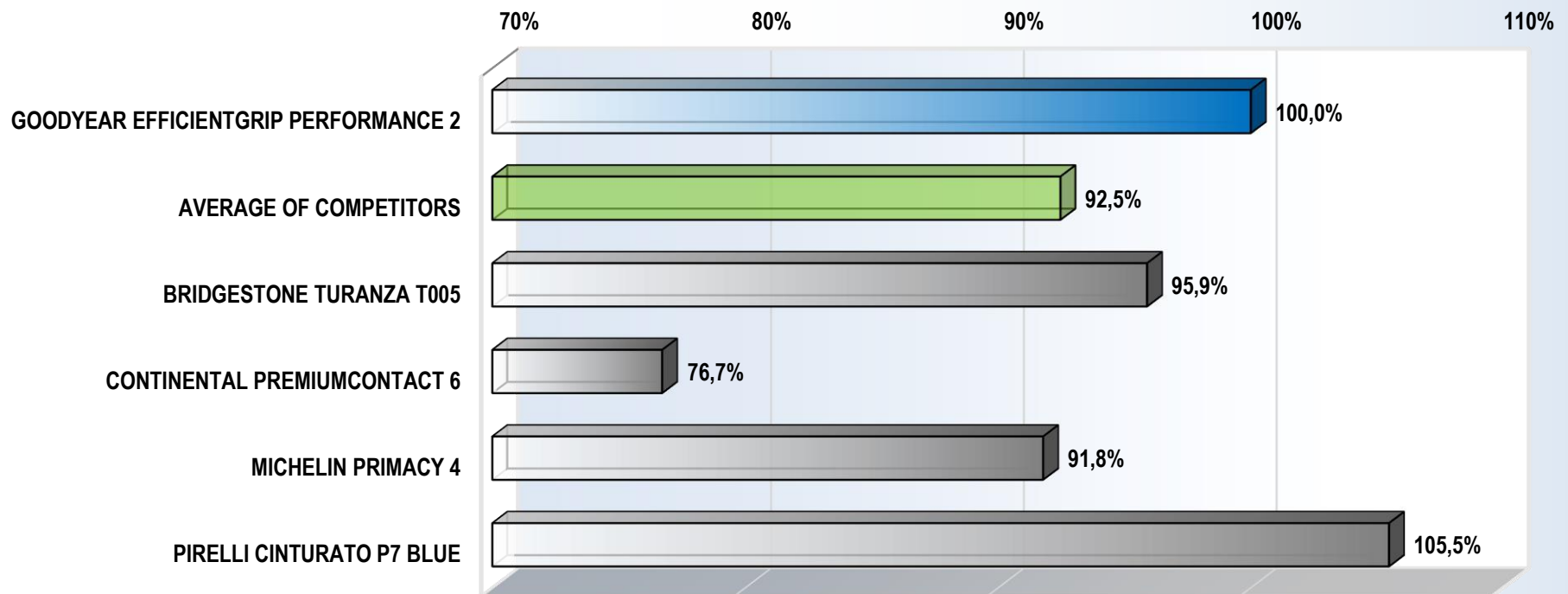
- Acc. to ISO 28580 / EC 1222/2009

- Electrical power method

- Load / Inflation: 492 kg / 2.1 bar

- Result Goodyear EfficientGrip Performance 2: RR-Force $F_R = 36.7$ N RR-Coefficient $c_R = 7.61$ kg/t (\triangleq EC Label RRC = 7.3 / B)

ROLLING RESISTANCE PERFORMANCE * [%]



*) The calculation of the percentage performance is based on the reciprocal values of the measured rolling resistance forces.

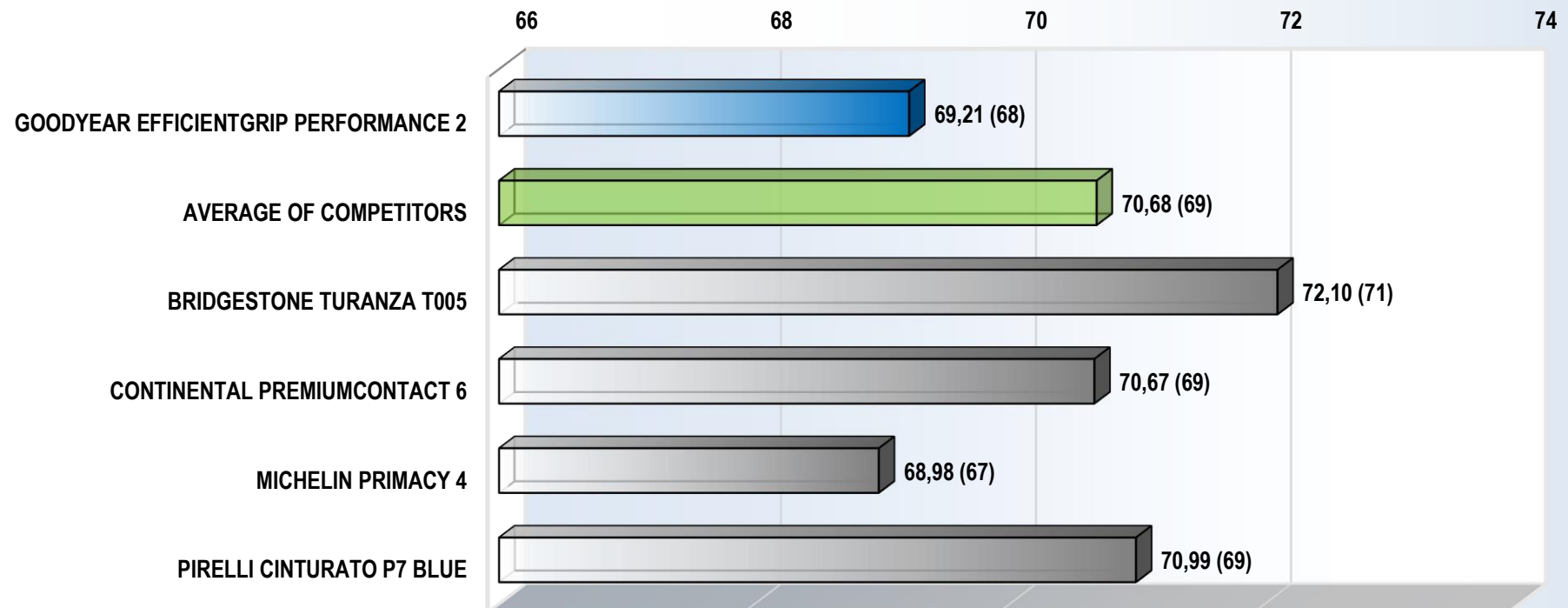
TEST RESULTS

■ PASS-BY NOISE

- In accordance to ECE R117
- Reference speed: 80 km/h
- Load & Inflation FA / RA: 865 / 860 kg - 1.75 / 1.75 bar
- Result Goodyear EfficientGrip Performance 2: Rolling noise level (measured & temp. corrected): 69.21 dB(A) (type approval value = 68 dB(A))

TIRE ROLLING NOISE (measured, normalized values) [dB(A)]

The resulting type approval values are given in brackets.

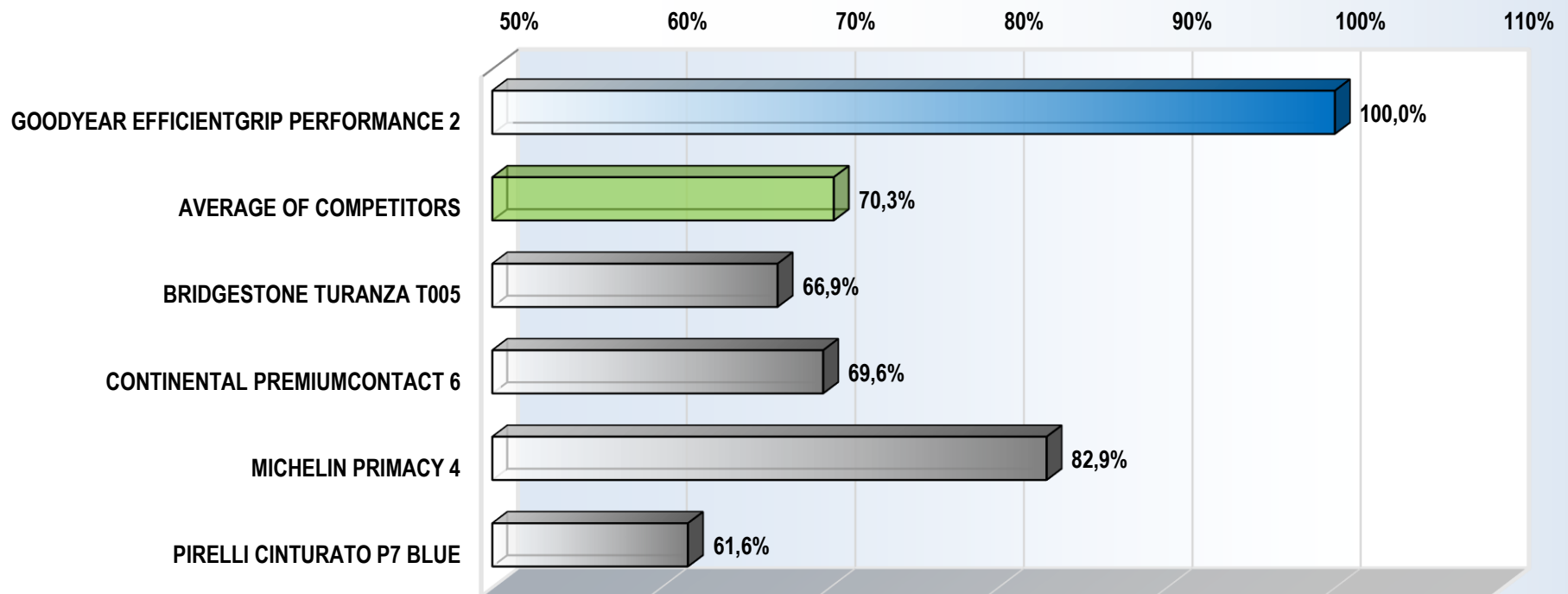


TEST RESULTS

■ TREAD WEAR TEST

- Identical cars driving in convoy on public roads
- Defined rotation of tires, cars and drivers
- Test cars: VW Golf VII 2.0TDI
- Result Goodyear EfficientGrip Performance 2 \triangleq 100%
- Total driven mileage: 15418 km
- Inflation FA / RA: 2.40 / 2.40 bar

TREAD WEAR PERFORMANCE, AVERAGE FRONT AXLE TIRES * [%]



*) The calculation of the percentage performance is based on the estimated tire tread life of the average of the front axle tires after driving 15418 km.

TEST RESULTS

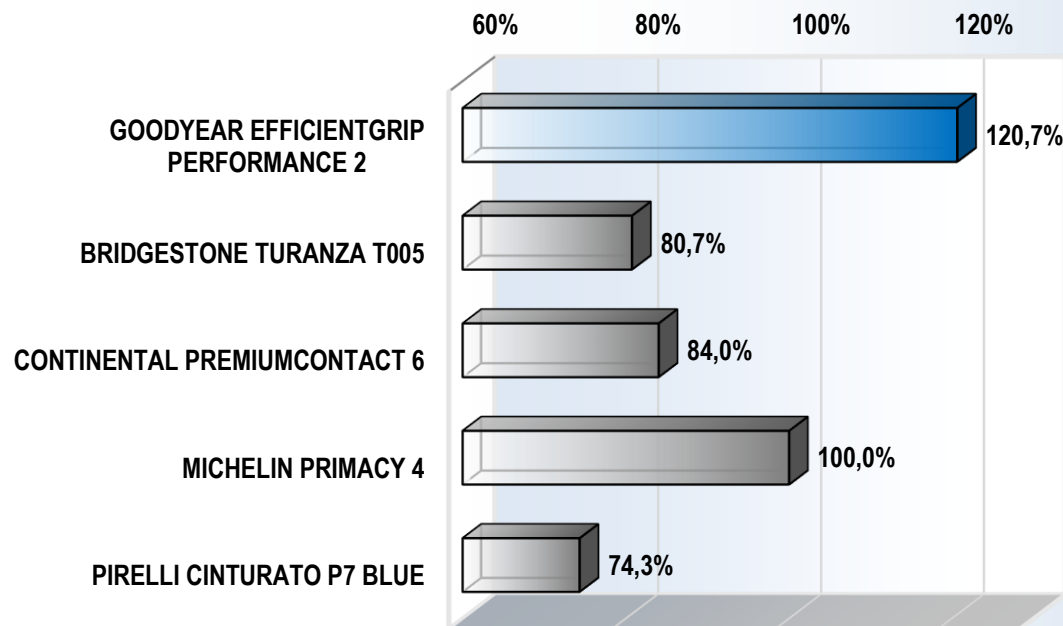
■ TREAD WEAR TEST

- Identical cars driving in convoy on public roads
- Result best competitor \triangleq 100%

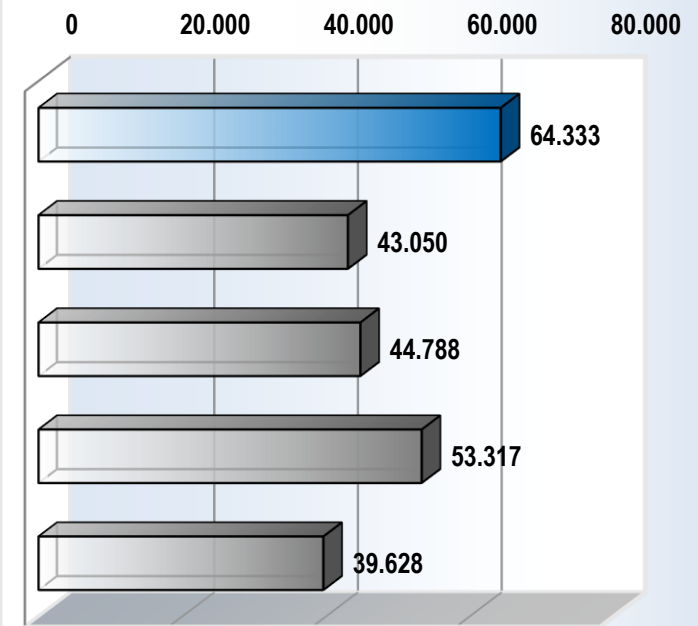
- Defined rotation of tires, cars and drivers
- Total driven mileage: 15418 km

- Test cars: VW Golf VII 2.0TDI
- Inflation FA / RA: 2.40 / 2.40 bar

TREAD WEAR PERFORMANCE, AVERAGE FRONT AXLE TIRES * [%]



ESTIMATED TIRE TREAD LIFE ** [km]



*) The calculation of the percentage performance is based on the estimated tire tread life of the average of the front axle tires after driving 15418 km.

**) The estimated tire life is calculated by linear extrapolation of the tread wear until the legal tread wear limit is reached after driving 15418 km.