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# TÜV SÜD – Tire Test 2017

## 255/50 R19 – Dunlop Sport Maxx RT2 SUV

Tire Performance Test acc. to PPP 90023A:2014

Test Period: October 2017

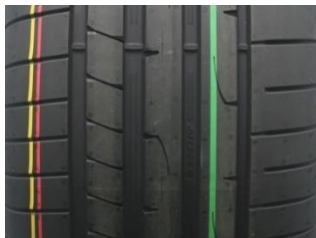
Report No. 713117618D-06

## TIRE DETAILS

**DIMENSION: 255/50 R19**

### TIRE BRANDS / PATTERNS IN THE TEST:

#### REFERENCE TIRE:

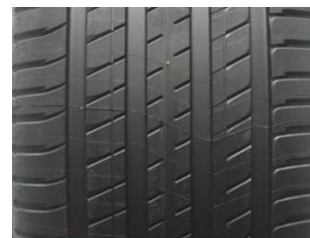


**DUNLOP  
SPORT MAXX RT2 SUV  
107 Y, DOT K5 3917**

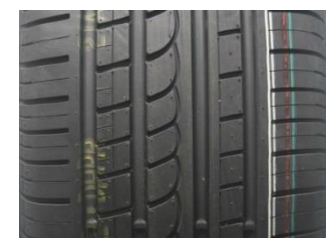
#### COMPETITORS:



**BRIDGESTONE  
DUELER H/P SPORT  
107 Y, DOT EJVV DCH 0417 - 1717**



**MICHELIN  
LATITUDE SPORT 3  
107 W, DOT F3XX 013X 0917 - 1217**



**PIRELLI  
P ZERO ROSSO  
103 W, DOT 9364 N274 0417**

- The test samples of Dunlop Sport Maxx RT2 SUV 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: Uni Neubiberg (D)
- Rolling Resistance: TÜV SÜD PS Garching (D)

### ■ Test Vehicles

- Braking, LWG, Aquaplaning in curve: BMW X5 30d
- Handling: BMW X5 40d
- Noise: Audi Q7 3.0 TDI
- Aquaplaning straight-line: Mazda Tribute

### ■ Procedure and Evaluation

- In all tests, the 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 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 (Dunlop  $\hat{=}$  100%).
- In all evaluations, a percentage value >100% means better and <100% means worse.

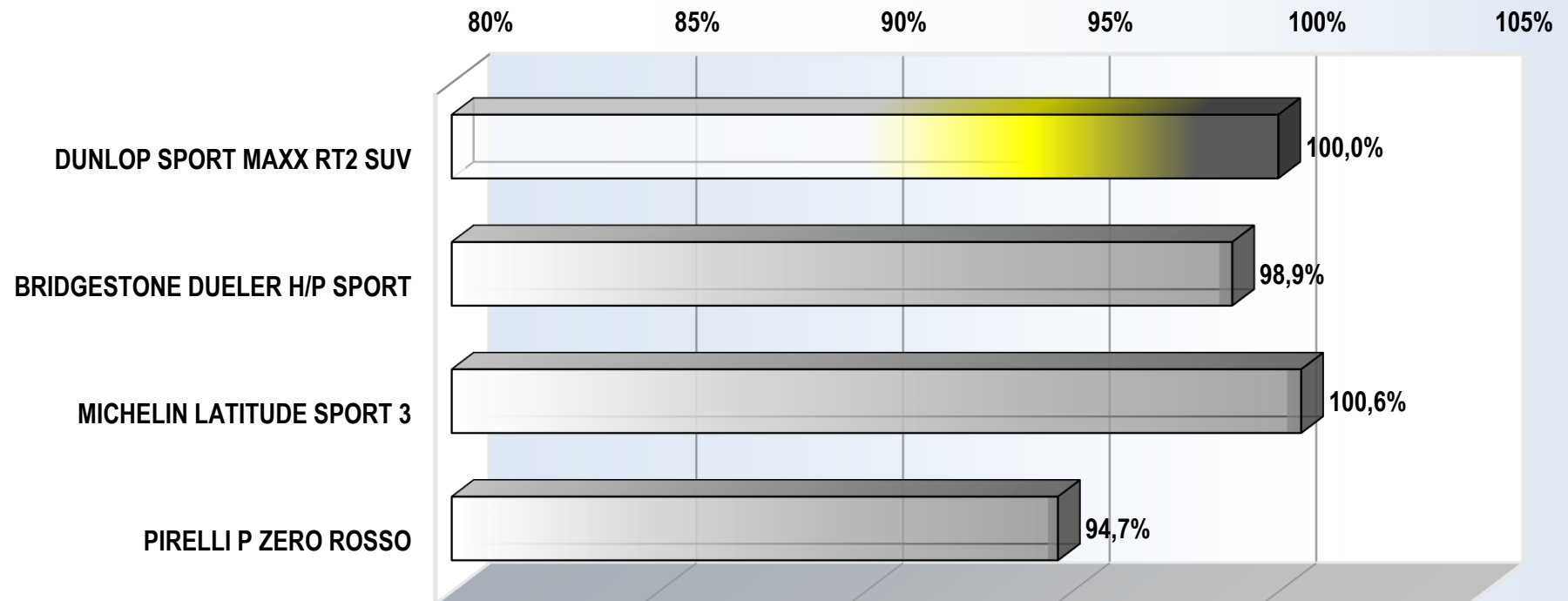


## TEST RESULTS

### ■ AQUAPLANING STRAIGHT-LINE

- Water depth: ~ 8mm
- Aquaplaning speed at 15% slip difference
- Result Dunlop Sport Maxx RT2 SUV: Ø Aquaplaning speed: 70.5 km/h

#### AQUAPLANING STRAIGHT-LINE PERFORMANCE \* [%]



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

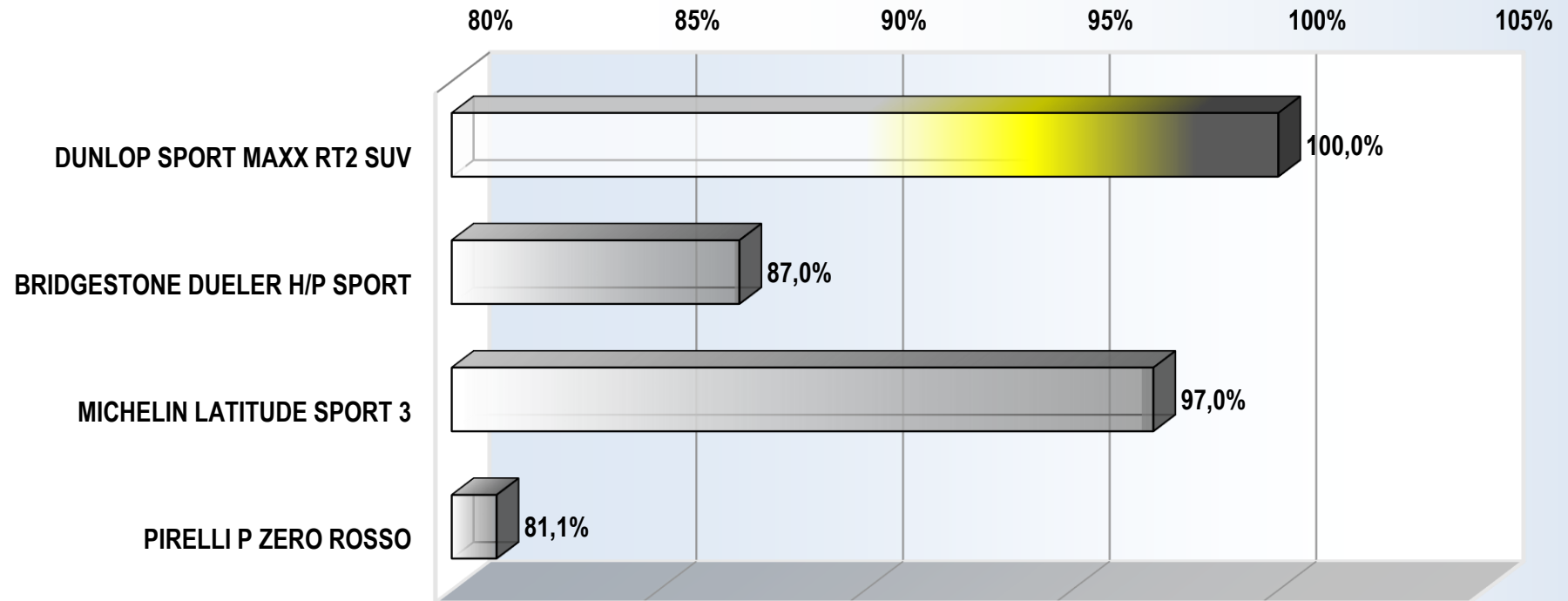


## TEST RESULTS

### ■ AQUAPLANING IN CURVE

- ESP off
- Radius: 100 m
- Water depth: ~ 8 mm
- Result Dunlop Sport Maxx RT2 SUV:  $\emptyset$  Integral A /  $a_{lat \ max}$ : 77.4 / 2.74 m/s<sup>2</sup>

#### AQUAPLANING IN CURVE PERFORMANCE \* [%]



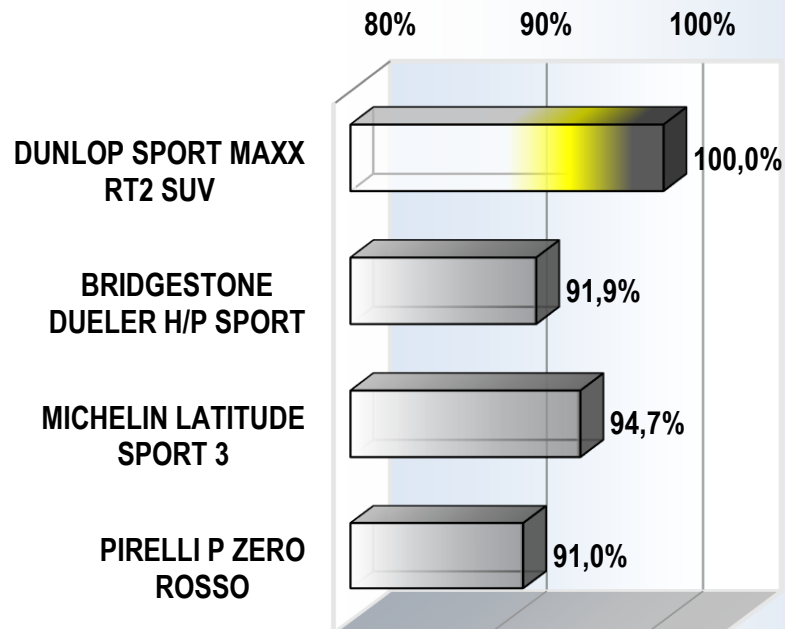
\*) The calculation of the percentage performance is based on the lateral acceleration.

## TEST RESULTS

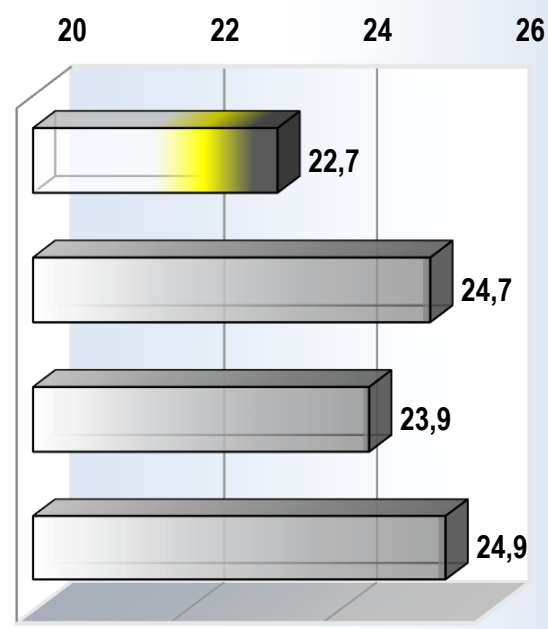
### WET BRAKING HIGH $\mu$

- ABS-braking
- Speed range: 80 to 20 km/h
- Tested on high  $\mu$  wet surface
- Result Dunlop Sport Maxx RT2 SUV:  $\emptyset$  Stopping distance / mean deceleration: 21.2 m / 10.90 m/s<sup>2</sup>

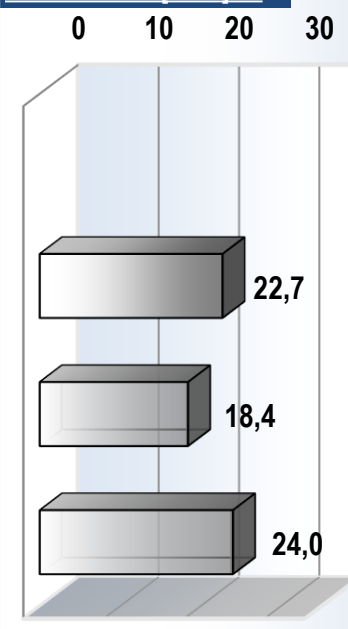
WET BRAKING PERFORMANCE \* [%]



STOPPING DISTANCE [m], 80-0 km/h \*\*



RESIDUAL SPEED WHEN DU STOPPED [km/h] \*\*\*



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

\*\*) The extrapolation is based on the corrected mean deceleration values resulting from the measured braking distances.

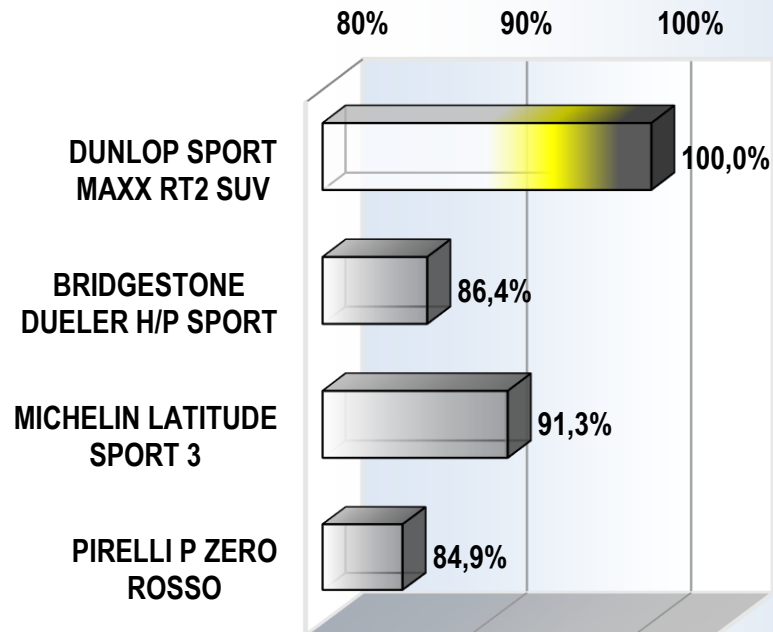
\*\*\*) The calculation of the residual speed is based on the extrapolated stopping distance (80-0 km/h) and the mean deceleration values resulting from the measured braking distances.

## TEST RESULTS

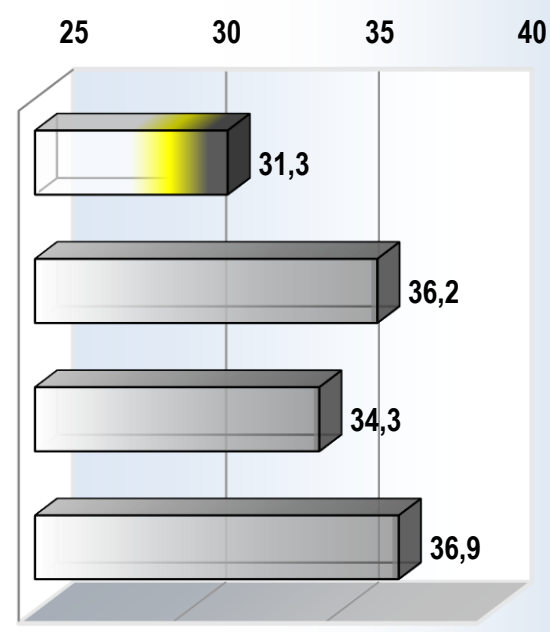
### WET BRAKING LOW $\mu$

- ABS-braking
- Speed range: 80 to 20 km/h
- Tested on low  $\mu$  wet surface
- Result Dunlop Sport Maxx RT2 SUV:  $\emptyset$  Stopping distance / mean deceleration: 29.3 m / 7.90 m/s<sup>2</sup>

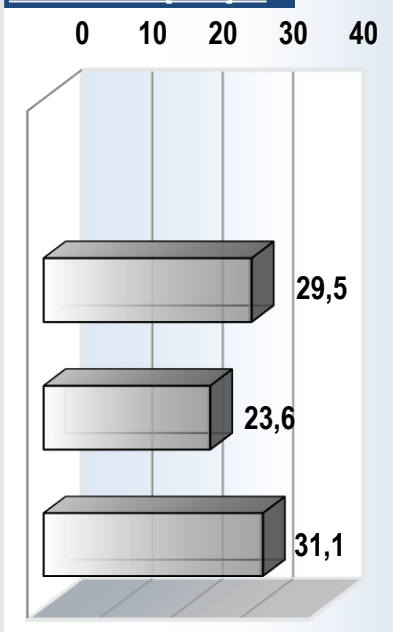
WET BRAKING PERFORMANCE \* [%]



STOPPING DISTANCE [m], 80-0 km/h \*\*



RESIDUAL SPEED WHEN DU STOPPED [km/h] \*\*\*



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

\*\*) The extrapolation is based on the mean corrected deceleration values resulting from the measured braking distances.

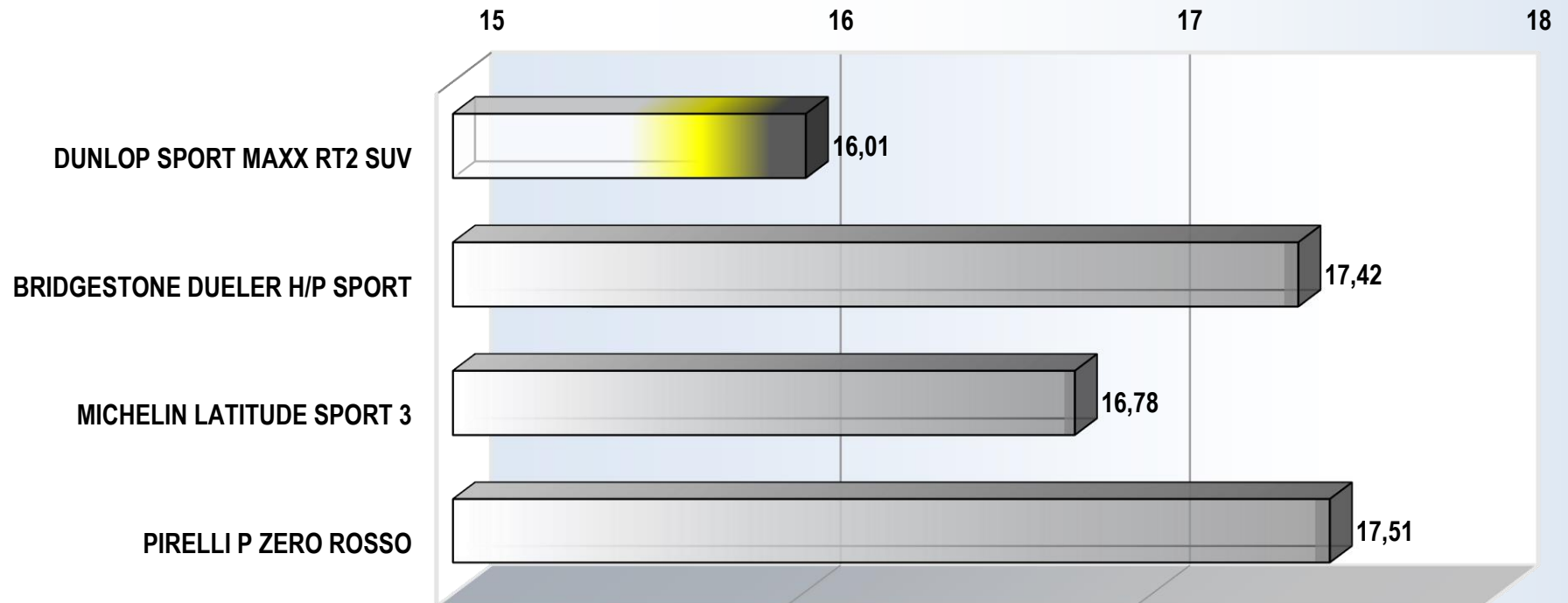
\*\*\*) The calculation of the residual speed is based on the extrapolated stopping distance (80-0 km/h) and the mean deceleration values resulting from the measured braking distances.

## TEST RESULTS

### ■ LATERAL WET GRIP

- ESP off
- Circle radius: 42 m
- Test surface: wet asphalt circle
- Result Dunlop Sport Maxx RT2 SUV:    Ø Lap time / mean lateral acceleration: 16.01 sec / 6.47 m/s<sup>2</sup>

#### LATERAL WET GRIP - LAP TIMES \* [sec]



\*) The calculation of the lap times is based on the mean lateral acceleration values and the percentage performances.



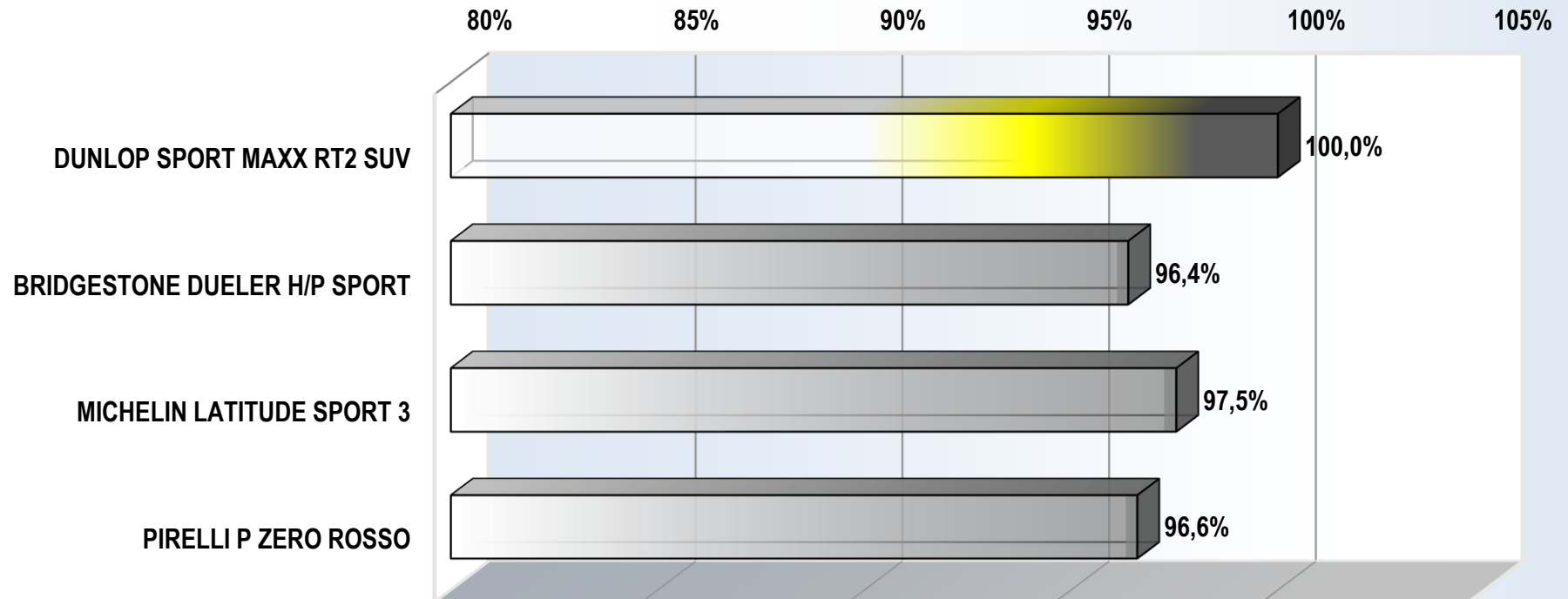


## TEST RESULTS

### WET HANDLING

- ESP off
- Subjective assessment & lap times
- Handling track with wet asphalt, length: 1700 m
- Result Dunlop Sport Maxx RT2 SUV: Ø Speed: 88.8 km/h Ø Rating (out of max. 10): 8.64

#### WET HANDLING PERFORMANCE \* [%]



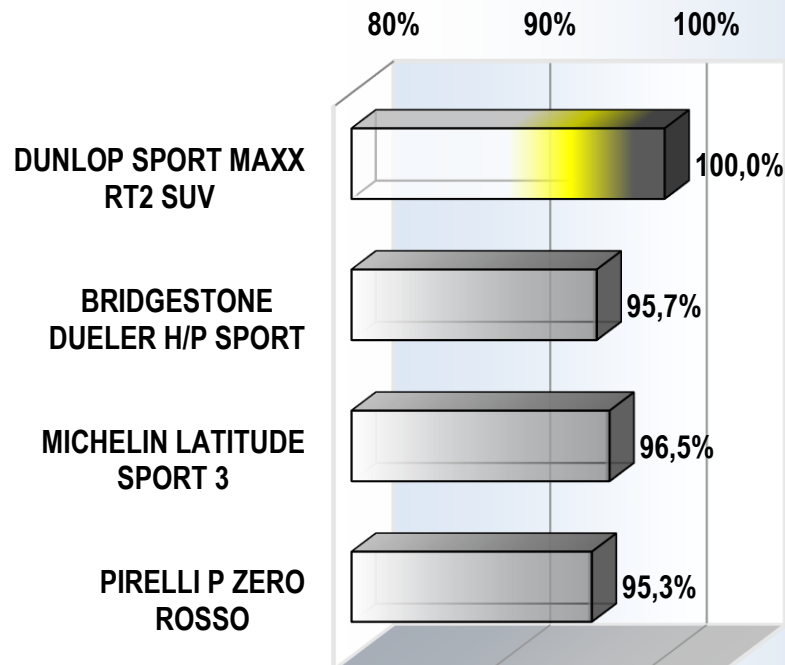
\*) The calculation of the percentage performance is based on the speed and the rating scores (at the ratio 2:1).

## TEST RESULTS

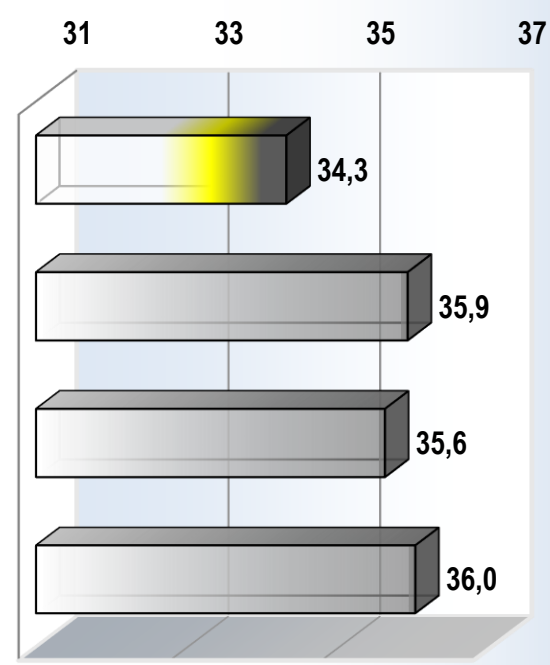
### ■ DRY BRAKING

- ABS-braking
- Speed range: 100 to 0 km/h
- Test surface: dry asphalt
- Result Dunlop Sport Maxx RT2 SUV: Ø Stopping distance / mean deceleration: 34.3 m / 11.24m/s<sup>2</sup>

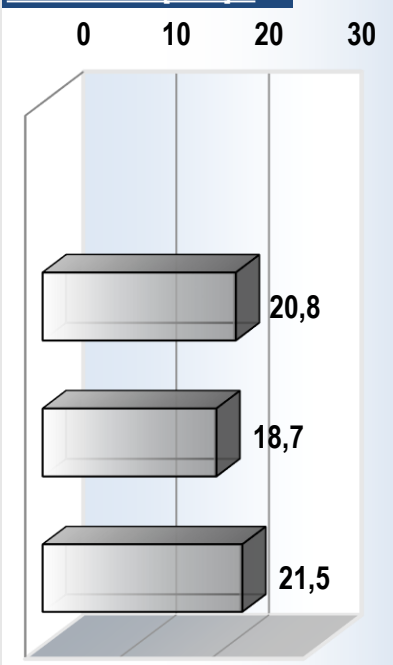
#### DRY BRAKING PERFORMANCE \* [%]



#### STOPPING DISTANCE [m], 100-0 km/h



#### RESIDUAL SPEED WHEN DU STOPPED [km/h] \*\*



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

\*\*) The calculation of the residual speed is based on the measured braking distances and the mean deceleration values resulting from the measured braking distances.

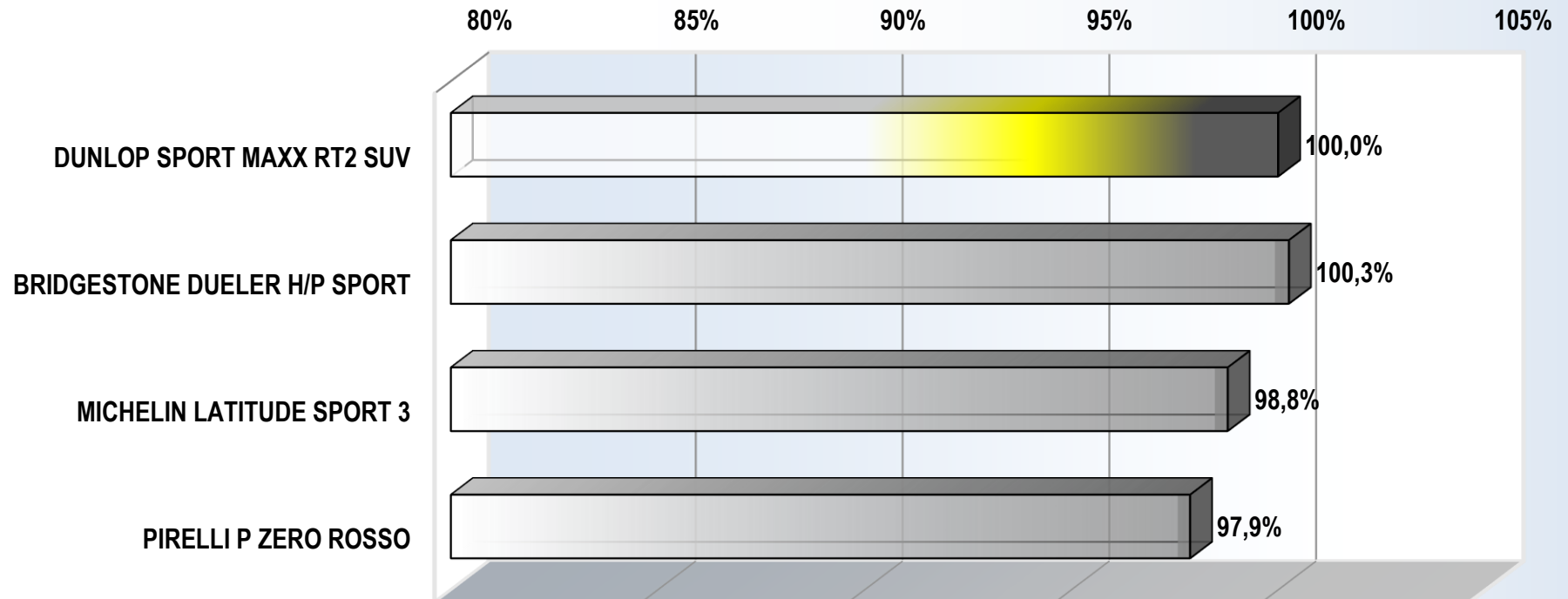


## TEST RESULTS

### ■ DRY HANDLING

- ESP off
- Subjective assessment & lap times
- Handling track with dry asphalt, length: 3100 m
- Result Dunlop Sport Maxx RT2 SUV: Ø Speed: 105.8 km/h Ø Rating (out of max. 10): 8.30

#### DRY HANDLING PERFORMANCE \* [%]



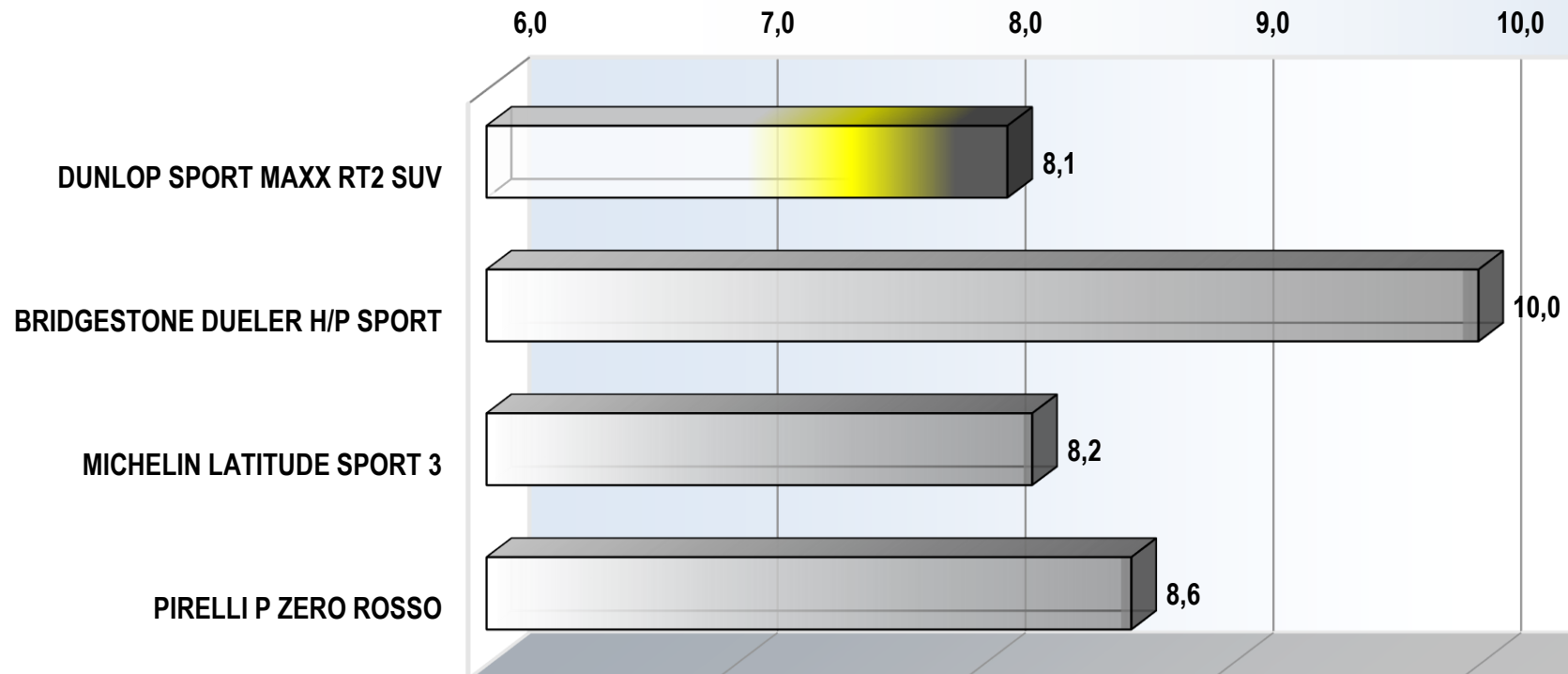
\*) The calculation of the percentage performance is based on the speed and the rating scores (at the ratio 2:1).

## TEST RESULTS

### ■ ROLLING RESISTANCE

- Acc. to ISO 28580 / EC 1222/2009
- Electrical power method
- Load & Inflation: 780 kg (XL) / 700 kg
- 2.50 bar (XL) / 2.10 bar
- Result Dunlop Sport Maxx RT2 SUV RR-Force  $F_R = 63.9 \text{ N}$  RR-Coefficient  $c_R = 8.36 \text{ kg/t}$  ( $\triangleq$  EC Label RRC = 8.1)

#### ROLLING RESISTANCE EC LABEL VALUE $c_R$ [kg/t]



## TEST RESULTS

### ■ PASS-BY NOISE

- In accordance to ECE R117      - Reference speed: 80 km/h      - Load & Inflation FA / RA: 1370 kg / 1390 kg      - 2.00 bar / 2.00 bar
- Result Dunlop Sport Maxx RT2 SUV:       $L_R(J_{ref}) = 70.7 \text{ dB(A)}$       Noise level acc. ECE R117 = 69 dB(A)

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

The resulting type approval values are given in brackets.

