



TÜV SÜD Tire Test 2024

HANKOOK ION EVO AS

235/40 R19 96W XL

BENCHMARK TEST

**Add value.
Inspire trust.**

TÜV SÜD PS – TIRE TEST 2024

TIRE DETAILS



CANDIDATE TIRE



HANKOOK
ION EVO AS
235/40 R19 96W XL
DOT 1T757 5A HB 4623

COMPETITOR TIRES (in testing order)



BRIDGESTONE
TURANZA EV
235/40 R19 96W XL
DOT 1W2 189F76 1823



GOODYEAR
ELECTRICDRIVE GT
235/40 R19 96W XL
DOT 1M618 KR1R 2822



PIRELLI
P ZERO AS PLUS ELECT
235/40 R19 96V XL
DOT 1UN FC064P 2723

- All Hankook iON evo AS test samples were provided for the tests by the customer.
- All other test samples were purchased in the normal market by TÜV SÜD.
- TÜV SÜD randomly selected the tires for the individual tests.

TÜV SÜD PS – TIRE TEST 2024

TEST DETAILS



TEST LOCATIONS



- Wet & dry: ATP Papenburg (D)
- Snow: Technotrack Ivalo (FIN)
- Rolling resistance: TÜV SÜD Product Service Garching (D)

TEST VEHICLES



- Tesla Model 3 Performance, VW T6 2.0TDI

PROCEDURE & 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 Hankook iON evo AS ($\triangleq$ 100%).
- In all evaluations, a percentage >100% means better and <100% means worse.

TÜV SÜD PS – TIRE TEST 2024

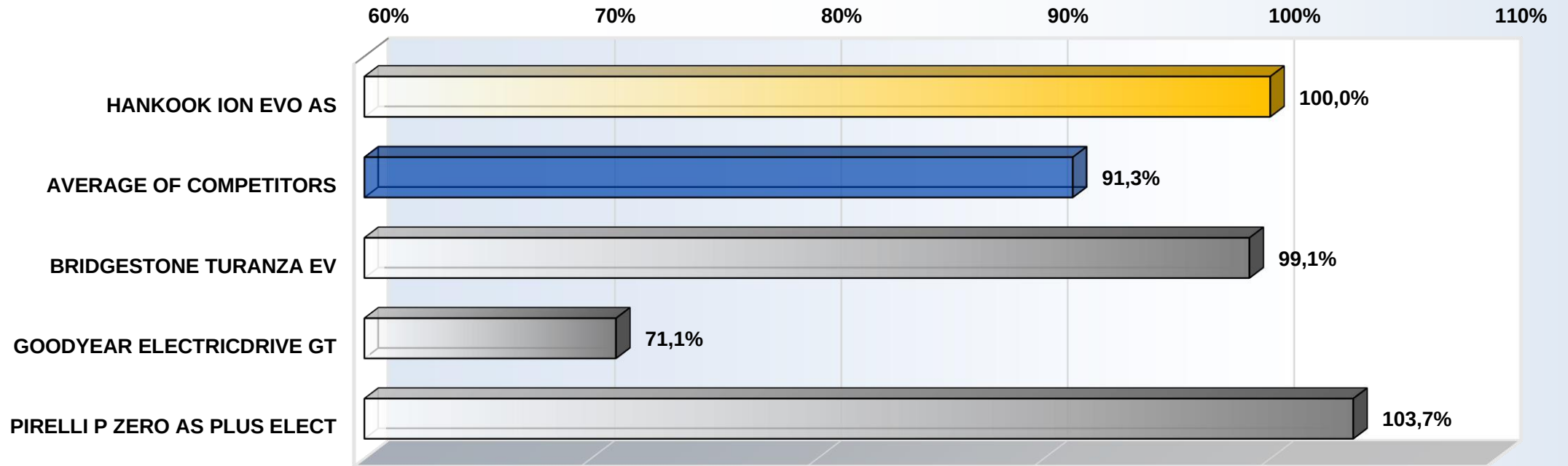
TEST RESULTS



ACCELERATION ON SNOW

- Acceleration on compressed snow with activated ETC (double execution)
- Result: Ø Acceleration time [s] from 10 to 40 km/h → Mean acceleration [m/s²]

ACCELERATION ON SNOW PERFORMANCE * [%]



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

TÜV SÜD PS – TIRE TEST 2024

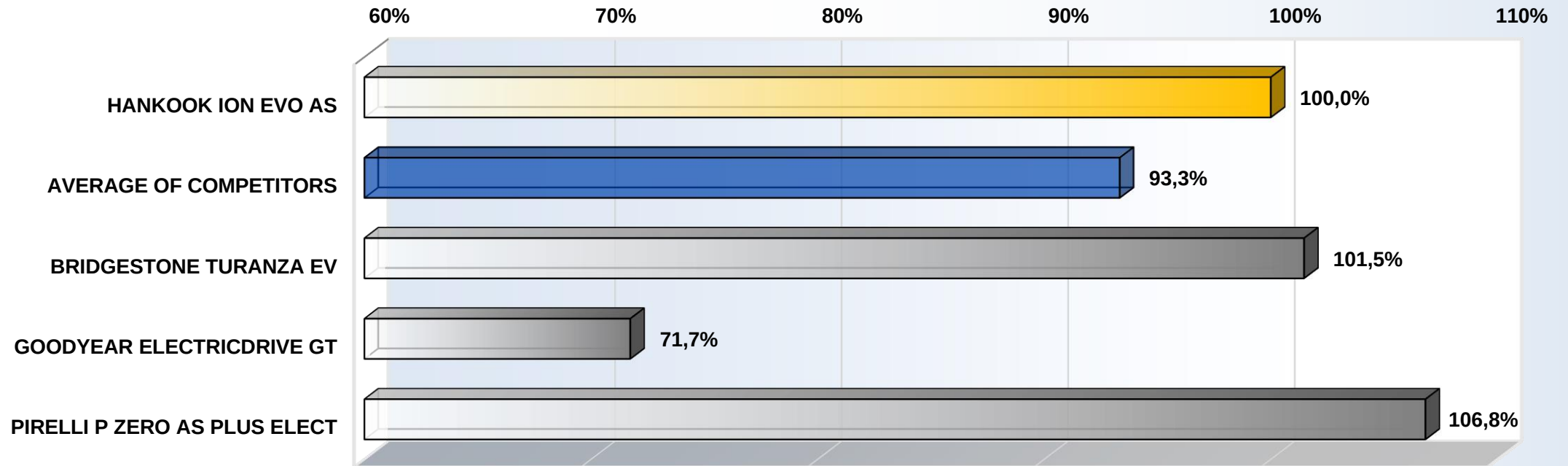
TEST RESULTS



BRAKING ON SNOW

- ABS-braking on compressed snow (double execution)
- Result: Ø Stopping distance [m] from 40 to 5 km/h → Mean deceleration [m/s²]

BRAKING ON SNOW PERFORMANCE * [%]



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

TÜV SÜD PS – TIRE TEST 2024

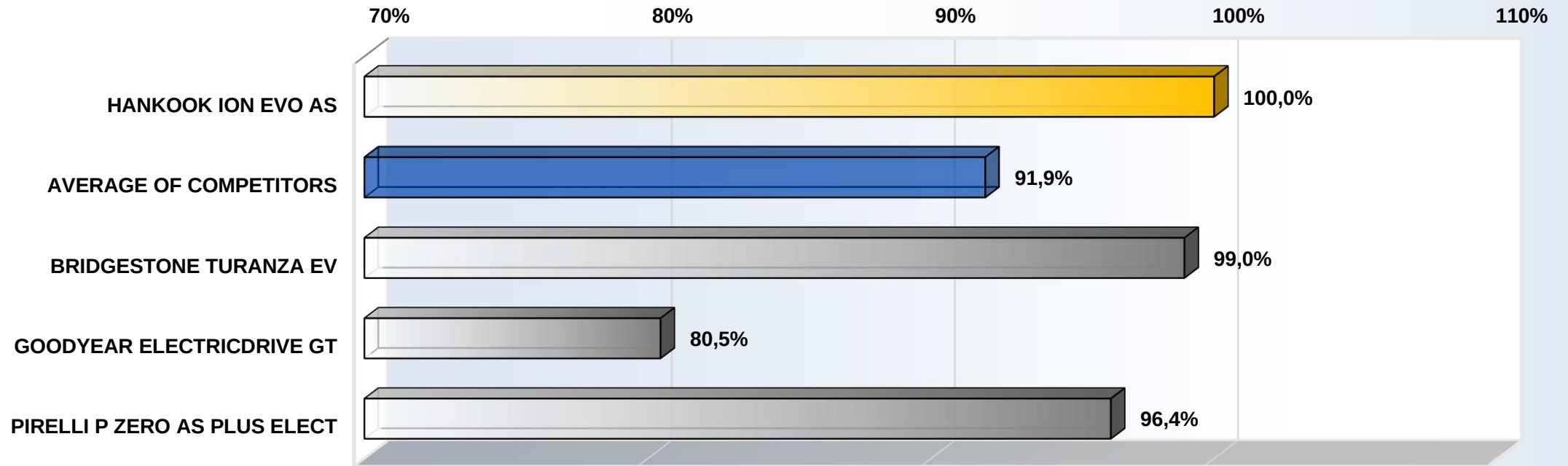
TEST RESULTS



HANDLING ON SNOW

- Subjective assessment and lap time on a snow handling circuit (track length: 1090 m) (double execution)
- Result: Ø Rating (min. 1, max. 10) and Ø lap time [s] → average speed [km/h]; total result from speed and rating scores (2:1)

HANDLING ON SNOW PERFORMANCE * [%]



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

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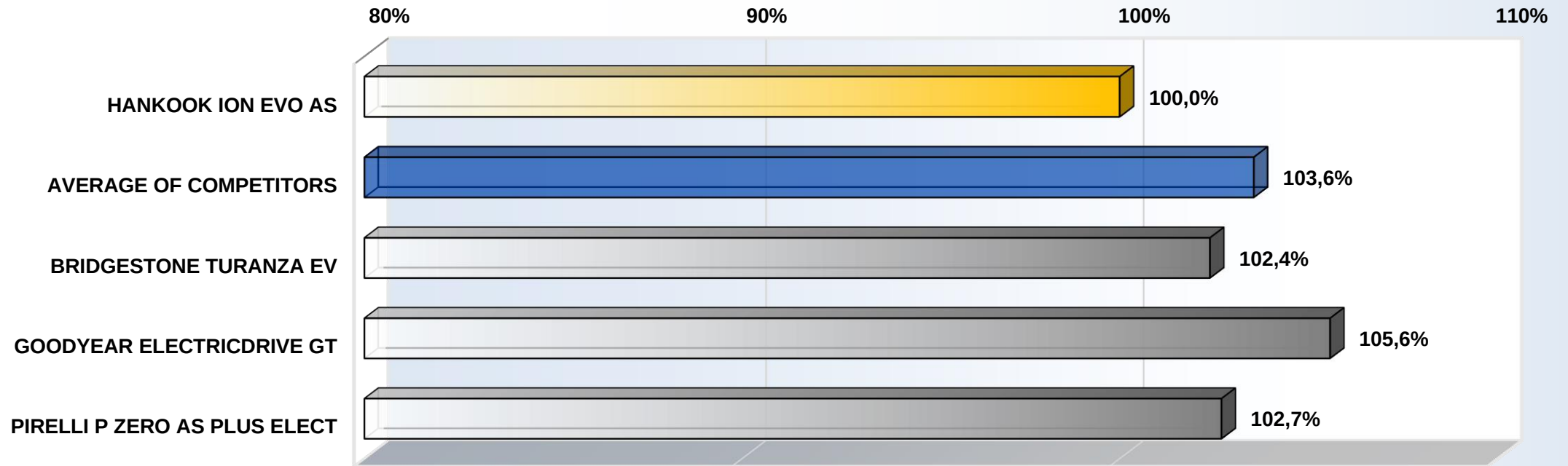
TEST RESULTS



AQUAPLANING STRAIGHT-LINE

- Objective measurement of longitudinal aquaplaning performance; water depth ~ 9 mm
- Result: Aquaplaning speed [km/h] at 15% slip

AQUAPLANING STRAIGHT-LINE PERFORMANCE * [%]



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

TÜV SÜD PS – TIRE TEST 2024

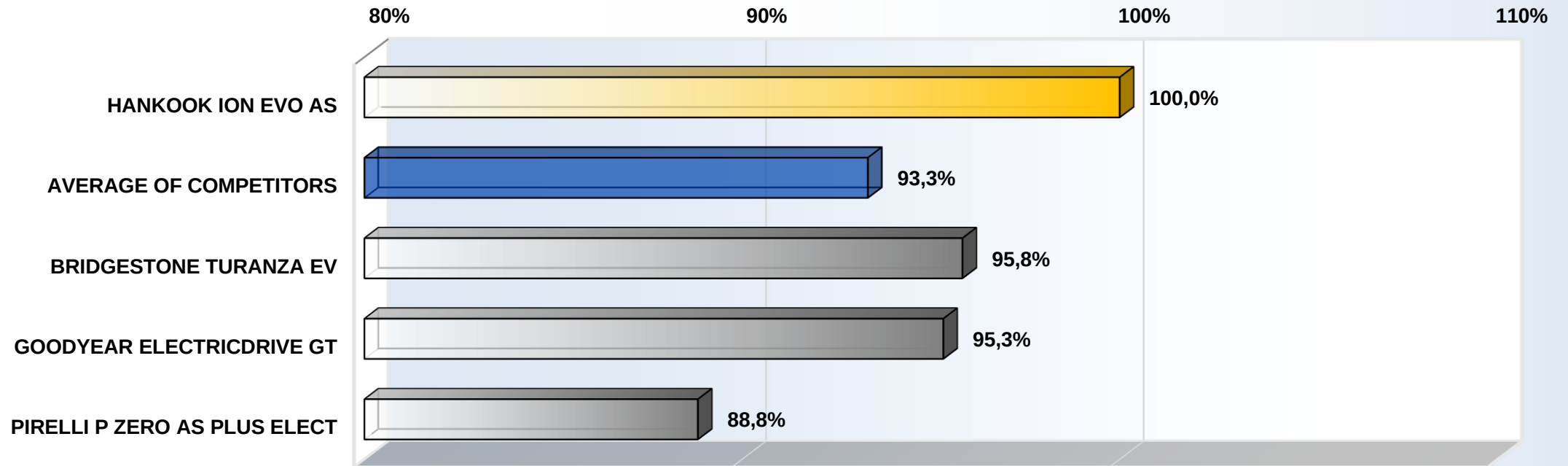
TEST RESULTS



WET BRAKING

- ABS-braking on wet asphalt surface
- Result: Ø Stopping distance [m] from 80 to 20 km/h → Mean deceleration [m/s²]

WET BRAKING PERFORMANCE * [%]



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

TÜV SÜD PS – TIRE TEST 2024

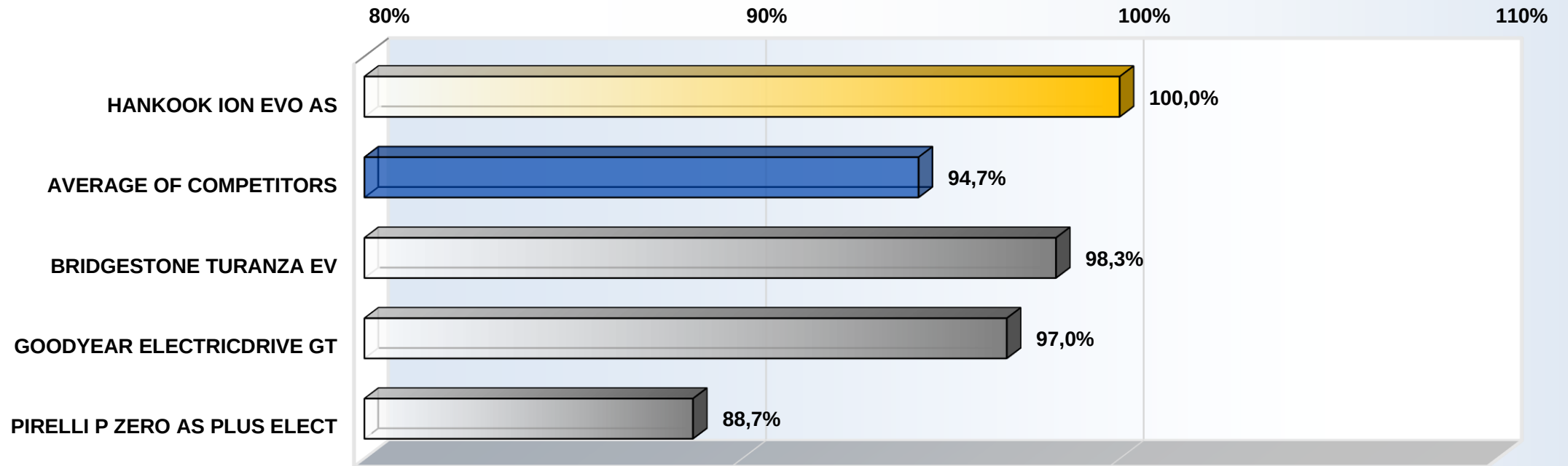
TEST RESULTS



LATERAL WET GRIP

- Circular state driving in wet circle at the grip limit (circle radius: 42 m)
- Result: Ø Lap time [s] → Mean lateral acceleration [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.

TÜV SÜD PS – TIRE TEST 2024

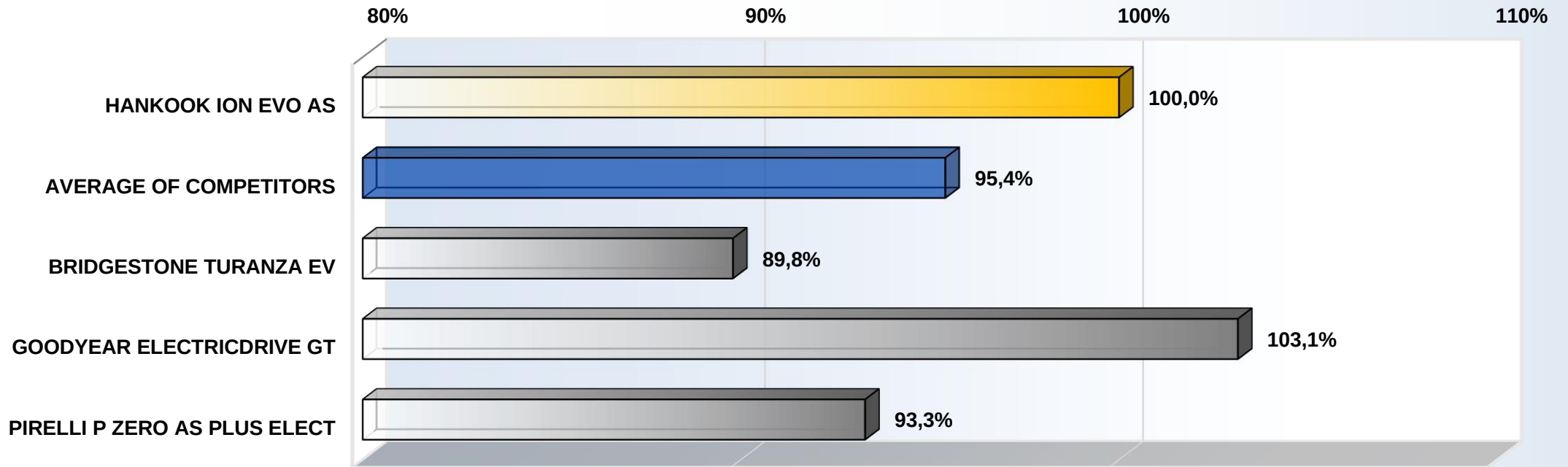
TEST RESULTS



DRY BRAKING

- ABS-braking on dry asphalt surface
- Result: Ø Stopping distance [m] from 100 to 0 km/h → Mean deceleration [m/s²]

DRY BRAKING PERFORMANCE * [%]



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

TÜV SÜD PS – TIRE TEST 2024

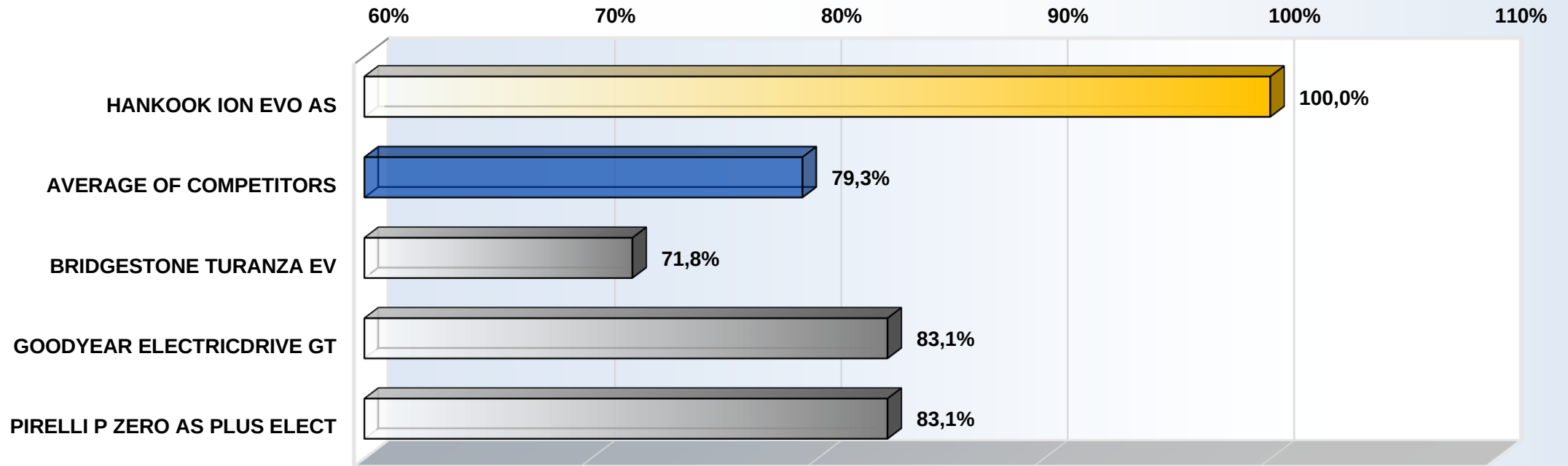
TEST RESULTS



ROLLING RESISTANCE

- Acc. to ECE R117 Annex 6
- Result: Rolling resistance coefficient (c_R) EC label value [kg/t]

ROLLING RESISTANCE PERFORMANCE * [%]



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

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SUMMARY OF RESULTS

Percentage > 100% means better, percentage < 100% means worse.	HANKOOK ION EVO AS	BRIDGESTONE TURANZA EV	GOODYEAR ELECTRICDRIVE GT	PIRELLI P ZERO AS PLUS ELECT
ACCELERATION ON SNOW	100,0%	99,1%	71,1%	103,7%
BRAKING ON SNOW	100,0%	101,5%	71,7%	106,8%
HANDLING ON SNOW	100,0%	99,0%	80,5%	96,4%
AQUAPLANING STRAIGHT-LINE	100,0%	102,4%	105,6%	102,7%
WET BRAKING	100,0%	95,8%	95,3%	88,8%
LATERAL WET GRIP	100,0%	98,3%	97,0%	88,7%
DRY BRAKING	100,0%	89,8%	103,1%	93,3%
ROLLING RESISTANCE (ECE R117 Annex 6)	100,0%	71,8%	83,1%	83,1%

