



Product Service

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TÜV SÜD - Tire Test 2017

205/55 R16 – Goodyear Vector 4Seasons Gen-2

Tire Performance Test acc. to PPP 90023A:2014

Test Period: July - August 2017

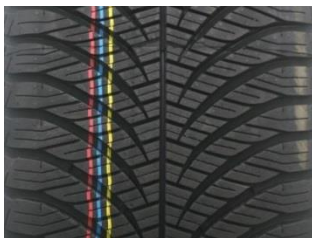
Report No. 713112421

TIRE DETAILS

DIMENSION: 205/55 R16

TIRE BRANDS / PATTERNS IN THE TEST:

REFERENCE TIRE:

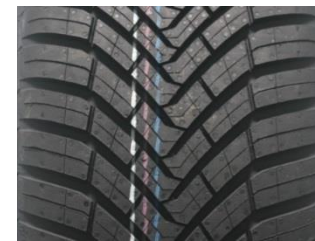


GOODYEAR
VECTOR 4SEASONS GEN-2
94 V, DOT H30F JRTR 1717, 1817

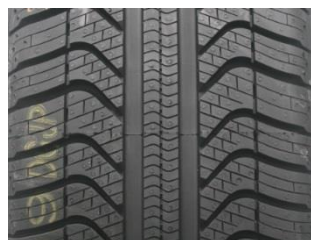
COMPETITORS:



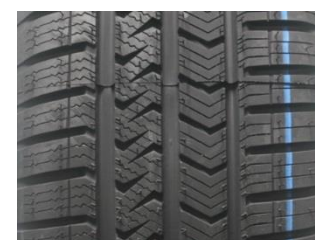
MICHELIN
CROSSCLIMATE+
94 V, DOT HDWC 0JYX 1617



CONTI
ALLSEASONCONTACT
94 V, DOT HW0F D4H6 1517, 1717



PIRELLI
CINTURATO ALL SEASON
91 V, DOT 93BK U341 1817



VREDESTEIN
QUATRAC 5
94 V, DOT DVK8 0000 1317

- The test samples of Goodyear Vector 4Seasons Gen-2 were provided for the test by the client. Compliance to market tire was verified.
- 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 Colmar Berg (LUX), Dunlop TC Wittlich (D), ATP Papenburg (D)
- Snow: SHPG Cardrona (NZ)
- Ice: Ice Hall Montpellier (F)
- Noise: Uni Neubiberg (D)
- Rolling Resistance: TÜV SÜD PS Garching (D)

■ Test Vehicles

- Snow, Ice, Wet & Dry: VW Golf VII 1.4 TSI; Noise: VW Golf VII 2.0 TDI

■ Procedure and Evaluation

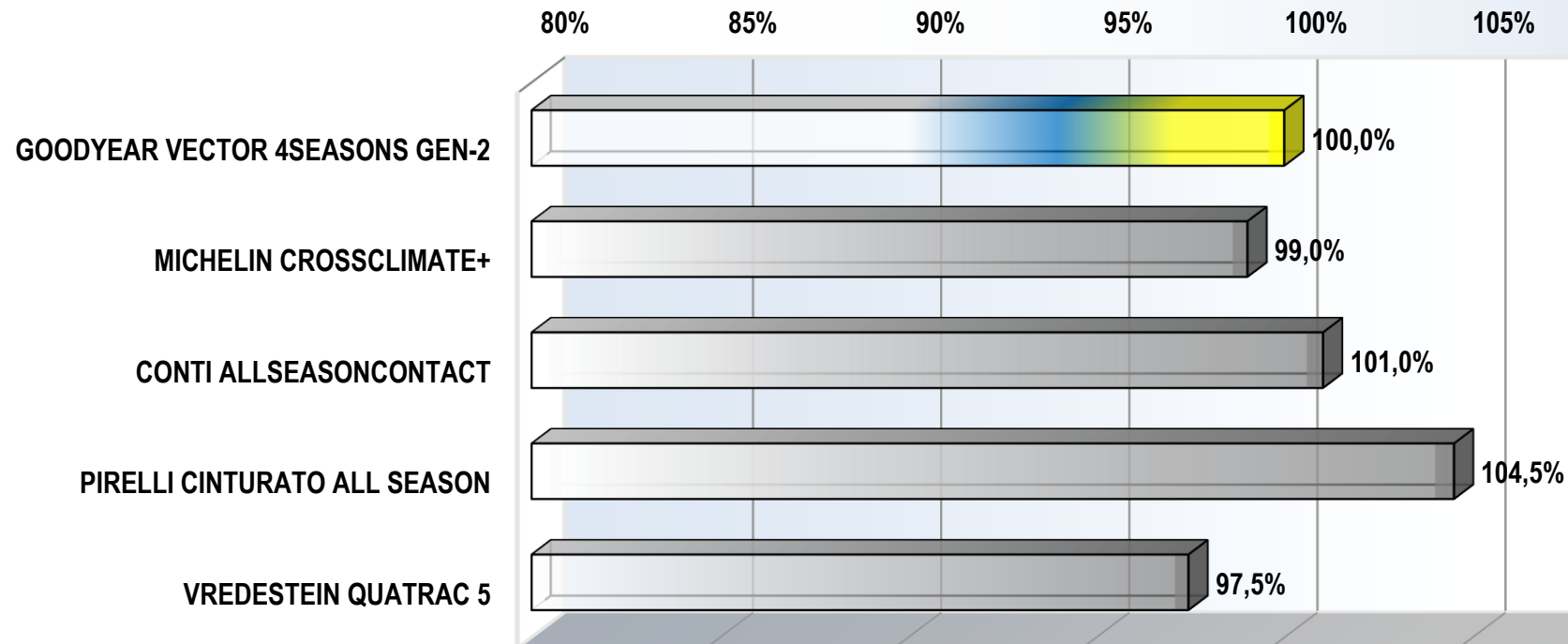
- In most tests, the reference/control tire is tested repeatedly in the progress of the test to detect and consider changes of the ambient test parameters and correct its performance by linear interpolation.
- Generally, all tires in a test are primarily evaluated in relation to the reference/control 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 candidate tire (Goodyear \triangleq 100%).
- In all evaluations, a percentage $> 100\%$ means better and $<100\%$ means worse.

TEST RESULTS

■ AQUAPLANING STRAIGHT-LINE

- Water depth: ~ 8mm
- Aquaplaning speed at 15% slip difference
- Result Goodyear Vector 4Seasons Gen-2: Ø Aquaplaning speed: 83.0 km/h

AQUAPLANING STRAIGHT-LINE PERFORMANCE * [%]



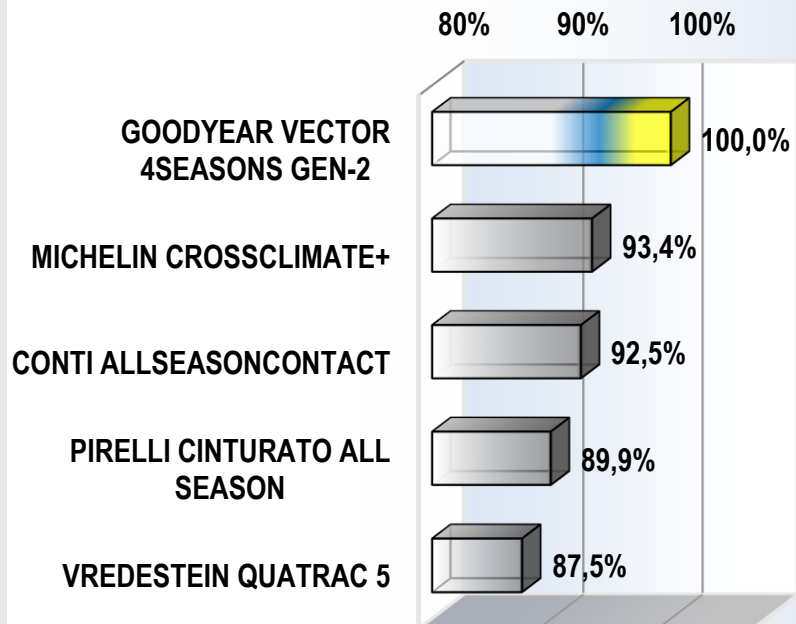
*) The calculation of the percentage performance is based on the aquaplaning speed.

TEST RESULTS

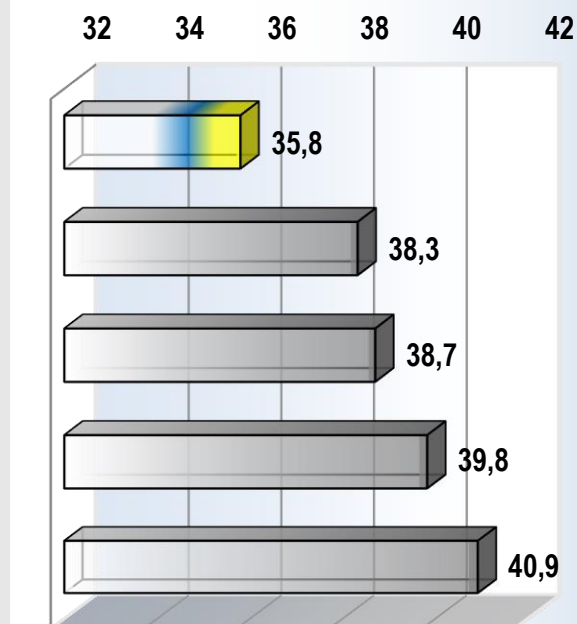
WET BRAKING

- ABS-braking
- Speed range: 80 to 20 km/h
- Tested on low μ wet surface
- Result Goodyear Vector 4Seasons Gen-2: \emptyset Stopping distance / mean deceleration: 33.5 m / 6.90 m/s²

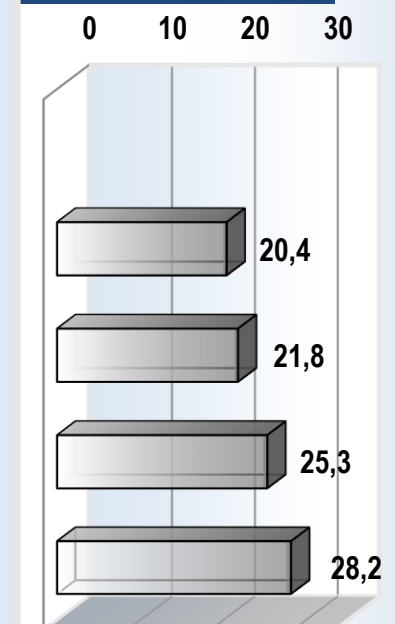
WET BRAKING PERFORMANCE * [%]



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



RESIDUAL SPEED WHEN GYV4S 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.

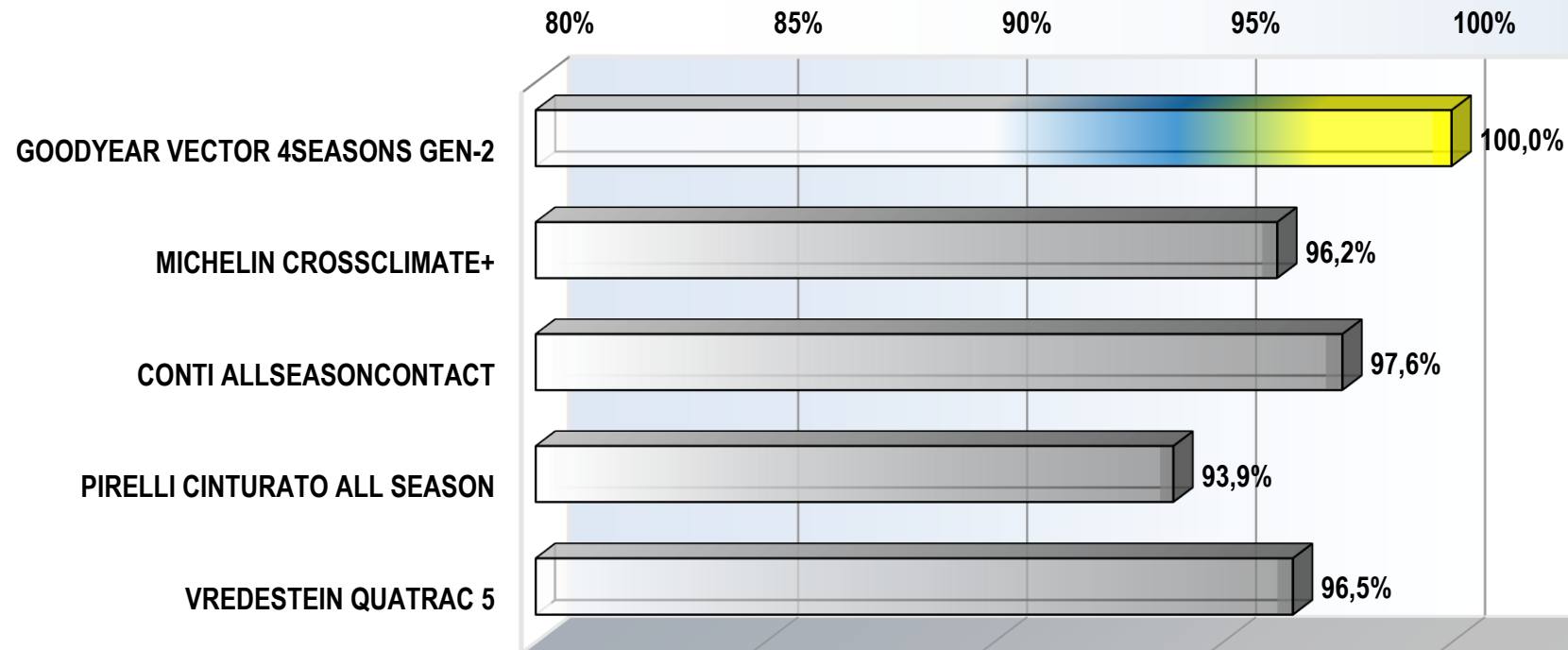
***) The calculation of the residual speed is based on the extrapolated stopping distance (80-0 km/h) and the mean deceleration values resulting from the measured braking distances.

TEST RESULTS

■ LATERAL WET GRIP

- ESP off
- Circle radius: 27 m
- Test surface: wet asphalt circle
- Result Goodyear Vector 4Seasons Gen-2: Ø Lap time / mean lateral acceleration: 11.50 sec / 8.05 m/s²

LATERAL WET GRIP PERFORMANCE * [%]



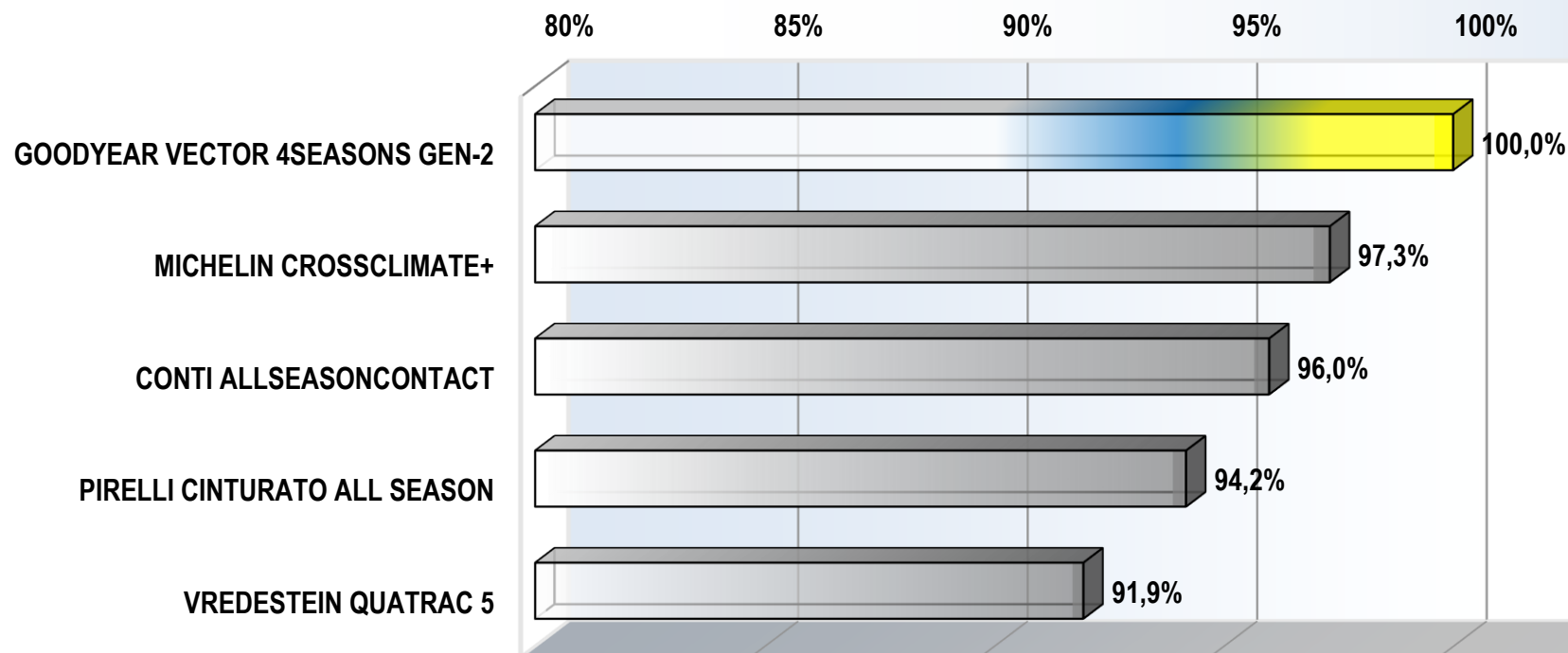
*) The calculation of the percentage performance is based on the mean lateral acceleration values resulting from the measured lap times.

TEST RESULTS

■ WET HANDLING

- ESP off
- Subjective assessment & lap times
- Handling track with wet asphalt, length: 1650 m
- Result Goodyear Vector 4Seasons Gen-2: Ø Speed: 65.1 km/h Ø Rating (out of max. 10): 7.92

WET HANDLING PERFORMANCE * [%]



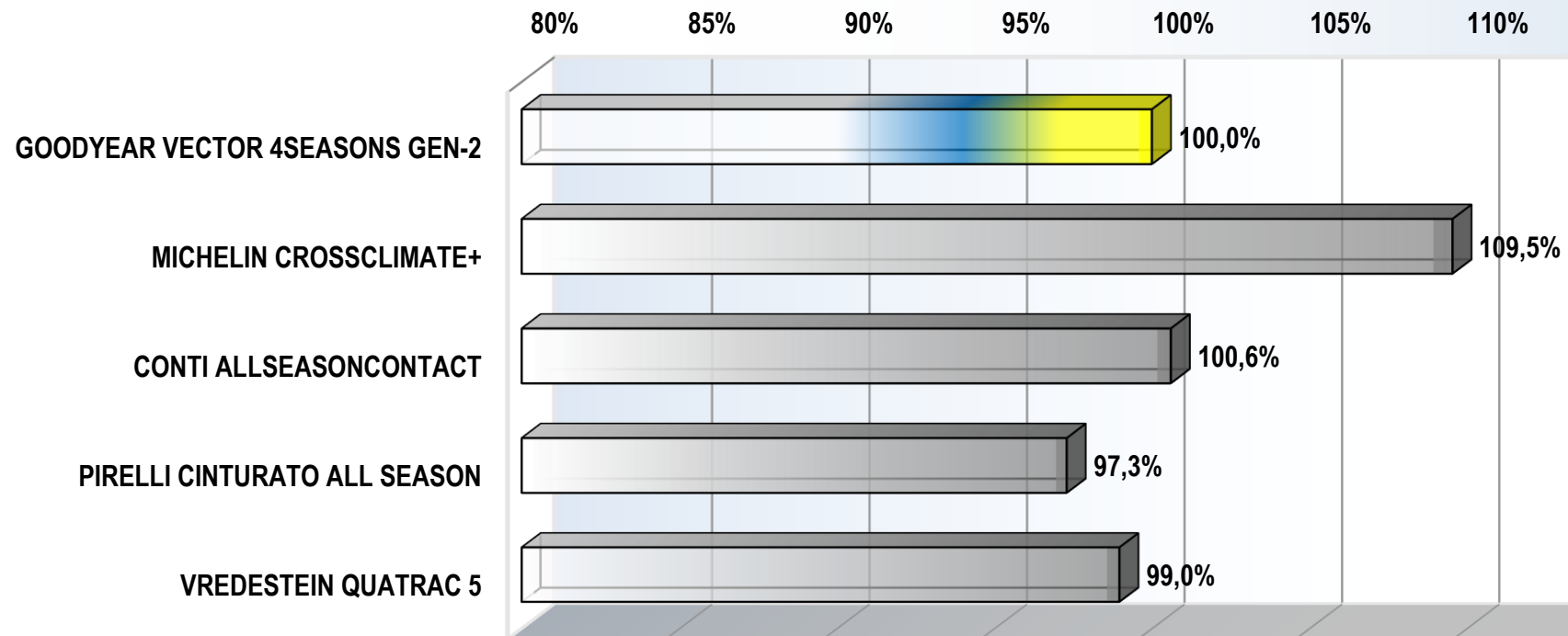
*) The calculation of the percentage performance is based on the speed and the rating scores (at the ratio 2:1).

TEST RESULTS

■ DRY BRAKING

- ABS-braking
- Speed range: 100 to 0 km/h
- Result Goodyear Vector 4Seasons Gen-2: Ø Stopping distance / mean deceleration: 44.7 m / 8.62 m/s²

DRY BRAKING PERFORMANCE * [%]



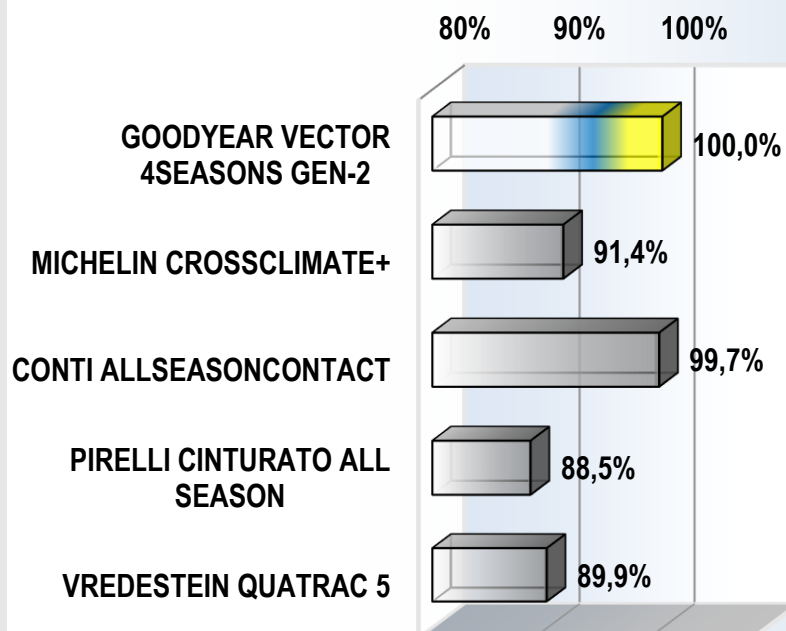
*) The calculation of the percentage performance is based on the mean deceleration values resulting from the measured braking distances.

TEST RESULTS

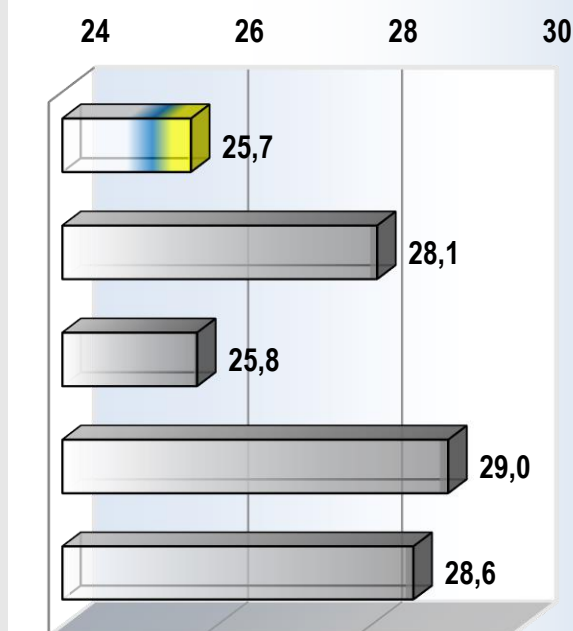
■ BRAKING ON SNOW

- ABS-braking
- Speed range: 50 to 5 km/h
- Duplicate testing (test and re-test on two different days)
- Test surface: compressed snow
- Result Goodyear Vector 4Seasons Gen-2: Ø Stopping distance / mean deceleration (average of test & re-test): 25.4 m / 3.76 m/s²

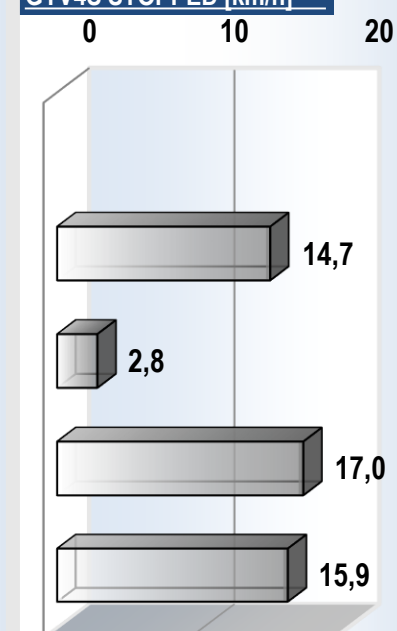
SNOW BRAKING PERFORMANCE * [%]



STOPPING DISTANCE [m], 50-0 km/h **



RESIDUAL SPEED WHEN GYV4S 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.

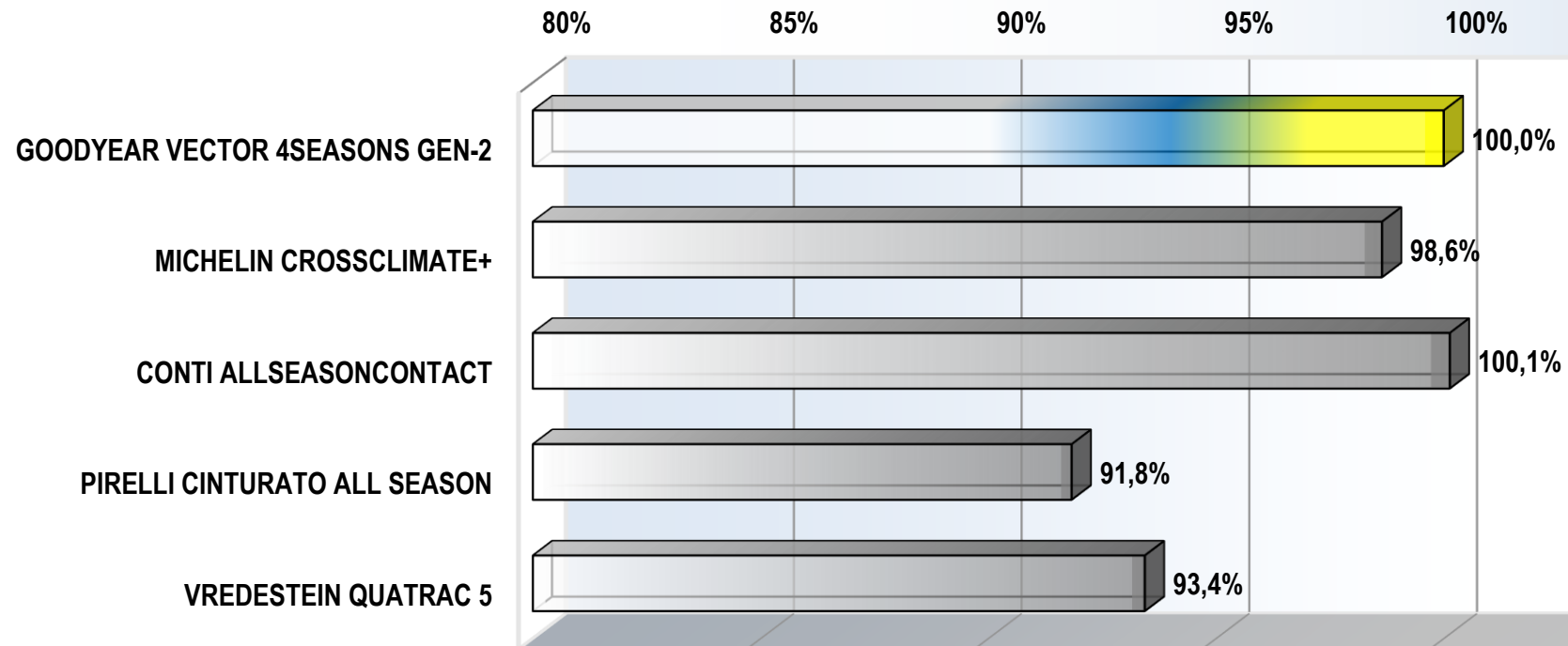
***) The calculation of the residual speed is based on the extrapolated stopping distance (50-0 km/h) and the mean deceleration values resulting from the measured braking distances.

TEST RESULTS

■ ACCELERATION ON SNOW

- ETC activated
- Speed range: 8 to 30 km/h
- Duplicate testing (test and re-test on two different days)
- Test surface: compressed snow
- Result Goodyear Vector 4Seasons Gen-2: Ø Acceleration time / mean acceleration (average of test & re-test): 3.26 sec / 1.87 m/s²

SNOW TRACTION PERFORMANCE * [%]



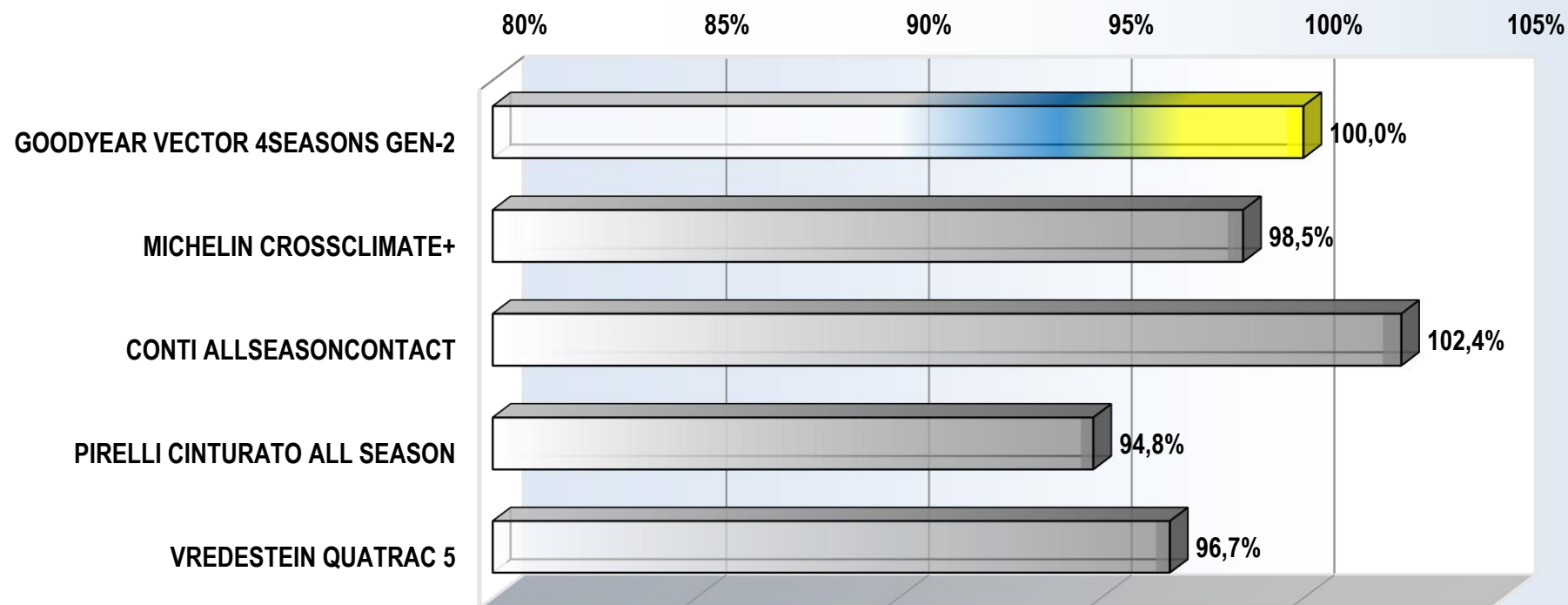
*) The calculation of the percentage performance is based on the mean acceleration values resulting from the measured acceleration times.

TEST RESULTS

■ SNOW HANDLING

- ESP off - Subjective assessment & lap times - Duplicate testing on two different days - Handling track (compr. snow) length: 870 m & 1200 m
- Result Goodyear Vector 4Seasons Gen-2 (average of test and re-test): Ø Speed: 51.4 km/h Ø Rating (out of max. 10): 7.81

SNOW HANDLING PERFORMANCE * [%]



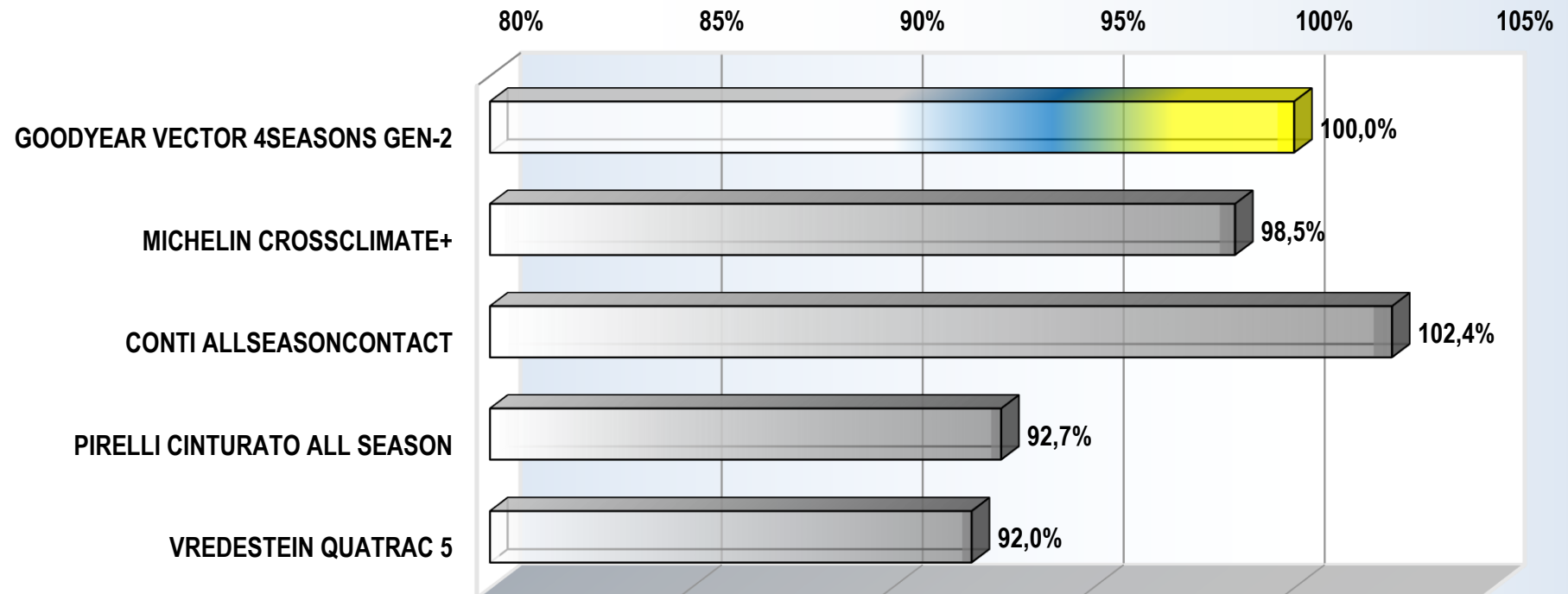
*) The calculation of the percentage performance is based on the speed and the rating scores (at the ratio 2:1).

TEST RESULTS

■ BRAKING ON ICE

- ABS-braking
- Speed range: 20 to 5 km/h
- Test surface: polished, artificial ice
- Result Goodyear Vector 4Seasons Gen-2: Ø Stopping distance / mean deceleration: 11.6 m / 1.25 m/s²

ICE BRAKING PERFORMANCE * [%]



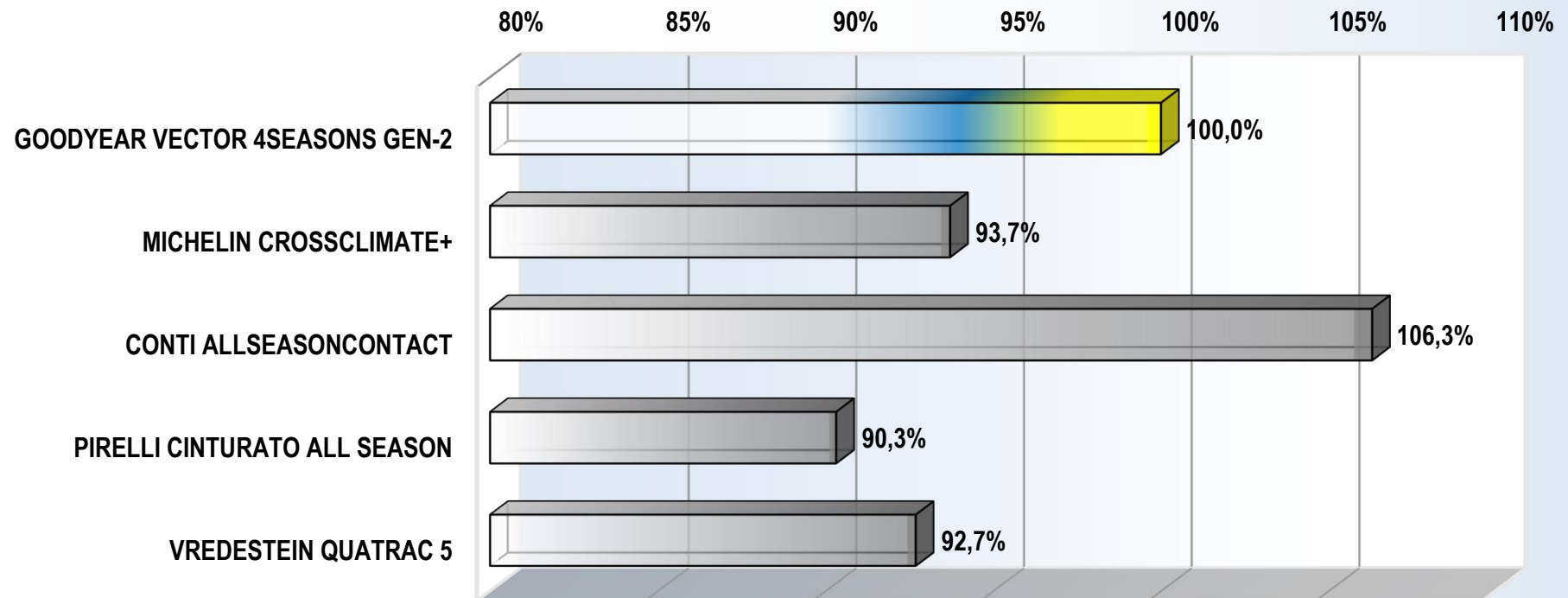
*) The calculation of the percentage performance is based on the mean deceleration values resulting from the measured braking distances.

TEST RESULTS

■ ACCELERATION ON ICE

- ETC activated
- Speed range: 8 to 18 km/h
- Test surface: polished, artificial ice
- Result Goodyear Vector 4Seasons Gen-2: Ø Acceleration time / mean acceleration: 4.95 sec / 0.56 m/s²

ICE TRACTION PERFORMANCE * [%]



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

TEST RESULTS

■ LATERAL GRIP ON ICE

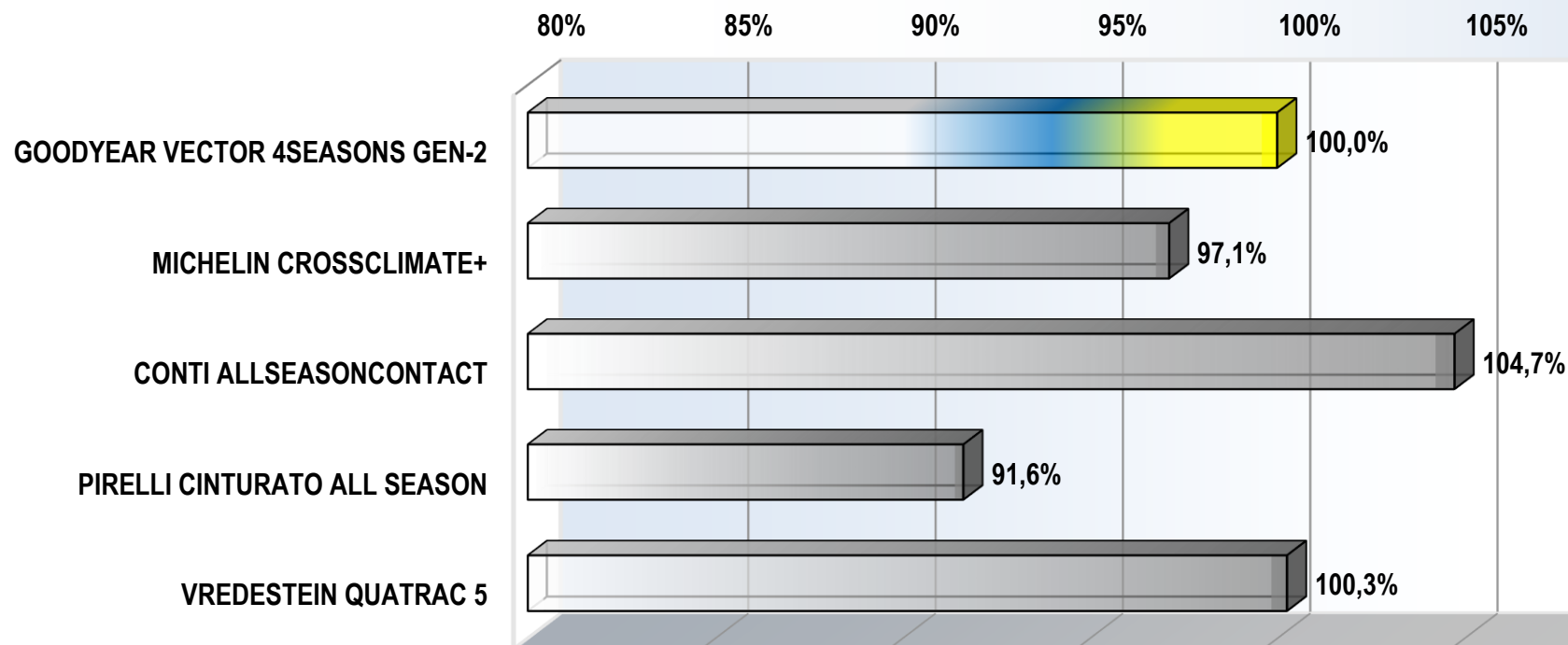
- ESP off - Circle radius: 10 m

- Test surface: polished, artificial ice

- Result Goodyear Vector 4Seasons Gen-2:

Ø Lap time / mean lateral acceleration: 19.78 sec / 1.01 m/s²

CORNERING PERFORMANCE ON ICE * [%]



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

TEST RESULTS

■ ROLLING RESISTANCE

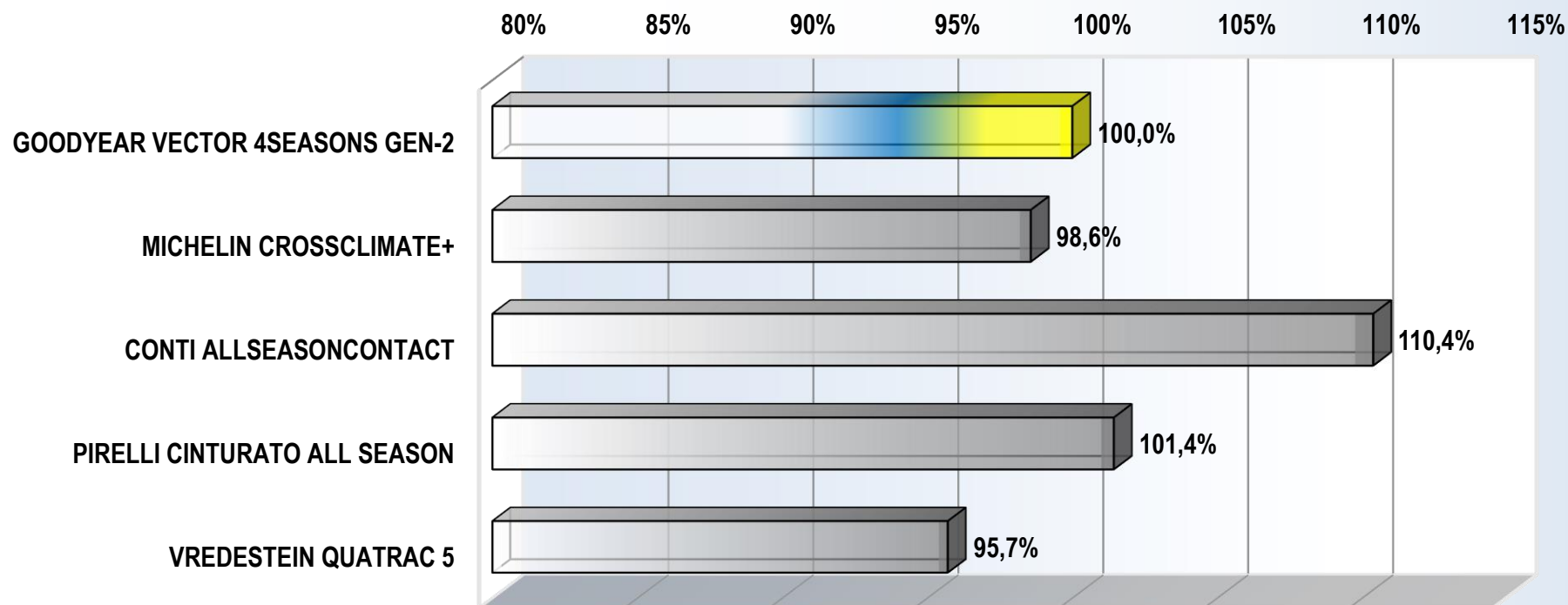
- Acc. to ISO 28580 / EC 1222/2009

- Electrical power method

- Load & Inflation: 536 / 492 kg - 2.50 / 2.10 bar

- Result Goodyear Vector 4Seasons Gen-2: RR-Force $F_R = 44.1$ N RR-Coefficient $c_R = 8.38$ kg/t (\triangleq EC Label RRC = 8.1)

LOW 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: 944 / 946 kg - 1.90 / 1.90 bar

- Result Goodyear Vector 4Seasons Gen-2: $L_R(J_{ref}) = 70.8 \text{ dB(A)}$ 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.

