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TÜV SÜD – Tire Test 2022

225/45 ZR17 94Y XL – SAILUN ATREZZO ZSR2

TÜV TIRE TEST MARK acc. to PPP 90006B:2018

Test Period: April - May 2022

Report No. 713254977-TM01

TIRE DETAILS

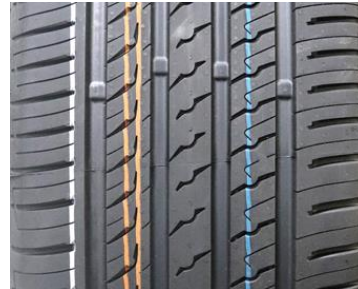
DIMENSION: 225/45 ZR17 94Y XL

CANDIDATE TIRE:



**SAILUN
ATREZZO ZSR2
DOT 1KE B6UJLY 1122**

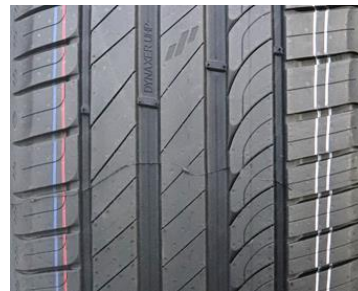
COMPETITOR TIRES (in testing order):



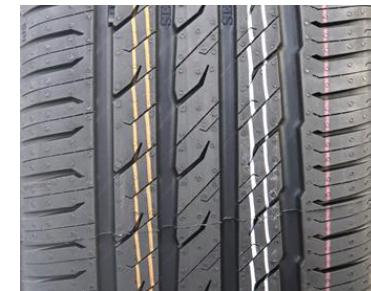
**BARUM
BRAVURIS 5 HM
DOT 1CP 0F6FFH 1022**



**FULDA
SPORTCONTROL 2
DOT A57R PK1R 0422**



**KLEBER
DYNAXER UHP
DOT B58A 0NEX 0522**



**SEMPERIT
SPEED-LIFE 3
DOT 1CN 03MBF5 0322**

- All Sailun Atrezzo ZSR2 test samples were provided for the test by the client. All other test samples 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 tests: ATP Papenburg (D)
- Wet handling: ÖAMTC Wachauring (A)
- Rolling resistance, highspeed test advanced: TÜV SÜD PS Garching (D)
- Rolling noise: Neubiberg (D)

■ Test Vehicles

- Audi A3 35TDI, Audi A3 35TFSI, VW Golf VIII 1.5TSI

■ 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 Sailun Atrezzo ZSR2 (\cong 100%).
- In all evaluations, a percentage >100% means better and <100% means worse.

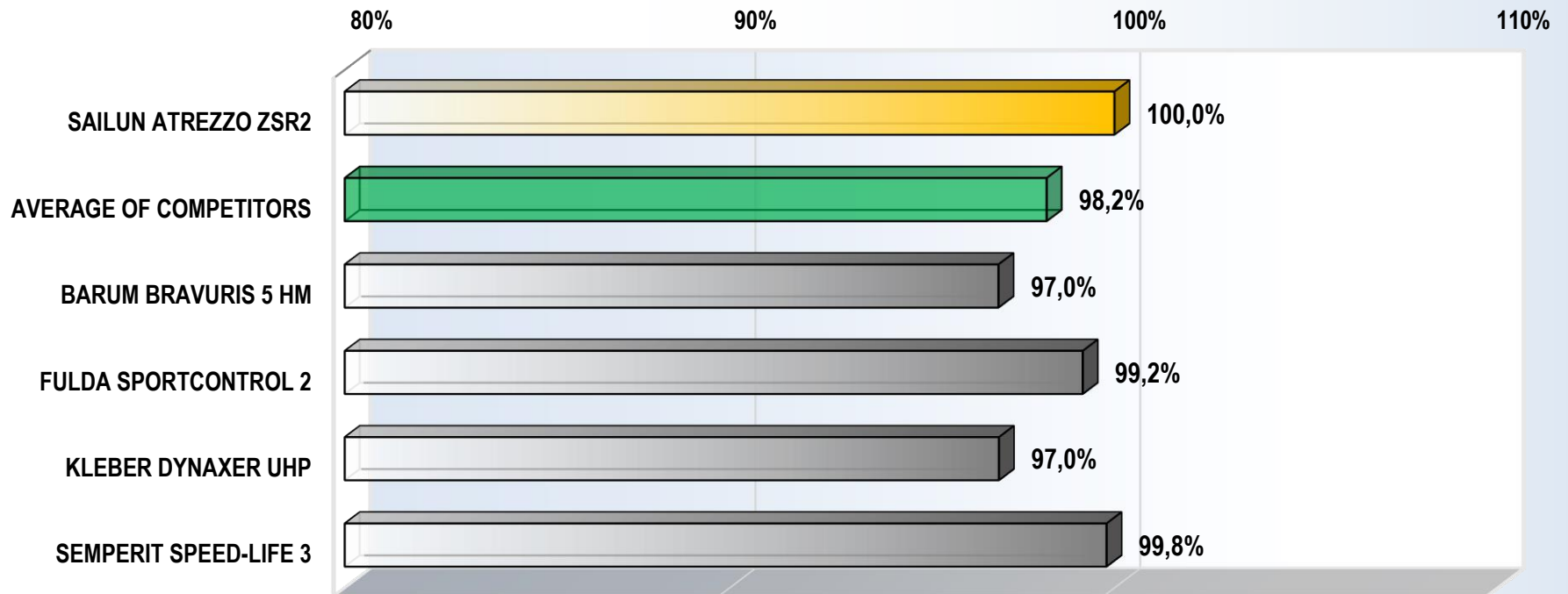


TEST RESULTS

■ 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 speed.

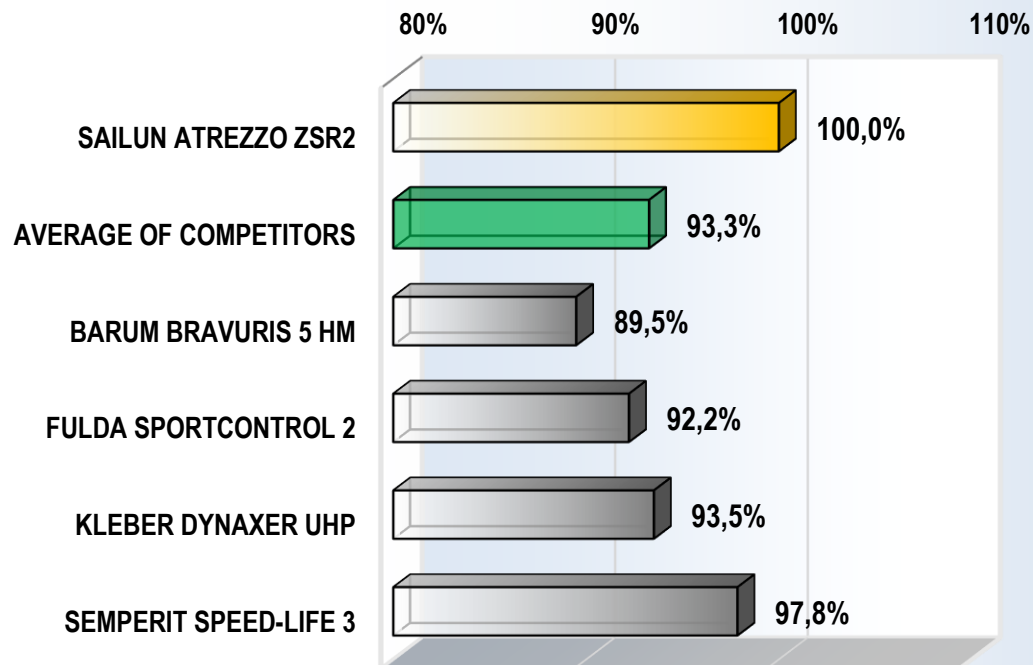
TEST RESULTS

WET BRAKING

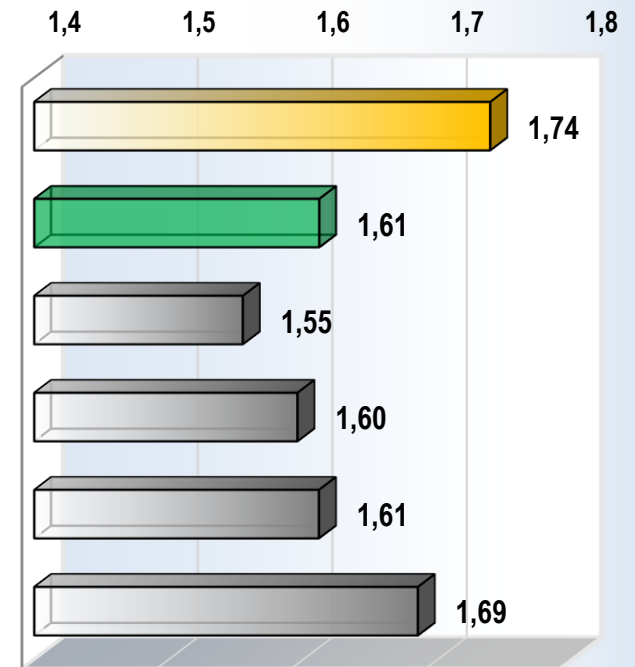
- ABS-braking on wet asphalt surface acc. to ECE R117 Annex 5

- Result: Ø Stopping distance [m] from 80 to 20 km/h → mean deceleration [m/s²] → Wet Grip Index G [-] acc. to ECE R117 Annex 5

WET BRAKING PERFORMANCE * [%]



WET GRIP INDEX G [-] ACC. TO ECE R117



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

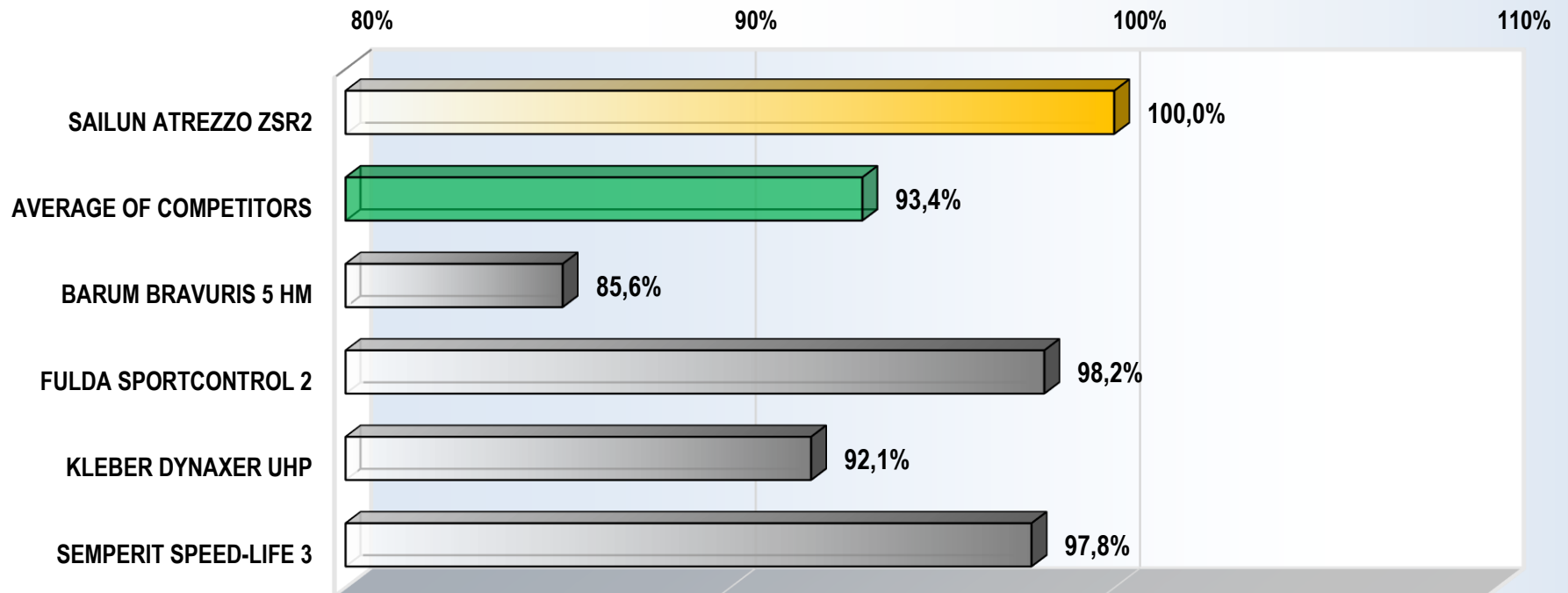


TEST RESULTS

WET HANDLING

- Subjective assessment and lap time on a handling circuit (track length: 1050 m; track surface: wet asphalt)
- Result: Ø Rating (min. 1, max. 10) and Ø lap time [s] → average speed [km/h]; total result from speed and rating score (2:1)

WET HANDLING PERFORMANCE * [%]



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



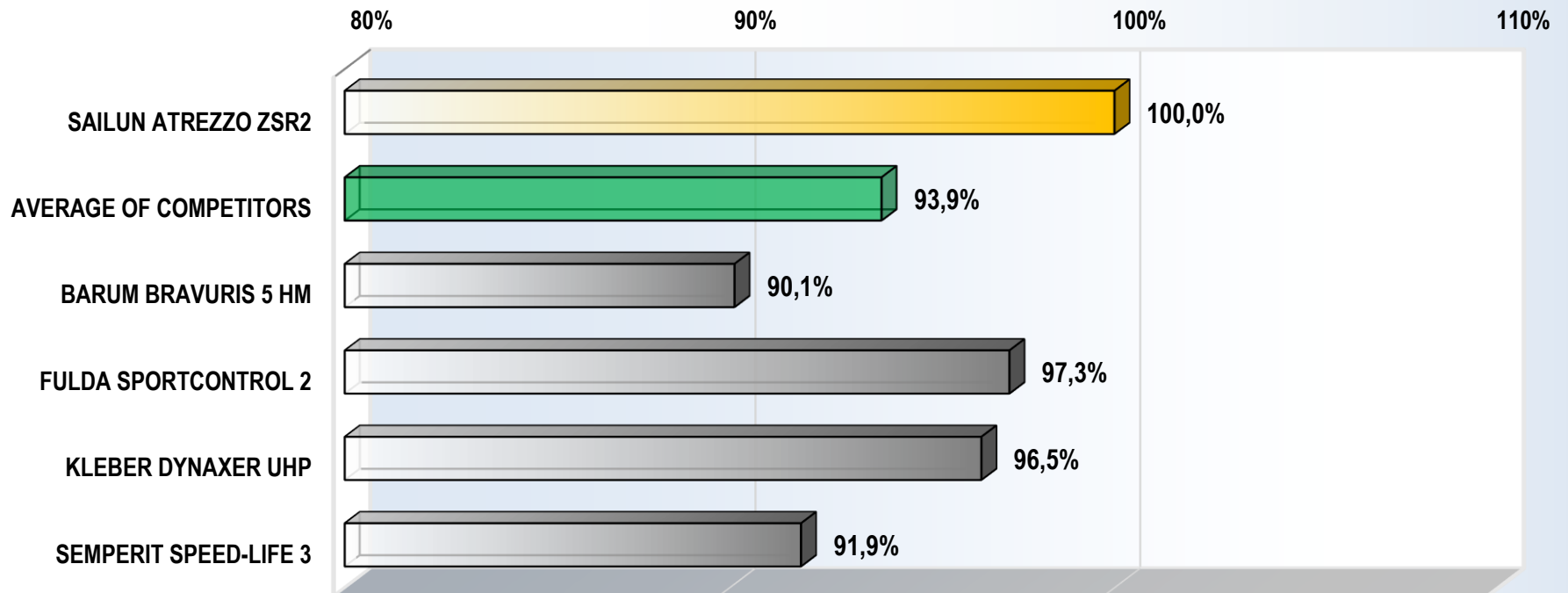
TEST RESULTS

■ 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.

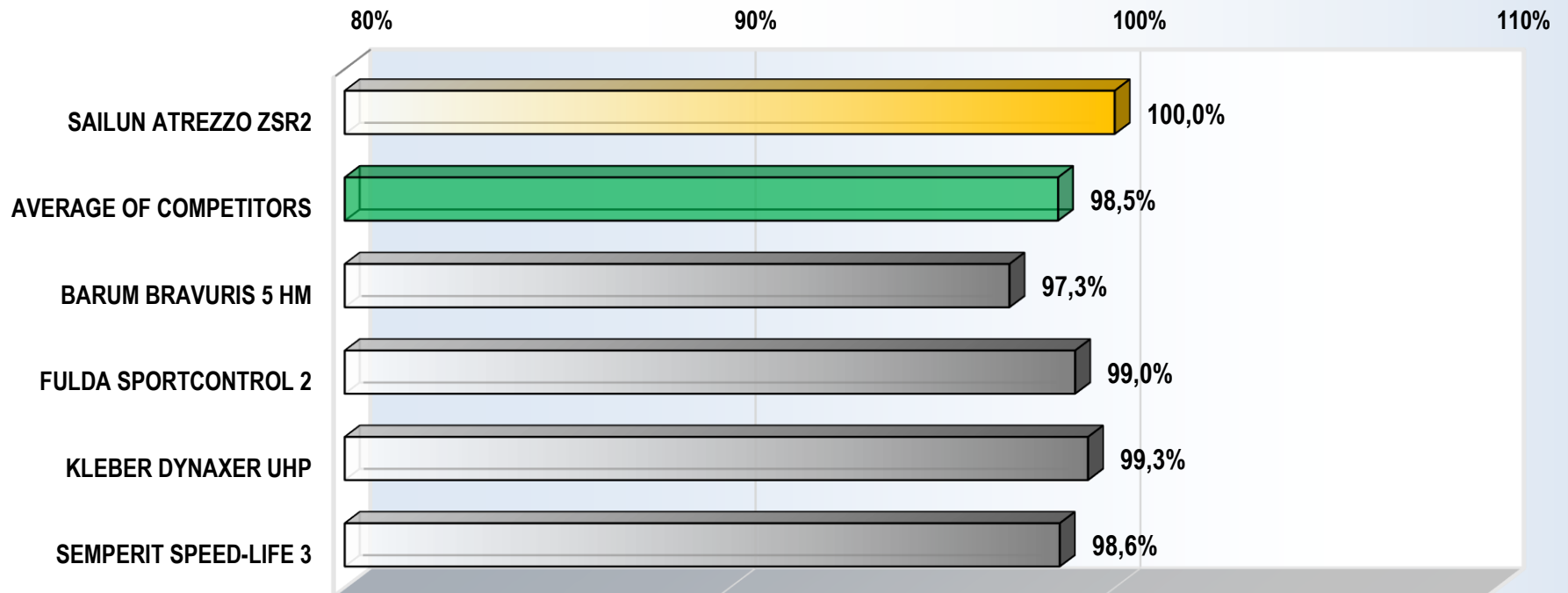


TEST RESULTS

▪ DRY HANDLING

- Subjective assessment and lap time on a handling circuit (track length: 2600 m; track surface: dry asphalt)
- Result: Ø Rating (min. 1, max. 10) and Ø lap time [s] → average speed [km/h]; total result from speed and rating score (2:1)

DRY HANDLING PERFORMANCE * [%]



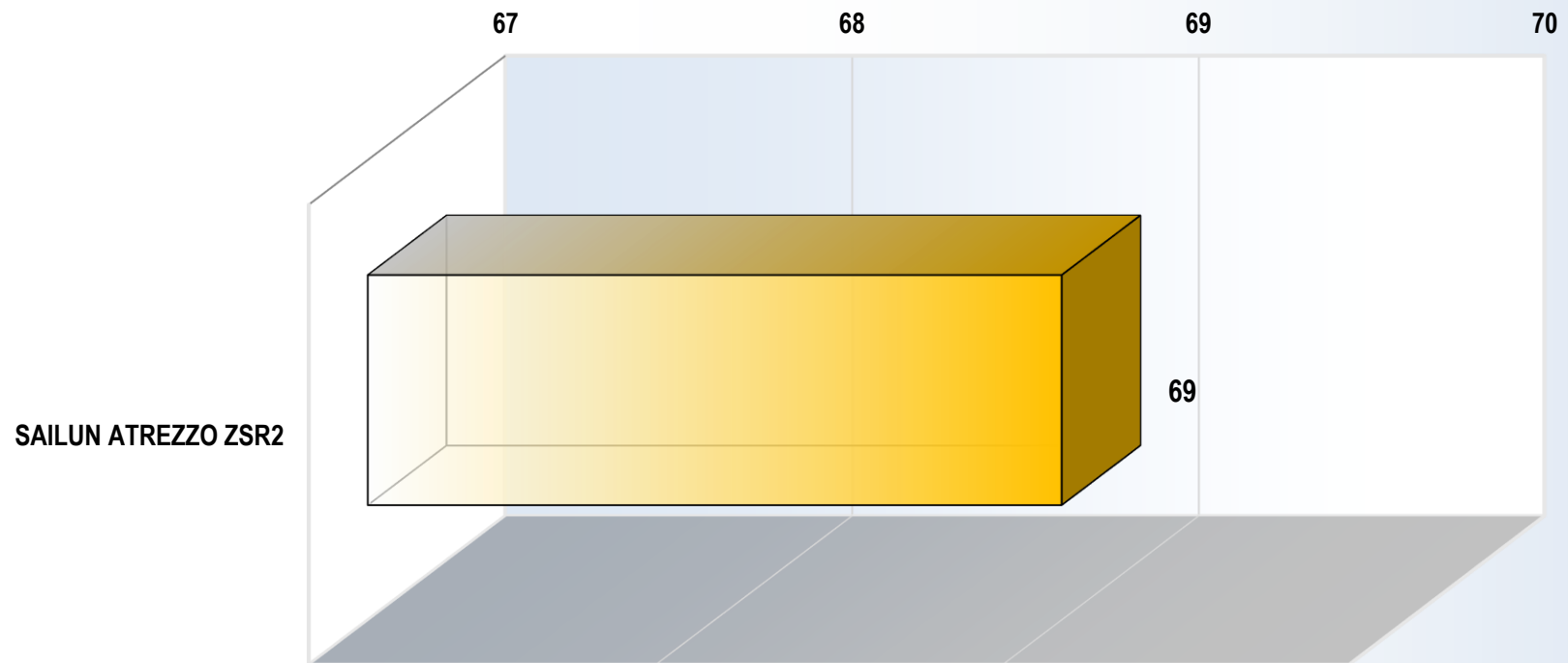
*) The calculation of the percentage performance is based on the average speed and the rating scores (at the ratio 2:1).

TEST RESULTS

■ ROLLING NOISE

- Acc. to ECE R117 Annex 3
- Result: Noise level [dB(A)] EC label value

TIRE ROLLING NOISE (ECE TYPE APPROVAL VALUE) [dB(A)]





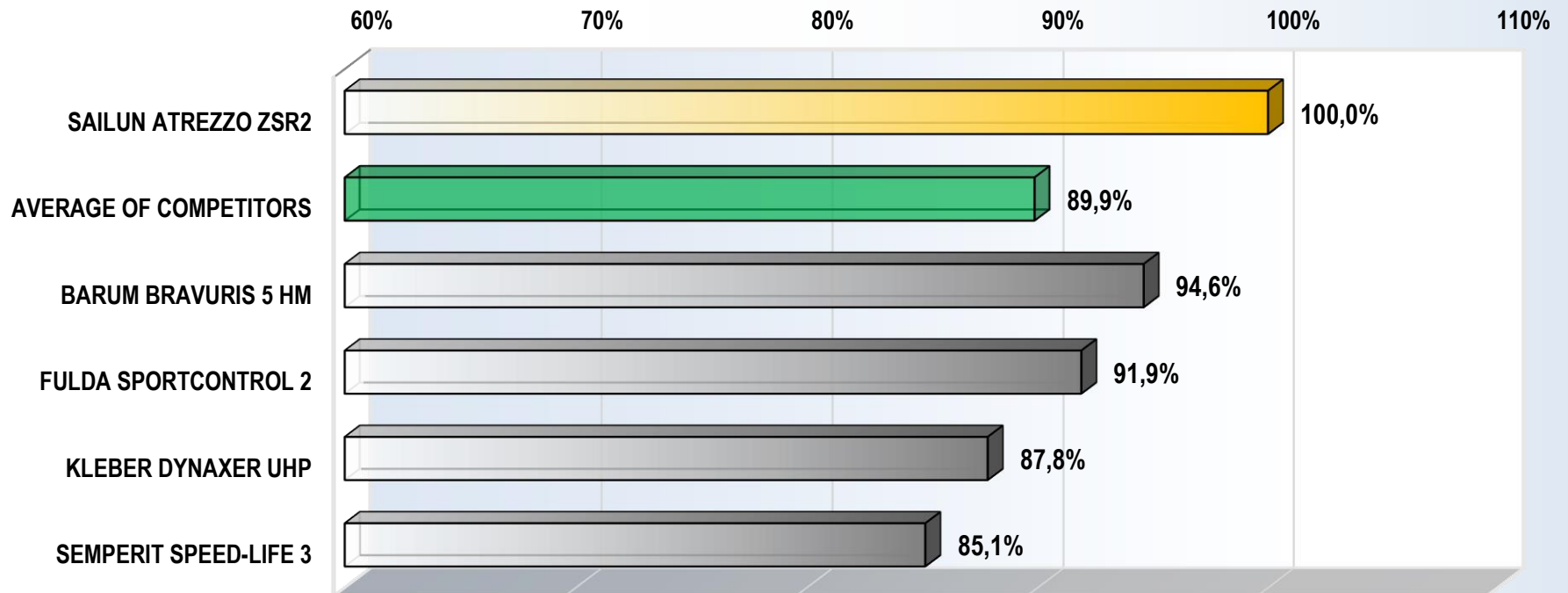
TEST RESULTS

■ ROLLING RESISTANCE

- Acc. to ECE R117 Annex 6

- Result: Rolling resistance coefficient c_R [kg/t] EC label value

ROLLING RESISTANCE PERFORMANCE * [%]



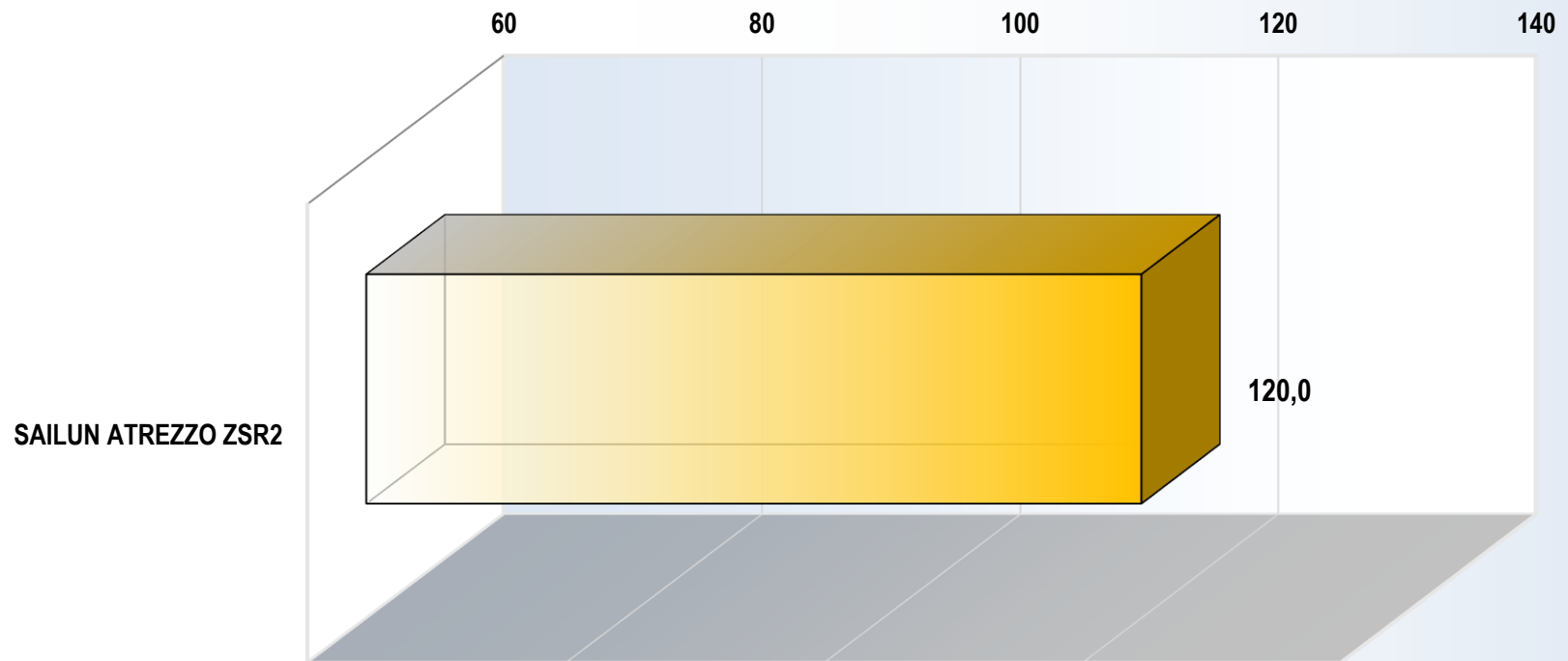
*) The calculation of the percentage performance is based on the reciprocal values of the measured rolling resistance forces.

TEST RESULTS

▪ HIGHSPEED TEST ADVANCED

- Acc. to ECE R30 + extension at 2° camber at v_{max} for max. 60 min
- Result: Total running time [min] without visible failure (max. 120 min)

TOTAL RUNNING TIME WITHOUT DEFECT [min]





SUMMARY OF RESULTS

Percentage > 100% means better, percentage < 100% means worse	Weighting factor	Limit single criterion	RESULTS FOR TÜV MARK		PERFORMANCE COMPARED TO SAILUN ATREZZO ZSR2				
			SAILUN ATREZZO ZSR2	TÜV MARK REFERENCE COLLECTIVE	SAILUN ATREZZO ZSR2	BARUM BRAVURIS 5 HM	FULDA SPORT-CONTROL 2	KLEBER DYNAXER UHP	SEMPERIT SPEED-LIFE 3
AQUAPLANING STRAIGHT-LINE	0,125	95%	102%	100%	100,0%	97,0%	99,2%	97,0%	99,8%
WET BRAKING (ECE R117 Annex 5)	0,200	100%	111%	TÜV-MARK INDEX	100,0%	89,5%	92,2%	93,5%	97,8%
WET GRIP INDEX (ECE R117 Annex 5)					1,74	1,55	1,60	1,61	1,69
WET HANDLING	0,150	97%	107%	100%	100,0%	85,6%	98,2%	92,1%	97,8%
DRY BRAKING	0,125	95%	106%	100%	100,0%	90,1%	97,3%	96,5%	91,9%
DRY HANDLING	0,125	95%	101%	100%	100,0%	97,3%	99,0%	99,3%	98,6%
ROLLING NOISE (ECE R117 Annex 3)	0,075	95%	110%	TÜV-MARK INDEX	69 dB(A)	-	-	-	-
ROLLING RESISTANCE (ECE R117 Annex 6)	0,075	95%	104%	TÜV-MARK INDEX	100,0%	94,6%	91,9%	87,8%	85,1%
HIGHSPEED TEST ADVANCED	0,125	95%	110%	TÜV-MARK INDEX	100,0%	-	-	-	-
TOTAL RESULT (weighted)	∑ 1,000	100%	107%	100%	Limits are reached -> TÜV MARK passed				