



GOODYEAR

Test Report TW-TT22-MT3908

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017
Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals
Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117
UTAC Ivalo Oy Testitie 1, 99800 Ivalo Finland
Tel: +358 (0)44 778 8800 www.testworld.fi

Table of contents

1. Objective	3
2. Tyres	3
2.1. Tyre specifications.....	3
2.2. Tyre purchases.....	3
2.3. Tyre preparations	3
2.4. Tyre photos.....	4
3. Test basics	6
3.1. Test car	6
3.2. Rims	6
3.3. Tyre pressures.....	6
3.4. Test devices	6
4. Tests and measurements	7
4.1. Tests.....	7
4.2. Measurements	Error! Bookmark not defined.
4.3. Test data.....	7
5. Results summary	8
5.1. Ice test results.....	8
5.1.1. Ice braking.....	8
5.1.2. Ice acceleration.....	8
5.1.3. Ice handling.....	8
5.2. Snow test results	9
5.2.1. Snow braking.....	9
5.2.2. Snow acceleration	9
5.2.3. Snow handling.....	9
5.3. Wet and dry test results	10
5.3.1. Wet braking.....	10
5.3.2. Dry braking	10
6. Statement	11

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017
Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals
Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117
UTAC Ivalo Oy Testitie 1, 99800 Ivalo Finland
Tel: +358 (0)44 778 8800 www.testworld.fi

1. Objective

The objective of the project was to test Goodyear's main competitors in the Nordic friction segment (Pirelli Ice Zero FR, Michelin X-Ice Snow, Nokian Hakkapeliitta R5, Continental VikingContact 7).

Tyres were tested by UTAC (formerly Test World) in December 2022 and January 2023 by order of Goodyear.

2. Tyres

2.1. Tyre specifications

Brand	Specification	Size	DOT
Goodyear	UltraGrip Ice 3	245/45R18 100T XL	1A58U MD1R 4622
Continental	VikingContact 7	245/45R18 100T XL	CP8U CRD7 2022
Michelin	X-Ice Snow	245/45R18 100H XL	FT B7 085X 2522
Nokian Tyres	Hakkapeliitta R5	245/45R18 100T XL	1YL 432172 4622
Pirelli	Ice Zero FR	245/45R18 100H XL	YB 4J X022 4221

2.2. Tyre purchases

All tyres except Goodyear UltraGrip Ic3 3 were located and purchased by UTAC Ivalo. The Goodyear UltraGrip Ice 3 was not available in the market at the time of testing and was delivered to tests by the customer.

2.3. Tyre preparations

Prior to testing tyres were mounted, balanced and run-in 100 km.

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017

Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals

Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117

| UTAC Ivalo Oy | Testitie 1, 99800 Ivalo | Finland |

| Tel: +358 (0)44 778 8800 | www.testworld.fi |

2.4. Tyre photos

	
<p>Goodyear UltraGrip Ice 3</p>	<p>Continental VikingContact 7</p>
	
<p>Michelin X-Ice Snow</p>	<p>Nokian Tyres Hakkapeliitta R5</p>

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017

Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals

Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117

| UTAC Ivalo Oy | Testitie 1, 99800 Ivalo | Finland |

| Tel: +358 (0)44 778 8800 | www.testworld.fi |



Pirelli Ice Zero FR

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017

Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals

Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117

| UTAC Ivalo Oy | Testitie 1, 99800 Ivalo | Finland |

| Tel: +358 (0)44 778 8800 | www.testworld.fi |

3. Test basics

3.1. Test car

All tests were done using the following test vehicle.

Make	Model	Transmission	Gearbox
BMW	520i	Rear wheel drive	Automatic

3.2. Car load

The test car weights were the following.

Front left	Front right	Rear left	Rear right
455 kg	391 kg	370 kg	430 kg

3.3. Rims

All tests were done using 8 x 18" original BMW rims.

3.4. Tyre pressures

Tyres were pressurized to 2,4 bar according to the vehicle manufacturer recommendations. Tyre pressures were always checked before tests.

3.5. Test devices

The following test devices were used for measurements

Item	Measuring device	Serial
Temperature	Fluke 52-II	TM-LM12
Speed, timing	Vbox 3i	054182
Weight	Dini Argeo	635432B1..B4
Tyre pressure	Wika	TW-IPM-033
Snow hardness	CTI Penetrometer	TW-PM006

4. Tests and measurements

4.1. Tests

The following tests were included in the program.

Test	Temperature target
Ice braking	-8 °C ... -12 °C
Ice acceleration	-8 °C ... -12 °C
Ice handling	-8 °C ... -12 °C
Snow braking	-8 °C ... -12 °C
Snow acceleration	-8 °C ... -12 °C
Snow handling	-8 °C ... -12 °C
Wet braking	+2 °C ... +6 °C
Dry braking	+2 °C ... +6 °C

All tests were carried out by UTAC Ivalo engineers and drivers. Ice and snow tests were done on UTAC Ivalo outdoor winter test tracks in Ivalo, Finland. Wet and dry tests were done in UTAC Ivalo indoor test facilities. All tests were done in December 2022-January 2023.

4.2. Test data

The complete test and measurement data has been delivered to the customer in MS Excel format in file "TW-TT22-MT3908 report.xls".

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017

Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals

Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117

| UTAC Ivalo Oy | Testitie 1, 99800 Ivalo | Finland |

| Tel: +358 (0)44 778 8800 | www.testworld.fi |

5. Results summary

5.1. Ice test results

5.1.1. Ice braking

<i>Tyre</i>	<i>Index</i>
Goodyear	115.7
Michelin	103.3
Nokian	100.0
Contiental	94.2
Pirelli	90.6

Test date: 29.12.2022

Test location: UTAC Ivalo, Mellatracks #24

Test method: ABS braking

Test speed: 20-5 km/h

Ambient temperature: -9 °C

Surface temperature: -9 °C

5.1.2. Ice acceleration

<i>Tyre</i>	<i>Index</i>
Goodyear	111.7
Michelin	107.1
Nokian	100.0
Pirelli	99.3
Continental	95.9

Test date: 29.12.2022

Test location: UTAC Ivalo, Mellatracks #24

Test method: TCS acceleration

Test speed: 5-20 km/h

Ambient temperature: -9 °C

Surface temperature: -9 °C

5.1.3. Ice handling

<i>Tyre</i>	<i>Index</i>
Goodyear	104.4
Nokian tyres	100.0
Michelin	97.3
Pirelli	96.2
Continental	94.1

Test date: 28.12.2022

Test location: UTAC Ivalo, Airport #5

Test method: Lap timing

Ambient temperature: -8 °C

Surface temperature: -8 °C

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017

Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals

Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117

| UTAC Ivalo Oy | Testitie 1, 99800 Ivalo | Finland |

| Tel: +358 (0)44 778 8800 | www.testworld.fi |

5.2. Snow test results

5.2.1. Snow braking

Tyre	Index
Michelin	103.3
Continental	101.0
Goodyear	100.4
Nokian	100.0
Pirelli	98.0

Test date: 20.12.2022

Test location: UTAC Ivalo, Airport #4

Test method: ABS braking

Test speed: 35-5 km/h

Ambient temperature: -12 °C

Surface temperature: -12 °C

5.2.2. Snow acceleration

Tyre	Index
Michelin	104.2
Goodyear	104.0
Continental	100.6
Nokian	100.0
Pirelli	98.0

Test date: 20.12.2022

Test location: UTAC Ivalo, Airport #4

Test method: TCS Acceleration

Test speed: 5-35 km/h

Ambient temperature: -12 °C

Surface temperature: -12 °C

5.2.3. Snow handling

Tyre	Index
Goodyear	101.8
Pirelli	101.6
Michelin	100.8
Nokian	100.0
Continental	99.5

Test date: 21.12.2022

Test location: UTAC Ivalo, Airport #8

Test method: Lap timing

Ambient temperature: -8 °C

Surface temperature: -8 °C

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017

Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals

Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117

| UTAC Ivalo Oy | Testitie 1, 99800 Ivalo | Finland |

| Tel: +358 (0)44 778 8800 | www.testworld.fi |

5.3. Wet and dry test results

5.3.1. Wet braking

Tyre	Index
Continental	101.6
Pirelli	100.9
Nokian	100.0
Goodyear	99.8
Michelin	98.3

* Average of two tests

Test date: 3.1.2023 and 11.1.2023
 Test location: UTAC Ivalo, Indoor #5
 Test method: ABS braking
 Test speed: 80-5 km/h
 Ambient temperature: +4 °C
 Surface temperature: +4 °C

5.3.2. Dry braking

Tyre	Index
Michelin	102.9
Pirelli	102.5
Goodyear	102.4
Continental	101.1
Nokian	100.0

Test date: 2.1.2023
 Test location: UTAC Ivalo, Indoor #5
 Test method: ABS braking
 Test speed: 80-5 km/h
 Ambient temperature: +4 °C
 Surface temperature: +4 °C

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017
Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals
Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117
UTAC Ivalo Oy Testitie 1, 99800 Ivalo Finland
Tel: +358 (0)44 778 8800 www.testworld.fi

6. Statement

This programme was conducted in accordance with UTAC Ivalo quality systems and customer requirements. UTAC Ivalo hereby confirms that the test results are representative for the tyre selection when tested under the outlined conditions using the reported cars, tracks and methods. UTAC Ivalo does not accept responsibility for any liabilities arising from conclusions drawn from the test results.

This report, any tests results and test data are owned exclusively by the customer. The customer may freely share or publish the report in its entirety but cannot share or publish in any form any extract(s) from the report when using the UTAC Ivalo name or brand without the express written permission of a Director of UTAC Ivalo which shall not be unreasonably withheld.

Ivalo 16.1.2023



Jukka Antila
Technical Director

UTAC Ivalo
Testitie 1
99800 Ivalo
Finland

UTAC Ivalo Oy is a testing laboratory No: T236 accredited by FINAS Finnish Accreditation Service according to ISO17025:2017
Recognized Expert by Traficom (Finnish Transport and Communications Agency) for studded tyre approvals
Designated as a Technical Service by RDW for EC/92/23, ECE30, ECE54, ECE108, ECE109, ECE117
UTAC Ivalo Oy Testitie 1, 99800 Ivalo Finland
Tel: +358 (0)44 778 8800 www.testworld.fi