



THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

COMMUNICATION CONCERNING APPROVAL GRANTED OF A TYPE OF PNEUMATIC TYRE FOR
MOTOR VEHICLES PURSUANT TO UN REGULATION NO. 54.00



Approval No: E11*54R00/24*19807*00

1. Manufacturer's name and address:

Otani Radial Co., Ltd
96 MU 3 Rimklong Banrai Rd
Bangkeaw, Nakornchaisri
Nakornpathom 73120
Thailand
2. Tyre type designation ⁽¹⁾:
 - 2.1. Brand name(s)/trademark(s): OTANI
 - 2.2. Trade description(s)/ Commercial name(s): WM1000
3. If applicable, name and address of manufacturer's representative: Not applicable
4. Summarised description:
 - 4.1. Tyre-size designation: 235/65R16C
 - 4.2. Category of use: Snow
 - 4.3. Structure: Radial
 - 4.4. Tyre class: C2



Vehicle
Certification
Agency

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

APPROVAL NUMBER: E11*54R00/24*19807*00

INFORMATION PACKAGE CONTENTS

INDEX REVISION NUMBER: Not applicable

Conformity of Production (COP) Declaration COP Confirmed

Assessment Method ISO & Control Plans

Date of Initial Clearance Pre 2013

Date of Last Clearance February 2022

Total number of sheets: 02 (Two)

Reasons for Revision: Not applicable

Revision Date
&
Office Stamp

ISY556875



Application form for approve of type of pneumatic for radial truck and bus according to ECE regulation no.54 (Supplement24)

1. Manufacturer's name and address : OTANI RADIAL CO., LTD.
96 MU 3 RIMKLONG BANRAI RD.
BANGKEAW, NAKORNCHAI SRI,
NAKORNPATHOM 73120, THAILAND
2. Tyre type designation : -
 - 2.1 Brand-name(S)/trademark(S) : OTANI
 - 2.2 Trade description(S)/Commercial name(S) : WM1000
3. Tyre class : C2
4. If applicable name and address of Manufacturer's representative : Not applicable
5. Size designation of tyre : 235/65R16C
6. Category of use : ~~normal~~/special/snow
7. Structure : ~~diagonal (bias-ply)~~/Radial
8. Speed category : R
9. Load capacity index : 121/119
10. Overall dimension : ~~Annex5~~/Calculated
 - 10.1 Overall width : 243 mm.
 - On measure rim : 7.00 J
 - 10.2 Outer diameter : 708 mm.
11. Factor X : 0.7
12. Ply rating number : 10
 - 12.1 Side wall : 2 POLYESTER
 - Tread : 2 POLYESTER+2 STEEL+ 1 NYLON
13. Rims on which tyre can be mounted : 6.5/7.0/7.5
14. Measuring and test rim : 7.00 J x 16 inches
15. State whether tyre is : Tubeless / ~~Tube type~~
15. State whether tyre is : Normal / ~~reinforced~~
17. Submitted for approval on (date) : Feb 4, 2022

We here with declare that we have not applied and will not apply for any approval with another contracting party Of ECE for the same type of product.

MANUFACTURER'S STAMP



Signature:

Name: Boonmee Jitrjai

THIS APPLICATION IS ACCOMPANIED BY:

- Application form, relating to ECE approve for a pneumatic tyre pursuant Regulation Number R54(Supplement24)
- A drawing of tyre side wall, Tread and dimension cross section.
- Test report

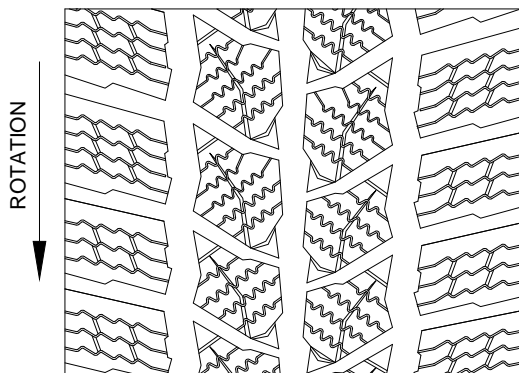
บริษัท โอทานิ เรเดียล จำกัด
OTANI RADIAL CO., LTD.

96 หมู่ 3 ถนนริมคลองบ้านไร่ ตำบลบางแก้ว อำเภอนครชัยศรี จังหวัดนครปฐม 73120
96 Mu 3 Rimklongbanrai Road, Bangkaew, Nakhon Chai Si, Nakhon Pathom 73120 Thailand
Tel: +66 3432 7555 Fax: +66 3433 9563 E-mail: localsales@otanitire.com VAT ID: 0-7356-50001-55-5

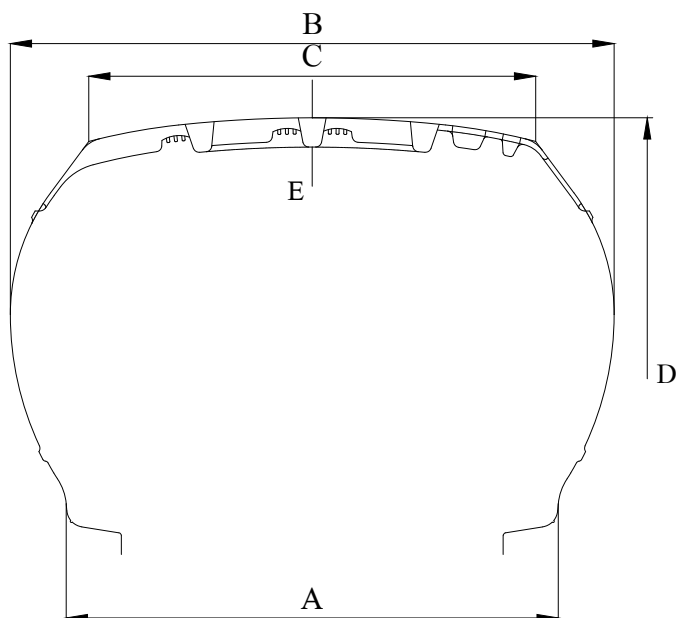
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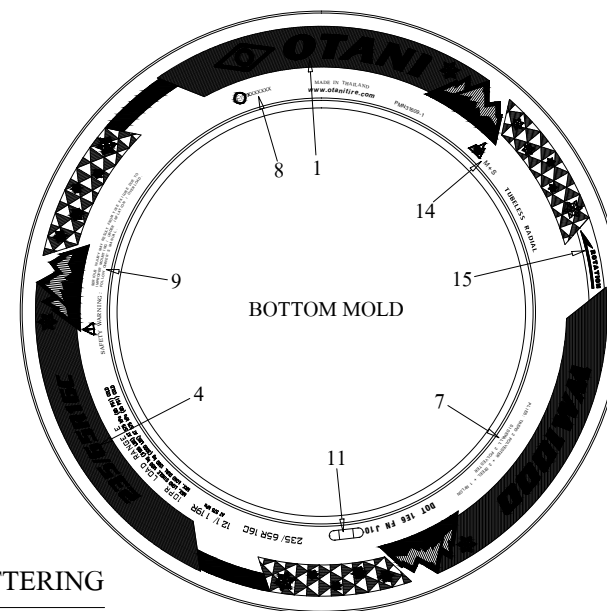
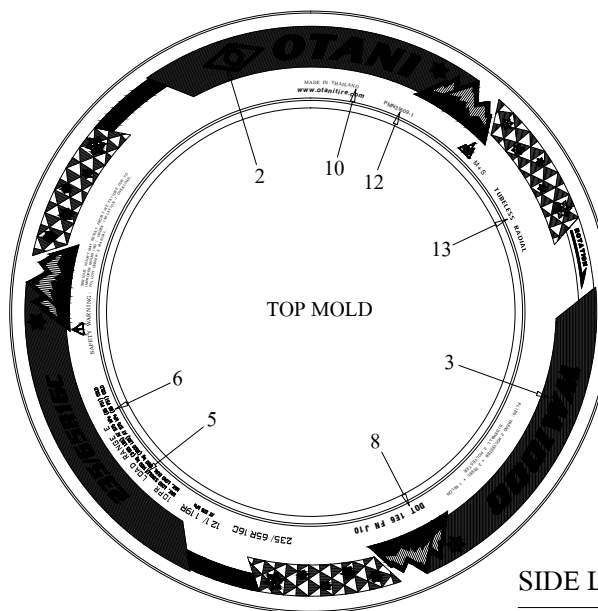
03 Mar-22



TREAD PATTERN



CROSS SECTION



SIDE LETTERING

No	ITEM	DESCRIPTION	HEIGHT (mm)
1	TREAD MARK	OTANI	25
2	LOGO	OTANI LOGO	30
3	PATTERN	WM1000	20
4	TYRE SIZE	235/65R16C	15
5	PLY RATting / LOAD RANGE	10 PR / LOAD RANGE E	7
6	LOAD INDEX / SPEED INDEX / PRESSURE / MAX LOAD	121/119R / AT 575 kPa	7 / 3.5
		MAX. LOAD : SINGLE 1450 kg (3195 LBS) AT 575 kPa (85 PSI) COLD	3.5
		MAX. LOAD : DUAL 1360 kg (3000 LBS) AT 575 kPa (85 PSI) COLD	3.5
7	TREAD / SIDEWALL	2 POLYESTER + 2 STEEL + 1 NYLON / 2 POLYESTER	3
8	MARKING SD.	DOT 1E6 FN J10	6.5
9	SAFETY WARNING	E11 XXXXXXX	6 / 4
		SAFETY WARNING	4 / 2.5
10	COUNTRY OF ORIGIN	MADE IN THAILAND	3.5
11	WEEK NUMBER	WEEK No.	6.5
12	MOLD NUMBER	PMN31609-1	4
13	MARKING TIRE TYPE	TUBELESS RADIAL	4.5
14	MARKING M+S / 3PMSF	M+S / 3PMSF	5 / 16
15	MARKING ROTATION	ROTATION	4

A (inch/mm)	B (mm)	C (mm)	D (mm)	E (mm)	OTANI RADIAL CO., LTD.		
7.00/178	243	215	708	9.5	TITLE	235/65R16C WM1000 10PR 121/119R	
REMARK :					DRAWN BY.	MR. TIRAYUT P.	
					CHEK./APPV D	MR. WITTAYA C.	
					DATE	03 Feb. 2022	
					SIGNATURE : WC	SIGNATURE : WC	
					REVISION : 00		



Inspection/Test Report: Pneumatic Tyres for Commercial Vehicles and their Trailers

Legislation

UNECE Regulation 54.00 to Supplement 24

Inspection/Test Details

Location of Inspection/Test: Inter tire tech R&D - Bangkok
Date of Inspection/Test: 01 February 2022 to 03 February 2022
VCA Representative(s): Aekansh Saxena
Inspectors office location: VCA India
Manufacturer's Representative(s): Boonmee Jitrjai
Reason for Test Report: New apporoval

Manufacturer Details

Name and Address: Otani Radial Co., Ltd.
96 MU 3 Rimklong Banrai Rd.
Bangkeaw, Nakornchaisri,
Nakornpathom 73120, Thailand
Type: 235/65R16C
Commercial Description: WM1000
Category: Radial (Snow Use)

Conclusion

The above mentioned [vehicle / engine / component] was tested in accordance with the above mentioned legislation and was found to comply in all respects listed in this report. This report relates only to the items tested.

Witness Engineer/Test Engineer
Signature:

Name: Aekansh Saxena
Position: Type Approval Engineer
Date: 28 February 2022

List of Annexes

Annex	No of Pages	Subject
I	01	Dimension Calculation Sheet
II	01	Calibration Data Table



Issue Record

Issue 0 is original report

Worst Case Rationale

Representative Commercial (Radial) tyre with tyre size designation 235/65R16C having nominal speed category symbol R and corresponding load capacity index to nominal speed category 121/119, is been tested as per the requirements of UN ECE R54

Manufacturer holds approved laboratory status from VCA

Unused section removed for clarity

Note: Include information on variants and versions this report covers, as applicable. Supporting documents may be annexed to this report

Significant Interpretations, Alternative Test Methods, New Technologies

None

Inspection/Tests Required

	Yes, NA, See Report ... / Approval ... / Annex ...
Measurement of Section Width:	Yes
Measurement of Outer Diameter:	Yes
Load/speed Endurance test	Yes
Markings	Yes

Tyre Specification

Tyre Size Designation:	235/65R16C
Category of Use:	Snow Use
Structure:	Radial
Speed Category Symbol:	R
Load Capacity Index:	121/119

Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the tyre tested and covers all variants and versions agreed in the worst case rationale. Information document uploaded to job folder and identified by job number.

Yes

Facility and Equipment Checks

Facility Appraisal reference and date (*Reference and date if formal; state if ad-hoc appraisal*).

FAIND73 and 15 Sep 2021



03-Mar-22



Report Number: ISY556875 Issue: 0

This test report shall not be reproduced except in full, without
written approval of the technical service.

Calibration certificates are traceable to national or international standards of
measurement, where available:

Yes

Calibration certificates checked and valid, recorded in the following table:

Yes

Note: Please refer Annex-II attached with this VCA Test Report

Equipment

Description	Make	Model	Serial number	Calibration due date*

*Specify calibrated date + (interval) or calibration due date.



Inspection/Test Requirements			Complies Yes / NA
Reg 54, Ann 7	LOAD/SPEED ENDURANCE TEST		
	Make and designation of test machine as described in the regulation		Yes
	Calibration dates: - Speed	12.10.2022	Yes
	Inflation pressure gauge	14.12.2022	Yes
	Load	25.08.2022	Yes
	Test rim	406 mm	Yes
	Inflation pressure	5.75 bar	Yes
	Measured outer diameter pre-test	708 mm	Yes
Reg 54, Ann 7, Appendix 1	Test drum speed	150 kmph	Yes
Reg 54, Ann 7, 2.4	Test Cell Temperature at start of test	38 °C	Yes
Reg 54, Ann 7, Appendix 1	First stage test load (Duration 7 hr)		NA
	Second stage test load (Duration 16 hr)		NA
	Third stage test load (Duration 24 hr)		NA
Reg 54, Ann 7, 3.	For Q and above rated tyres with a Load index 121 or less: 1.70M drum = 90% load or 92% load for 2.0M drum.		
	Time to reach initial test speed (10 mins)	150 km/h	Yes
	First test speed MAX LESS 20km/hr (10 mins)	150 km/h	Yes
	Second stage test load MAX LESS 10km/hr (10 mins)	160 km/h	Yes
	Third stage test load MAX SPEED (30 mins)	170 km/h	Yes
Reg 54, Ann 7, 2.4	Test Cell Temperature during test Max	39.40 °C	Yes
	Test Cell Temperature during test Min	37.40 °C	Yes
Reg 54, 6.2.2	After Undergoing the Endurance test , Tyre does not exhibit any		
		Pass/Fail	
	Tread Separation	Pass	Yes
	Ply Separation	Pass	Yes
	Cord Separation	Pass	Yes
	Chunking	Pass	Yes
	Broken Cords	Pass	Yes
Reg 54, 6.2.3	Measured outer diameter post test	712 mm	Yes



Difference between measured outer diameter post-test and measured
outer diameter pre-test

04 mm

Yes

Allowable difference between measured outer diameter pre and post-
test

0.56 ± 3.5%

Yes

Reg 54, 3

Markings

Reg 54, 3.1

Tyres submitted for approval shall bear on both side walls in the case
of symmetrical tyres and at least on the outer side wall in the case of
asymmetrical tyres:

Reg 54, 3.1.1

The manufacturer's name or the Brand name/trademark

Yes

Reg 54, 3.1.2

Trade description/commercial name (Not required if it is same as
above 3.1.1)

Yes

Reg 54, 3.1.3

Tyre-size designation

Yes

Reg 54, 3.1.5

Speed-category symbol (or symbols)

Yes

Reg 54, 3.1.5.1

An indication of the tyre's nominal speed category in the form of the
symbol

Yes

Reg 54, 3.1.5.2

An indication of a second speed category (where applicable)

NA

Reg 54, 3.1.6

The inscription M+S or M.S or M&S if the tyre is classified in the
category of use "snow tyre" or "special use tyre"

Yes

Reg 54, 3.1.7

Load capacity indices

Yes

Reg 54, 3.1.8

The word "TUBELESS" if the tyre is designed for use without an
inner tube

Yes

Reg 54, 3.1.9

The date of manufacture in the form of a group of four digits, the first
two showing the week and the last two the year of manufacture

Yes

Reg 54, 3.1.10

In the case of tyres which can be regrooved, the symbol at least
20mm in diameter, or the word "REGROOVABLE", moulded into or
on to each sidewall;"

NA

Reg 54, 3.1.11

An indication, by the "PSI" index, of the inflation pressure to be
adopted for the load/speed endurance tests

Yes



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written approval of the technical service.

Reg 54, 3.1.13	Inscription "MPT" (or alternatively "ML" or "ET") and /or "POR" if the tyre is classified in the category of use "special use tyre".	NA
Reg 54, 3.1.14	The inscription "LT" after the service description, if it is not marked as part of the tyre size designation; tyres whose tyre-size designation includes the suffix "C" or "CP" may be marked with the additional inscription "LT" away from the tyre-size designation;	Yes
Reg 54, 3.1.15	The inscription "FRT" (Free Rolling Tyre) in case of tyres designed for the equipment of trailer axles and axles of motor vehicles other than front steering and drive axles.	NA
Reg 54, 3.2	Space for Approval Mark	Yes

Remarks

Load/Speed Endurance Test conducted at Machine No B1654 (Right Position)

Annex I

235/65R16C 10PR 121/119R WM1000

SECTION WIDTH OF TIRE

S	=	$S1 + k (A-A1)$	
S1	=	235	mm.
k	=	0.4	
A	=	7.00×25.4	mm.
		178	mm.
Fx	=	0.7	mm.
A1	=	$S1 \times 0.7$	mm.
	=	165	mm.
S	=	240	mm.
Section width (Radial Over 4%)			= 250 mm.

OVER ALL DIMENSION

D_{min}	=	$d + 2 \bullet H_{min}$	
D_{max}	=	$d + 2 \bullet H_{max}$	
a	=	0.97	
b	=	1.04	
d	=	16×25.4	
	=	406	mm.
Ra		65	
S1		235	mm.
H	=	$S1 \bullet 0.01 Ra$	
	=	153	mm.
D_{min}	=	703	mm.
D_{max}	=	724	mm.
D_{max.snow}	=	$1.01 \cdot D_{max}$	
	=	731	mm.

Annex II

TEST EQUIPMENTS INFORMATION

MACHINE **DRUM TEST FOR PCR TIRE& TBR TIRE**
SERIAL NUMBER **B1653**

EQUIPMENT NAME	SERIAL NUMBER OTANI	CAL. DATE	VALID UNTIL
DIAMETER DRUM	DT DM 003	13-10-2021	12-10-2022
SPEED	DT SP 003	13-10-2021	12-10-2022
LOAD CELL NO. 1 (Left position)	DT LC 005	26-08-2021	25-08-2022
LOAD CELL NO. 2 (Right position)	DT LC 006	26-08-2021	25-08-2022
TEMPERATURE CONTROLLER NO.1(Left position)	DT TC 005	05-06-2021	04-06-2022
TEMPERATURE CONTROLLER NO.2 (Right position)	DT TC 006	05-06-2021	04-06-2022
Displacment NO. 1 (Left position)	DT RD 005	13-10-2021	12-10-2022
Displacment NO. 2 (Right position)	DT RD 006	13-10-2021	12-10-2022

MACHINE **DRUM TEST FOR PCR TIRE& TBR TIRE**
SERIAL NUMBER **B1654**

EQUIPMENT NAME	SERIAL NUMBER OTANI	CAL. DATE	VALID UNTIL
DIAMETER DRUM	DT DM 004	13-10-2021	12-10-2022
SPEED	DT SP 004	13-10-2021	12-10-2022
LOAD CELL NO. 1 (Left position)	DT LC 007	26-08-2021	25-08-2022
LOAD CELL NO. 2 (Right position)	DT LC 008	26-08-2021	25-08-2022
TEMPERATURE CONTROLLER NO.1(Left position)	DT TC 007	05-06-2021	04-06-2022
TEMPERATURE CONTROLLER NO.2 (Right position)	DT TC 008	05-06-2021	04-06-2022
Displacment NO. 1 (Left position)	DT RD 007	13-10-2021	12-10-2022
Displacment NO. 2 (Right position)	DT RD 008	13-10-2021	12-10-2022

MACHINE **DRUM TEST FOR PCR TIRE& TBR TIRE**
SERIAL NUMBER **B1747**

EQUIPMENT NAME	SERIAL NUMBER OTANI	CAL. DATE	VALID UNTIL
DIAMETER DRUM	DT DM 005	08-09-2021	07-09-2022
SPEED	DT SP 005	08-09-2021	07-09-2022
LOAD CELL NO. 1 (Left position)	DT LC 009	26-08-2021	25-08-2022
LOAD CELL NO. 2 (Right position)	DT LC 010	26-08-2021	25-08-2022
TEMPERATURE CONTROLLER NO.1(Left position)	DT TC 009	05-06-2021	04-06-2022
TEMPERATURE CONTROLLER NO.2 (Right position)	DT TC 010	05-06-2021	04-06-2022
Displacment NO. 1 (Left position)	DT RD 009	08-09-2021	07-09-2022
Displacment NO. 2 (Right position)	DT RD 010	08-09-2021	07-09-2022

MACHINE **DRUM TEST FOR PCR TIRE& TBR TIRE**
SERIAL NUMBER **B1748**

EQUIPMENT NAME	SERIAL NUMBER OTANI	CAL. DATE	VALID UNTIL
DIAMETER DRUM	DT DM 006	08-09-2021	07-09-2022
SPEED	DT SP 006	08-09-2021	07-09-2022
LOAD CELL NO. 1 (Left position)	DT LC 011	26-08-2021	25-08-2022
LOAD CELL NO. 2 (Right position)	DT LC 012	26-08-2021	25-08-2022
TEMPERATURE CONTROLLER NO.1(Left position)	DT TC 011	05-06-2021	04-06-2022
TEMPERATURE CONTROLLER NO.2 (Right position)	DT TC 012	05-06-2021	04-06-2022
Displacment NO. 1 (Left position)	DT RD 011	08-09-2021	07-09-2022
Displacment NO. 2 (Right position)	DT RD 012	08-09-2021	07-09-2022

GENERAL EQUIPMENT

EQUIPMENT NAME	SERIAL NUMBER OTANI	CAL. DATE	VALID UNTIL
NON-Contact Tachometer	DT TH 001	24-08-2021	23-08-2022
Electronic Digital Height Gauge	DT MDG 003	17-12-2021	16-12-2022
Electronic Digital Depth Calipers	DT MDG 004	05-02-2021	04-02-2022
PI TAPE	DT PI 005	17-12-2020	16-12-2022
Digital Pressure Gauge	DT P 003	15-12-2021	14-12-2022
Bevel Protactor	DT M 001	14-08-2021	13-08-2022
Stop watch	DT SW 001	14-08-2021	13-08-2022
Digimatic Caliper (Vernier 200)	DT VM 002	07-10-2021	06-10-2022

