

**THE NETHERLANDS**  
(N E D E R L A N D)



**COMMUNICATION**

Concerning <sup>(1)</sup>:

- ~~approval granted~~
- approval extended
- ~~approval refused~~
- ~~approval withdrawn~~
- ~~production definitely discontinued~~

of a type of tyre with regard to ‘rolling sound emission level’ and/or ‘adhesion performance on wet surfaces’ and/or ‘rolling resistance’ pursuant to Regulation number 117.

**Approval number: E4-117R-027728 S2WR1**

**Extension number: 02**

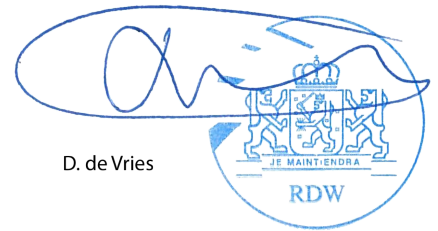
- |      |  |  |
|------|--|--|
| 1.   | Manufacturer’s name and address                                  | : Shandong Wanda BOTO Tyre Co., Ltd.<br>No.68, Yongshen Road, Dongying City,<br>Shandong 257506<br>P.R. China              |
| 2.   | If applicable, name and address of manufacturer’s representative | : not applicable   |
| 3.   | ‘Tyre class’ and ‘category of use’ of the type of tyre           | : <del>Class C1/Class C2/</del> Class C3<br><del>normal/ snow /snow tyre for use in severe snow conditions / special</del> |
| 3.1. | Snow tyre for use in severe snow conditions                      | : <del>yes/no</del> <sup>(1)</sup>   |
| 3.2. | Traction tyre  | : <del>yes/no</del> <sup>(1)</sup>   |
| 4.   | Tyre type designation  |  |
| 4.1. | Brand name(s)/trademark(s) of the type of tyre                   | BOTO; YOTO; ECED; estone; ATHOS;<br>MÄXX; WINDA; ECOMEGA; ZTYRE; <u>Satoya</u>   |
| 4.2. | Trade description(s)/ Commercial name(s) of the type of tyre     | BT215; ES215; HG2201; WD215; MF4300;<br>ED215; EI900; ZSR4; <u>Grand GT-081</u>  |



5. Technical service and, where appropriate, test laboratory approved for purposes of approval or of verification of conformity tests : TÜV Rheinland Kraftfahrt GmbH  
Technologiezentrum Verkehrssicherheit  
Typprüfstelle Fahrzeuge/Fahrzeugteile  
Am Grauen Stein  
D-51105 Köln (Poll)
6. Performance(s) approved : sound level at (~~stage 1~~/stage 2)<sup>(1)</sup>, wet adhesion level, rolling resistance level (stage 1/~~stage 2~~)<sup>(1)</sup> ~~and snow performance level~~
- 6.1. Sound level of the representative tyre size, see Paragraph 2.5. of Regulation number 117, as per item 7. of the test report in appendix to Annex 3, at reference speed of ~~70/80~~ km/h<sup>(1)</sup>. : 435/50R19.5 160J: 72 dB(A)
- 6.2. Wet adhesion level of the representative tyre size, see Paragraph 2.5. of Regulation number 117, as per item 7. of the test report in the appendix to Annex 5 using ~~the vehicle or trailer method~~<sup>(1)</sup>. : 425/65R22.5 165K: 1.06
- 6.3. Rolling resistance level of the representative tyre size, see Paragraph 2.5. of Regulation number 117, as per item 7. of the test report in the appendix to Annex 6. : 275/70R22.5 148/145J: 7.290 N/kN
- 6.4. Snow grip level of the representative tyre size, see paragraph 2.5. of Regulation No. 117, as per item 7. of the test report in the appendix<sup>(2)</sup> to Annex 7 using the brake on snow method<sup>(1)</sup>, ~~spin traction method~~<sup>(1)</sup> ~~or acceleration method~~<sup>(1)</sup>. : ---
7. Number of report issued by that service : 86-R117-0552/18-00
8. Date of report issued by that service : February 10, 2018
9. Reason(s) of extension (if applicable) : Addition of brand name and trade description
10. Any remarks : ---
11. Place : Zoetermeer
12. Date : 20-MAR-2018



13. Signature :



D. de Vries

14. Annexed to this communication are: BT215-S2WR1-02

14.1. A list of documents in the approval file deposited at the Administration services having delivered the approval and which can be obtained upon request <sup>(3)</sup>.

14.2. A list of tread-pattern designations: Specify for each trademark or brand name and trade description the list of tyre size designations, adding in case of Class C1 tyres the mark 'reinforced' (or 'extra load') or the speed symbol of snow tyres or in the case of tyres of Classes C2 and C3, the mark 'traction', if so required by paragraph 3.1. of this Regulation.

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<sup>(1)</sup> Strike out what does not apply.

<sup>(2)</sup> Appendix 2 for C1 and C2 tyres.

Appendix 3 for C3 tyres.

<sup>(3)</sup> In the case of 'snow tyre for use in severe snow conditions' a test report according to Appendix 2 of Annex 7 shall be submitted.

Manufacturer:  
Information folder:

Shandong Wanda BOTO Tyre Co., Ltd.  
BT215-S2WR1-02

**RELATING TO ECE TYPE-APPROVAL EXTENSION FOR A TYPE OF TYRE WITH REGARD TO ROLLING SOUND EMISSIONS AND TO ADHESION PERFORMANCE ON WET SURFACES AND/OR TO ROLLING RESISTANCE (ECE Regulation No. 117. 02, Supplement 9)**

1. GENERAL

- 1.1. The performance characteristics to be assessed for the tyre type : rolling sound emission level and adhesion performance level on wet surfaces and rolling resistance
- 1.2. Manufacturer's name : Shandong Wanda BOTO Tyre Co., Ltd.
- 1.3. Name and address of applicant : Shandong Wanda BOTO Tyre Co., Ltd.  
No.68, Yongshen Road, Dongying City,  
Shandong 257506  
P.R. China
- 1.4. Address(es) of manufacturing plant(s) : same with the applicant
- 1.5. Brand name(s), Trade description(s) or Trade mark(s) to be used for particular tyre type-approval requested : BOTO; YOTO; ECED; estone; ATHOS; MÄXX; WINDA; ECOMEGA; ZTYRE; Satoya (trade mark) BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; Grand GT-081 (tyre tread pattern name)
2. Tyre
- 2.1. Tyre classification (class C1, C2, C3) : ~~Class C1 / Class C2~~ / Class C3
- 2.2. Section width range for class C1 tyres : see attached "list of tyre size"
- 2.3. Tyre structure : ~~diagonal / bias belted~~ / radial / ~~run flat tyre~~
- 2.4. For Class C1 tyres, state weather :
- 2.4.1. Reinforced (or extra load) in case of approval with regarding to rolling sound emission level : see attached "list of tyre size"
- 2.4.2. Speed category symbol "Q" or below (not including "H") or "R" and above (including "H") in case of snow tyres for approval with regarding to adhesion on wet surfaces : not applicable
- 2.5. For Class C2 or C3 tyres, state weather "Traction tyre" : ~~Yes~~ / No
- 2.6. Category of use (normal, snow, special) : ~~normal / snow (snow tyre for use in severe snow conditions) / special~~
- 2.7. A list of tyre designations covered by this application : see attached "list of tyre size"
- 2.8. Details of major features, with respect to the effects on tyre performance (i.e. rolling emission level or adhesion on wet surfaces, respectively) of the tread pattern(s) to be used on the designated range of tyre sizes. : see attached "drawing of tread pattern"
- 2.9. In the case of "special use tyre", drawing of the tread pattern supplied in order to verify the void-to-fill ratio. : not applicable
- 2.10. Submitted for approval on (date) : December 30, 2017

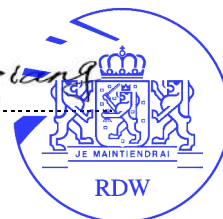
MANUFACTURER'S STAMP



Signature:

*Kou Ruqiang*

Name: Kou Ruqiang



THIS APPLICATION IS ACCOMPANIED BY:

- List of tyre size
- Drawing of tread pattern
- The test report

List of tyre size

Brand name(s) or Trade mark(s) : BOTO; YOTO; ECED; estone; ATHOS; MÄXX; WINDA; ECOMEGA; ZTYRE; Satoya

Tread pattern : BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; Grand GT-081

Tyre size		Limit for rolling sound dB(A) of Stage II	Limit for wet grip index	Limit for rolling resistance coefficient N/KN of Stage I
275/70R22.5 148/145J	E4-0034255	73	0.65	8.0
275/70R22.5 148/145M	E4-0036712	73	0.65	8.0
385/55R22.5 160K	E4-0036372	73	0.65	8.0
425/65R22.5 165K	E4-0036711	73	0.65	8.0
435/50R19.5 160J	E4-0036368	73	0.65	8.0

Worst Case Selection

Test size for rolling sound : 435/50R19.5 160J

Because of : Widest

Test size for wet grip : 425/65R22.5 165K

Because of : The wet grip test tyre type is 425/65R22.5 165K, having category of use "Normal", the wet grip test result is G= 1.06 mentioned in test report No. 86-117R-0029073, which is 110% above the limit value of ECE-R117 (for snow tyre, the 110% limit value is G=0.715)

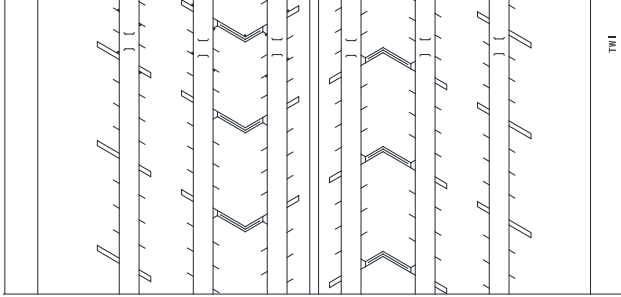
Test size for rolling resistance : 275/70R22.5 148/145J

Because of : Lowest load capacity index, the rolling resistance test tyre type is 275/70R22.5 148/145J, having category of use "Normal", the rolling resistance test result is 7.290 N/KN mentioned in test report No. 86-R117-826/13 corresponding to type approval No. E4-117R-025483 S2R1 Ext.00

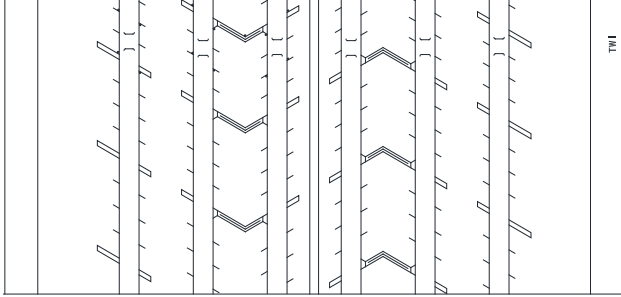
Test size for snow grip performance : n/a

Because of : n/a

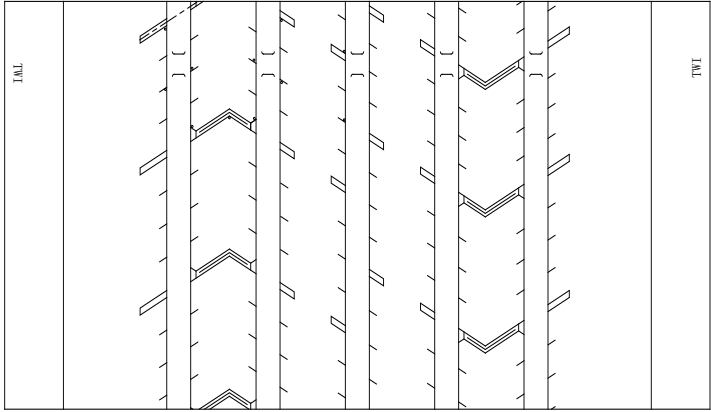


Drawing of the tread pattern (for measured tyre using for tyre noise test)	
Manufacturer name	: Shandong Wanda BOTO Tyre Co., Ltd.
Tread pattern	: BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; <u>Grand GT-081</u>
Test Pattern name	: BT215
Tyre Size	: 435/50R19.5 160J
Market	: EU / US
Pitch number	: 44
Pitch ratio	: 1.00 : 1.09 : 1.15
Void volume [ % ]	: 21.5
Width: main grooves [mm]	: 13.5
Depth: center groove [mm]	: 14
Depth: shoulder groove [mm]	: 14
Tyre tread pattern	: 



Drawing of the tread pattern (for measured tyre using for tyre wet grip test)	
Manufacturer name	: Shandong Wanda BOTO Tyre Co., Ltd.
Tread pattern	: BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; <u>Grand GT-081</u>
Test Pattern name	: BT215
Tyre Size	: 425/65R22.5 165K
Market	: EU / US
Pitch number	: 53
Pitch ratio	: 1:1.07:1.13
Void volume [ % ]	: 20.4
Width: main grooves [mm]	: 13.5
Depth: center groove [mm]	: 15
Depth: shoulder groove [mm]	: 15
Tyre tread pattern	: 



Drawing of the tread pattern (for measured tyre using for rolling resistance test)	
Manufacturer name	: Shandong Wanda BOTO Tyre Co., Ltd.
Tread pattern	: BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; <u>Grand GT-081</u>
Pattern name	: BT215
Tyre Size	: 275/70R22.5 148/145J
Market	: EU / US
Pitch number	: 64
Pitch ratio	: 1.00 / 1.06 / 1.14
Void volume [ % ]	: 28.7
Width: main grooves [mm]	: 12.0
Depth: center groove [mm]	: 19.2
Depth: shoulder groove [mm]	: 19.2
Tyre mass [kg]	: 52
Tread depth [mm]	: 19.2
Tread width [mm]	: 215
Curvature radius of tread crown [mm]	: 935
Tyre outer diameter [mm]	: 958
Tread plies	: 1 STEEL + 3 STEEL
Tyre tread pattern	: 

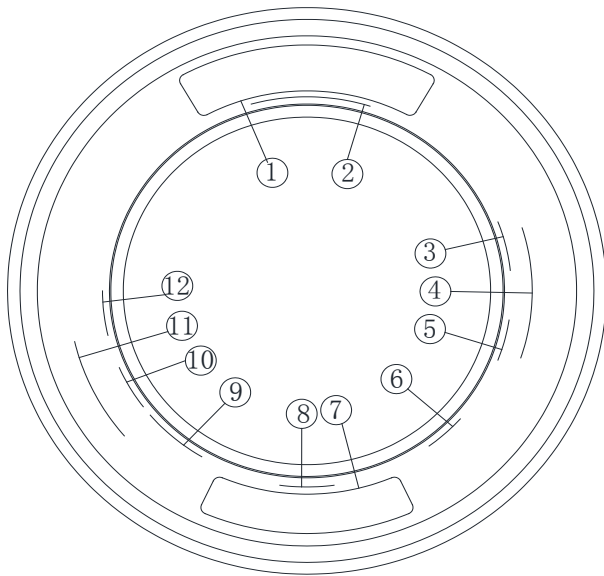




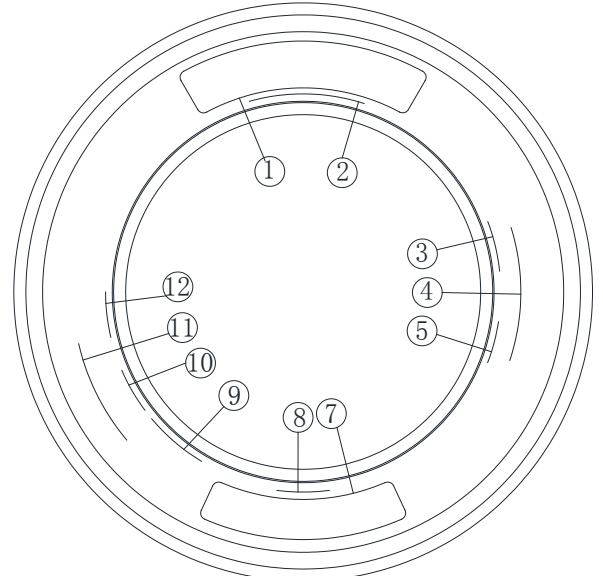
Drawing of the tyre sidewall

Tyre Size

: 435/50R19.5 160J



Lower mold



Upper mold

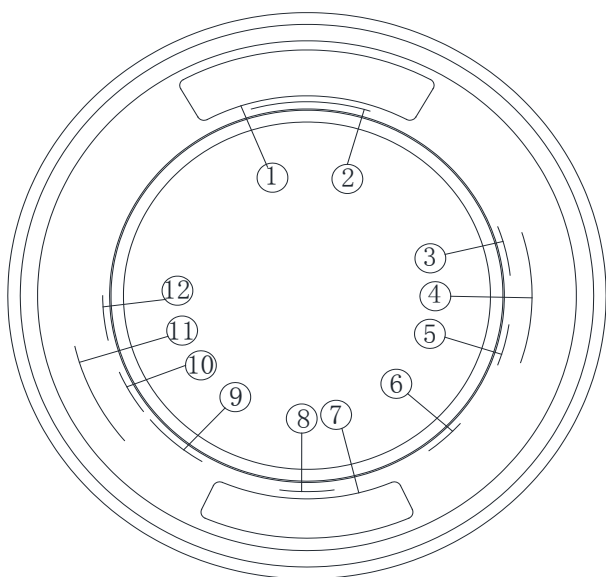
1. BOTO; YOTO; ECED; estone; ATHOS; MÄXX; WINDA;ECOMEGA;ZTYRE;Satoya	1. BOTO; YOTO; ECED; estone; ATHOS; MÄXX; WINDA;ECOMEGA;ZTYRE;Satoya
2. SAFETY WARNING:SERIOUS INJURY MAY RESULT FROM: TIRE FAILURE DUE TO UNDERINFLATION/OVERLOADING. FOLLOW OWNER'S MANUAL OR TIRE PLACARD IN VEHICLE. EXPLOSION OF TIRE/RIM ASSEMBLY DUE TO IMPROPER MOUNTING. USE SAFETY CAGE AND CLIP ON EXTENSION OF AIR HOSE ONLY SPECIALLY TRAINED PERSON SHOULD MOUNT TIRES.	2. SAFETY WARNING:SERIOUS INJURY MAY RESULT FROM: TIRE FAILURE DUE TO UNDERINFLATION/OVERLOADING. FOLLOW OWNER'S MANUAL OR TIRE PLACARD IN VEHICLE. EXPLOSION OF TIRE/RIM ASSEMBLY DUE TO IMPROPER MOUNTING. USE SAFETY CAGE AND CLIP ON EXTENSION OF AIR HOSE ONLY SPECIALLY TRAINED PERSON SHOULD MOUNT TIRES.
3. DOT 80DP BTWJ ×××× (date code)	3. DOT 80DP BTWJ ×××× (date code)
4. 435/50R19.5 160J 20PR	4. 435/50R19.5 160J 20PR
5. E4 ×××××××	5. E4 ×××××××
6. ×××××××× (batch number)	6. Blank
7. BT215;ED215; ES215; HG2201; WD215; MF4300;MF4100;EI900;ZSR4;Grand GT-081 M+S	7. BT215;ED215; ES215; HG2201; WD215; MF4300;MF4100;EI900;ZSR4;Grand GT-081 M+S
8. MADE IN CHINA	8. MADE IN CHINA
9. STANDARD RIM 14.00	9. STANDARD RIM 14.00
10. TUBELESS	10. TUBELESS
11.PLIES: SIDEWALL 1 STEEL; TREAD 1 STEEL + 3 STEEL (or 4 STEEL) MAX.LOAD:SINGLE 4500kg(9920LBS) AT 900kPa(130PSI) COLD	11.PLIES: SIDEWALL 1 STEEL; TREAD 1 STEEL + 3 STEEL (or 4 STEEL) MAX.LOAD:SINGLE 4500kg(9920LBS) AT 900kPa(130PSI) COLD
12. REGROOVABLE RADIAL	12. REGROOVABLE RADIAL



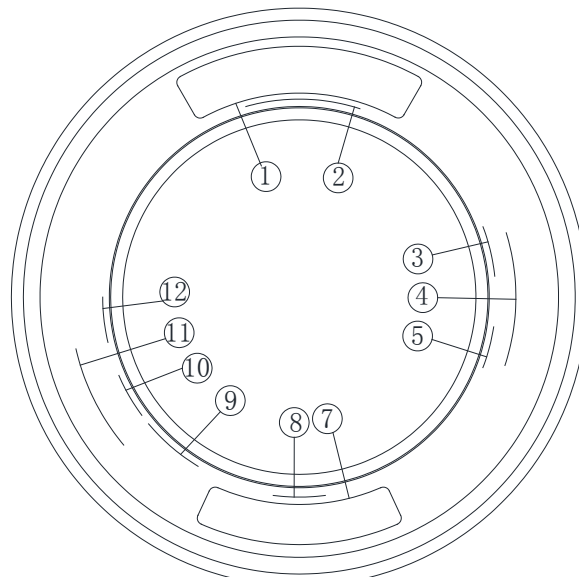
Drawing of the tyre sidewall

Tyre Size

: 425/65R22.5 165K

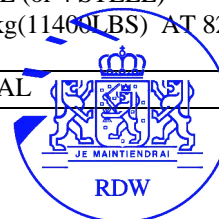


Lower mold



Upper mold

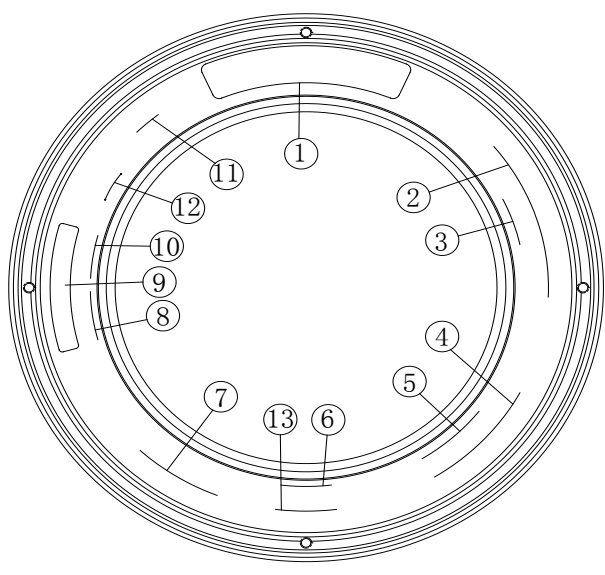
1. BOTO or YOTO or ECED or estone or ATHOS or MÄXX or WINDA or ECOMEGA or ZTYRE or Satoya	1. BOTO or YOTO or ECED or estone or ATHOS or MÄXX or WINDA or ECOMEGA or ZTYRE or Satoya
2. SAFETY WARNING:SERIOUS INJURY MAY RESULT FROM: TIRE FAILURE DUE TO UNDERINFLATION/OVERLOADING. FOLLOW OWNER'S MANUAL OR TIRE PLACARD IN VEHICLE. EXPLOSION OF TIRE/RIM ASSEMBLY DUE TO IMPROPER MOUNTING. USE SAFETY CAGE AND CLIP ON EXTENSION OF AIR HOSE ONLY SPECIALLY TRAINED PERSON SHOULD MOUNT TIRES.	2. SAFETY WARNING:SERIOUS INJURY MAY RESULT FROM: TIRE FAILURE DUE TO UNDERINFLATION/OVERLOADING. FOLLOW OWNER'S MANUAL OR TIRE PLACARD IN VEHICLE. EXPLOSION OF TIRE/RIM ASSEMBLY DUE TO IMPROPER MOUNTING. USE SAFETY CAGE AND CLIP ON EXTENSION OF AIR HOSE ONLY SPECIALLY TRAINED PERSON SHOULD MOUNT TIRES.
3. DOT 80DF BTWJ ×××× (date code)	3. DOT 80DF BTWJ
4. 425/65R22.5 165K 20PR	4. 425/65R22.5 165K 20PR
5. E4 ×××××××	5. Blank
6. ×××××××× (batch number)	6. Blank
7. BT215 or ED215 or ES215 or HG2201 or WD215 or MF4300 or EI900 or ZSR4 or Grand GT-081 M+S	7. BT215 or ED215 or ES215 or HG2201 or WD215 or MF4300 or EI900 or ZSR4 or Grand GT-081 M+S
8. MADE IN CHINA	8. MADE IN CHINA
9. STANDARD RIM 13.00	9. STANDARD RIM 13.00
10. TUBELESS	10. TUBELESS
11. PLIES: SIDEWALL 1 STEEL; TREAD 1 STEEL + 3 STEEL (or 4 STEEL) MAX.LOAD:SINGLE 5150kg(11400LBS) AT 825kPa(120PSI) COLD	11. PLIES: SIDEWALL 1 STEEL; TREAD 1 STEEL + 3 STEEL (or 4 STEEL) MAX.LOAD:SINGLE 5150kg(11400LBS) AT 825kPa(120PSI) COLD
12. REGROOVABLE RADIAL	12. REGROOVABLE RADIAL

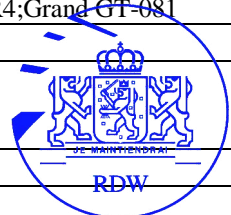


Drawing of the tyre sidewall

Tyre Size

: 275/70R22.5 148/145J

 <p style="text-align: center;">Lower mold</p>	 <p style="text-align: center;">Upper mold</p>
1. BOTO; YOTO; ECED; estone; ATHOS; MÄXX; WINDA; ECOMEGA; ZTYRE; Satoya	1. BOTO; YOTO; ECED; estone; ATHOS; MÄXX; WINDA; ECOMEGA; ZTYRE; Satoya
2. 275/70R22.5 148/145 J 18PR	2. 275/70R22.5 148/145 J 18PR
3. STANDARD RIM 8.25	3. STANDARD RIM 8.25
4. TREAD:1STEEL+3STEEL SIDEWALL:1STEEL MAX.LOAD:SINGLE 3150kg(6940LBS) AT 900kPa(130PSI) COLD MAX.LOAD:DUAL 2900kg(6395LBS) AT 900kPa(130PSI) COLD	4. TREAD:1STEEL+3STEEL SIDEWALL:1STEEL MAX.LOAD:SINGLE 3150kg(6940LBS) AT 900kPa(130PSI) COLD MAX.LOAD:DUAL 2900kg(6395LBS) AT 900kPa(130PSI) COLD
5. TUBELESS REGROOVABLE RADIAL	5. TUBELESS REGROOVABLE RADIAL
6. MADE IN CHINA	6. MADE IN CHINA
7. SAFETY WARNING:SERIOUS INJURY MAY RESULT FROM: TIRE FAILURE DUE TO UNDERINFLATION/OVERLOADING-- FOLLOW OWNER'S MANUAL OR TIRE PLACARD IN VEHICLE. EXPLOSION OF TIRE/RIM ASSEMBLY DUE TO IMPROPER MOUNTING-- USE SAFETY CAGE AND CLIP ON EXTENSION OF AIR HOSE ONLY SPECIALLY TRAINED PERSON SHOULD MOUNT TIRES.	7. SAFETY WARNING:SERIOUS INJURY MAY RESULT FROM: TIRE FAILURE DUE TO UNDERINFLATION/OVERLOADING-- FOLLOW OWNER'S MANUAL OR TIRE PLACARD IN VEHICLE. EXPLOSION OF TIRE/RIM ASSEMBLY DUE TO IMPROPER MOUNTING-- USE SAFETY CAGE AND CLIP ON EXTENSION OF AIR HOSE ONLY SPECIALLY TRAINED PERSON SHOULD MOUNT TIRES.
8. DOT 80AL BTWJ × × × ×	8. DOT 80AL BTWJ
7. BT215;ED215; ES215; HG2201; WD215; MF4300;MF4100;EI900;ZSR4;Grand GT-081	7. BT215;ED215; ES215; HG2201; WD215; MF4300;MF4100;EI900;ZSR4;Grand GT-081
10. E4 × × × × × × × ×	10. Blank
11.  A038261	11. Blank
12. × × × × × × × × (batch number)	12. Blank
13. M+S	13. M+S



Type : BT215; ES215; HG2201; WD215;  
MF4300; ED215; EI900; ZSR4; Grand  
GT-081  
Manufacturer : Shandong Wanda BOTO Tyre Co., Ltd.

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## TEST REPORT

according to UNECE-Regulation

**Uniform Provisions concerning the Approval of Tyres with regard to Rolling Sound Emissions and to Adhesion on Wet Surfaces and/or to Rolling Resistance**

**ECE-R117**

including all amendments until  
Amend.02, Suppl. 09

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### Approval Status

**UNECE approval** : E4-117R-027728 S2WR1 Ext.01

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Structure of report :

Item No.

0. General information
  1. Tested ~~vehicle(s)~~ object(s)
  2. Tested record
  3. List of appendices
  4. Statement of conformity
- 

The Test Report shall be reproduced and published in full by the client only. It shall however be reproduced partially with the written permission of the Testing Laboratory only.



**Type** : BT215; ES215; HG2201; WD215;  
MF4300; ED215; EI900; ZSR4; Grand  
GT-081

**Manufacturer** : Shandong Wanda BOTO Tyre Co., Ltd.

## 0. General information

- 0.1. Make (trade name of the manufacturer) : Shandong Wanda BOTO Tyre Co., Ltd.
- 0.2. Type : BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; Grand GT-081
- 0.3. Category of vehicle : Not applicable
- 0.4. Name and address of the manufacturer : Shandong Wanda BOTO Tyre Co., Ltd.  
No.68, Yongshen Road, Dongying City,  
Shandong 257506  
P.R. China
- 0.5. No. of the information folder : BT215-S2WR1-02  
-Date of issue : ---  
-Date of last change : December 30, 2017

## 1. Tested ~~vehicle(s)~~/ object(s)

- 1.1. Description
- 1.1.1. ~~Vehicle~~/ object
- Commercial description : Not applicable
- Type(s) /~~variant(s)~~/ ~~version(s)~~ : BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; Grand GT-081
- Identification number : See Appendix 1
- 1.1.2. Condition of ~~vehicle(s)~~/Object(s) : ~~New /Used /Pretested~~
- 1.2. Worst case selection : The determination of the worst case was done according to internal procedures of the Technical Service (QMA 1.301.005, section 6.2.2.2.).
- 1.3. Remarks : All versions of the types as stated in the information folder are covered by the tested object(s) respectively.



**Type** : BT215; ES215; HG2201; WD215;  
MF4300; ED215; EI900; ZSR4; Grand  
GT-081

**Manufacturer** : Shandong Wanda BOTO Tyre Co., Ltd.

**2. Tested record**

- 2.1. Equipment for measuring and testing : The test facilities / measurement equipment used were in compliance with the test requirements.
  - 2.1.1. Specifications for the test site : See Appendix 1
  - 2.1.2. Subcontracting
    - Tyre noise : Not applicable
    - Wet grip : Refer to report No. RDW-117R-0029073
    - Rolling resistance : Not applicable
    - Snow performance : Not applicable
  - 2.2. Test results : See appendix 1  
Numbering according to Paragraph 6. and 7. of the UNECE-R117
    - 2.2.1. Test results referring to measurements : Pass / ~~Fail~~
    - 2.2.2. Attributive tests : Not applicable
    - 2.2.3. Alternative test provisions : Not applicable
    - Remarks concerning extension : ~~The type has been tested according to the modification(s) mentioned in appendix 0.~~  
~~The new parts meet the requirements of the regulation.~~  
An actual practical test of the type was not necessary. The results of the previous test(s) are still valid.
- 2.3. Additional information : The results of the test refer exclusively to the object(s) mentioned under point 1. of this report.
  - Test site : See Appendix 1
  - Test date : See Appendix 1
- 2.4. Remarks : Not applicable



**Type** : BT215; ES215; HG2201; WD215;  
MF4300; ED215; EI900; ZSR4; Grand  
GT-081  
**Manufacturer** : Shandong Wanda BOTO Tyre Co., Ltd.

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### 3. List of Appendices

Appendix 0 : List of modifications  
Appendix 1 : Test minutes

### 4. Statement of conformity

The in point 0.5. mentioned information folder and the type described in that comply with the requirements mentioned on page 1.

With regard to the required level of performance to be achieved, the tested items were representative for the type to be approved (see point 1.2).

The mentioned test results refer to the ~~vehicle(s)~~ object(s) described under point 1.1. of this report.

Engineering centre Shanghai / February 10, 2018  
SR / LB



Su Rui  
Expert Technical Service



Type : BT215; ES215; HG2201; WD215;  
MF4300; ED215; EI900; ZSR4; Grand  
GT-081  
Manufacturer : Shandong Wanda BOTO Tyre Co., Ltd.

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List of modifications

Appendix 0

Correction of : ---  
Modification of : ---  
Addition of : brand name and trade description  
Deletion of : ---





**Type** : BT215; ES215; HG2201; WD215;  
MF4300; ED215; EI900; ZSR4; Grand  
GT-081

**Manufacturer** : Shandong Wanda BOTO Tyre Co., Ltd.

**Test minutes**

**Appendix 1**

**1. Tyre noise measurements**

- 1.1. Date of test : September 04, 2016
- 1.2. Test vehicle
  - Make and vehicle name : DONGFENG / LGAX2B131E1006840
  - Wheelbase : 4700 mm(<5000mm for C2 & C3)
  - Removal or modification on the vehicle : The powertrain under the vehicle body is isolated to reduce the background noise
- 1.3. Location of test track : MTPG, Beijing, China
  - Date of track certification to ISO10844:1994 : November 09, 2015
  - Issued by : Highway Inspection Center of China Ministry of Communications
  - Method of certification : Residual void content, Sound absorption coefficient, Texture depth
- 1.4. Test tyre details
  - Tyre brand and trade description : BOTO / BT215
  - Tyre type : 435/50R19.5 160J
  - Tyre structure : Radial
  - Category of use : Snow
  - Tyre class : C3
  - State whether the tyre is : ~~Standard~~ / Reinforced
  - Manufacturing date code : ---
- 1.5. Test data
  - Reference load : 4500 kg
  - Reference inflation pressure : 900 kPa
  - Reference speed : 70 / ~~80~~ km/h

	Front left	Front right	Rear left	Rear right	Q <sub>t</sub> , avg
Test mass (kg)	2807.5(A)	2807.5(A)	3245(B)	245(B)	3245(B)
Tyre load index (%)	74.9%	74.9%	72.1%	72.1%RDW	72.1%

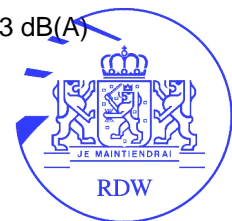
Type : **BT215; ES215; HG2201; WD215; MF4300; ED215; EI900; ZSR4; Grand GT-081**  
 Manufacturer : **Shandong Wanda BOTO Tyre Co., Ltd.**

Inflation pressure (cold) (kPa)	630	630	650	650	/
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- (A) The front axle is fitted with :  
 Tyre type(A) : 315/70R22.5 152/148M, 154/150L  
 Reference inflation pressure : 830 kPa
- (B) Concern the rear axle only  
 Test rim width code : 14.00 x 19.5  
 Temperature measurement : NK5919(air)  
 sensor type : TH1212(track)  
 Valid Test results :

Running No.	Speed km/h	Direction of run	Sound Level Measured dB(A)		Air Temp. °C	Track Temp. °C	Sound Level Measured dB(A)		Comments
			Left	Right			Left Temp. correction	Right Temp. correction	
1	62.1	S to N	71.3	71.7	34.6	37.2	---	---	---
2	64.7	S to N	72.0	72.2	34.5	37.2	---	---	---
3	66.5	S to N	72.1	72.5	34.2	37.0	---	---	---
4	68.3	S to N	73.0	72.8	34.5	37.2	---	---	---
5	72.4	N to S	74.0	73.7	34.5	37.0	---	---	---
6	74.4	N to S	73.5	74.0	34.6	37.0	---	---	---
7	76.2	N to S	74.5	74.3	34.5	37.4	---	---	---
8	78.1	N to S	73.9	74.2	34.6	37.2	---	---	---
Limit value	<b>60~80</b>	---	---	---	<b>5 ~ 40</b>	<b>5 ~ 50</b>	---	---	---

Regression line slope : 28.69 dB(A)  
~~Sound level after temperature correction according to paragraph 4.3. of annex 3~~ : 73.08 dB(A)  
 Final result according to paragraph 4.4. and 4.5. of annex 3 : **72 dB(A)**  
 Limit Value for C3 (Stage I+ II) : 73 dB(A)



**Type** : BT215; ES215; HG2201; WD215;  
MF4300; ED215; EI900; ZSR4; Grand  
GT-081  
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- 2. Tyre wet grip measurements** :
- 2.1. Date of test : March 11, 2015
  - 2.2. Test vehicle : RDW Wetgrip Trailer 02 (OPS25)
  - 2.3. Location of test track : RDW – Test Centre Lelystad
  - Test track characteristics : TBN13; G14.1307A, G14.1307B
  - Issued by : KOAC.NPC
  - Method of certification : BPN / ASTM E 965
  - Water depth : 1.00 - 1.25 mm
  - 2.4. Identification of the SRTT : ASTM F 2870, F189462 SHC00039R
  - 2.5. Valid test results\* :

		SRTT (before)	Candidate (1 /-2 of 2)	SRTT (after)
Size		315/70R22.5	425/65R22.5	315/70R22.5
Load & speed index		154/150L	165K	154/150L
Tyre identification		SRTT	BOTO / BT215	SRTT
Category of use		/	Normal	/
Tyre class		/	C3	/
Manufacturing date code		/	80DF BTWJ 0615	/
Rim width		9.00	11.75	9.00
Average load (kg)		2799	3787	2770
Pressure (kPa)		640	590	640
μpeak	1	0.65	0.69	0.68
	2	0.68	0.68	0.70
	3	0.64	0.69	0.68
	4	0.65	0.72	0.65
	5	0.64	0.72	0.69
	6	0.65	0.70	0.71
Average		0.65	0.70	0.69
Standard deviation σ		0.01	0.02	0.02
(σ / average) ≤ 5%		2.0	2.2	2.8
Total σ/average SRTT (≤ 5%)				3.6
Ra, Adjusted		--	0.66	--
Wet grip index G(T)		--	<b>1.06</b>	--
Ambient temp. (°C)		9	10	9
Ground temp. (°C)		16	16	14
Limit value for C3:			0.65	
* The test data of the wet grip test refer exclusively to the report No. RDW-117R-0029073				



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**GT-081**

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### 3. Rolling resistance measurements

- 3.1. Date of test : February 01, 2013
- 3.2. Test site : SDCIQ, Qingdao, China
- 3.3. Test machine information
- Make / type : MTS / RW860
- Applicable test method : Force method
- Diameter ( $\geq 1.7\text{m}$ ) : 1.708 m
- Surface : Smooth steel / ~~Textured surface~~
- Test machine alignment with : n.a.
- Alignment valid from : n.a.
- Latest test machine monitoring on : February, 2013
- Measurement standard deviation  $\sigma_m$  in latest monitoring :  $\sigma_m = 0.0302 \text{ N/kN}$  ( $\sigma_m \leq 0.06 \text{ N/kN}$  for Class C3 tyres)
- 3.4. Test tyre details
- Tyre brand and trade description : BOTO / BT215
- Tyre type : 275/70R22.5 148/145J
- Tyre structure : Radial
- Category of use : Snow
- Tyre class : C3
- Plies fo tread and sidewall : 1 STEEL + 3 STEEL / 1 STEEL
- State whether the tyre is : ~~Standard~~ / Reinforced
- Manufacturing date code : 0213
- 3.5. Test conditions
- Test rim size / material : 8.25 x 22.5 / Steel
- Test speed : 60 km/h
- Test load (85% of maximum load capacity) : 26257.3 N
- Inflation pressure : 900 kPa



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Thermal conditioning	: more than 6 hours	
Warm-up	Forward rotation	Reverse rotation
	180 minutes	50 minutes
3.6. Measurement and recording		
The initial test inflation pressure	: 900 kPa	
	Forward rotation	Reverse rotation
The test speed, $U_n$	: 59.84 km/h	-60.34 km/h
The ambient temperature, $t_{amb}$	: 25.22 °C	26.08 °C
The load on the tyre normal to the drum surface, $L_m$	: 26257.3 N	26257.1 N
Spindle force(formal test mode)	: -113.17 N	-151.36 N
The distance from the tyre axis to the drum outer surface under steady-state conditions, $r_L$ (formal test mode)	: 454.920 mm	454.907 mm
Skim test load	: 400.3 N	400.3 N
Spindle force (skim test mode)	: -2.254 N	-11.414 N
The distance from the tyre axis to the drum outer surface under steady-state conditions(skim test mode)	: 483.453 mm	482.292 mm
3.7. Rolling resistance result		
Initial value (or average in the case of more than 1)	: 7.448 N/kN	
Temperature corrected	: 7.479 N/kN	
Temperature and drum diameter corrected	: <b>7.290 N/kN</b>	
Limit value for C3 (Stage I /II)	: 8.0 N/kN / <del>6.5 N/kN</del>	
The test result corrected by alignment equation mentioned in paragraph 6 of Annex Iva of Regulation (EC) No. 1222/2009 is: n/a, Energy Efficiency Class: n/a		

4. Snow performance measurements : Not applicable

