

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- ~~approval withdrawn~~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-026314 S2WR2 <sup>(2)</sup>****Extension number: 00**

1. Manufacturer's name and address(es) : SHANDONG LINGLONG TYRE CO.,LTD.  
No. 777, Jinlong Road,  
265406, Zhaoyuan, Shandong ,  
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 : Class C1  
: snow
4. Brand(s) name(s) and/or Trade  
description(s) of the type of tyre : SECURITY  
: AW414
5. Technical service and, where  
appropriate, test laboratory approved  
for purposes of approval or of  
verification of conformity tests : TÜV NORD Mobilität GmbH & Co.KG  
Institut für Fahrzeugtechnik und Mobilität  
: Adlerstrasse 7, D-45307 Essen
6. Performance(s) approved : sound level at (~~stage 1~~/stage 2) <sup>(1)(2)</sup>, wet adhesion  
level, rolling resistance level (~~stage 1~~/stage 2) <sup>(1)(2)</sup>

**Approval number: E4-117R-026314 S2WR2**

**Extension number: 00**

- 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 the appendix to Annex 3: 69<sup>(2)</sup> dB(A) at reference speed of 70/80 km/h<sup>(1)</sup>.
- 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: 1.43 (G) using the vehicle or ~~trailer~~ method<sup>(1)</sup>.
- 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: 10.47 N/kN<sup>(2)</sup>.
7. Number of report issued by that service : CT117-A0-140035  
CV14080230  
CV14080246
8. Date of report issued by that service : Nov.23, 2014  
Aug.20, 2014  
Aug.27, 2014
9. Reason(s) of extension (if applicable) :
10. Any remarks :
11. Place : Zoetermeer
12. Date : 03-DEC-2014
13. Signature :
- 
14. Annexed to this communication are:
- 14.1. A list of documents in the approval file deposited at the Type Approval Authorities 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.

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

<sup>(2)</sup> Note; See 'Tyre size list' in case the tyre performances are not all of the same stage level (Multi-stage tyre line). Stage level per tyre size is to be specified on the tyre size list.

<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.

# SHANDONG LINGLONG TYRE CO.,LTD.

Information folder No. 0220131285

Page 1 of 5

## RELATING TO ECE TYPE-APPROVAL FOR A TYPE OF TYRE WITH REGARD TO ROLLING SOUND EMISSIONS AND TO ADHESION ON WET SURFACES (ECE Regulation 117)

### 1. GENERAL

- 1.1. The performance characteristics to be assessed for the : ~~sound level~~/adhesion performance level on  
tyre type wet surfaces and rolling sound level
- 1.2. Manufacturer's name : SHANDONG LINGLONG TYRE CO., LTD.
- 1.3. Name and address of applicant : SHANDONG LINGLONG TYRE CO., LTD.  
No.777, Jinlong Road,  
265406, Zhaoyuan, Shandong, P.R.China
- 1.4. Address(es) of manufacturing plant(s) : the same as the applicant
- Brand name(s), Trade description(s) or Trade mark(s) : SECURITY;  
to be used for particular tyre type-approval requested AW414;

### 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
- 2.4. For Class C1 tyres, state weather:
- 2.4.1 Reinforced (or extra load) in case of approval : not applicable  
with regarding to rolling sound emission level
- 2.4.2 Speed category symbol "Q" or below (not including "H") or "R" and above (including "H") : not applicable  
in case of snow tyres for approval with regarding to adhesion on wet surfaces
- 2.5. Category of use (normal, snow, special) : normal/ snow / ~~special~~
- 2.6. A list of tyre designations covered by this application : see attached list of tyre size
- 2.7. Details of major features, with respect to the effects : see attached drawing of tread pattern  
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.  
This may be by drawing, photograph or description but must be sufficient to allow the type approval authority or technical service to determine whether any subsequent changes to the major features will adversely affect the tyre performance

MANUFACTURER'S NAME



Signature:

Name: ...Liu Jinglin.....

THIS APPLICATION IS ACCOMPANIED BY:



## List of tyre size

Brand name(s) or Trade mark(s) :SECURITY;

Tread pattern :AW414;

Tyre size	Approval No.	Limit dB(A)	Wet grip index(G)	Limit RRC (N/Kn)
155/70R13 79N	E4-0275927	70	≥1.1	10.5
185/70R13 93N	E4-0275926			
135/80R13 74N XL	E4-0275920	71		
145/80R13 79N XL	E4-0275921			
155/80R13 84N XL	E4-0275922			
165/70R13 84N XL	E4-0275928			
175/70R13 86N XL	E4-0275923			
185/65R14 93N XL	E4-0275924			
195/65R15 95N XL	E4-0275919	72		
195/70R14 96N XL	E4-0275925			

E4-026314 S2WR2



# SHANDONG LINGLONG TYRE CO.,LTD.

Information folder No. 0220131285

Page 3 of 5

---

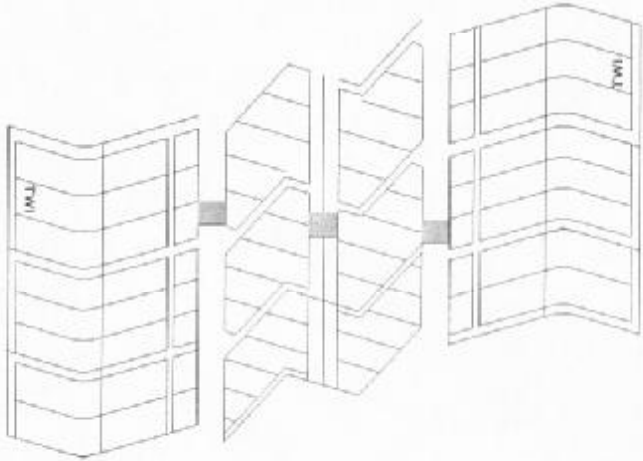
S&W	Test Size	:	195/65R15 95N XL
	Because of	:	Widest section width Lowest aspect ratio Biggest rim size <del>Lowest Load index</del>
RR	Test Size	:	135/80R13 74N XL
	Because of	:	<del>Widest section width</del> <del>Lowest aspect ratio</del> <del>Biggest rim size</del> Lowest Load index

E4-026314 S2WR2

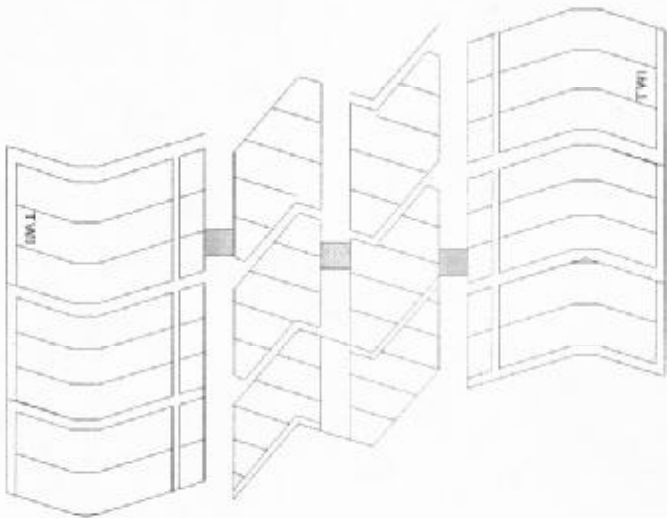


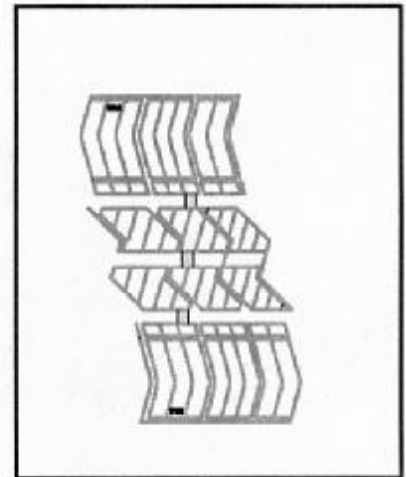
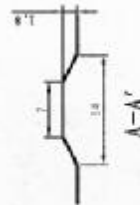
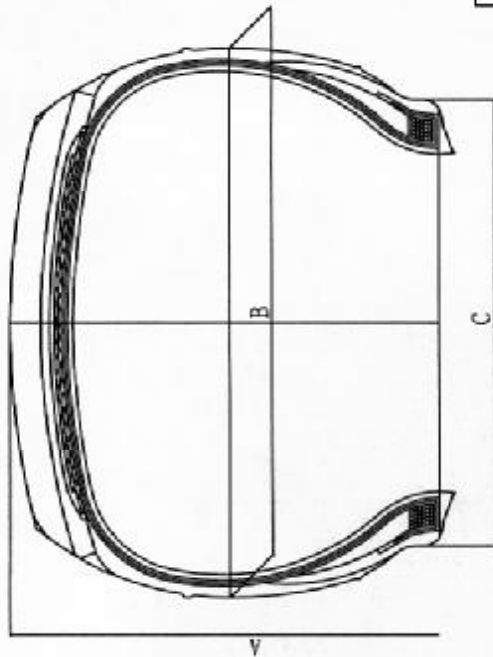


## Drawing of the tread pattern (for measured tyre)

Manufacturer name Pattern name	SHANDONG LINGLONG TYRE CO.,LTD. AW414
Tyre Size Market	195/65R15 95N EU
Pitch number Pitch ratio	64 1.00/1.23/1.45
Void volume [%] Width: main grooves [mm] Depth: center groove [mm] Depth: shoulder groove [mm]	70 9.6 6.5 6.5
Pattern	

## Drawing of the tread pattern (for measured tyre)

Manufacturer name Pattern name	SHANDONG LINGLONG TYRE CO.,LTD. AW414
Tyre Size Market	135/80R13 74N EU
Pitch number Pitch ratio	64 1.00/1.23/1.45
Void volume [%] Width: main grooves [mm] Depth: center groove [mm] Depth: shoulder groove [mm]	70 6.4 6.5 6.5
Pattern	



LOWER MOLD



UPPER MOLD

17	EXTRA LOAD	EXTRA LOAD
16	STANDARD RIM 3.50B	STANDARD RIM 3.50B
15	TREADWEAR 280 TRACTION A TEMPERATURE B	TREADWEAR 280 TRACTION A TEMPERATURE B
14	FOR TRAILER USE ONLY	FOR TRAILER USE ONLY
13	MOLD NUMBER (WE1405-1406)	MOLD NUMBER (WE1405-1406)
12	M+S	M+S
11	MAX. LOAD 375kg (827lbs) MAX. PRESS 340kPa (50psi)	MAX. LOAD 375kg (827lbs) MAX. PRESS 340kPa (50psi)
10	SECURITY	SECURITY
9	STEEL BELTED RADIAL TUBELESS	STEEL BELTED RADIAL TUBELESS
8	SAFETY WARNING:.....	SAFETY WARNING:.....
7	RADIAL AW414	RADIAL AW414
6	E 026314 SZWR2 0275920	E 026314 SZWR2 0275920
5	**** (PRODUCT DATE)	----
4	DOT 0UMM EPCR	DOT 0UMM EPCR
3	MADE IN CHINA	MADE IN CHINA
2	74N	74N
1	135/80R13	135/80R13
	LOWER MOLD	UPPER MOLD

135/80R13	74	N	TL	133	102	6.5
TIRE SIZE	LOAD INDEX	SPEED SYMBOL	TYPE	B (mm)	C (mm)	SKID DEPTH (mm)



**Test Report / Prüfbericht**

Nr. / No.:

CT117-A0-140035

Seite / Page:

1 / 5

Auftraggeber / Customer:

SHANDONG LINGLONG TYRE Co.,LTD

Reifengröße / -typ / Tyresize / -type: 135/80R13 /AW414



## Test Report

**AGREEMENT** Concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions

**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-R 117**

*as last amended  
not applicable*

Approval status	
ECE	Number of approval
	E4-117R-026314 S2WR2



**Test Report / Prüfbericht**

Nr. / No.:

CT117-A0-140035

Seite / Page:

2 / 5

Auftraggeber / Customer:

SHANDONG LINGLONG TYRE Co.,LTD

Reifengröße / -typ / Tyresize / -type: 135/80R13 /AW414

**Test Report/Prüfbericht (ECE-R117)**

Inspection report regarding the tyre/road noise emission of a tyre in accordance with the Council Directive, Annex V to Directive 92/23/EEC, as last amended by Directive 2005/11/EC and ECE Regulation no. 117.

**Part1-Report**

- |   |   |
|---|---|
| 1. Type approval authority or Technical Service :                           | TÜV NORD Mobilität GmbH & Co. KG - Institut für Fahrzeugtechnik und Mobilität, Adlerstr. 7, 45307 Essen |
| 2. Name and address of applicant :  | SHANDONG LINGLONG TYRE Co.,Ltd<br>No.777, Jinlong road,265406, ZhaoYuan,ShanDong, P.R.China             |
| 3. Test report No. :  | CT117-A0-140035   |
| 4. Manufacturer and Brand Name or Trade description :                       | SECURITY  |
| 5. Tyre Class (C1, C2 or C3) :  | Class C1  |
| 6. Category of use :  | Snow  |
| 7. Rolling resistance coefficient (temperature and drum diameter corrected) | 10.47   |
| 8. Comments (if any) :  | -   |
| 9. Date of test report :  | Nov. 23, 2014   |



**Test Report / Prüfbericht**

Nr. / No.:

**CT117-A0-140035**

Seite / Page:

**3 / 5**

Auftraggeber / Customer:

**SHANDONG LINGLONG TYRE Co.,LTD**Reifengröße / -typ / Tyresize / -type: **135/80R13 /AW414****Part2-Test data**

1. Date of test: : Oct 16, 2014
2. Test machine identification and drum diameter/surface : 18649-1,1.7m,smooth steel
3. Test tyre details
  - 3.1. Tyre size designation : 135/80R13  
Load Index : 74  
Speed Category : N
  - 3.2. Tyre brand and trade description : SECURITY
  - 3.3. Reference inflation pressure : 250kPa
4. Test data
  - 4.1 Measurement method : Torque method
  - 4.2 Test speed : 80.0km/h
  - 4.3. Test load : 2942N
  - 4.3.1 Input torque at 85% load 48.68N.M
  - 4.4. Test inflation pressure initial: 250kpa
  - 4.5 Distance from the tyre axis to the drum outer surface under steady state condititions 263.0mm
  - 4.6 Test rim: 3.5B
  - 4.7 Ambient temperature: 23.8C°
  - 4.8 Skim test load(except deceleration method): 146N
  - 4.9 Input torque(T<sub>i</sub>): 21.79N.M
5. Rolling resistance coefficient
  - 5.1 initial value: 10.74
  - 5.1.1 initial value after 2.0M drum correction: 10.55
  - 5.2 Temperature corrected N/KN: -0.08
  - 5.3 Temperature and drum diameter corrected: 10.47



**Test Report / Prüfbericht**

Nr. / No.:

CT117-A0-140035

Seite / Page:

4 / 5

Auftraggeber / Customer:

SHANDONG LINGLONG TYRE Co.,LTD

Reifengröße / -typ / Tyresize / -type: 135/80R13 /AW414

**Statement of conformity**

The type described in this test report and the appendices attached are in compliance with the Test Specification mentioned above.

The Test Report comprises pages 1 to 4.

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

**TEST LABORATORY**

TÜV NORD Mobilität GmbH &amp; Co. KG

IFM - Institut für Fahrzeugtechnik und Mobilität,  
Adlerstr. 7, 45307 EssenDesignated Technical Service  
RDW No. 99050016

Tianjin, China

2014-11-23

**Institut für Fahrzeugtechnik und Mobilität**  
Fachgebiet: Räder – Reifen – Fahrwerk – Tuning

 Wang Xin Assessor, Automotive Homologation TUV NORD Certification (Tianjin)	 TUV NORD Certification (Tianjin)
--	--





**Test Report / Prüfbericht**

Nr. / No.:

CT117-A0-140035

Seite / Page:

5 / 5

Auftraggeber / Customer:

SHANDONG LINGLONG TYRE Co.,LTD

Reifengröße / -typ / Tyresize / -type: 135/80R13 /AW414



Mobilität

**List of modifications****Appendix 1****More details for application of** : **Date** :

Correction of : -

Modification of : -

Addition of : -

Deletion of : -



## REPORT Nº CV14080230

## TEST ACCORDING TO REGULATION (EC) Nº 1222/2009 RELATED TO ROLLING SOUND EMISSIONS

Applicant : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZHAOYUAN  
Shandong, P. R. CHINA

Manufacturer : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZHAOYUAN  
Shandong, P. R. CHINA

Trade name : SECURITY

Commercial description : AW414

Category of use : Snow

Tyre Class : C1

Tyre size : 195/65R15 95N XL

Place and date of issue : L'Albornar, Santa Oliva (Tarragona), 20/08/2014

CONCLUSIONS: According to Regulation (EC) Nº 1222/2009, the sample described above has been tested following the noise test procedure as per UNECE Regulation No 117.02.

The characteristics of the tested sample are detailed in the annex to the test report.

Rolling sound emission value = 69 dB (A)

Performed by:



Marc Soler  
HOMOLOGATION ENGINEER

Revised by:



Ignacio Lafuente Buil  
DEPARTMENT MANAGER

- \* THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.
- \* THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN.
- \* MEASUREMENT UNCERTAINTY OF THE RESULTS HAS BEEN CALCULATED BY THE LABORATORY.

## ANNEX TO THE TEST REPORT

### 1. TEST DATA

#### 1.1. Test tyre details

- 1.1.1. Applicant : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZILAOYUAN  
Shandong, P. R. CHINA
- 1.1.2. Manufacturer : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZILAOYUAN  
Shandong, P. R. CHINA
- 1.1.3. Trade name : SECURITY
- 1.1.4. Commercial description : AW414
- 1.1.5. Category of use : Snow
- 1.1.6. Tyre Class : C1
- 1.1.7. Tyre size : 195/65R15 95N XL
- 1.1.8. Tyre structure : Radial
- 1.1.9. Load index / Corresponding mass  $Q_r$  [kg] : 95 / 690
- 1.1.10. Reference inflation pressure  $P_r$  [kPa] : 290
- 1.1.11. Test inflation pressure  $P_t$  [kPa] :

	$P_r$ [kPa] admissible values
Front axle left wheel	$198.75 \leq 210.00 \leq 218.62$
Front axle right wheel	$190.50 \leq 200.00 \leq 209.55$
Rear axle left wheel	$191.95 \leq 200.00 \leq 211.15$
Rear axle right wheel	$198.75 \leq 210.00 \leq 218.62$

- 1.1.12. Test tyre internal reference :

Front left	Front right
HVI-1408/100	HVI-1408/101
Rear left	Rear right
HVI-1408/102	HVI-1408/103

- 1.1.13. Test rim : 6.5 x 15

\* THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.  
\* THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN.  
\* MEASUREMENT UNCERTAINTY OF THE RESULTS HAS BEEN CALCULATED BY THE LABORATORY.

1.1.14 Test rim internal reference :

Front left HVI-1204/979	Front right HVI-1204/978
Rear left HVI-1205/990	Rear right HVI-1205/992

1.1.15 Test tyre load [kg] :

	kg	$Q_L [N] / \% \frac{Q_L}{Q_n}$	$Q_{L, ave} [N] / \% \frac{Q_{L, ave}}{Q_n}$
Front axle left wheel	510	$50 < 73.91 < 90$	$70 < 72.79 < 80$
Front axle right wheel	493	$50 < 71.45 < 90$	
Rear axle left wheel	496	$50 < 71.88 < 90$	
Rear axle right wheel	510	$50 < 73.91 < 90$	

1.2. Test vehicle

1.2.1 Trade name : AUDI  
1.2.2 Model : A4 AVANT  
1.2.3 Year : 2003  
1.2.4 Transmission : Manual  
1.2.5 Wheelbase [mm] : 2,650  
1.2.6 Vehicle internal reference : HVI-1212/516

2. TEST TRACK

2.1. Environmental conditions

2.1.1 Air temperature [°C] : 32.2  
2.1.2 Surface temperature [°C] : 41.7  
2.1.3 Wind speed [m/s] : 1.9  
2.1.4 Ambient noise [dB(A)] : 41.1  
2.1.5 Barometer pressure [kPa] : 101.24  
2.1.6 Relative humidity [%] : 48.62

\* THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.

\* THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN.

\* MEASUREMENT UNCERTAINTY OF THE RESULTS HAS BEEN CALCULATED BY THE LABORATORY.

IDIADA Automotive Technology S.A. K.T.F. A435816/C





## 2.2. Date and method of check on compliance of the test surface with ISO 10844:1994

- May 25<sup>th</sup> 2014
- Sand patch
- Issued by : IDIADA

## 3. TEST RESULTS

Reference Speed:  $v_{ref}$  [km/h] : 80  
 Range Speed [km/h] : 70.0 - 90.0

Run No.	Test speed [km/h]	Direction of run	Sound level left measured [dB(A)]	Sound level right measured [dB(A)]	Air temp. [°C]	Surface temp. [°C]	Sound level left temp. corrected [dB(A)]	Sound level right temp. corrected [dB(A)]
1	71.2	E-W	67.7	67.8	32.7	40.0	68.3	68.4
2	74.1	E-W	68.7	68.7	32.5	41.4	69.3	69.3
3	75.9	E-W	69.2	69.1	31.6	39.1	69.8	69.7
4	78.6	E-W	69.4	69.4	32.6	42.1	70.1	70.1
5	82.1	E-W	70.9	70.4	32.4	40.4	71.5	71.0
6	84.9	E-W	71.3	71.2	31.4	44.1	72.0	71.9
7	86.9	E-W	71.4	71.9	32.8	42.4	72.1	72.6
8	88.7	E-W	71.4	72.1	31.3	44.1	72.1	72.8

3.1. Regression line slope : 42.96

3.2. Sound level after temperature correction according to paragraph 4.3 of Annex 3 [dB(A)] : 70.7

3.3. Sound level according to paragraph 4.4. and 4.5. of Annex 3 [dB(A)] : 69

Place of test: L'Albomar (Santa Oliva)

Date of test: 19/08/2014



Marc Soler  
 HOMOLOGATION ENGINEER

\* THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.  
 \* THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN.  
 \* MEASUREMENT UNCERTAINTY OF THE RESULTS HAS BEEN CALCULATED BY THE LABORATORY.  
 IDIADA Acoustic Technology S.A. R.I.E. A435816/C



## REPORT Nº CV14080246

## TEST ACCORDING TO REGULATION (EC) No 1222/2009 RELATED TO ADHESION ON WET SURFACES

Applicant : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZHAOYUAN  
Shandong, P. R. CHINA

Manufacturer : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZHAOYUAN  
Shandong, P. R. CHINA

Trade name : SECURITY

Commercial description : AW414

Category of use : Snow

Tyre class : C1

Tyre size : 195/65R15 95N XL

Place and date of issue : L'Albornar, Santa Oliva (Tarragona), 27/08/2014

CONCLUSIONS: According to Regulation (EC) No 1222/2009, the sample described above has been tested following the wet grip test procedure as per Regulation No 228/2011.  
The characteristics of the tested sample are detailed in the attached technical documentation.

Wet grip index G = 1.43

Performed by:

Marc Soler  
HOMOLOGATION ENGINEER

Revised by:

Ignacio Lafuente Buil  
DEPARTMENT MANAGER

## ANNEX TO THE TEST REPORT

### 1. TEST DATA

#### 1.1. Test tyre details

- 1.1.1. Applicant : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZILIAOYUAN  
Shandong, P. R. CHINA
- 1.1.2. Manufacturer : SHANDONG LINGLONG TYRE CO., LTD.  
777 Jinlong Road, 265406 ZILIAOYUAN  
Shandong, P. R. CHINA
- 1.1.3. Trade name : SECURITY
- 1.1.4. Commercial description : AW414
- 1.1.5. Category of use : Snow
- 1.1.6. Tyre class : C1
- 1.1.7. Tyre size : 195/65R15 95N XL
- 1.1.8. Tyre structure : Radial
- 1.1.9. Load index / Corresponding mass  $Q_0$ [kg] : 95 / 690
- 1.1.10. Inflation pressure [kPa] : 220
- 1.1.11. Test tyre internal reference :

Front left	Front right
HVI-1408/100	HVI-1408/101
Rear left	Rear right
HVI-1408/102	HVI-1408/103

- 1.1.12. Test rim : 6.5 x 15

- 1.1.13. Test rim internal reference :

Front left	Front right
HVI-1204/979	HVI-1204/978
Rear left	Rear right
HVI-1205/990	HVI-1205/992

\* THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.  
\* THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN.  
\* MEASUREMENT UNCERTAINTY OF THE RESULTS HAS BEEN CALCULATED BY THE LABORATORY.  
IDIADA Automotive Technology S.A. R.I.F. A4358161E



1.1.14 SRTT identification : UNIROYAL 225/60R16 - ASTM F 2493-08

1.1.15 SRTT internal reference :

Front left	Front right
HVI-1304/608	HVI-1304/609
Rear left	Rear right
HVI-1304/610	HVI-1304/611

1.1.16 Test SRTT rim : 6.5 x 16

1.1.17 Test SRTT rim internal reference :

Front left	Front right
HVI-1112/61	HVI-1112/59
Rear left	Rear right
HVI-1112/60	HVI-1112/62

1.1.18 Test tyre load [kg] :

SRTT1		Candidate			SRTT2	
FL	505	FL	495	71.7% $Q_z$	FL	501
FR	489	FR	485	70.3% $Q_z$	FR	489
RL	481	RL	481	69.7% $Q_z$	RL	480
RR	499	RR	492	71.3% $Q_z$	RR	495

## 1.2. Test vehicle

1.2.1 Trade name : AUDI

1.2.2 Model : A4 AVANT

1.2.3 Year : 2003

1.2.4 Transmission : Manual

1.2.5 Wheelbase [mm] : 2,650

1.2.6 Vehicle internal reference : HVI-1212/516



## 1.3. Test equipment

1.3.1	Manometer	: 10246
1.3.2	Weight scale	: 01199
1.3.3	Thermometer	: 06268-1
1.3.4	Track temperature measurement device	: 130041
1.3.5	Speed measurement device	: 130205
1.3.6	Force pedal	: 05610

## 2. TEST TRACK

2.1.	Location	: ABS Surface, IDIADA
2.2.	Date of check on compliance of the test surface:	19 <sup>th</sup> April 2014
2.3.	Test track characteristics:	
2.3.1	Sand depth [mm]	: 0.85
2.3.2	BPN	: 55
2.3.3	Water depth [mm]	: Between 0.75 and 1.00
2.4.	Test method	: Vehicle
2.5.	Air temperature $T_a$ [°C]	: 19.4
2.6.	Wet surface temperature $T_w$ [°C]	:

SRTT1	Candidate	SRTT2
18.7	19.8	19.9

### 3. TEST RESULTS

Test run	SRTT 1		Candidate		SRTT 2	
	Braking distance [m]	Average deceleration [m/s <sup>2</sup> ]	Braking distance [m]	Average deceleration [m/s <sup>2</sup> ]	Braking distance [m]	Average deceleration [m/s <sup>2</sup> ]
1	32.61	7.10	31.68	7.31	34.72	6.67
2	33.47	6.92	31.39	7.37	34.06	6.80
3	33.52	6.91	31.52	7.34	33.43	6.92
4	-	-	29.82	7.76	-	-
5	-	-	30.63	7.56	-	-
6	-	-	29.82	7.76	-	-

Coefficient of variation

SRTT 1	Candidate Tyre	SRTT 2
1.55	2.77	1.89
< 3 per cent	< 3 per cent	< 3 per cent

Run No	Test Speed [km/h]	Direction of run	SRTT	Candidate tyre	Mean fully developed deceleration (m/s <sup>2</sup> )	BFC(R)	BFC(T)	Pedal force [N]
1	80 - 20	W - E	225/60R16	---	6.97 m/s <sup>2</sup>	---	---	> 600
4	80 - 20	W - E	---	195/65R15	7.52 m/s <sup>2</sup>	0.77	1.10	> 600
5	80 - 20	W - E	225/60R16	---	6.80 m/s <sup>2</sup>	---	---	> 600

Calculation of the wet grip index of the candidate tyre:

$$G(T) = \left[ \frac{BFC(T)}{BFC(R)} \times 125 + a \times (t - t_0) + b \times \left( \frac{BFC(R)}{BFC(R_0)} - 1,0 \right) \right] \times 10^{-2}$$

where:

a = 0.7721

b = 31.18

t<sub>0</sub> = 10°C

BFC (R<sub>0</sub>) = 0.68

Wet grip index of the candidate tyre

G(T) = 1.46

Wet grip index

G = G(T) - 0.03 = 1.43

Place of test: L'Albornar (Santa Oliva)

Date of test: 27/08/2014



Marc Soler

HOMOLOGATION ENGINEER