

REPORT NO. : K055-A0-0308-0291
MANUFACTURER: Hankook Tire Co., Ltd.
TYPE : W440



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 : RDW
2. Name and address of applicant : Hankook Tire Co., Ltd.
#647-15, Yoksam-dong, Kangnam-ku
Seoul, 135-723, Korea
3. Test report No. : K055-A0-0308-0291
4. Manufacturer and Brand Name or Trade description : HANKOOK W440, AURORA W440
5. Tyre Class (C1, C2 or C3) : C1
6. Category of use : snow
7. Sound level according to paras. 4.4. and 4.5. of Annex 3 of : 68 dB(A) / 80 km/h
ECE R 117 and paras. 4.4. and 4.5. of Annex V appendix1
of the Directive 92/23 EC at reference speed of 70 or
80km/h
8. Tyre/Road Noise level according to paras. 6.1.1. through : Limit value expressed in dB(A) according to
paras 6.1.3. of ECE R 117 and paras.4.2.1 through 4.2.3 of Regulation & Directive :
Annex V of the Directive 92/23 EC at reference speed of C1 category ;
70 or 80km/h (strike out what does not apply) ** 145 and lower 72 dB(A), over 145 up to 165 73 dB(A),
~~over 165 up to 185 74 dB(A), over 185 up~~
~~to 215 75 dB(A), over 215 76 dB(A) * C1a 71(72) dB(A),~~
~~C1b 72(73) dB(A), C1c 73(74) dB(A),~~
~~C1d 75 dB(A), C1e 76 dB(A)~~
XL/+ 1 dB(A) & Special/+ 2dB(A)
* () means for 92/23/EEC ** () means for ECE R117
9. Comments (if any) : ~~The actual test of the tyre was not required and results~~
~~of the previous tests are still valid.~~
10. Date of test report : April 15, 2008
11. Signature :



Part2-Test data

- 1. Date of test: : March 13, 2008
- 2. Test vehicle (Make, model, year, modifications, etc.) : HYUNDAI NEW VANTE XD
VIN: KMHDN41DP4U877452/2004
- 2.1. Test vehicle wheelbase : 2650 mm
- 3. Location of test track : GTRACK
#433 Myungam-ri, Jewon-Myun, Geumsan-gun,
Chungnam, 312-824, Korea
- 3.1 Date of track certification to ISO 10844:1994 : April 13, 2007
- 3.2 Issued by : RDW TCL/DB/2003-1, K038-A1-0306-0208
- 3.3 Method of certification : Residual void content, Sound absorption coefficient,
Texture depth
- 4. Tyre test details
- 4.1 Tyre size designation/DOT Number : 205/55R16 / 3107
- 4.2 Tyre service description : Standard / ~~Reinforced~~
- Load Index : 91
- Speed Category : T
- 4.3 Reference inflation pressure : 250 kPa
- 4.4 Test data

	Front left	Front right	Rear left	Rear right
Test mass (kg)	439	439	427	427
Tyre load index (%)	71.0	71.0	69.0	69.0
Inflation pressure (cold)(kPa)	180	180	170	170

- 4.5. Test rim width code : 6.5J x 16
- 4.6. Temperature measurement sensor type : Digital Thermometer(KESTREL K2000)

5. Valid test results

Run No.	Speed km/h	Direction of run	Sound level left 2/ measured dB(A)	Sound level right 2/ measured dB(A)	Air temp. C	Track temp. C	Sound level left 2/ temp.corrected dB(A)	Sound level right 2/ temp.corrected dB(A)	Comments
1	71.4	North-South	65.5	68.6	15.0	27.0	65.7	68.9	-
2	73.0	North-South	65.9	68.7	14.8	27.0	66.1	68.9	-
3	75.9	North-South	66.8	70.2	13.9	27.0	67.0	70.4	-
4	76.9	North-South	66.8	70.1	14.9	27.0	67.0	70.3	-
5	81.1	North-South	67.8	71.1	13.8	26.0	68.0	71.3	-
6	83.7	North-South	68.1	71.9	15.1	26.0	68.2	72.0	-
7	85.3	North-South	68.5	71.9	16.5	26.0	68.7	72.0	-
8	87.6	North-South	69.5	72.2	15.3	26.0	69.6	72.3	-

5.1. Regression line slope : a = -37.47

5.2. Sound level after temperature correction-according to para.4.3 of Annex 3 of ECE R117 and para. 4.3 of Annex V appendix 1 of the Directive 92/23 : 69.02 dB(A)

5.3. The final result of sound level according to para.4.4. of annex 3 of ECE R117 and para. 4.4 of Annex V appendix 1 of the Directive 92/23 : 68 dB(A)

List of modifications

Correction of : - --

Modification of : - --

Addition of : - --

Deletion of : - --



RDW

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



COMMUNICATION

Concerning ⁽¹⁾:

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

of a type of tyre with regard to rolling sound emission level pursuant to Regulation number 117.

Approval number: E4-117R-000211

Extension number: 00

Approval mark:



000211 S

1. Manufacturer's name and address(es) : Hankook Tire Co., Ltd.
#647-15, Yoksam-dong, Kangnam-ku
Seoul, 135-723, Korea
2. If applicable, name and address of manufacturer's representative : not applicable
3. "Tyre class" and "category of use" of the type of tyre : C1 / snow
4. Brand(s) name(s) and/or Trade description(s) of the type of tyre : HANKOOK W440, AURORA W440
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. Sound level of the representative tyre size, see Paragraph 2.5. of Regulation number 117, as per item 7. of the test report: 68 dB(A) at reference speed of 70/80 km/h ⁽¹⁾.
7. Number of report issued by that service : K055-A0-0308-0291
8. Date of report issued by that service : April 15, 2008
9. Reason(s) of extension (if applicable) : not applicable





Postbus 777
2700 AT Zoetermeer
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Vehicle Approval and Information

10. Any remarks :
11. Place :Zoetermeer
12. Date :21-APR-2008
13. Signature


F.E. Plancius



14. Annexed to this communication are: Information folder no; P2008-A03-07
- 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.
- 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 the case of Class C1 tyres, the mark "Reinforced" or "Extra Load", if applicable.

⁽¹⁾ Strike out what does not apply.



HANKOOK TIRE CO., LTD.

647-15 Yeoksam-dong, Gangnam-gu, Seoul 135-723 Korea
Phone : 82-2-2222-1000 Facsimile : 82-2-2222-1100

Date: March. 10, 2008

**INFORMATION DOCUMENT No. P2008-A03-07 RELATING TO EC TYPE APPROVAL FOR A TYPE
OF TYRE RELATING TO TYRE/ROAD NOISE EMISSION
(Annex V to Directive 2005/11/EC& Regulation. 117)**

1. GENERAL

- 1.1 Manufacturer's name : HANKOOK TIRE CO., LTD.
- 1.2 Name and address of applicant : HANKOOK TIRE
#647-15 Yoksam-dong, Kangnam-ku
Seoul, 135-723, Korea
- 1.3 Address(es) of manufacturing plant(s) : Plant 1
#100 Moksang-dong, Teaduck-Gu,
Deajeon, 306-120, Korea
Plant 2
#433 Myungam-ri, Jewon-Myun, Geumsan-gun,
Chungnam, 312-824, Korea
- 1.4 Brand name(s), Trade description(s) or Trade mark(s) : HANKOOK, AURORA,

2. TYRES

- 2.1 Tyre classification (class C1, C2 or C3) : Class C1
- 2.2 Category of use (normal, snow or specail) : snow
- 2.3 Details of the major features, with respect t the effects : W440 – see Drawing No. 200803-PBN- W440
on tyre/road noise emission, 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/road noise emission
- 2.3 Tyre structure (Bias, Bias-belted or Radial) : Radial
- 2.5 List of tread-pattern designations : see the attached tyre type list



K. T. Kim

K. T. Kim (G. Manager)
Quality Assurnce Team

Pattern of Tires

W440

SIZE		Limit (dB)
135/70R15T	70T	72
135/80R13Q	70Q	
145/60R13T	66T	
145/65R15T	72T	
145/70R13T	71T	
145/80R13Q	75Q	
155/60R15T	74T	73
155/65R13T	73T	
155/65R14T	75T	
155/70R13T	75T	
155/80R13T	79T	
165/65R13T	77T	
165/65R14T	79T	
165/65R15T	81T	
165/70R13T	79T	
165/70R14T	81T	
165/80R13T	83T	
165/60R14T XL	79T	74
175/55R15T	77T	
175/60R15H	81H	
175/65R13T	80T	
175/65R14T	82T	
175/65R15T	84T	
175/70R13T	82T	
175/80R14T	88T	
185/55R14T	80T	
185/60R14T	82T	
185/65R14Q	86Q	
185/65R14T	86T	
185/65R15T	88T	



185/70R14T	88T	75	
175/70R14T XL	88T		
185/60R15T XL	88T		
195/60R14T	86T		
195/60R15T	88T		
195/65R14T	89T		
195/65R15T	91T		
195/70R14T	91T		
205/55R16H	91H		
205/55R16T	91T		
205/65R15T	94T		
205/70R15T	96T		
195/65R15T XL	95T		76
195/70R15T XL	97T		
205/65R15T XL	99T		

Test Size : 205/55R16 91T

Reason of choice : Widest

Lowest aspect ratio

Biggest rim size



Drawing No.: 200803-PBN-W440

Date : 2008-03-10

Drawing of the tread pattern (Mesured tire)

Manufacure's name	HANKOOK TIRE CO., LTD.
Pattern name	W440
Tire size	205/55R16 91T
Max. Load	615 kg
Pitch number	59
Pitch ratio (Max./Min.)	1.40
Groove area ratio (%)	36.30%
Width : main grooves (mm)	(Inside) 9.9 / 7.8 / 9.9 (Outside)
Depth : center grooves (mm)	9
Depth : shoulder grooves (mm)	9
Pattern	