

# SOLID VINYL TILES TEST REPORT

\*\*\* This certificate has been modified to protect certain confidential information without altering the test result.



## TEST REPORT

No. : XMCCM150700781

Date : Aug.19, 2015

Page: 1 of 5

# TEST REPORT

INOVAR SOLID VINYL TILES



## ACOUSTICS TEST

Laboratory : SGS Switzerland – Xiamen

Report No : XMCCM150700781

Product : Inovar Solid Vinyl Tiles

Results : Sum (Unfavorable deviation) = 31.1 < 32.0 dB  
L<sub>n,r,w</sub> = 72dB



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-Standard Technical Services Co., Ltd.  
Xiamen Branch / Xiamen Materials Laboratory

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5761588 f (86-592) 5765380 www.sgsgroup.com.cn  
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编: 361101 t (86-592) 5761588 f (86-592) 5765380 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

# SOLID VINYL TILES TEST REPORT

\*\*\* This certificate has been modified to protect certain confidential information without altering the test result.



## TEST REPORT

No. : XMCCM150700781

Date : Aug.19, 2015

Page: 2 of 5

\*\*\*Solid Vinyl Tiles Manufacturer

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name : GALAXY XL  
Thickness : 5.5mm  
Test required : ISO 140-8:1997 Acoustics-Measurement of sound insulation in buildings and of building elements-Part 8: Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a heavyweight standard floor  
ISO 717-2:2013 Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact sound insulation  
Date of Receipt : Jul.20, 2015  
Test Period : Jul.20, 2015 to Aug.14, 2015  
Test result(s) : For further details, please refer to the following page(s)  
\*\*\*\*\* To be continued\*\*\*\*\*

Signed for  
SGS-CSTC Standards Technical  
Services Co., Ltd. XM Branch Testing Center

Civi Huang  
Authorized Signatory

Note: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CSTC Standards Technical Services Co., Ltd.  
Xiamen Branch Testing Center Laboratory

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5761588 f (86-592) 5765380 www.sgsgroup.com.cn  
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5761588 f (86-592) 5765380 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

# SOLID VINYL TILES TEST REPORT

\*\*\* This certificate has been modified to protect certain confidential information without altering the test result.



## TEST REPORT

No. : XMCCM150700781

Date : Aug.19, 2015

Page: 3 of 5

**Test Item:** Reduction of Transmitted Impact Noise

**Test Condition:**

Sample Description : GALAXY XL (see photo)  
Installation Info. : Laying specimen on reinforced concrete floor (Thickness: 140mm), specimen area: 12.0m<sup>2</sup>  
Test Equipment : Investigation B&K2270, Tapping machine B&K3207, Microphone B&K4189  
Test Environment : Standard sound insulation room, receiving room: 145m<sup>3</sup>, Temperature:28°C, relative humidity: 65%

**Test Conducted:**

Measurement according to ISO 140-8:1997 and ISO 717-2:2013.

The normalized impact sound pressure level  $L_n$  is calculated by the following equation:

$$L_n = L_i + 10 \lg \frac{A}{A_0} \quad (1)$$

The reduction of impact sound pressure level  $\Delta L$  is calculated by the following equation:

$$\Delta L = L_{n,0} - L_{n,1} \quad (2)$$

Where

$L_i$  is impact sound pressure level, dB;

$A$  is the measured equivalent absorption area of the receiving room, m<sup>2</sup>;

$A_0$  is the reference equivalent absorption area,  $A_0 = 10$  m<sup>2</sup>;

$L_{n,0}$  is the normalized impact sound pressure level of the heavyweight standard floor without floor covering, dB;

$L_{n,1}$  is the normalized impact sound pressure level of the heavyweight standard floor with the floor covering, dB.

Rating according to ISO 717-2:2013 'Acoustics-Rating of sound insulation in buildings and of building elements-Part 2: Impact sound insulation'.

The weighted reduction of impact sound pressure level  $\Delta L_w$  according to the following equations:

$$L_{n,r} = L_{n,r,0} - \Delta L \quad (3)$$

$$\Delta L_w = 78 - L_{n,r,w} \quad (4)$$

Where

$L_{n,r}$  is the calculated normalized impact sound pressure level of the reference floor with the floor covering under test, dB;

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com



SGS Standards Technical Services Co., Ltd.  
Xiamen Branch

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5761588 f (86-592) 5765380 www.sgsgroup.com.cn  
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5761588 f (86-592) 5765380 e sgs.china@sgs.com

# SOLID VINYL TILES TEST REPORT

\*\*\* This certificate has been modified to protect certain confidential information without altering the test result.



## TEST REPORT

No. : XMCCM150700781

Date : Aug.19, 2015

Page: 4 of 5

$L_{n,r,0}$  is the defined normalized impact sound pressure level of the reference floor, dB;

$L_{n,r,w}$  is the calculated weighted normalized impact sound pressure level of the reference floor with the floor covering under test, dB.

\*\*\*\*\* To be continued\*\*\*\*\*



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS-CTI Standards Technical Services Co., Ltd.  
Xiamen Branch, Standards Technical Services Laboratory

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5761588 f (86-592) 5765380 www.sgsgroup.com.cn  
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编: 361101 t (86-592) 5761588 f (86-592) 5765380 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

# SOLID VINYL TILES TEST REPORT

\*\*\* This certificate has been modified to protect certain confidential information without altering the test result.



## TEST REPORT

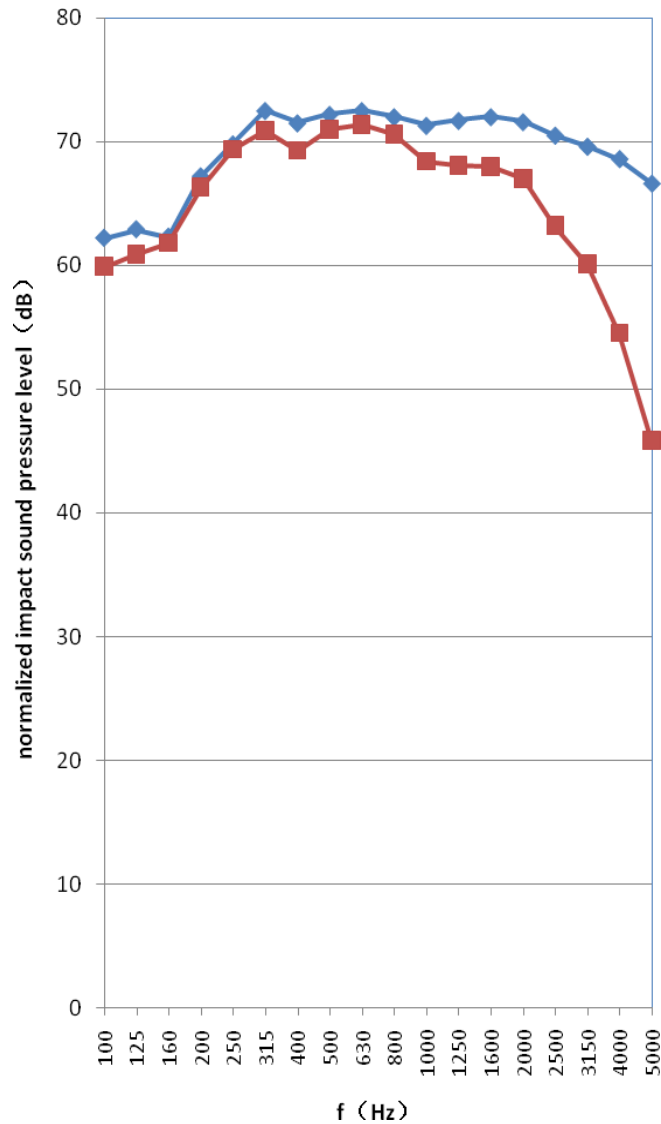
No. : XMCCM150700781

Date : Aug.19, 2015

Page: 5 of 5

### Test Result

Test condition	Condition 1(C1): without floor covering; Condition 2(C2): with floor covering.	
Frequency spectrum of normalized impact sound pressure level		
Frequency f(Hz)	C1 $L_{n,0}$ (dB)	C2 $L_{n,1}$ (dB)
100	62.2	59.9
<b>125</b>	<b>62.9</b>	<b>60.9</b>
160	62.3	61.8
200	67.2	66.3
<b>250</b>	<b>69.8</b>	<b>69.4</b>
315	72.5	70.9
400	71.5	69.3
<b>500</b>	<b>72.2</b>	<b>71.0</b>
630	72.5	71.4
800	72.0	70.6
<b>1000</b>	<b>71.3</b>	<b>68.4</b>
1250	71.7	68.1
1600	72.0	68.0
<b>2000</b>	<b>71.6</b>	<b>67.0</b>
2500	70.5	63.2
3150	69.6	60.1
<b>4000</b>	<b>68.6</b>	<b>54.5</b>
5000	66.6	45.8



\*\*\*\*\* To be continued\*\*\*\*\*



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS (China) Standards Technical Services Co., Ltd.  
Xiamen Branch, Standards Technical Services Co., Ltd.

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5761588 f (86-592) 5765380 www.sgsgroup.com.cn  
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编: 361101 t (86-592) 5761588 f (86-592) 5765380 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)

# SOLID VINYL TILES TEST REPORT

\*\*\* This certificate has been modified to protect certain confidential information without altering the test result.



## TEST REPORT

No. : XMCCM150700781

Date : Aug.19, 2015

Page: 6 of 5

.Calculating table of the weighted reduction of impact sound pressure level

$f(Hz)$	$L_{n,0}(dB)$	$L_{n,1}(dB)$	$\Delta L(dB)$	$L_{n,r,0}(dB)$	$L_{n,r}(dB)$	Reference value +12dB	Unfavourable deviation dB
100	62.2	59.9	2.3	67	64.7	74	<0
<b>125</b>	62.9	60.9	2.0	67.5	65.5	74	<0
160	62.3	61.8	0.5	68	67.5	74	<0
200	67.2	66.3	1.0	68.5	67.5	74	<0
<b>250</b>	69.8	69.4	0.3	69	68.7	74	<0
315	72.5	70.9	1.6	69.5	67.9	74	<0
400	71.5	69.3	2.2	70	67.8	73	<0
<b>500</b>	72.2	71.0	1.2	70.5	69.3	<b>72</b>	<0
630	72.5	71.4	1.1	71	69.9	71	<0
800	72.0	70.6	1.4	71	69.6	70	<0
<b>1000</b>	71.3	68.4	3.0	72	69.0	69	<0
1250	71.7	68.1	3.6	72	68.4	66	2.4
1600	72.0	68.0	3.9	72	68.1	63	5.1
<b>2000</b>	71.6	67.0	4.6	72	67.4	60	7.4
2500	70.5	63.2	7.3	72	64.7	57	7.7
3150	69.6	60.1	9.5	72	62.5	54	8.5

Sum( Unfavourable deviation) = 31.1<32.0 dB  
 $L_{n,r,w} = 72dB$

$\Delta L_w = 6dB$  ;  $C_{l, \Delta} = -3dB$  ;  $C_{l, r} = -7dB$  ;  $\Delta L_{lin} = 3dB$

Note: The test was carried out by external laboratory assessed as competent

\*\*\*\*\* To be continued\*\*\*\*\*



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-Standard Technical Services Co., Ltd.  
 Xiamen Branch Standards Technical Services Laboratory

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5761588 f (86-592) 5765380 www.sgsgroup.com.cn  
 中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编:361101 t (86-592) 5761588 f (86-592) 5765380 e sgs.china@sgs.com

# SOLID VINYL TILES TEST REPORT

\*\*\* This certificate has been modified to protect certain confidential information without altering the test result.



## TEST REPORT

No. : XMCCM150700781

Date : Aug.19, 2015

Page: 7 of 5

### Photo Appendix:



SGS authenticate the photo on original report only  
\*\*\*\*\*End of report\*\*\*\*\*



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: [CN.Doccheck@sgs.com](mailto:CN.Doccheck@sgs.com)

SGS Standards Technical Services Co., Ltd.  
Xiamen Branch / Xiamen Materials Laboratory

No.31 Xianghong Road, Xiang'an Torch Industrial Zone, Xiamen, Fujian Province, China. 361101 t (86-592) 5761588 f (86-592) 5765380 www.sgsgroup.com.cn  
中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编: 361101 t (86-592) 5761588 f (86-592) 5765380 e [sgs.china@sgs.com](mailto:sgs.china@sgs.com)