



TEST REPORT

98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, 13810, Korea

TEL 82-63-214-2960

FAX 82-63-214-2964

Report No : TAK-2021-147244

Receipt Date : 2021.10.15.

Representative : Kim Gyeongrok

Test Completion Date : 2021.11.03.

Company name : Hansol HomeDeco Co., Ltd.

Address : 27F, Korea Specialty Contractor Financial Cooperative Bldg., 15, Boramae-ro 5-gil, Dongjak-gu, Seoul, Korea

Sample name : lasola arteco PVC

Test Results

TEST ITEM	UNIT	SAMPLE	RESULT	TEST METHOD
Tensile Strength(T.D)(**)	N/cm ²	-	2 668	KS M 3001 : 2001(Application)
Tensile Strength(M.D)(**)	N/cm ²	-	2 966	KS M 3001 : 2001(Application)
Elongation(T.D.)(**)	%	-	263	KS M 3001 : 2001(Application)
Elongation(M.D.)(**)	%	-	231	KS M 3001 : 2001(Application)
Tear Strength(T.D)	N/cm	-	916	KS M 3001 : 2001(Application)
Tear Strength(M.D)	N/cm	-	962	KS M 3001 : 2001(Application)

※ Test condition : (23±2) °C, (50±5) % R.H)

** Test speed : 50 mm/min, Specimen : Type II

- Usage of Report : QUALITY CONTROL

- Note :
1. The test results of this test report are only limited in to the samples and sample names provided by the client and do not guarantee the quality of all products of the client. You Can check website (www.ktr.or.kr) or QR code to verify the authenticity of the certificate.
 2. This test report shall be used only within the purpose of its defined usage and shall not be used for public relation, advertisement and lawsuit.
 3. This test report is only valid when printed on KTR original report paper with hologram and when re-issued by KTR. The copy and the electronic file of the test report are only for reference.

Park Joo-ick

Prepared by Park Joo-ick

Tel : 02-2092-3701

Im Youngkeun

Reviewed by Im Youngkeun

Tel : 1577-0091(ARS ①→④)

2021.11.03

Korea Testing & Research Institute

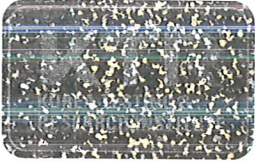
President *Kwon Oh-jung*



QR Code for forgery

Registered copy date : Jul.05.2022

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TEST REPORT

98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, 13810, Korea

TEL 82-63-214-2960

FAX 82-63-214-2964

Report No : TAK-2021-149099

Receipt Date : 2021.10.19.

Representative : Kim Gyeongrok

Test Completion Date : 2021.11.12.

Company name : Hansol HomeDeco Co., Ltd.

Address : 27F, Korea Specialty Contractor Financial Cooperative Bldg., 15, Boramae-ro 5-gil, Dongjak-gu, Seoul, Korea

Sample name : lasola arteco PVC

Test Results

TEST ITEM	UNIT	SAMPLE	RESULT	TEST METHOD
Abrasion Resistance Test(**)	mg	-	1	ASTM D4060-19(application

** Abrasion resistance test conditions(by the client): Abrasion wheel: CS-10, Weight: 250 g, Cycles: 500 Cycles
(This is the average result of the specimens(3 ea) provided by the client)

- Usage of Report : QUALITY CONTROL

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Kim joong yeon

Prepared by Kim joong yeon

Tel : 02-2092-3703

Jung Bong Kue

Reviewed by Jung Bong Kue

Tel : 1577-0091(ARS ①→④)

2021.11.12

Korea Testing & Research Institute

President *Kwon Oh-jung*



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TEST REPORT



1. NO : CT21-105757E

2. Client

○ Name : Hansol HomeDeco Co.,Ltd.

○ Address : 27F, Korea Specialty Contractor Financial Cooperative Bldg., 15, Boramae-ro 5-gil, Dongjak-gu, Seoul, Republic of Korea

3. Date of Test : 2021.10.06 ~ 2021.10.19

4. Use of Report : Quality control

5. Test Sample : lasola arteco PVC

6. Test Method

(1) Official method of Indoor air quality ES 02131. 1d (National Institute of Environmental Research notification 2020-23)

7. Test Results

1) lasola arteco PVC

Test Item(s)	Unit	Test Method	Test Results	Remark	Loc.
Total Volatile Organic Compounds (TVOC)	mg/(m ³ ·h)	(1)	0.068	-	A
Toluene	mg/(m ³ ·h)	(1)	0.002		
Formaldehyde	mg/(m ³ ·h)	(1)	N/D (MDL 0.000 5)		

※ N/D : not detected

※ Location

A : #805, I Valley, 149, Gongdan-ro, Gunpo-si, Gyeonggi-do, Korea

Affirmation	Tested By	Technical Manager
	Name : Park, Jin Sun <i>Park Jin Sun</i>	Name : Lee, Jun Gyu <i>Lee Jun Gyu</i>

This report is related with KOLAS and KS Q ISO/IEC 17025.

Our report apply only to the standards or procedures identified and to the sample(s) tested unless otherwise specified. The test results are not indicative of representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products. The results of using only a portion of this report cannot be guaranteed. The authenticity of this test report can be checked on KCL website(www.kcl.re.kr).

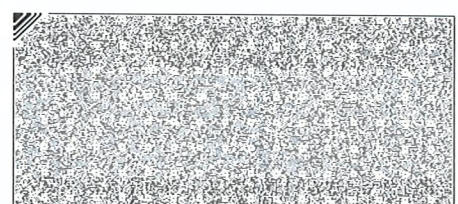
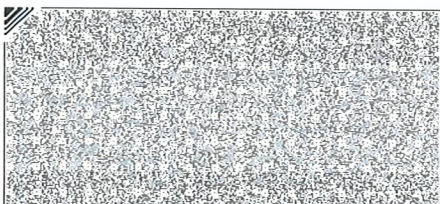
The above test report provides test result(s) under the scope accredited by Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA.

2021.10.19

Korea Conformity Laboratories President Yoon, Kap Seok *Yoon, Kap Seok*

Accredited by KOLAS, Republic of KOREA

Result Inquiry : #805, I Valley, 149, Gongdan-ro, Gunpo-si, Gyeonggi-do, Korea 82-31-389-9115



TEST REPORT

No : CT21-105757E



Attach

Compound	Test result (detail)			Test method
	Emission rate [mg/(m ² ·h)]			
	Sample-1	Sample-2	Average	
TVOC*	0.066	0.071	0.068	Official method of Indoor air quality ES 02131. 1d (National Institute of Environmental Research notification 2020-23)
Toluene	0.002	0.002	0.002	
Formaldehyde	N/D (MDL 0.000 5)	N/D (MDL 0.000 5)	N/D (MDL 0.000 5)	

* TVOC : Total Volatile Organic Compounds

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TEST REPORT

No : CT21-105757E



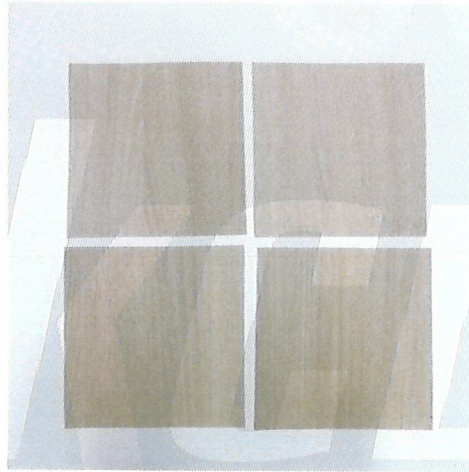
* Condition of testing

1. Condition of emission test chamber

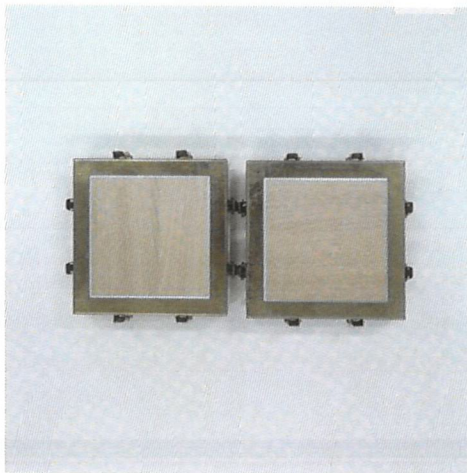
sample type	solid product	sample	Sheet
temperature	24.7 °C ~ 25.2 °C	loading factor	2.0 m ² /m ³
humidity	48 % ~ 51 %	air exchange rate	0.50 h ⁻¹

* Period in Chamber : 7 days

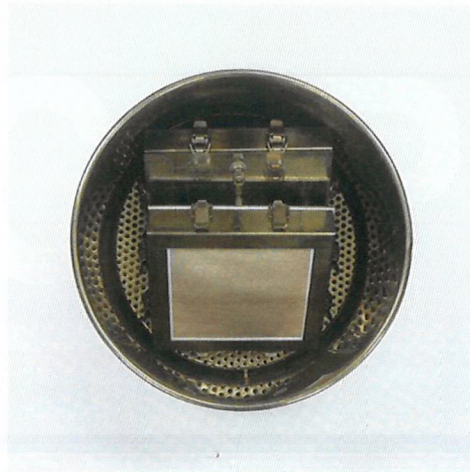
2. Test specimen



< Picture #1 >



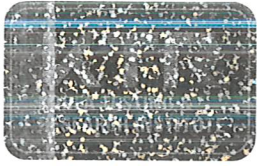
< Picture #2 >



< Picture #3 >

----- End of Report -----





TEST REPORT

98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, 13810, Korea

TEL 82-63-214-2960

FAX 82-63-214-2964

Report No. : TAK-2021-179955

Receipt Date : Dec.17.2021

Customer : Kim Gyeongrok

Test Date : Jan.18.2022

Hansol HomeDeco Co., Ltd.

27F, Korea Specialty Contractor Financial Cooperative Bldg., 15, Boramae-ro 5-gil, Dongjak-gu, Seoul, Korea

Sample : lasola arteco PVC

Testing Date : Dec.17.2021 ~ Jan.18.2022

Testing Environment : Temperature (20 ± 5)°C, Relative humidity (40 ± 20) %

Test method : Refer to following pages

Test result : Refer to following pages

Attachment : Flow chart and Sample pictures

USAGE : QUALITY CONTROL

- NOTE : 1. The test results on this test report are only limited to the samples and sample names provided by the customer and KTR does not guarantee the quality of all products of the customer, and you can confirm the authenticity of the test report online (www.ktr.or.kr) or by using the QR code.
2. This test report shall not be used for public relation, advertisement, lawsuit and any other purposes outside the scope of its defined usage.
3. Only original copy (including certified copy) of the test report is valid – electronic copy (hard and/or soft) is for your reference only.

Kim Eun Ji

Prepared by Kim Eun Ji

Tel : 02-2092-3684

Yang-Suek Bhang

Reviewed by Yang-Suek Bhang

Technical Manager

Tel : 1577-0091(ARS ①→④)

Jan.18.2022

Korea Testing & Research Institute

President

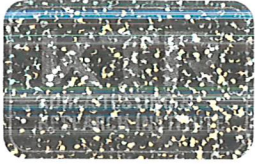
Kwon Oh-jung



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TEST REPORT

Report No. : TAK-2021-179955

Sample : lasola arteco PVC

TEST RESULT

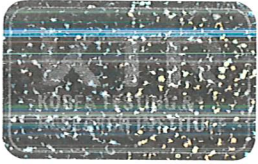
Test itmes	Unit	Sample	Results	MDL	Test Methods
Pb	mg/kg	-	Not detected	10	IEC 62321-5 Ed. 1.0 : 2013(Apply Correspondingly)
Cd	mg/kg	-	Not detected	1	IEC 62321-5 Ed. 1.0 : 2013(Apply Correspondingly)
Hg	mg/kg	-	Not detected	1	IEC 62321-4 Ed. 1.1 : 2017(Apply Correspondingly)
Cr ⁶⁺	mg/kg	-	Not detected	8	IEC 62321-7-2 Ed. 1.0 : 2017(Apply Correspondingly)

Notes : mg/kg = ppm (parts per million)

N.D = Not detected(<MDL)

MDL = Method detection limit





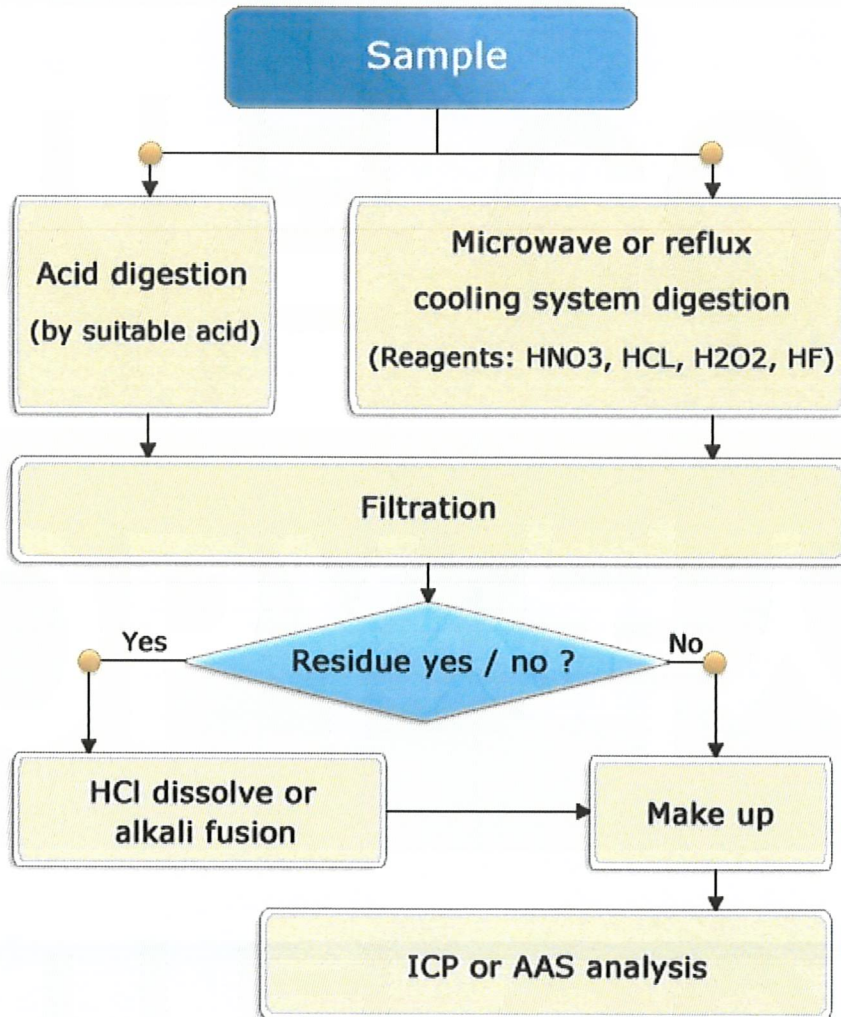
TEST REPORT

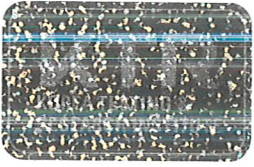
Report No. : TAK-2021-179955

Sample : lasola arteco PVC

Pb, Cd, Hg : Tested by Kim Eun Ji(Tel : 02-2092-3684)

Flow Chart of heavy metals analysis





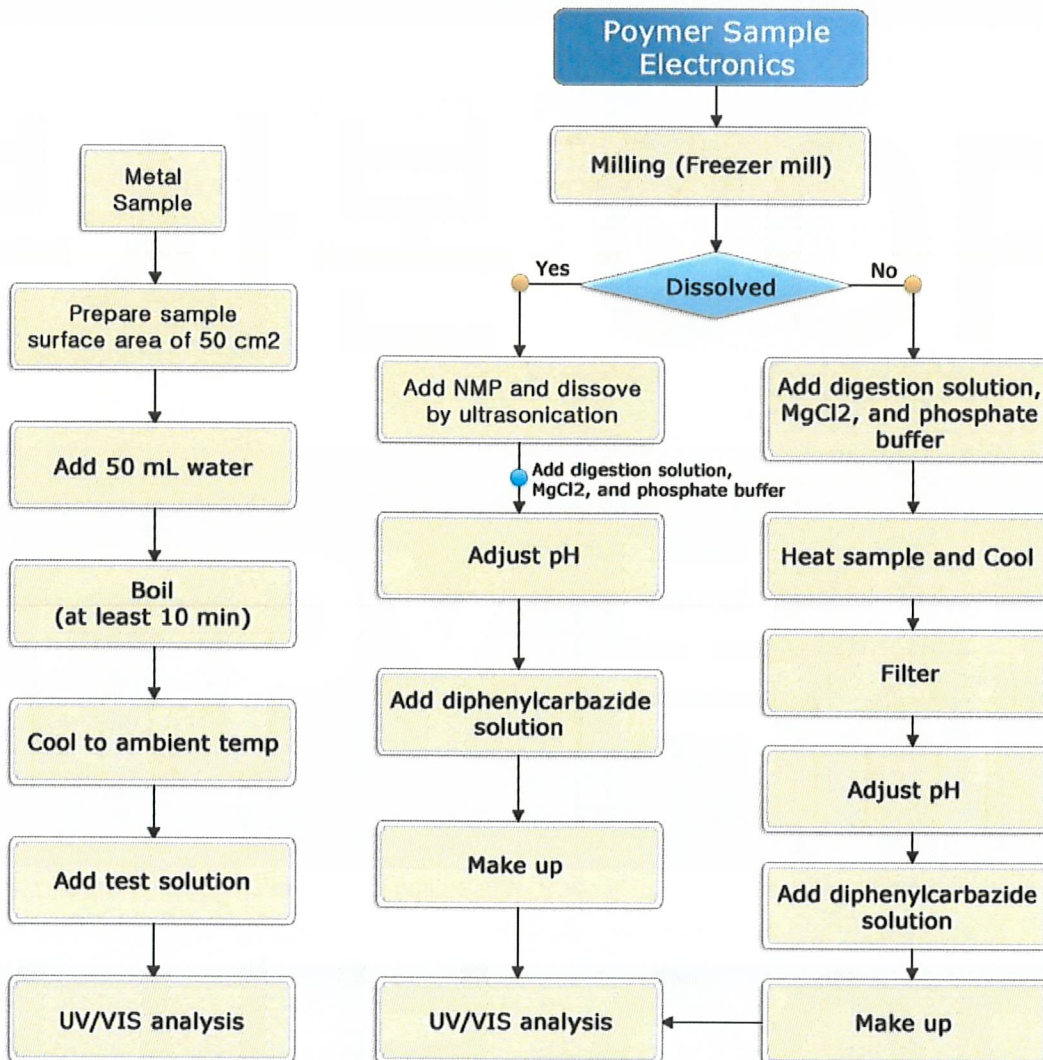
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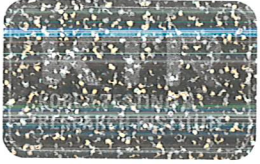
Report No. : TAK-2021-179955

Sample : lasola arteco PVC

Cr⁶⁺ : Tested by Kim Eun Ji(Tel : 02-2092-3684)

Flow Chart of Cr⁶⁺ analysis





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Report No. : TAK-2021-179955

Sample : lasola arteco PVC

Sample



- End of Report -

