



TEST REPORT



1. NO : CT19-082826E

2. Client

○ Name : LG Hausys

○ Address : 10, Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul, Republic of Korea

3. Date of Test : 2019.07.16 ~ 2019.08.21

4. Use of Report : Quality Control

5. Test Sample : Viatera

6. Test Method / Location

(1) KS I ISO 16000-9:2014 >>#805, I Valley, 149, Gongdan-ro, Gunpo-si, Gyeonggi-do, Korea

Affirmation	Tested By Name : Kim, Hyun Jin <i>Kim Hyun Jin</i>	Technical Manager Name : Lee, Jun Gyu <i>Lee Jun Gyu</i>
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 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).		

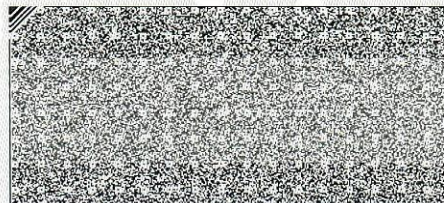
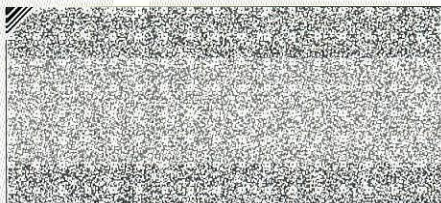
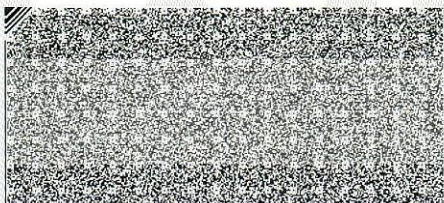
The above test certificate is the accredited test results by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

2019.08.21

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 82-31-389-9107



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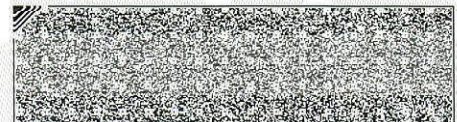
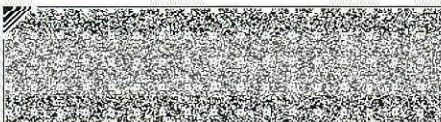
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7. Test Results

1) Viatera

Test Item(s)	Unit	Test Method/ Location	Test Results	Remark
Total Volatile Organic Compounds (TVOC)	mg/(m ³ · h)	(1)	0.003	-
Benzene	mg/(m ³ · h)	(1)	N/D (MDL 0.000 5)	-
Toluene	mg/(m ³ · h)	(1)	N/D (MDL 0.000 5)	-
Ethylbenzene	mg/(m ³ · h)	(1)	N/D (MDL 0.000 5)	-
Xylene	mg/(m ³ · h)	(1)	N/D (MDL 0.000 5)	-
Styrene	mg/(m ³ · h)	(1)	N/D (MDL 0.000 5)	-
Formaldehyde	mg/(m ³ · h)	(1)	N/D (MDL 0.000 5)	-
√ Acetaldehyde	mg/(m ³ · h)	(1)	0.001	-

The test method marked with "√" is not accredited by KOLAS.



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Attach

*** Condition of testing**

1. Condition of emission test chamber

sample type	solid product	sample	engineered stone
temperature	24.7 °C ~ 25.5 °C	시료부하율	2.0 m ² /m ³
humidity	50 % ~ 51 %	환기횟수	0.50 회/h

*** Period in Chamber : 7 days**

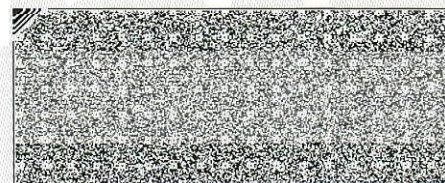
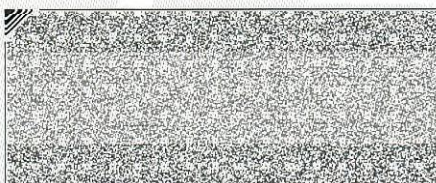
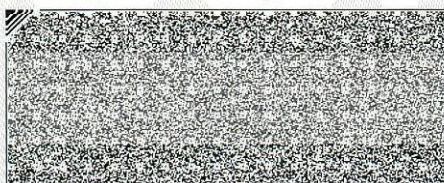
2. Analysis condition of TVOC & VOCs

ATD	Temperature (°C)	Tube	Trap	Valve	Transfer line
		295	-30 ~ 300, 40 °C/s	200	200
	Timing (min)	Sample	Trap hold	Desorb	Purge
		7	15	8	2
	Split ratio	10 : 1			
Detector		MS			
Column		DB-1, Column ID : 0.32 mm, Length : 60 m			
Carrier gas and flow		He, 2.5 mL/min			
Temperature program	Initial temperature	40 °C (5 min)			
	Temperature program	6 °C/min			
	Final temperature	280 °C (10 min)			
MS condition	Mode	EI (Electron ionization)			
	Electron energy	70 eV			
	Detection mode	TIC (Scan), m/z : 35 ~ 350			

3. Analysis condition of aldehyde

Detector	UV/Vis 360 nm
Column	C ₁₈ , Column ID : 2.1 mm, Length : 100 mm
Mobile phase	Acetonitrile/Water (40/60 v/v → 100/0 v/v (10 min))
Analysis time	15 min
Injection volume	5 µL
Column temperature	40 °C
Flow rate	0.5 mL/min

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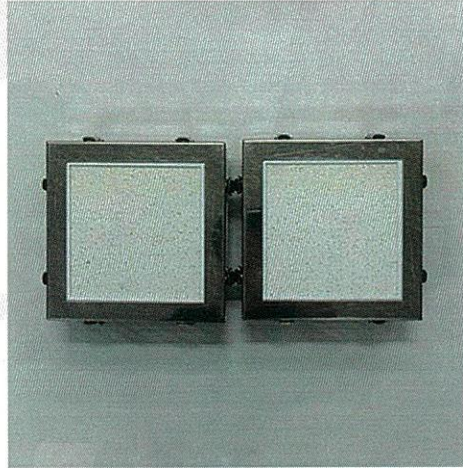


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< Picture #1 >



<Picture #2>

—— End of Report ——

