

TEST REPORT

1. No : CT14-002943

Reissuance (R1)

2. Client :

Date : Sep. 24, 2014

○ Name : ENERGY KOREA Inc

○ Address : 91, Haeanbuk-ro, Ganghwa-eup, Ganghwa-gun, Incheon. Korea

○ Date of Receipt : Jan. 03, 2014

○ Date of Issued : Sep. 24, 2014

3. Use of Report : Quality Control

4. Test Sample : Infrared Radiant Heating Panel

5. Method :

(1) KS M ISO 2409:2008

(2) KS M 5000:2009

(3) KCL-FIR-1003:2011



(4) KCL-QA-821 : 2010

(5) Notification No.2014-31 of the Ministry of Environment

(6) KCL-FIR-1005:2011

(7) KCL-FIR-1042:2011

(8) K 60335-1

Affirmation22	Tested By Name : Won, Chul Hyun 	Technical Manager Name : Ahn, Byoung Kwon 
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.		

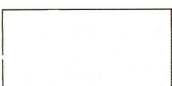
Korea Conformity Laboratories

President Song Jae Bin



Address : 405-868 85,Dambang-ro,Namdong-gu, Incheon,Korea 82-32-460-5100

Result Inquiry : Incheon & Gyeonggi Branch 82-32-460-5104



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6. Test Results

1) Infrared Radiant Heating Panel

Test Item(s)	Unit	Test method used	Test Result(s)
After the temperature and humidity cycle - Cross-cut test	-	(1)	0
Thermal resistance(85 ℃, 1 h) - Appearance	-	(2)	None
Thermal resistance(100 ℃, 1 h) - Appearance	-	(2)	None
Thermal resistance(125 ℃, 1 h) - Appearance	-	(2)	None
Anti-bacterial Test(Escherichia coli)	%	(3)	99.9
Anti-bacterial Test(Staphylococcus aureus)	%	(3)	99.9
Anti-bacterial Test(Salmonella typhimurium)	%	(3)	99.9
Photocatalytic Activity [Acetaldehyde (CH ₃ CHO) Removal Rate, in UV Light]	%	(4)	100
Photocatalytic Activity Test [Ammonia (NH ₃) Removal Rate, in UV Light]	%	(4)	100
Photocatalytic Activity [Acetaldehyde (CH ₃ CHO) Removal Rate, in Visible Light]	%	(4)	100
Photocatalytic Activity Test [Ammonia (NH ₃) Removal Rate, in Visible Light]	%	(4)	100
Lead (Pb)-ES 06402.2	mg/L	(5)	Not detected (Limits of Quantitation 0.04)
Hexachromium (Cr6+)-ES 06407.2	mg/L	(5)	Not detected (Limits of Quantitation 0.007)
Cadmium (Cd)-ES 06405.2	mg/L	(5)	Not detected (Limits of Quantitation 0.002)
Arsenic (As)-ES 06403.2	mg/L	(5)	Not detected (Limits of Quantitation 0.005)
Mercury (Hg)-ES 06404.1	mg/L	(5)	Not detected (Limits of Quantitation 0.0005)
Far-infrared Emissivity (Temperature: 100 ℃, Wavelength: 5 μm ~ 20 μm)	-	(6)	0.930
Far-infrared Emission Power (Temperature: 100 ℃, Wavelength: 5 μm ~ 20 μm)	W/m ²	(6)	8.01 x 10 ²
Anion : Blank	ea/cm ²	(7)	75
Anion : Sample	ea/cm ²	(7)	4 294
Power consumption	W	(8)	1 032
Leakage current	mA	(8)	0.15



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6. Test Results

Withstand voltage(1 000 V)	-	(8)	Pass
Insulation resistance (DC 500 V)	MΩ	(8)	85.6x10 ³

※ The Far-infrared experimental results were measured in comparison with Black Body by using the FT-IR Spectrometer.

※ Anion Test condition

※ Test environment : Temperature (21 ± 3) °C, Relative Humidity (55 ± 15) % R.H.

※ Test apparatus : Particle (under 0.002 μm), Flow (60 L/min), Resolution (5 ea/cm²).End.

※ Test Condition

1. Number and Manufacture of Lamp

- UV Light : Sanyo denki, FL20SBLB, 2 ea

- Visible light : OSRAM FL20SSEX-D/18 2 ea

2. Test Sample : 10 cm × 10 cm Plate Sample Provided by Customer

3. Manufacture and Model Name of UV Meter : Konica Minolta (UM-10), UD-360.

4. Pretreatment of Test sample and Lamp Irradiation Time : No Pretreatment and 3 h of Lamp Irradiation

5. Test Time : 2 h

6. UV Light Intensity of Surface of Test Sample : 1.0 mW/cm²

7. Length of Lamp between Test Sample (Test in Visible Light) : 10 cm

8. Manufacture and Model Name of Gas Analyzer : GASTEC GV-100(Gas Detector Tube)

※ Cross-cut test - Spacing of cuts : 1 mm

※ Cross-cut test - 0 : The edges of the cuts are completely smooth: none of the squares of the lattice is detached.

※ Temperature and humidity cycle conditions : [(60±2)°C, (90±5)RH %, 8 h Transition time 6 h, (20±2)°C, (60±5)RH %, 6 h, Transition time 4 h] 1cycle Total 10 cycle- End of Report ----

