





<b>Prüfbericht - Nr.:</b> <i>Test Report No.:</i>	50350574 001	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	156108781	<b>Seite 1 von 6</b> <i>Page 1 of 6</i>
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	S.I. Seo	<b>Auftragsdatum:</b> <i>Order date:</i>	2019-06-17	
<b>Auftraggeber:</b> <i>Client:</i>	LG Electronics Inc. 84, Wanam-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, 51554, Rep. of Korea			
<b>Prüfgegenstand:</b> <i>Test Item:</i>	Aluminum sheet of heat exchanger of air conditioner			
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	Corrosion improved aluminum fin (Black II)			
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	Performance test			
<b>Prüfgrundlage:</b> <i>Test Specification:</i>	LG(70)-E-1026:2018 ISO 9227:2017, ASTM B117 ISO 10289:1999, KS D 9502:2019			
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	2019-06-17			
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	-			
<b>Prüfzeitraum:</b> <i>Testing period:</i>	2019-06-17 ~ 2020-02-28			
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	LG Electronics Inc. Changwon R&D center			
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	LG Electronics Inc. Changwon R&D center			
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass			
<b>geprüft/ Tested by:</b>		<b>kontrolliert/ reviewed by:</b>		
2020-03-16 Kang-Ho Lee		2020-03-16 Sang-Min Kim		
<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name/Stellung</b> <i>Name/Position</i>
				<b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges / Other.</b>				
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>		<b>Prüfmuster vollständig und unbeschädigt</b> <i>Test item complete and undamaged</i>		
<p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft  P(ass)=entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet  * Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor  P(ass) = passed a.m.test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</p>				
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b>  <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark</i></p>				

## 1. Task

Corrosion resistance test for aluminum sheet of heat exchanger of air conditioner.

## 2. Description of the specimen

Part name	Corrosion improved aluminum fin of heat exchanger (Black II)		
Size	70 mm * 150 mm		
Material	Fin: Al sheet (105 $\mu\text{m}$ ) + Organic coating (2.0 g/m <sup>2</sup> )		
Quantity	3 EA		
Photos	#1	#2	#3
			
Remark	Specimens not be cleaned or handled excessively prior to test.		

### 3. Test specification

#### 3.1 Test standard

1) LG(70)-E-1026:2018

Aluminum plate coil III

2) ISO 9227:2017

Corrosion tests in artificial atmospheres - Salt spray tests

3) ASTM B 117

Standard Practice for Operating Salt Spray (Fog) Apparatus

4) ISO 10289:1999

Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates - Rating of test specimens and manufactured articles subjected to corrosion tests

5) KS D 9502:2019

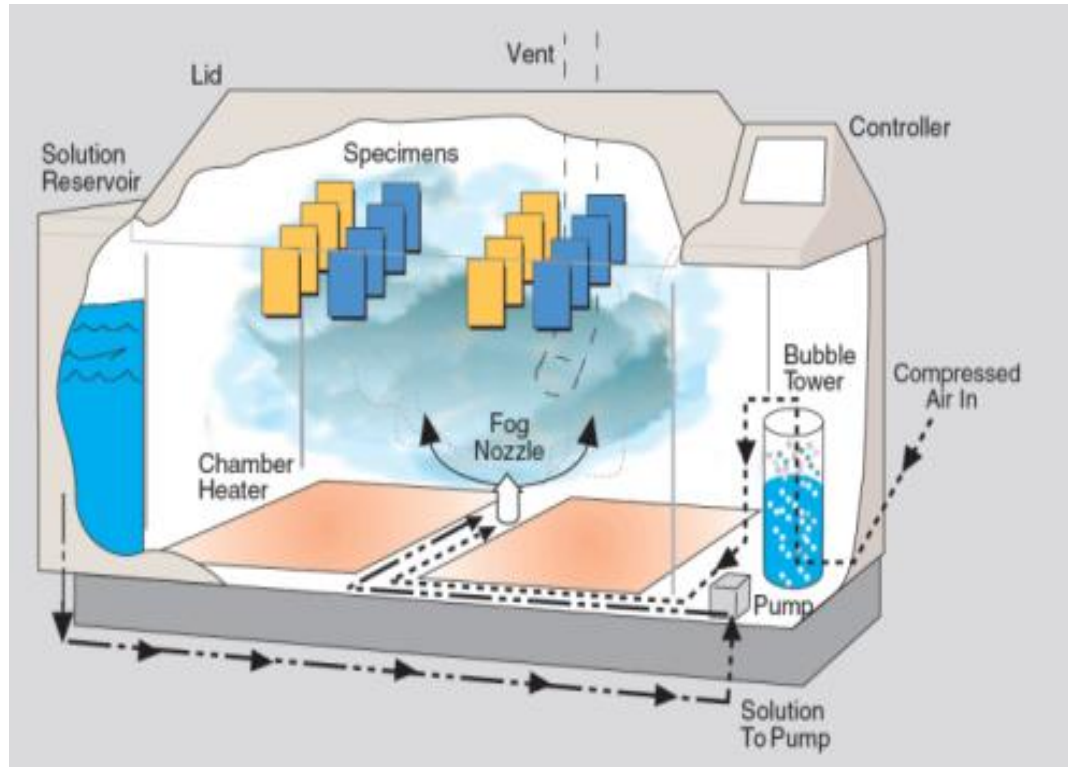
Salt spray test method

#### 3.2 Test condition

Test name	Temperature condition	pH-value	Salt concentration
Fog	$(35 \pm 2) ^\circ\text{C}$	6.5 ~ 7.2	$(5 \pm 1) \% \text{ NaCl}$




- The test shall be continuous operation for the duration of the entire test period.
- The fog shall be such that for each 80 cm<sup>2</sup> of horizontal collecting area, there will be collected from 1.0 to 2.0 mL of solution per hour based on an average run of at least 16 hours.

#### 4. Testing schematic



- the specimens shall be supported or suspended between 15 ~ 30° from the vertical and preferably parallel to the principal direction of flow of fog through the chamber, based upon the dominant surface being tested.
- The specimens shall not contact each other or any metallic material or any material capable of acting as a wick.
- Each specimen shall be placed to permit unencumbered exposure to the fog.
- Salt solution from one specimen shall not drip on any other specimen.

## 5. Test results

Test period	2019-06-17 ~ 2020-02-28 (5000 h)		
Criteria	Not more than 0.05 % of corrosion area ratio (over R.N. 9.5)		
Results	Pass.		
	#1	#2	#3
	RN 9.8 Not more than 0.02 % of corrosion area ratio.	RN 9.8 Not more than 0.02 % of corrosion area ratio.	RN 10 Not more than 0.00 % of corrosion area ratio.
Photos	#1	#2	#3
			
Remark	The results obtained do not permit far-reaching conclusions on the corrosion resistance of the tested.		

END OF TEST REPORT

**Appendix. Test equipment information**



Equipment	Salt Spray Tester
Manufacturer	Q-Lab
Model	CCT 1100
Temp. Range	(20 ~ 60) °C
Test Type	Salt fog, Dry-off, Dwell, 100 % humidity
Salt solution pump flow	(1.5 ± 0.5) ml/h
Calibration Date	2019-04-08