

# CLIMATIC TEST REPORT

## Salt spray test

**According to the standard:**

CEI 60068-2-52 (2017)

**Products under test:**

- 1 detector
- 1 power supply AL200HD
- 1 power supply AL175

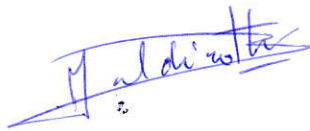

**Company:**

**LOREME**

**DISTRIBUTION: Mr REPERT**







**Company: LOREME SA**

**Number of pages: 22**

Ed.	Date	Modified Pages	Written by	Technical & Quality Approval
			Name, function and Visa	Name, function and Visa
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**PRODUCTS UNDER TEST:**

Name:	detector one cutoff	power supply AL200HD	power supply AL175
Ref:	DSL35LCC/R1	AL200HD-D-WD	AL175-D-WD
Serial:	11111/198	142741/2	142741/1
Date:	06/23	06/23	06/23
Photo:	  photo 1	  photo 2	  photo 3

**MANUFACTURER:** LOREME

**CUSTOMER'S NAME AND ADDRESS:**

**Company:** LOREME  
**Address:** 12 RUE DES POTIERS  
 B.P.35014  
 57071 METZ CEDEX 3  
**Contact:** Emmanuel REPPERT

**PURCHASE ORDER:** N° E230081-AVNT

**TEST DATES:** From the 12<sup>th</sup> of May to the 09<sup>th</sup> of June 2023

**TEST LOCATION:** Environne'Tech  
 49 Boulevard Pré Pommier  
 38300 BOURGOIN-JALLIEU  
 Laboratoire d'essais

**TESTER:** Marie BALDINOTTI

# ***SUMMARY***

<b>1. PURPOSE OF TEST</b>	<b>4</b>
<b>2. PRODUCTS UNDER TEST</b>	<b>4 - 6</b>
<b>3. CUSTOMER SPECIFICATION SHEET</b>	<b>7</b>
3.1. <i>According to the standard:</i> .....	7
3.2. <i>Reminder of the main test criteria:</i> .....	7
3.3. <i>Control and verification of proper operation:</i> .....	7
<b>4. EQUIPMENT USED</b>	<b>8</b>
4.1. <i>Test facilities</i> .....	8
4.2. <i>Measurement Equipment</i> .....	8
<b>5. TEST LOG</b>	<b>9 - 21</b>
5.1. <i>Variant made during the test with regard to the Specifications:</i> .....	9
5.2. <i>Dielectric strength:</i> .....	9 - 11
5.3. <i>Salt spray and damp heat test cycles:</i> .....	12 - 21
5.3.1. <i>Test setup:</i>	12
5.3.2. <i>Test:</i>	13
5.3.3. <i>Visual inspection:</i>	15
5.3.4. <i>Dielectric strength:</i>	21
<b>6. CONCLUSION</b>	<b>22</b>

## 1. PURPOSE OF TEST

The purpose of this test is to validate the behaviour of the products in a climatic environment: salt spray and damp heat.

## 2. PRODUCTS UNDER TEST

AL200HD



photo 4



photo 5



photo 6



photo 7



photo 8



photo 9

AL175



photo 10



photo 11



photo 12



photo 13



photo 14

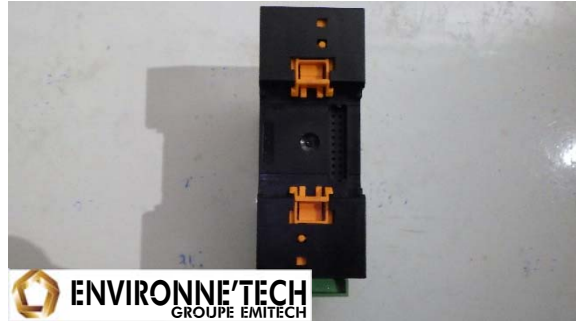


photo 15

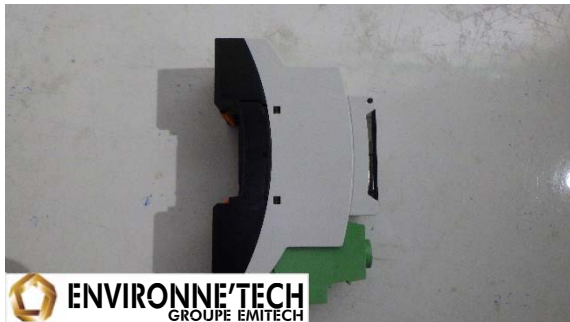
Detector




 **ENVIRONNE'TECH**  
GROUPE EMITECH  
photo 16




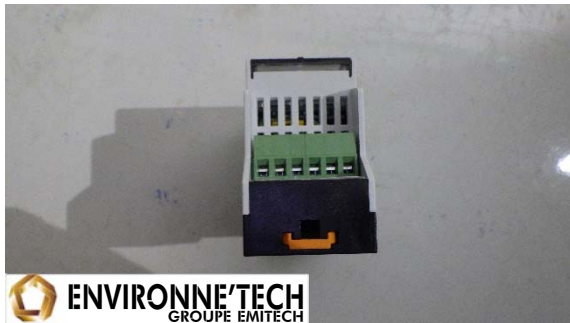
 **ENVIRONNE'TECH**  
GROUPE EMITECH  
photo 17




 **ENVIRONNE'TECH**  
GROUPE EMITECH  
photo 18




 **ENVIRONNE'TECH**  
GROUPE EMITECH  
photo 19



 **ENVIRONNE'TECH**  
GROUPE EMITECH  
photo 20



 **ENVIRONNE'TECH**  
GROUPE EMITECH  
photo 21

### 3. CUSTOMER SPECIFICATION SHEET

The test has to be carried out according to the following document, included in the technical offer Environne'Tech *ENVESS-23C136LOR - 00V01*.

**3.1. According to the standard:**

CEI 60068-2-52 (2017)

**3.2. Reminder of the main test criteria:**

Parameters	Values	
Test steps	Duration of exposure to salt spray	2 hours
	Damp heat storage duration	166 hours at +40°C and 93% RH
	Number of cycles	4
Exposure to spraying	Temperature Fall rate	+35°C ± 2°C Not applicable for 2 hours
Saline solution	Concentration Water conductivity pH Density	5% NaCl by mass < 20 µS/cm between 6.5 et 7.2 between 1.029 et 1.036 g/cm <sup>3</sup>

**3.3. Control and verification of proper operation:**

A visual check and an insulation resistance measurement are carried out before and after the test.

## 4. EQUIPMENT USED

### 4.1. Test facilities

Identity	Designation	Brand and Model	Characteristics
CLIM 721	Climatic chamber	ASCOTT S450iP	T°C:amb/+50, dimensions int. (Lxpxh) 1010x640x1140mm, volume=450 l
CLIM 466	Climatic chamber	CLIMATS SAPRATIN 760 M 30	T°C:-30/+150
MATE 098	Salt	SANAL P	SODIUM CHLORURE for salt spray
ELEC 722	Conductimeter	THERMO SCIENTIFIC EUTECH COND6+	EC: 0 to 200.0 mS/cm
AUTR 361	pHmeter	HANNA HI 208-02	pH meter: -2.00 to 16.00 ( $\pm 0.02$ pH), Temperature: -5.0 to +105.0°C ( $\pm 0.5$ °C from -5 to +60°C and $\pm 1$ °C from +60.5 to +105°C)

### 4.2. Measurement Equipment

Identity	Designation	Brand and Model	Characteristics	Last validity date	Metrological confirmation valid until
ELEC 746	Dielectrimeter	SEFELEC 506D	Rigidity: voltage 100-5000VAC and 100-6000VDC, insulation: voltage 20-1000VDC - to 200 GOHM	23/11/2022	23/01/2024
ELEC 733	Measure exchange	Eurotherm 6180A	42 channels, Vdc: -20 to +20V	24/05/2022	24/07/2024
ELEC 119	Recorder	Eurotherm Chessel 6100A	12 channels, Vdc: -20 to +20V, accuracy $\leq \pm 0.03\%$ PE $\pm 0.1\%$ vm, ohm: 5K, accuracy $\leq \pm 0.04\%$ PE $\pm 0.03\%$ vm	28/06/2021	28/08/2023
AUTR 297	Scale	KERN FKB 6K0.02	readability: 0.02g, reproduct: 0.02g, linearity: $\pm 0.06$ g, plateau of 340x240mm, adjustment weight 5 kg, net weight of 6.5 kg, °C: +10 at +40	26/11/2021	26/01/2024
AUTR 420	Densimeter	ALLAFRANCE ISO 649 - L50-100	range (g/ml)=1.000 to 1.050 scaling (g/ml)=0.0005	28/09/2022	28/11/2027
CLIM 671	Thermo sensor	TC 16-1-3.0-3.220-CE4CLA-R100-B-2M RT37	-75°C/+250°C	12/01/2022	12/03/2024
CLIM 560	Thermo-hygrometer probe	VAISALA HMT337	T: -20 / 180°C, HR: 0 / 100%	24/11/2021	24/01/2024



## 5. TEST LOG

### 5.1. Variant made during the test with regard to the Specifications:

The saline solution amount for calculating the recovery rate cannot be measured for 2 hours of spraying.

### 5.2. Dielectric strength:

The test is performed under 500V<sub>DC</sub>, with an intensity limited at 10 mA.



photo 22

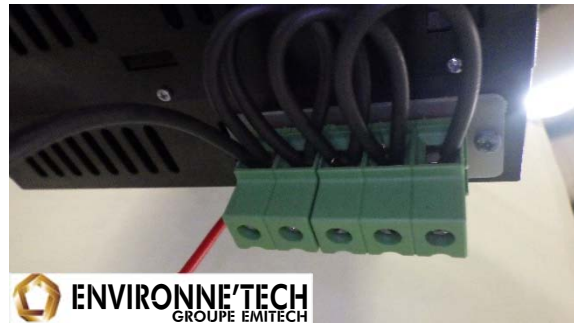


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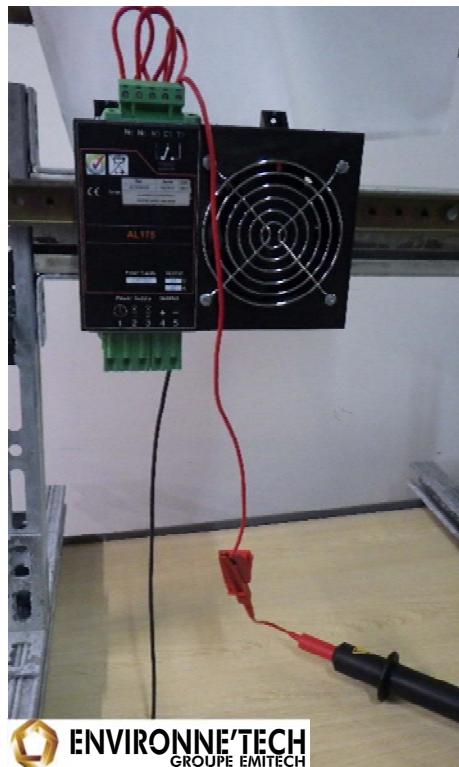


photo 24

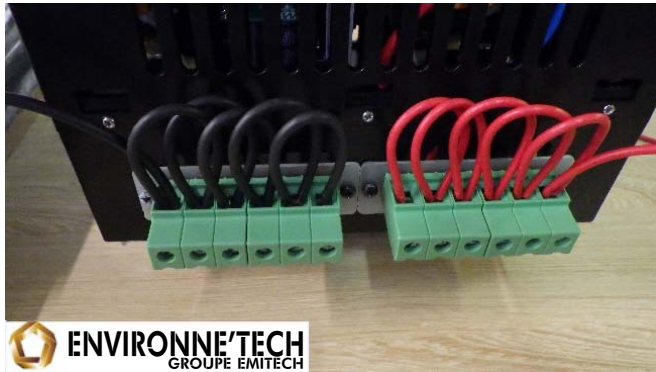


photo 25

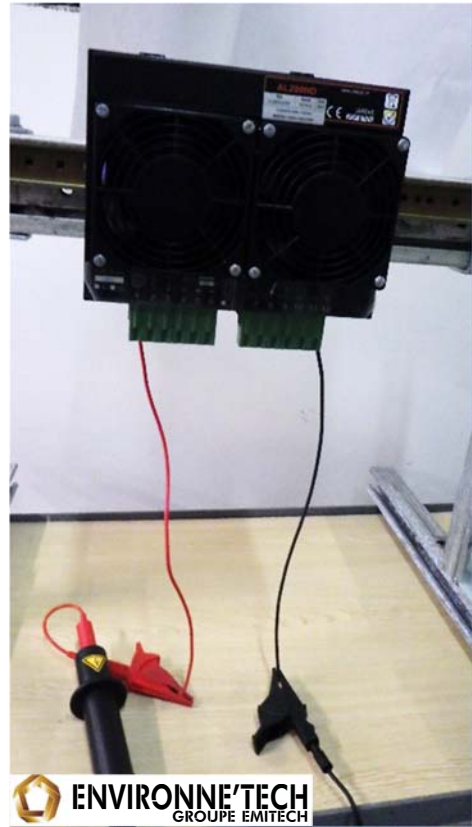


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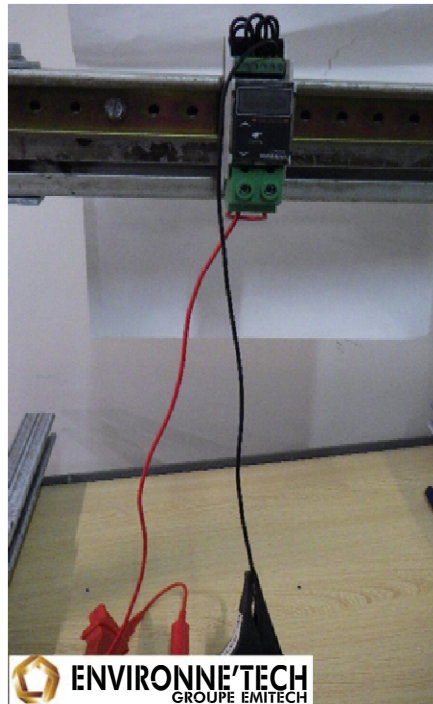


photo 27

	Dielectric strength
power supply AL200HD AL200HD-D-WD	pass
power supply AL175 AL175-D-WD	pass
detector one cutoff DSL35LCC/R1	pass

5.3. *Salt spray and damp heat test cycles:*

5.3.1. *Test setup:*

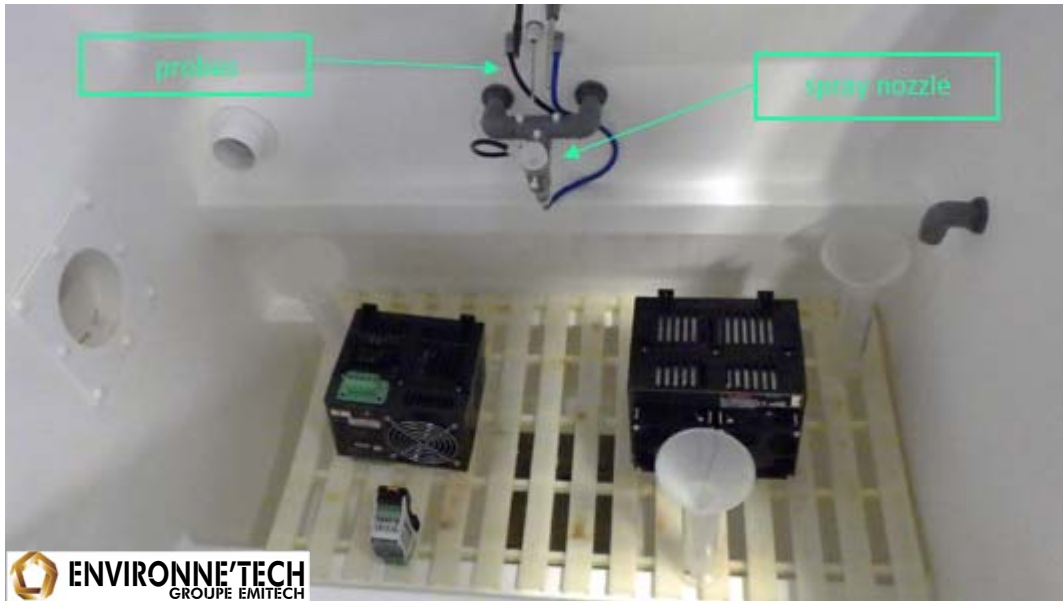
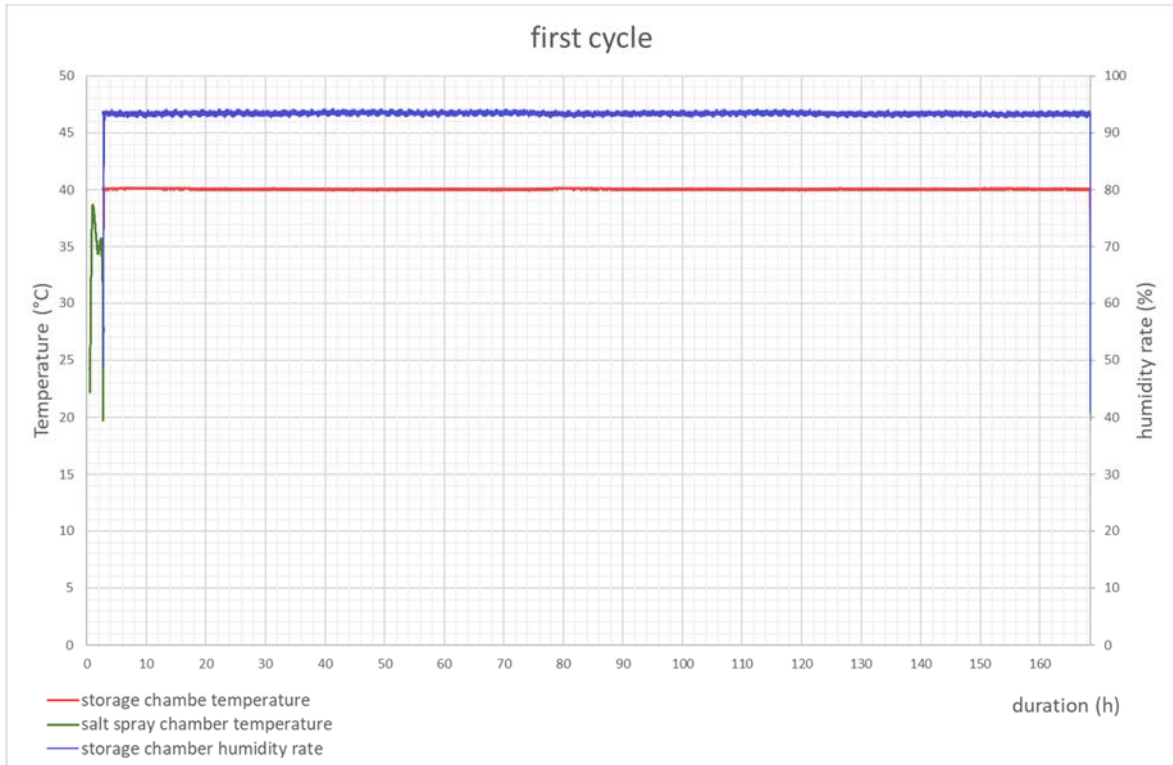


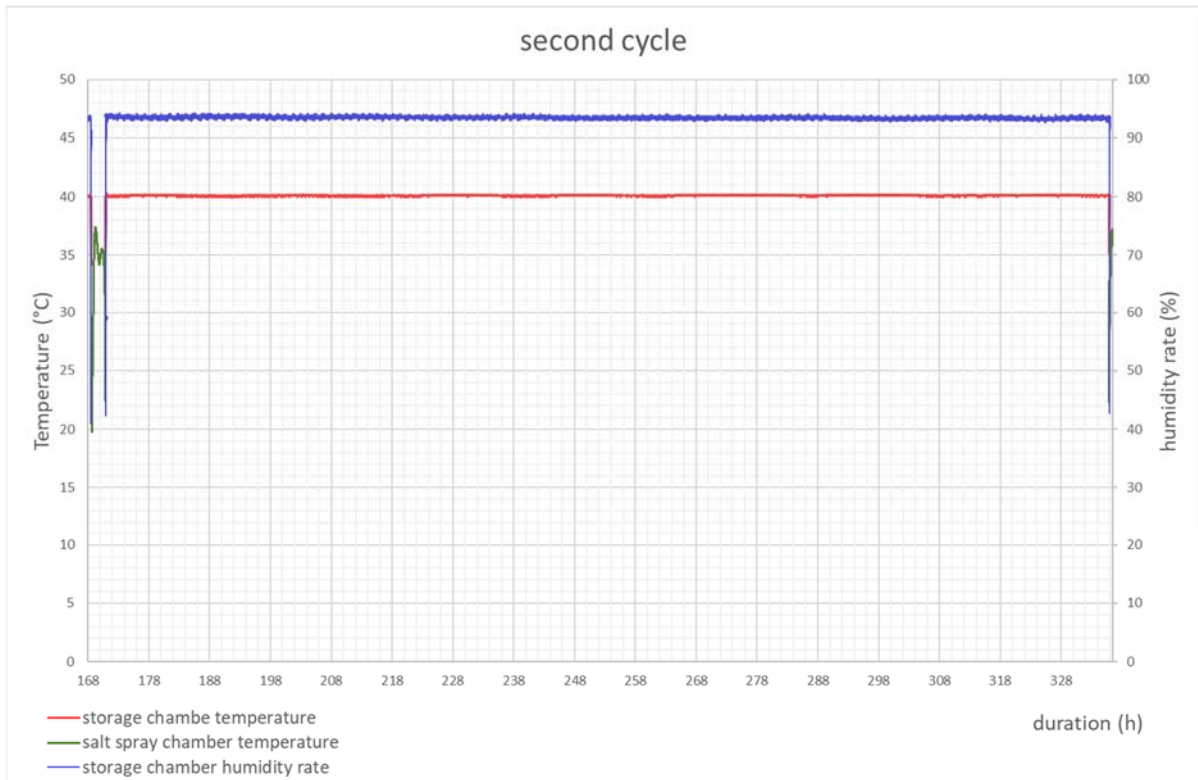
photo 28

The products are placed in the salt spray chamber, the test can begin.

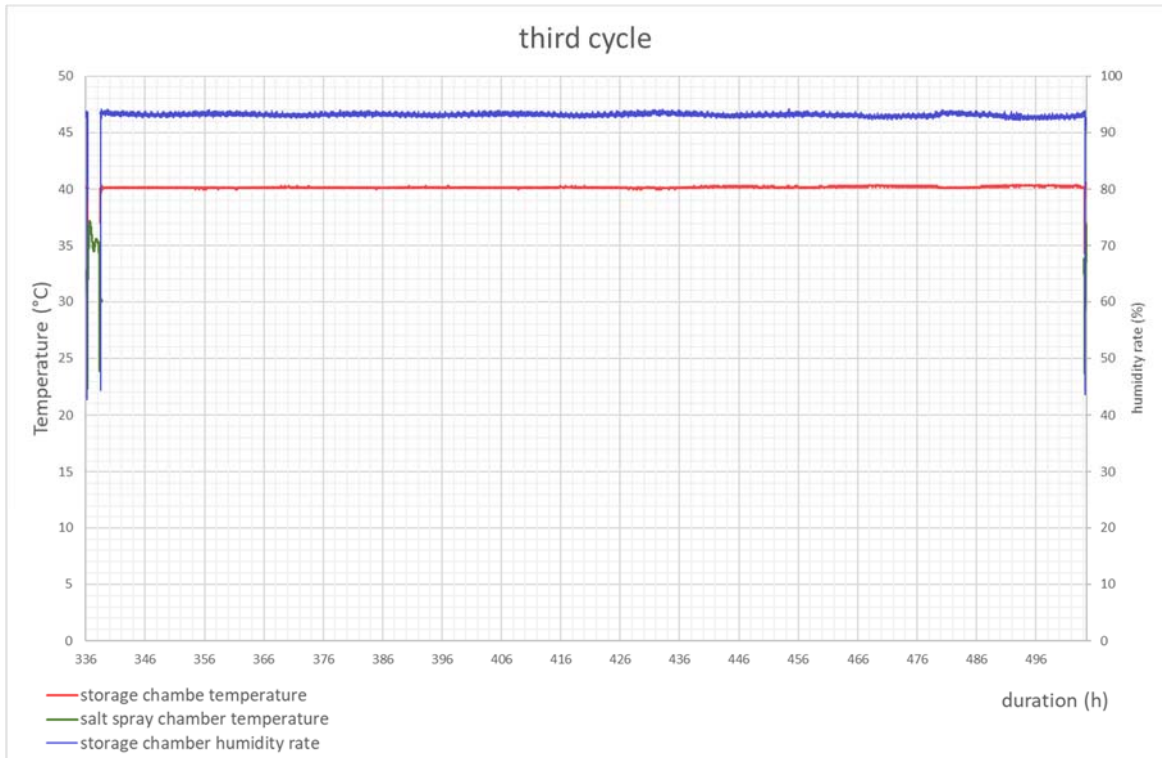
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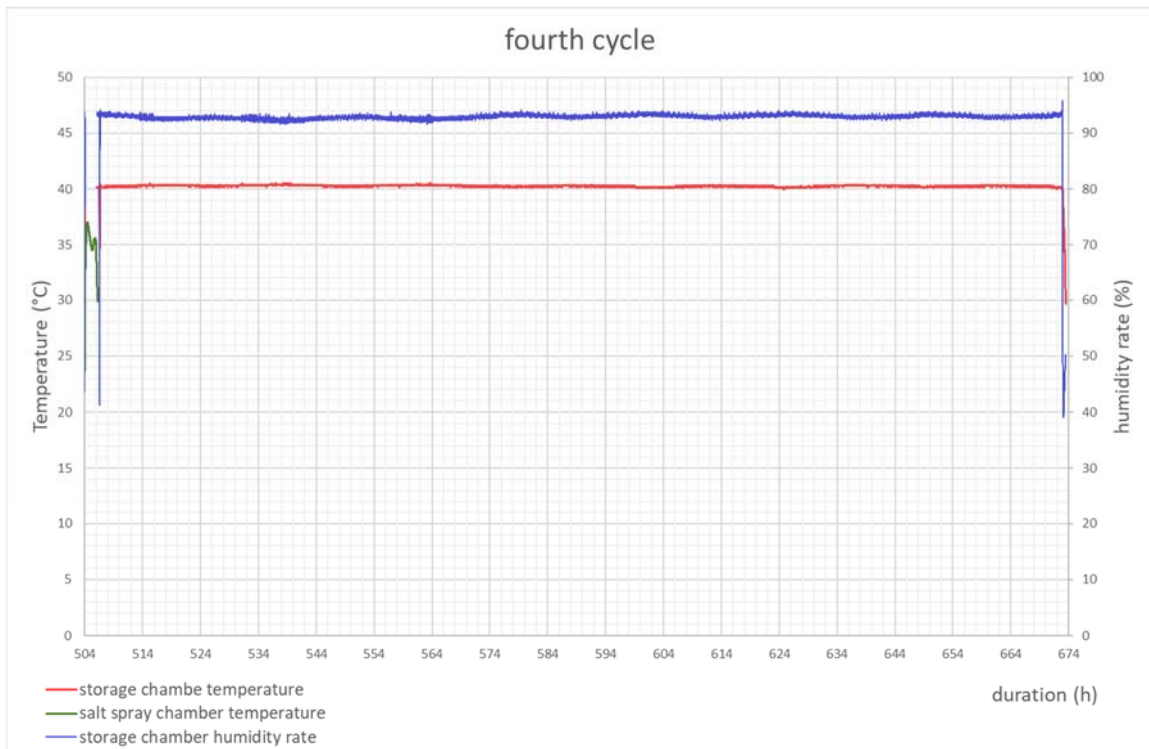
curve 1



curve 2



curve 3



curve 4

5.3.3. Visual inspection:

AL200HD



photo 29



photo 30

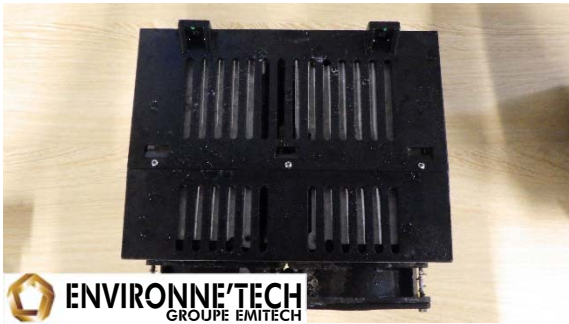


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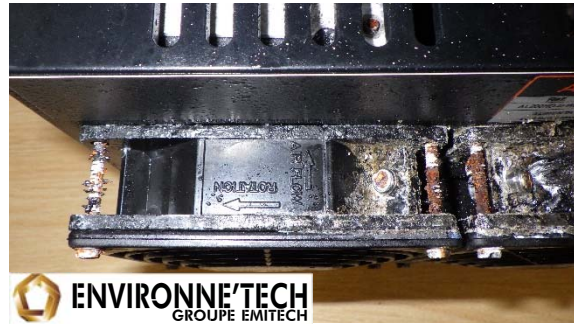


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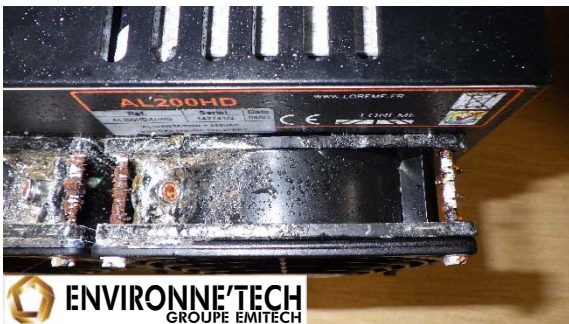


photo 33



photo 34

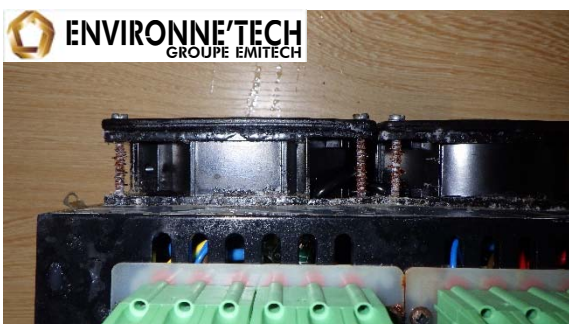


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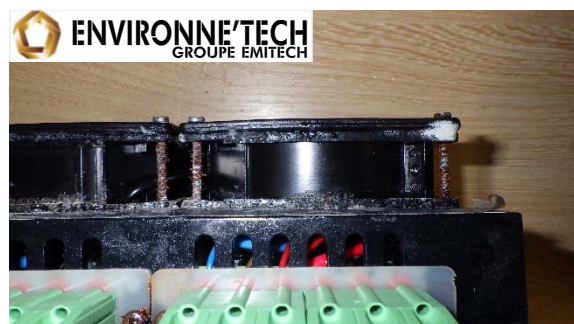


photo 36



photo 37



photo 38

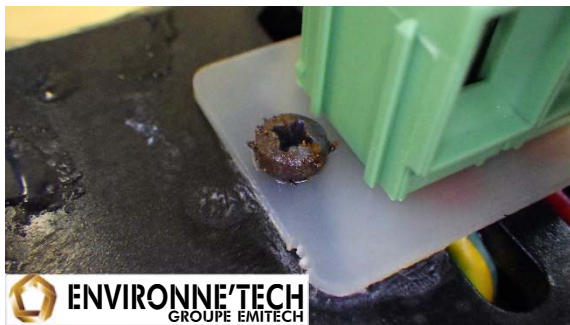


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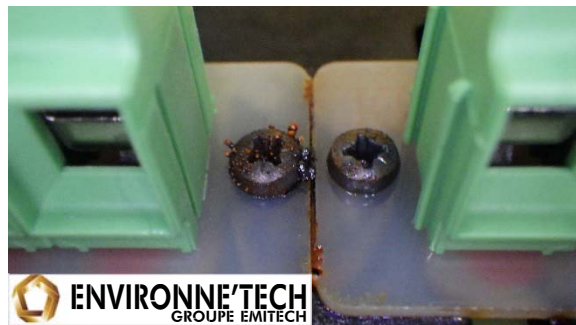


photo 40



photo 41



photo 42



photo 43



photo 44



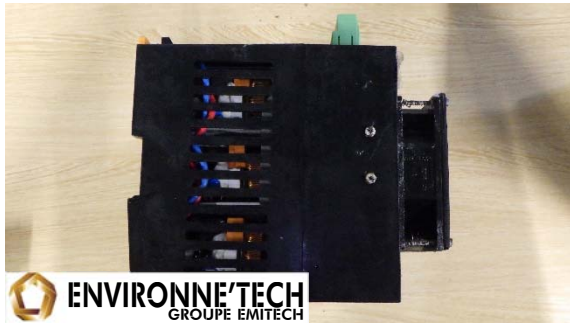


photo 45



photo 46



photo 47



photo 48



photo 49

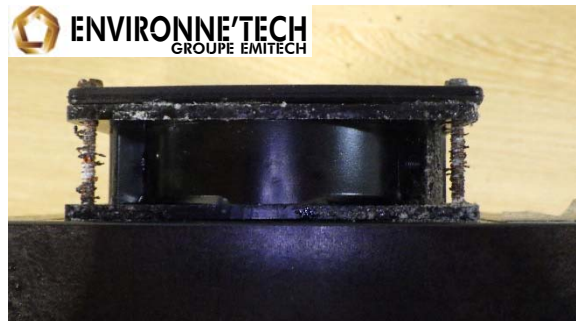


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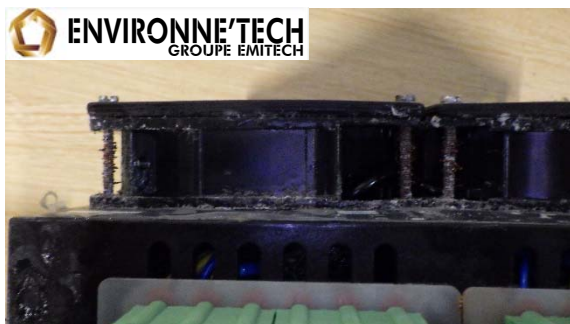


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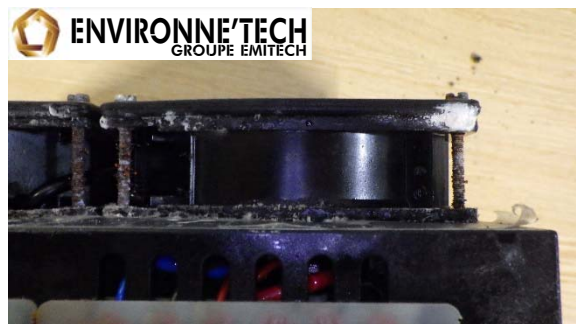


photo 52

AL175



photo 53

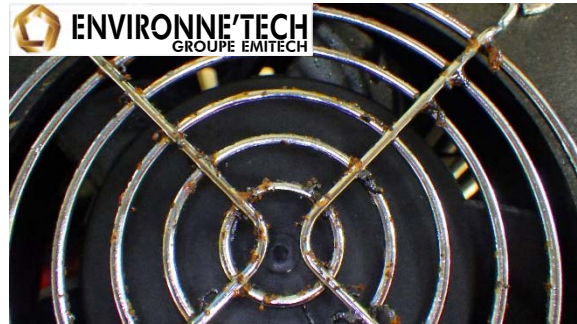


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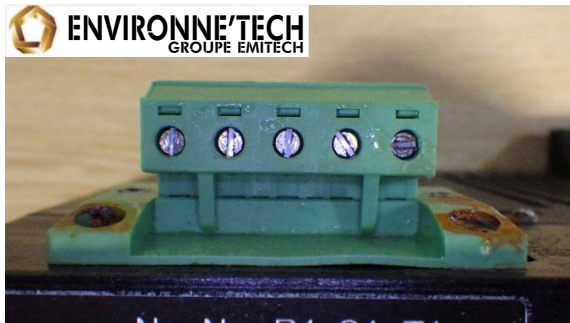


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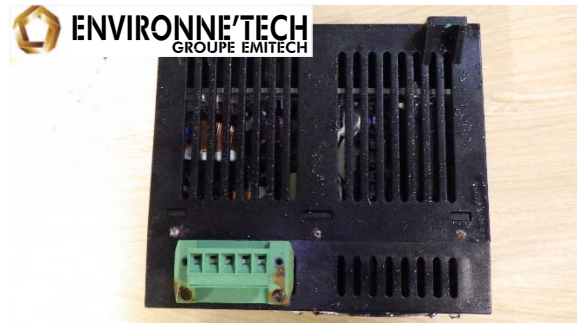


photo 56



photo 57



photo 58



photo 59

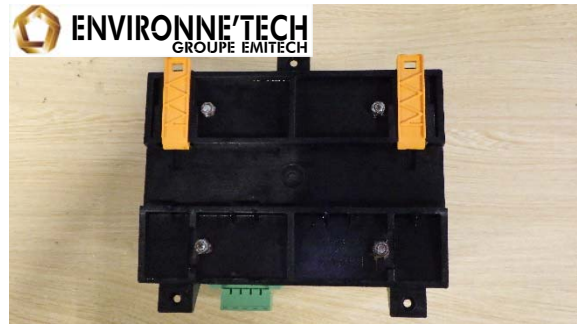


photo 60

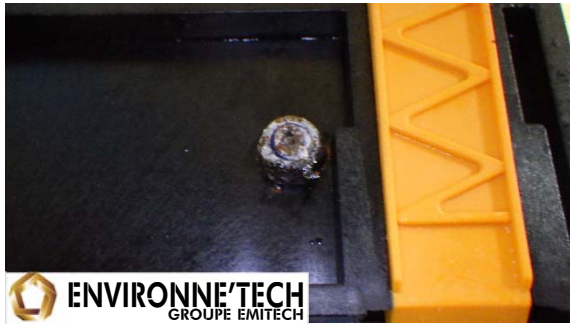


photo 61



photo 62

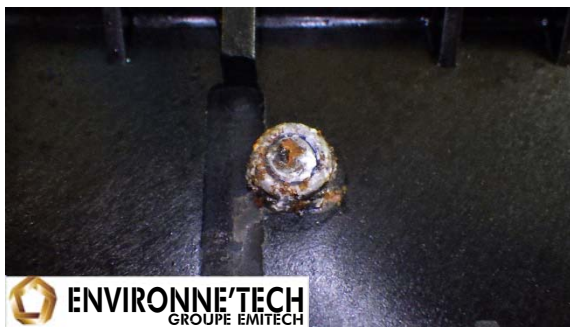


photo 63



photo 64

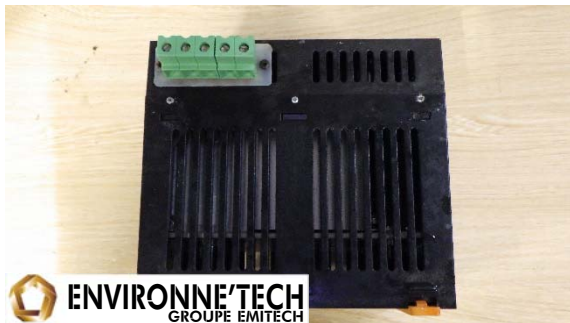


photo 65



photo 66



photo 67



photo 68

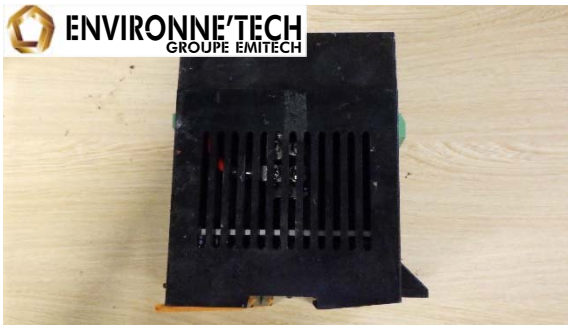


photo 69



photo 70

Detector



photo 71



photo 72

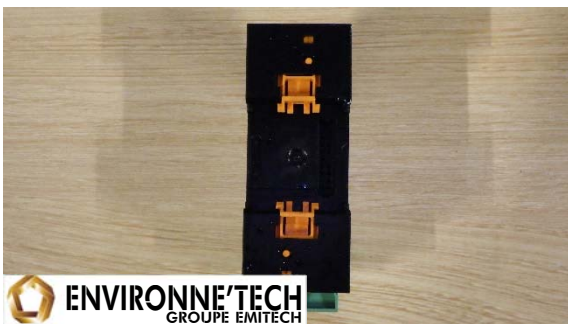


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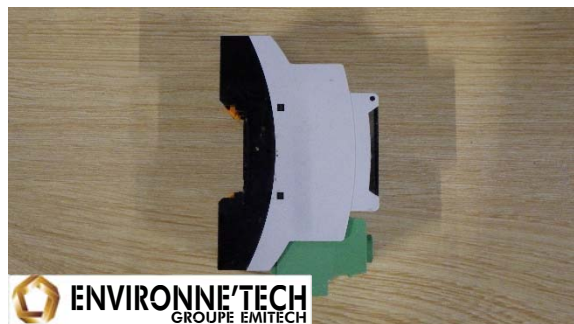


photo 74



photo 75



photo 76

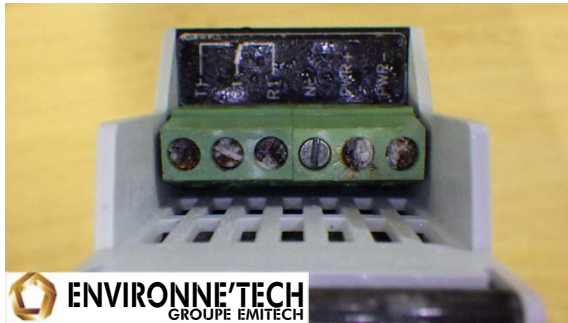


photo 77



photo 78

**Results:**

power supply AL200HD AL200HD-D-WD	Presence of rust on the fan grills and fan boxes Presence of rust on the screws
power supply AL175 AL175-D-WD	Presence of rust on the fan grills Presence of rust on the screws
detector one cutoff DSL35LCC/R1	Salt deposit

5.3.4. Dielectric strength:

	Dielectric strength
power supply AL200HD AL200HD-D-WD	pass
power supply AL175 AL175-D-WD	pass
detector one cutoff DSL35LCC/R1	pass

**Results:** The results are the responsibility of the company LOREME.

## 6. CONCLUSION

The products were tested in accordance with the test specification described in chapter 3 of this report.

Visual inspection:

power supply AL200HD AL200HD-D-WD	Presence of rust on the fan grills and fan boxes Presence of rust on the screws
power supply AL175 AL175-D-WD	Presence of rust on the fan grills Presence of rust on the screws
detector one cutoff DSL35LCC/R1	Salt deposit

The results are the responsibility of the company LOREME.

Products were sent back to LOREME for final assessment.

**□□□ End of report □□□**