



TEST RESULT SUMMARY

Report No. : 15-1241

Date of issue : December 11th, 2015

Kind of tests : Design tests for Enclosure for Type 4X

Carried-out at : UL INTERNATIONAL ITALIA Laboratory
Via delle Industrie 6, 20061 Carugate (MI) - Italy
UL NORTHBROOK IL Laboratory
2500 West Dundee Rd, 60062 Northbrook, Illinois - USA

Requested by : AMARC srl
Via Artigiani 37, 23874 Montevicchia (LC) - Italia

Applicable Standards : NEMA 250-2014: Enclosure for Electrical Equipment
(1000 Volts Maximum)

Kind of appliance : JUNCTION BOXES FOR HEATERS

Trade Mark : AMARC srl

Model : RC 611 A21, RC 611A22, RC 611A23, RC 611A24,
RC 611 A25, RC 611A26, RC 611A27, RC 611A28,
RC 611 A29.
RC 620 E01-01, RC 620 E01-02, RC 620 E01-03,
RC 620 E01-04, RC 620 E01-05.

Test result : See NOTE in the following page

Tested by:

A handwritten signature in blue ink, appearing to read 'A.L. Molinero'.

Andrea Molinero
Engineering Technician
UL International Italia S.r.l.
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Checked by:

A handwritten signature in black ink, appearing to read 'Dario Rivoltella'.

Dario Rivoltella
Laboratory Manager
UL International Italia S.r.l.
E-mail: Dario.Rivoltella@ul.com

Attachments: Test Report n° 15-1241

**Note:**

RC 611 family resulted:

- POSITIVE for all the enclosures manufactured with A240 TP304L stainless steel (all screws in A304 stainless steel);
- POSITIVE for all the enclosures manufactured with A240 TP316L stainless steel (all screws in A304 stainless steel);
- NEGATIVE for all the enclosures manufactured with S355 J0WP+AR steel (all screws in zinc coated steel). Negative results were obtained in Corrosion Tests. Please refer to Test Report No.15-1241 for more details.

RC 611 family resulted:

- POSITIVE for all the enclosures manufactured with A304 stainless steel (all screws in A304 stainless steel);
- POSITIVE for all the enclosures manufactured with A316 stainless steel (all screws in A304 stainless steel).



TEST REPORT No. **15-1241**

Issued	on 2015/12/11
Sample received	on 2015/09/15 2015/10/05

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Tested by:	<i>AL Molinero</i> Eng. Andrea Molinero
Title:	Engineering Technician
Checked by:	<i>Dario Rivoltella</i> Eng. Dario Rivoltella
Title:	Laboratory Manager

THE TEST RESULTS PRESENTED IN THIS REPORT RELATE ONLY TO THE ITEMS TESTED
Sample not selected by **UL INTERNATIONAL ITALIA**
UL Sample Tag Number(s): **2207878; 2207879; 2219957; 2219958; 2219959**
(throughout this report a comma is used as the decimal separator)

Applicant:	AMARC srl Via Artigiani 37, 23874 Montevercchia (LC) - Italia		
Manufacturer:	AMARC srl	Trade mark:	
Product:	Enclosure		
Model/Type tested:	RC 611 and RC 620 family		
Serial number:	---	Production date:	---
Rating:	See description at pag.2		

Test performed at:	UL INTERNATIONAL ITALIA Via delle Industrie 6, 60061 Carugate (MI) – Italia UL NORTHBROOK IL 2500 West Dundee Rd, 60062 Northbrook Illinois - USA
Test date:	From 2015/10/15 to 2015/12/02

The Uncertainty of Measurement (UoM) for each unit measured in this Test Report was estimated in accordance with the UL International Italia document No. 23-CL-G0025 and is retained on file. Details of the estimation of UoM may be made available upon request.

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- Section 2: Measurements & Test results
- Section 3: Test equipment & Components
- Section 4: Photos

**SECTION 1: DESCRIPTION & CLASSIFICATION****SCOPE OF TESTING**

Design tests for Enclosures for Type 4X
These testing results cannot be used for future certification.

REGULATIONS

N/A

APPLICABLE STANDARDS

STANDARD	TITLE
NEMA 250-2014	Enclosure for Electrical Equipment (1000 Volts Maximum)

DESCRIPTION**General description**

RC 611 A.. is a family of Junction Boxes IP66 for Heaters. This family is composed by 9 models:

- RC 611 A21: Junction Box IP66 for Heaters DN100/4";
- RC 611 A22: Junction Box IP66 for Heaters DN125/5";
- RC 611 A23: Junction Box IP66 for Heaters DN150/6";
- RC 611 A24: Junction Box IP66 for Heaters DN200/8";
- RC 611 A25: Junction Box IP66 for Heaters DN250/10";
- RC 611 A26: Junction Box IP66 for Heaters DN300/12";
- RC 611 A27: Junction Box IP66 for Heaters DN350/14";
- RC 611 A28: Junction Box IP66 for Heaters DN400/16";
- RC 611 A29: Junction Box IP66 for Heaters DN450/18";

All these models can be manufactured with 3 different types of materials:

- A240 TP304L stainless steel (all screws in A304 stainless steel);
- A240 TP316L stainless steel (all screws in A304 stainless steel);
- S355 J0WP+AR steel (all screws in zinc coated steel);

All models have same proportions and construction.

RC 620 E01-... is a family of Square Junction Boxes for Heaters. This family is composed by 5 models:

- RC 620 E01-01: Square Junction Box IP65 for Heaters – 380x380x300;
- RC 620 E01-02: Square Junction Box IP65 for Heaters – 500x500x300;
- RC 620 E01-03: Square Junction Box IP65 for Heaters – 600x600x300;
- RC 620 E01-04: Square Junction Box IP65 for Heaters – 760x760x300;
- RC 620 E01-05: Square Junction Box IP65 for Heaters – 1000x1000x300;

All these models can be manufactured with 2 different types of materials:

- A304 stainless steel (all screws in A304 stainless steel);
- A316 stainless steel (all screws in A304 stainless steel);

All models have same proportions and construction.



SECTION 1: DESCRIPTION & CLASSIFICATION

TEST PLANNING

The following tables describe the design tests for 4X Enclosure Type:

Table 5-1A
Degrees of Protection Against Access to Hazardous Parts

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP First Characteristic Numeral
		Brief Description	Definition	
4X	5.7	Protected against access to hazardous parts with a wire	An access probe of 1.0 mm shall not penetrate	6

Table 5-1B
Degrees of Protection Against Solid Foreign Objects

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP First Characteristic Numeral
		Brief Description	Definition	
4X	<u>Non-vented</u> 5.7	Windblown dust protected	No ingress of dust	6
	<u>Vented</u> 5.5.1_Dust Blast Method			

Table 5-1C
Degrees of Protection against Water

Enclosure Type	Test Conditions	Degree of Protection		Corresponding IP Second Characteristic Numeral
		Brief Description	Definition	
4X	5.7	Protected against hose directed water	Water projected against the enclosure in any direction shall not enter	6 No Ingress Allowed*

Table 5-1D
Additional Protection

Enclosure Type	Test Conditions	Additional Protection		Corresponding IP Second Characteristic Numeral
		Brief Description	Definition	
4X	5.6 5.9 5.10	Special corrosion protection and undamaged by the external formation of ice	Enclosure provides increased corrosion protection and is not damaged by ice that forms on the outside	None

**SECTION 1: DESCRIPTION & CLASSIFICATION**

Test conditions reference:

- 5.6 "External icing Test";
- 5.7 "Hosedown Test";
- 5.9 "Outdoor Corrosion protection";
- 5.10 "Corrosion protection – Type 3X, 3RX, 3SX, 4X or 6P Enclosure".

Testing assumptions:

	5.7 Hosedown Test	5.6 External Icing Test	5.9 Outdoor Corrosion protection	5.10 Corrosion protection – Type 3X, 3RX, 3SX, 4X or 6P Enclosure
RC 611 (S355 J0WP+AR steel)	x	N/A	x	x
RC 611 (A240 TP304L stainless steel)		N/A	N/A	N/A
RC 611 (A240 TP316L stainless steel)		N/A	N/A	N/A
RC 620 (A304 stainless steel)	x	N/A	N/A	N/A
RC 620 (A316 stainless steel)		N/A	N/A	N/A

RC 611

- 5.6 "External icing Test": not applicable since enclosure doesn't have external cavities to trap water when mounted in the normal position. Enclosure shall be considered to be acceptable and testing shall not be required;
- 5.7 "Hosedown test": RC 611 A29 is representative for every other models of RC 611 family as worst case to test because it's bigger than other models but it maintains the same proportion, form and construction. Construction material doesn't affect this testing so just one model of RC 611 A29, chosen randomly between the three available enclosure material, is used;
- 5.9 "Outdoor Corrosion protection": as defined in §3.5 stainless steel may be used without additional protection against corrosion. So only model manufactured in S355 J0WP+AR steel shall be tested per §5.9 (A316 is an improved type of A304 stainless steel);
- 5.10 "Corrosion protection – Type 3X, 3RX, 3SX, 4X or 6P Enclosure": as defined in §3.5.7 enclosures and external parts attached to these enclosures shall be fabricated of American Iron and Steel Institute (AISI) Type 304 stainless steel, polymerics, or materials with equivalent corrosion resistance. Enclosures and externally attached parts manufactured with Type 304 stainless steel or polymerics comply with 5.10; enclosures manufactured with other materials shall be tested in accordance with 5.9 and 5.10. So only model manufactured in S355 J0WP+AR steel must be tested per §5.10 (A316 is an improved type of A304 stainless steel);

RC 620

- 5.6 "External icing Test": not applicable since enclosure doesn't have external cavities to trap water when mounted in the normal position. Enclosure shall be considered to be acceptable and testing shall not be required;
- 5.7 "Hosedown test": RC 620 E01-05 is representative for every other models of RC 620 family as



SECTION 1: DESCRIPTION & CLASSIFICATION

worst case to test because it's bigger than other models but it maintains the same proportion, form and construction. Construction material doesn't affect this testing so just one model of RC 620 E01-05, chosen randomly between the two available enclosure material, is used.;

- 5.9 "Outdoor Corrosion protection": as defined in §3.5 stainless steel may be used without additional protection against corrosion. So no models of RC 620 shall be tested per §5.9 (A316 is an improved type of A304 stainless steel);
- 5.10 "Corrosion protection – Type 3X, 3RX, 3SX, 4X or 6P Enclosure": as defined in §3.5.7 enclosures and external parts attached to these enclosures shall be fabricated of American Iron and Steel Institute (AISI) Type 304 stainless steel, polymerics, or materials with equivalent corrosion resistance. Enclosures and externally attached parts manufactured with Type 304 stainless steel or polymerics comply with 5.10; enclosures manufactured with other materials shall be tested in accordance with 5.9 and 5.10. So no models of RC 620 shall be tested per §5.10 (A316 is an improved type of A304 stainless steel).

NOMINAL LOAD

N/A

**SECTION 2: MEASUREMENT & TEST RESULTS****1. GASKET MATERIAL TEST (§5.14)**

Test date: from 15/10/2015 to 22/10/2015

Environmental conditions during test

Quantity	Measured value
Ambient temperature	70.1°C
Atmospheric pressure	---
Ambient relative humidity	30% RH

Tested samples

Model	Sample tag number	Comments
RC 611 A29	2207878	In the following Test method referred as Sample 1
RC 620 E01-05	2207879	In the following Test method referred as Sample 2

5.14 GASKET MATERIAL TESTS**5.14.1 Aging Test Conditioning**

Gasket material used in a Type 2, 3, 3X, 3R, 3RX, 3S, 3SX, 4, 4X, 5, 6, 6P, 12, 12K, or 13 enclosure shall be conditioned at a temperature of 69 to 70°C (156 to 158°F) in circulating air for 168 hours.

5.14.2 Evaluation

After the conditioning of 5.14.1, there shall be no visible deterioration, deformation, melting, or cracking of the material. The material shall have a tensile strength of not less than 75% and an elongation of not less than 60% of values determined for samples that have not been aged.

Exception: Gasket material already certified to UL 157 Standard for Gaskets and Seals, based on criteria in 5.14.1, shall be considered to have met this requirement.

5.14.3 Alternate Evaluation

This alternate evaluation is to be performed upon gaskets that do not lend themselves to the tensile and elongation evaluation of 5.14.2, such as foam-in-place gaskets, O-rings, and plastic gaskets. After the conditioning of the assemblies of the gaskets and enclosure according to 5.14.1 subject the gasket and enclosure assembly to the design tests required by each of the intended type ratings. Evaluate the assembly using the criteria for the Type rating test performed.

Exception: Gasket material already certified to UL 157 based on criteria in 5.14.1 shall be considered to have met this requirement.

TEST METHOD / RESULTS

Sample No.	Conditioning time, h	Temperature measured, °C	Evaluation
1	168	70.1	Alternate evaluation (§5.14.3) conducted. Please refer to Hosedown test §5.7
2	168	70.1	Alternate evaluation (§5.14.3) conducted. Please refer to Hosedown test §5.7



SECTION 2: MEASUREMENT & TEST RESULT

2. HOSEDOWN TEST (§5.7)

Test date: 23/10/2015

Environmental conditions during test

Quantity	Measured value
Ambient temperature	23.1°C
Atmospheric pressure	---
Ambient relative humidity	47% RH

Tested samples

Model	Sample tag number	Comments
RC 611 A29	2207878	In the following Test method referred as Sample 1
RC 620 E01-05	2207879	In the following Test method referred as Sample 2

5.7 TEST FOR PROTECTION AGAINST INGRESS OF WATER (HOSEDOWN)

This test is intended to simulate a hose-down condition.

A non-ventilated enclosure that meets the requirements of this test shall also be considered as meeting the requirements of 0, 5.3, 5.4, and 5.5.

A ventilated enclosure that meets the requirements of this test shall also be considered as meeting the requirements of 5.3, and 5.4.

5.7.1 Test Method

The enclosure and its external mechanisms shall be subjected to a stream of water from a hose that has a 25 mm (1 in) inside diameter nozzle that delivers at least 240 L (65 gal) per minute.

The nozzle shall be held from 3.0 to 3.5 m (10 to 12 feet) from the enclosure, and the spray of water shall be directed at all points of potential water entry such as seams, joints, external operating mechanisms, and such. A seam is the junction of, or the joint between, two pieces. When two covers or doors are adjacent, their common edges shall be considered a single seam. The nozzle shall be moved along each test point one time at a uniform nominal rate of 6 mm/sec ($\frac{1}{4}$ in/sec).

A conduit shall be permitted to be installed to equalize internal and external pressures but shall not serve as a drain.

5.7.2 Evaluation

The enclosure shall be considered to have met the requirements if at the conclusion of the test no water has entered the enclosure.

TEST METHOD / RESULTS

Note. Customer didn't recommend a torque value to tighten the M6 screws of RC 611 and RC 620. During testing a value of 7,5 Nm was used, the greatest measured value of the screws provided.



SECTION 2: MEASUREMENT & TEST RESULT

Hosedown Test was performed along the openings protected by gasket indicated in red in the pictures of table below.



Sample No.	Evaluation
1	No water inside the enclosure
2	No water inside the enclosure



SECTION 2: MEASUREMENT & TEST RESULT

3. Outdoor Corrosion protection (§5.9): 600-Hour Salt spray test

Test date: from 19/10/2015 to 13/11/2015

Environmental conditions during test

Quantity	Measured value
Ambient temperature	23.1°C
Atmospheric pressure	---
Ambient relative humidity	47% RH

Tested samples

Model	Sample tag number	Comments
RC 611 A21	2219957	In the following Test method referred as Sample 1

5.9 OUTDOOR CORROSION PROTECTION

Finishes other than as described in 3.5.2.1 to 3.5.2.4 shall be tested as described in 5.9.1 and 5.9.3.

5.9.1 600-Hour Salt Spray Test

Comparative tests shall be conducted in accordance with 5.8, except the test time shall be 600 hours.

The comparison shall be with G90 galvanized sheet steel (without annealing, wiping, or other surface treatment) conforming with 3.5.2.1.

5.9.2 Evaluation

An enclosure shall be considered to have met the requirements of this test if upon completion it does not show pitting, cracking, or other deterioration more severe than that resulting from a similar test on G90 galvanized steel.

TEST METHOD / RESULTS

Note. The sample used for this test was a complete enclosure. It was used also for the 200-Hours Salt Spray Test (please refer to Test 5 in this Test Report).

The difference between the two type of test is only the duration (600h versus 200h) and the evaluation.

For this reason the sample was put in the Salt Fog Chamber at the conditions described by standard. After 200h, during a pause to refill the water reservoir, the sample was removed. One side was washed with clean water and then compared with AISI A304 stainless steel (for evaluation refers to Test 5 in this Test Report). The other sides of sample were not washed nor touched. The sample was then put again in the Salt Fog chamber until the end of 600h.

Sample No.	Evaluation
1	<p>After 600h of conditioning the enclosure showed signs of corrosion and deterioration more severe than that resulting from a similar test on G90 galvanized steel.</p> <p>The enclosure and the G90 steel, when extracted from the chamber, showed severe signs of rusting. During washing with clear water and light brushing ferrous corrosion products were released by the enclosure. Under the rust the surface showed corrosion signs. The grade of rusting and these corrosion signs are more severe than those showed by G90.</p> <p>Please refer to photos at pag.17.</p>



SECTION 2: MEASUREMENT & TEST RESULT

4. Outdoor Corrosion protection (§5.9): 1200-Hour Moist Carbon Dioxide-Sulfur Dioxide-Air Test

Test date: from 13/10/2015 to 02/12/2015

Environmental conditions during test

Quantity	Measured value
Ambient temperature	23.1°C
Atmospheric pressure	---
Ambient relative humidity	47% RH

Tested samples

Model	Sample tag number	Comments
RC 611 A21	2219958	In the following Test method referred as Sample 1
RC 611 A21	2219959	In the following Test method referred as Sample 2

5.9 OUTDOOR CORROSION PROTECTION

Finishes other than as described in 3.5.2.1 to 3.5.2.4 shall be tested as described in 5.9.1 and 5.9.3.

5.9.3 1200-Hour Moist Carbon Dioxide—Sulfur Dioxide—Air Test

Enclosures, or representative samples, shall be tested and evaluated in accordance with UL 1332.

(Extract from UL1332)

8 Moist Carbon Dioxide-Sulfur Dioxide-Air Test

8.1 Two scribed and two unscribed specimens shall be exposed for 1200 hours to a mixture of moist carbon dioxide and sulfur dioxide and air as described in 8.2 – 8.4. Following exposure, specimens shall:

- Except for the scribe, not show more than light corrosion beneath the coating with no visual pitting of substrate and only incipient buildup or weeping of corrosion products,
- Comply with Table 8.1, and
- Not exhibit an average creepage distance from the scribe greater than Rating No. 6 [1/16 to 1/8 inch (1.6 – 3.2 mm)] as designated in the Standard Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments, ASTM D1654-92, Procedure A, Method 2; with maximum isolated spot not exceeding 3/8 inch (9.5 mm).

Table 8.1
Blister size and frequency

Maximum size ^a	Maximum frequency
2	None
4 or 6	Medium
8	Medium dense

Note – Compliance is to be determined in accordance with the Standard Method of Evaluating Degree of Blistering of Paints, ASTM D714-87.

^a The largest blister size is Number 2 and the smallest blister size is Number 8.



SECTION 2: MEASUREMENT & TEST RESULT

- 8.2 The apparatus used for the moist carbon dioxide-sulfur dioxide-air exposure is to consist of a chamber having a volume of at least 3 cubic feet (0.08 m³) with a water jacket and thermostatically controlled heater to maintain a temperature of 95 plus 2 or minus 3°F (35 plus 1.1 or minus 1.7°C).
- 8.3 Sulfur dioxide and carbon dioxide are to be supplied to the test chamber from commercial cylinders containing the gases under pressure. An amount of sulfur dioxide equivalent to 1 percent of volume of the test chamber, and an equal volume of carbon dioxide are to be introduced into the chamber each working day. Prior to introducing the new charge of gas each day, the remaining gas-air mixture from the previous day is to be purged from the chamber. A small amount of water (approximately 10 ml/0.0003 m³ of chamber volume) is to be maintained at the bottom of the chamber for humidity. This water is not to be changed during the exposure.
- 8.4 The specimens are to be supported in plastic racks at an angle of 15 to 30 degrees from the vertical.

TEST METHOD / RESULTS

Note. UL1332 requires two scribed specimens and two unscribed specimens. Instead of using four separated specimens two complete enclosures were used: on every enclosure one side was used as scribed part and one side as unscribed part.

Sample No.	Evaluation								
1	<p><i>Unscribed side.</i> The specimens did not show more than light corrosion beneath the coating, without visual pitting of substrate and did not have incipient buildup or weeping of corrosion products. The specimens complied with the following table:</p> <p>Blister size and frequency:</p> <table border="1"> <thead> <tr> <th>Maximum size</th> <th>Maximum frequency</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>None</td> </tr> <tr> <td>4 or 6</td> <td>Medium</td> </tr> <tr> <td>8</td> <td>Medium dense</td> </tr> </tbody> </table> <p><i>Scribed side.</i> The specimens did not exhibit an average creepage distance from the scribe greater than 1.6 - 3.2 mm (1/16 - 1/8 inch), with maximum isolated spot not exceeding 9.5mm (3/8 inch).</p>	Maximum size	Maximum frequency	2	None	4 or 6	Medium	8	Medium dense
Maximum size	Maximum frequency								
2	None								
4 or 6	Medium								
8	Medium dense								
2	<p><i>Unscribed side.</i> The specimens did not show more than light corrosion beneath the coating, without visual pitting of substrate and did not have incipient buildup or weeping of corrosion products. The specimens complied with the following table:</p> <p>Blister size and frequency:</p> <table border="1"> <thead> <tr> <th>Maximum size</th> <th>Maximum frequency</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>None</td> </tr> <tr> <td>4 or 6</td> <td>Medium</td> </tr> <tr> <td>8</td> <td>Medium dense</td> </tr> </tbody> </table> <p><i>Scribed side.</i> The specimens did not exhibit an average creepage distance from the scribe greater than 1.6 - 3.2 mm (1/16 - 1/8 inch), with maximum isolated spot not exceeding 9.5mm (3/8 inch).</p>	Maximum size	Maximum frequency	2	None	4 or 6	Medium	8	Medium dense
Maximum size	Maximum frequency								
2	None								
4 or 6	Medium								
8	Medium dense								



SECTION 2: MEASUREMENT & TEST RESULT

5. Corrosion protection—Type 3X, 3RX, 3SX, 4X or 6P Enclosure (§5.10)

Test date: from 19/10/2015 to 27/10/2015

Environmental conditions during test

Quantity	Measured value
Ambient temperature	23.1°C
Atmospheric pressure	---
Ambient relative humidity	47% RH

Tested samples

Model	Sample tag number	Comments
RC 611 A21	2219957	In the following Test method referred as Sample 1

5.10 CORROSION PROTECTION—TYPE 3X, 3RX, 3SX, 4X, OR 6P ENCLOSURES

A Type 3X, 3RX, 3SX, 4X or 6P enclosure, if manufactured from a material other than polymeric or Type 304 stainless steel, shall be comparison corrosion tested against American Iron and Steel Institute Type 304 stainless steel.

The test shall be in accordance with 5.9.1, except the test time shall be 200 hours. The evaluation shall be in accordance with 5.10.1. Tested samples are considered to be representative of a complete enclosure.

5.10.1 Evaluation

An enclosure shall be considered to have met the requirements of this test if upon completion it does not show pitting, cracking, or other deterioration more severe than that resulting from a similar test on passivated American Iron and Steel Institute Type 304 stainless steel.

TEST METHOD / RESULTS

Sample No.	Evaluation
1	<p>After 200h of conditioning the enclosure showed signs of corrosion and deterioration more severe than that resulting from a similar test on passivated American Iron and Steel Institute Type 304 stainless steel.</p> <p>The enclosure, when extracted from the chamber, showed severe signs of rusting. During washing with clear water and light brushing ferrous corrosion products were released by the enclosure. Under the rust the surface showed corrosion signs.</p> <p>Please refer to photos at pag.16-17.</p>



SECTION 3: TEST EQUIPMENTS & COMPONENTS

TEST EQUIPMENT USED						
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due	Test
CLIMATIC ROOM	PERANI	CCP 29	AT114	2015/10/06	2016/10/28	1
SOFTWARE – STOP WATCH	UL INTERNATIONAL ITALIA	PR014 stop watch	PR014	2015/04/27	2015/04/28	1,3,5
HOSEDOWN TEST EQUIPMENT	A.T.S.	Ugello UL 4X	A049	2012/05/18	---	2
CHRONOMETER	CASIO	HS 1000	S059	2015/03/02	2016/03/28	2
TAPE-MEASURE	ORECA	3 METERS	S126	2015/07/07	2018/07/28	2
TURBINE FLOWMETER	OMEGA	FTB794	S497	2015/02/25	2016/01/28	2
SALT SPRAY TEST CABINET	PERANI	SSC 600	AT078	2015/03/18	2016/03/28	3,5
BEAKER n°5	AZLON	250:2mL	AT078-5	2014/03/11	2017/01/28	3,5
BEAKER n°6	AZLON	250:2mL	AT078-6	2014/03/11	2017/01/28	3,5
H2O – Type II ISO3696	PANREAC	131074	M065	---	---	3,5
SALT	MORTON SALT inc.	CULINOX 999 Food Grade Salt	M068	2015/03/05	---	3,5
pH-METER	WTW	pH 3310	S273-1	2015/03/13	2016/02/28	3,5
Ph-ELECTRODE	WTW	Sen Tix 41	S273-2	2015/03/13	2016/02/28	3,5
CONDUCTIVITY METER	WTW	Cond 3110	S294-1	2015/03/13	2016/02/28	3,5
STANDARD CONDUCTIVITY MEASURING CELL	WTW	TetraCon 325	S294-2	2015/03/13	2016/02/28	3,5
ELECTRONIC INCLINOMETER	SOLA	ENW 60cm	S485	2015/06/05	2016/05/28	3,5
TIMER	SPEC SCIENTIFIC	810021C	NBK24269	2014/12/29	2015/12/31	4
ROTAMETER	MATHESON	M1000-10220	NBK23709	2015/05/01	2016/05/31	4
ROTAMETER	MATHESON	FM1000-MJ14C211J211	NBK44765	2014/11/03	2015/11/30	4
TEMPERATURE INDICATOR	OMEGA ENGINEERING	HH-23A	NBK84119	2015/03/12	2016/03/31	4
SCRATCHING TOOL	UNKNOWN	E4-02	91648	---	---	4

CRITICAL COMPONENTS

Qty	Component	Manufacturer	Type/model, technical data
---	Gasket of RC 611	Teknofluor S.r.l.	Silicone rubber, inflexibility: 70 [shore A] COT: -60 ÷ +150 °C
---	Gasket of RC 620	Eurofoam S.r.l.	Expanded silicone rubber, inflexibility: 55 ± 5 [shore 00] COT: 70 ÷ +200 °C



SECTION 4: PHOTOSs

PHOTOS OF EUT

Photo 01 – RC 620

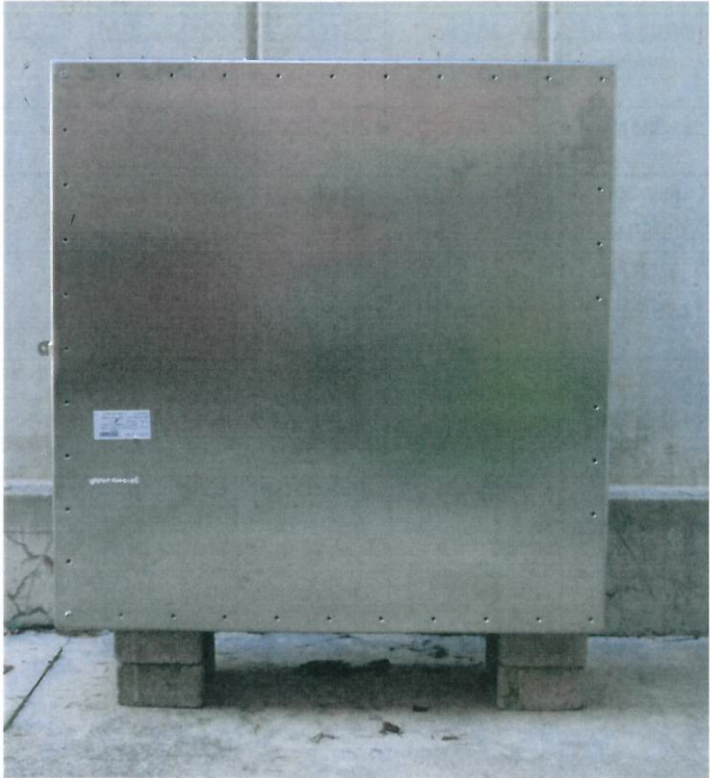


Photo 02 – RC 620



Photo 03 – RC 620

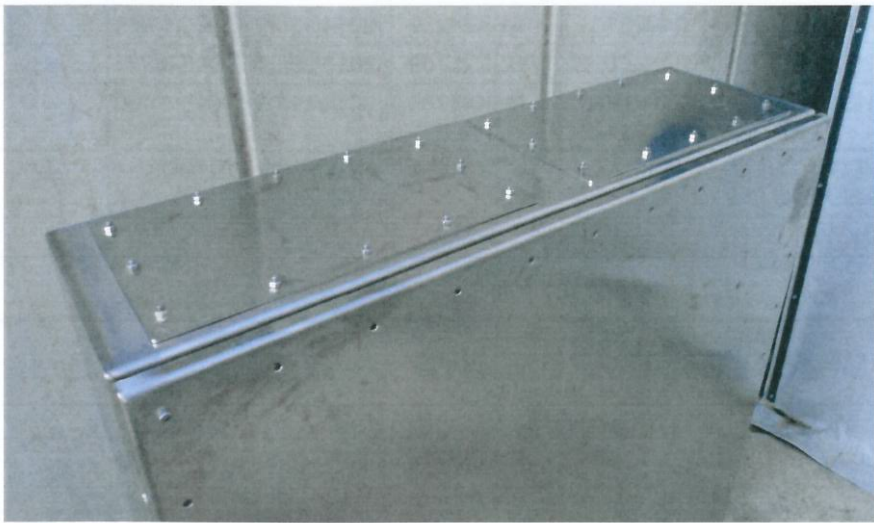
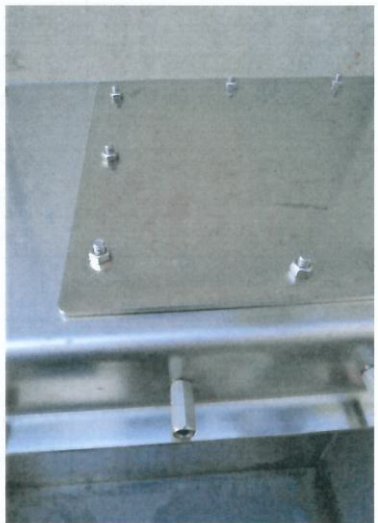


Photo 04 – RC 620





SECTION 4 PHOTOS

Photo 5 – RC 620



Photo 6 – RC 620

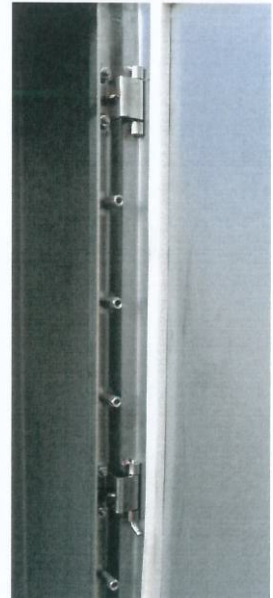


Photo 7 – RC 611



Photo 8 – RC 611



Photo 9 – RC 611



Photo 10 – RC 611



SECTION 4 PHOTOS

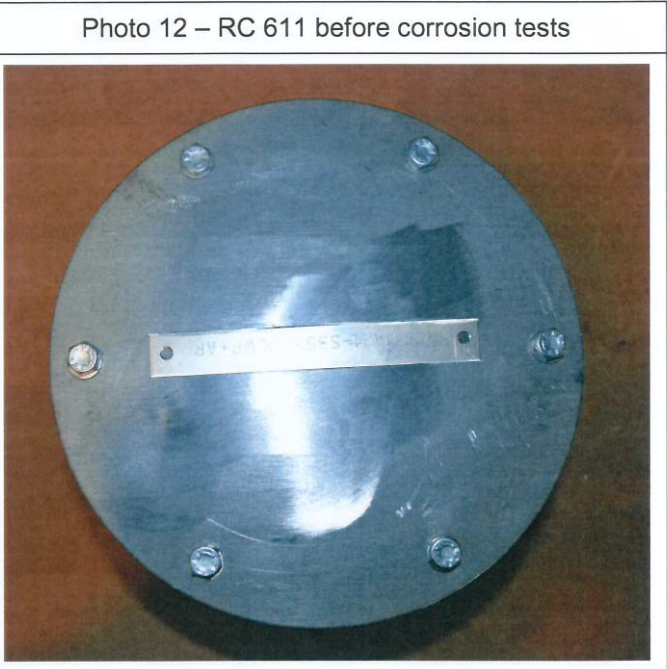


Photo 13 – RC 611 and A304 stainless steel immediately after 200h-Salt spray test

Photo 14 – RC 611 after 200h-Salt spray test, surface lightly brushed with water



SECTION 4 PHOTOS

Photo 15 – RC 611 immediately after 600h-Salt spray test



Photo 16 – RC 611 and G90 steel after 600h-Salt spray test, surfaces lightly brushed with water



Photo 17 – RC 611 steel after 600h-Salt spray test, surfaces lightly brushed with water



Photo 18 – G90 steel after 600h-Salt spray test, surfaces lightly brushed with water





SECTION 4 PHOTOS

Photo 19 – RC 611 steel after 1200-Hour Moist Carbon Dioxide-Sulfur Dioxide-Air Test



Photo 20 – RC 611 steel after 1200-Hour Moist Carbon Dioxide-Sulfur Dioxide-Air Test



- END OF TEST REPORT -