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GREECE

## TEST REPORT

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**IDENTIFICATION NUMBER:** ES-101108.a

**DATE:** 22.11.2010

**LABORATORY:** Coatings Research Institute  
Avenue P. Holoffe  
1342 LIMELETTE

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**CUSTOMER:** STANCOLAC FOTIOU  
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**REFERENCE ORDER:** Your sending dated 7.7.2010

**DATE OF RECEPTION OF THE SAMPLES:** 7.7.2010

**NUMBER OF THE DOCUMENT OF RECEPTION:** ES/6940

**SAMPLES:** System A: Primer 323 (1-comp) + Topcoat Metallux (1 comp.)

**PERFORMED TESTS AND TESTING METHODS:**

The tests are realized following the ISO Standard ISO 12944-6 for corrosion category C2 or C3

***Application***

The paint system is applied on Sa 2 ½ steel panels  
First coat: about 75 µm of 323 Primer  
Second coat: about 75 µm of Metallux  
Drying between coats: 24 h at 23±2 °C and 50±5 % RH  
Time before testing: minimum 3 weeks at 23±2 °C and 50±5 % RH

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## ***Salt spray resistance***

Realized according ISO 9227 - Method NSS (replaces ISO 7253) "Corrosion in artificial atmospheres - Salt spray tests"

A scratch (1/2 St Andrewscross) of 0,5 mm wide is made through the coating on 2 of the 3 exposed panels.

The uncoated edges and sides of the samples are protected by tape.

Experimental conditions:

- temperature in the test chamber:  $35\pm 2^{\circ}\text{C}$
- NaCl-concentration: 5%
- collected volume of salt solution per hour: between 1 and 2 ml/h
- pH of the solution: between 6,5 and 7,2
- air pressure: 1 bar
- Exposure period: 480 h

The panels are evaluated following the ISO 4628 standards for corrosion, blistering, cracking and flaking and the undercreep corrosion at the scratch is measured.

Before and 24 h after the exposure, the adhesion is tested (see further).

## ***Resistance to continuous condensation***

Realized according to ISO 6270-2 "Determination of resistance to humidity - Part 2: Procedure for exposing test specimens in condensation-water atmospheres"

The samples are continuously exposed in a climatic chamber to a temperature of  $40\pm 3^{\circ}\text{C}$  and a relative humidity of 95 to 100 %.

Exposure time: 240 h with observation after 120 h (for C2 category)

Before and 24 h after the observations, the adhesion is tested (see further)

## ***Adhesion***

Realized according to ISO 2409 "Cross cut test"

Space between cuts: 3 mm (depends on the paint film thickness)

A normalized tape is stuck over the cuts and removed after a certain time. The cross-cut area is inspected for removal of coating. The adhesion is rated in accordance with the scale.

**DATE OF EXECUTION OF THE TESTS:** September - October 2010

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## RESULTS :

### *Initial adhesion*

Classification 0 - 0 - 0; very good adhesion

### *Salt spray test*

	<b>480 h (C3)</b>
Observations	micro-blisters at the surface of the 4 panels <i>Scratch panel 1</i> : rust upon max. 4 mm + a few blisters with ∅ max. 3 mm + generalized micro-blistering upon max 8 mm <i>Scratch panel 2</i> : rust upon max. 3 mm + generalized micro- blistering upon max 10 mm
ISO 4628-2	3 S(1)
ISO 4628-3	Ri 0
ISO 4628-4	0 S(0)
ISO 4628-5	0 S(0)
Adhesion after 24 h	1 - 2 - 2
Undercreep	max. 10 mm

### *Resistance to continuous condensation*

	<b>120 h (C2-high)</b>	<b>240 h (C3-high)</b>
Observations	unchanged	2 panels with a few blisters ∅ 1 mm + 2 panels unchanged
ISO 4628-2	0 S(0)	1 S(1)
ISO 4628-3	Ri 0	Ri 0
ISO 4628-4	0 S(0)	0 S(0)
ISO 4628-5	0 S(0)	0 S(0)
Adhesion after 24 h	1 - 1 - 0	1 - 2 - 2

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## CONCLUSION:

The system fulfills the requirements for the corrosion category C2-high, but not for C3-high.  
Remark: the requirements for the salt spray test for category C3-mean, namely after 240 h exposure, haven't been tested.



Performed by: R. Guns/V. Pirsoul



Approved by: S. Vonckx

**!!!!!!! Samples will be stored at CoRI during 6 months and then removed in accordance with the waste legislation, unless you make an appeal to prolongate this period or you recall the samples yourself (on charge of the customer).**

\* This test report concerns only the samples subjected to these tests

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