



INSTITUT TECHNOLOGIQUE

Physique



Siège social

10, avenue de Saint-Mandé
75012 Paris
Tél +33 (0)1 40 19 49 19
Fax +33 (0)1 43 40 85 65

Bordeaux

Allée de Boutaut - DP 227
33028 Bordeaux Cedex
Tél +33 (0)5 56 43 63 00
Fax +33 (0)5 56 43 64 80

www.fcba.fr

Siret 775 680 903 00017
APL 731 Z

Wood Laboratory Centre



Test Reports

No. 404/09/374 on 08/03/2010

FINISHING OFF (COATING)

ARTIFICIAL AGING TESTS
Of preservation systems for Wood verandas
VIE et VERANDA

CETIM
Pôle IPC
BP 82 617
74 , Route de la Jonelière
44 326 Nantes Cedex 3

This document consists of 7 pages of test reports.
It may only be reproduced under the form of a full photographic facsimile.

The results mentioned in this test report are only applicable to the sample submitted in the laboratory as it is described in the present document.

The tested samples are made available to the requester for 1 month after the sending of the test report. Beyond this deadline, they may by no means be requested.

All communications regarding the results of the FCBA test services is submitted to the terms of Article 13 of the Terms of Sale.

1 - PURPOSE

To perform QUV artificial aging tests on fir-tree elements coated with preservation-finishing systems for wood verandas, and to evaluate the durability of tested systems by observing the modifications of the decorative and protective properties of the coatings after being exposed to UV and water.

2 - PRODUCT IDENTIFICATION

> Client: CETIM

>Type of product: Northern White Fir-Tree elements coated with finishing systems

>Reception no.: 611 - 1 to 10 and 611 - 1F; 3F; 5F and 7F

>Reception date: 23/11/09

>Product description: Northern White Fir-Tree elements coated with the following finishing systems:

	Sanded Wood	Brushed Sanded Wood	Laboratory references	
			Sanded Wood	Brushed Sanded Wood
HDE Obbia Treatment with Woodguard Lasure 'special formula for floors'	Sample no 2	Sample no 6	611-2	611-6

The laboratory referencing follows the chronology of the sample referencing outlined in the table below.

3 - TEXT REFERENCE

Norm EN 927-6 (October 2006)

“Artificial aging of outside wood paints and paint systems by fluorescent U.V. and water.”

Comment:

Colorimetric, glossiness and film thickness measures have not been undertaken as part of those tests.

The adhesion of the finishing systems was not evaluated post-aging.

The number of replicas depends on the system. The scoring was done on a single sample per system, each with a double exposure window.

4 - TEST DESCRIPTION

4.1 Sample preparation

The samples have the following dimensions: 300 x 74 mm (Lxl) and are laid out following the longitudinal direction of the wood fibre in the QUV machine. All the faces of the sample are covered with the system to evaluate.

4.2. Accelerated aging with QUV tests

Two exposed zones of the samples are submitted to testing. For series 611-1 to 10, a non-exposed sample is present. However, series 611-1F, 3F, 5F and 7F do not have a non-exposed sample.

The aging cycles last one week and include phases of condensation, U.V. irradiation and water spraying as described in norm NF EN 927-6.

The total length of the exposure is 12 weeks.

4.3 Visual observations

The scoring based on visual observation follows different methodologies:

- The change of appearance is determined according to the methodology described in norm ISO 4628-1
- The blistering is determined according to the methodology described in norm ISO 4628-2
- The cracking is determined according to the methodology described in norm ISO 4628-4
- The flaking is determined according to the methodology described in norm ISO 4628-5
- The chalking is determined according to the methodology described in norm ISO 4628-6

5 - TEST RESULTS

The aging is carried out on a QUV-type Weathering Tester Model QUV/Spray.
The aging is for a total period of 12 weeks.

For series 611-1 to 611-10, the aging began on November 24 2009 and ended on February 18 2010 (2 day break for machine maintenance)

For series 611-1F, 3F, 5F and 7F, the aging began on November 30 2009 and ended on February 24 2010 (2 day break for machine maintenance)

Table no. 1 below shows the different scoring scales used.

Designation of defects and evaluation of adhesion	Evaluation scale
Change of appearance	✓ Scale from 0 = no change to 5 = very noticeable change
Blistering	✓ Quality: 0 to 5 = major ✓ Size: 1 = just visible to 5 = beyond 5 mm
Cracking	✓ Quantity: 0 to 5 = major ✓ Size: S1 = just visible to S5 = very large ≥ 1 mm ✓ Depth: a = superficial cracking b = upper layer(s) c = entire coating
Flaking	✓ Quantity: 0 to 5 = major ✓ Size: 1 = just visible to 5 = superior to 5 mm ✓ Depth = underlying layer b = entire coating
Chalking	✓ Scale from 0 = none to 5 = dense
Adhesion	✓ Scale from 0 = no peeling to 5 = above 65% of the evaluated surface is peeled

Table no. 1: Designation of Flaws and Evaluation of Adhesion

This document consists of 7 pages of test reports.

It may only be reproduced under the form of a full photographic facsimile

Table no. 2 below shows the test results on each sample for each of the tested systems.

Sample reference	Defect scoring					comments
	Change of appearance	Blistering	Cracking	Flaking	Chalking	
611-2	3	0	0	0	0	Darkening of the homogenous colour
611-6	2	0	0	0	0	Homogenous darkening

* wrenching of wood fibre after evaluation of the chalking with adhesive tape

Table no. 2: Test results after 12 weeks of aging.

This document consists of 7 pages of test reports.

It may only be reproduced under the form of a full photographic facsimile

Photos of the samples after aging / References 611-1 to 10



référence N°611-2



référence N°611-6

EXCERPT

This document consists of 7 pages of test reports.

It may only be reproduced under the form of a full photographic facsimile

EXCERPT

Fait à Bordeaux, le 08 Mars 2010

Le Technicien chargé des essais


David BETTOIA


La Responsable Technique

Véronique GEORGES

This document consists of 7 pages of test reports.

It may only be reproduced under the form of a full photographic facsimile