



AFITI
LICOF Center for Fire Testing
and Research

Association for the Promotion of Research
and Fire Safety Technology



TEST REPORT

Reaction to Fire Laboratory

APPLICANT:

BONA KEMI, S.L.

TEST:

Reaction to fire test for floorings. Determination of the burning behavior using a radiant heat source according to **UNE EN ISO 9239-1:2002**.

- Material: Polyurethane varnish in watery dispersion
 - Manufacturer: Bona Kemi, S.L.
 - Reference: "SPORTIVE FINISH"

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MINISTERIO
DE INDUSTRIA, TURISMO
Y COMERCIO

LICOF: Official Laboratory for Fire Testing
R.D. 1614/1985 on 1st Agust.
O.M. On 21st May 1991.



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Tomás de la Rosa Sánchez, General Director of AFITI declares:

- That AFITI (Association for the Promotion of Research and Fire Safety Technology), is a non profit-making association and was declared Association of Public Utility by the Spanish Cabinet on 27th January 1995.
- That the ownership of LICOF (Centre for Fire Testing and Research) is of Ministry of Industry, Tourism and Trade, by R.D. 1614/85 and O.M. on 21st may 1991, corresponding, by agreement, the management to AFITI.
- That the tests included in this Technical Report have been carried out at the Technical Unit of Test (LICOF).
- That these tests have been developed under the framework of agreement signed between the Association for the Promotion of Research and Fire Safety Technology (AFITI) and Association for Wood Research and Development of Castilla-La Mancha (A.I.M.C.M.).
- That LICOF is the Fire Testing and Research Center corresponding to the Technical Unit of Test accredited by the National Accreditation Body (ENAC), to act under files Nr. 41/LE104 and Nr. 41/LE204.

21st of June of 2006

Signed: Tomás de la Rosa Sánchez
General Director

Recognition / Accreditation: MINISTERIO DE INDUSTRIA, TURISMO Y COMERCIO, MINISTERIO DE FOMENTO, ENAC & IMO.

Notify Body: NOTIFY BODY TO THE EUROPEAN COMMISSION WITH NR. 1168.

Member of: AEC, AELAF, AENOR, ASELF, AIDICO, EGOLF, ENAC, EUROLAB, FORÉTICA & NFPA.

APPLICANT**BONA KEMI, S.L.**

C/ Paloma, 1. Ind. Area "Los Gallegos"
28946-FUENLABRADA (Madrid)

Test application date: 02nd-Mar-06

TEST SAMPLE

Type of sample: **Polyurethane varnish in watery dispersion.**

Manufacturer: Bona Kemi, S.L.

Reference: "SPORTIVE FINISH"

TEST PERFORMED

Reaction to fire test for floorings. Determination of the burning behaviour using a radiant heat source according to **UNE EN ISO 9239-1:2002 Standard**

Test date: 21st-Apr-06

**Content of the report**

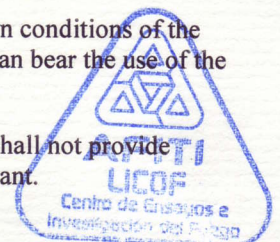
1.- Test sample	Sheet 3
2.- Test Performed	Sheet 3
3.- Results	Sheet 3
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ANNEX 1: Technical Documentation	Sheet 7

The results of this report of test make sole and exclusive reference to the samples tested and not to the product in general.

The results of the test correspond to the behaviour of samples of test of a product, under the own conditions of the test. It does not try to constitute the only criterion of valuation of the potential risk of fire that can bear the use of the product

The information held in this Report of test is of a confidential nature, meaning the Laboratory shall not provide information in relation to this report to third parties, except with the authorisation of the Applicant.

This Test Report should not be partially reproduced without the Laboratory's written approval.



1.- TEST SAMPLE

Reception: 05th-Apr-06

- Units: 4 samples of 1050 mm x 230 mm.
6 samples of 250 mm x 90 mm.
- The samples are received without any package.
- The samples have been sent and selected by the applicant.

Description:

Colourless polyurethane varnish in watery dispersion with smooth aspect. It is applied (4 hands) onto standardized fibrecement substrate by the applicant.

The sample main characteristics have been sent by the applicant. This information is included in Annex 1 of the present Test Report.

Information about the destiny of application of the samples (material).

The varnish is designed to be used in/above sport floorings.

2.- TEST PERFORMED

Test according to standard UNE EN ISO 9239-1:2002 "Reaction to fire test for floorings-Part 1: Determination of the burning behaviour using a radiant heat source".

The Standard used for the conditioning has been the UNE EN 13238:2002 "Reaction to fire tests for building products. Conditioning procedures and general rules for selection of substrates".

3.- RESULTS

Test conditions

Samples conditioning	Temperature (°C)	24
	Humidity (%)	50
	Conditioning time (hours)	48,5

Samples position during the test	
Kind of material	Polyurethane varnish in watery dispersion
Used substrate	Fibrecement
Kind of fixing	Applied with roller (4 hands)
Way of fixing	Withour joints or air gap
Exposed surface	Varnished face

Expression of results

Next, numerical values and graphs obtained in the test are shown.

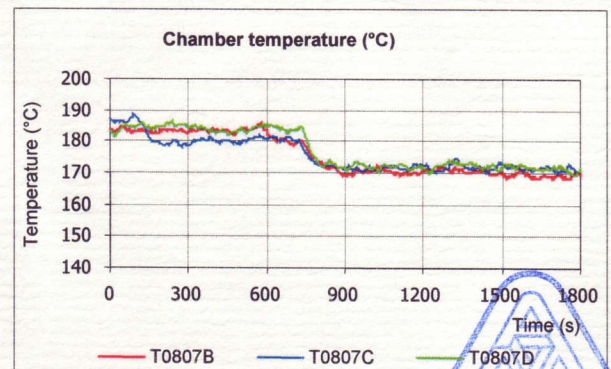
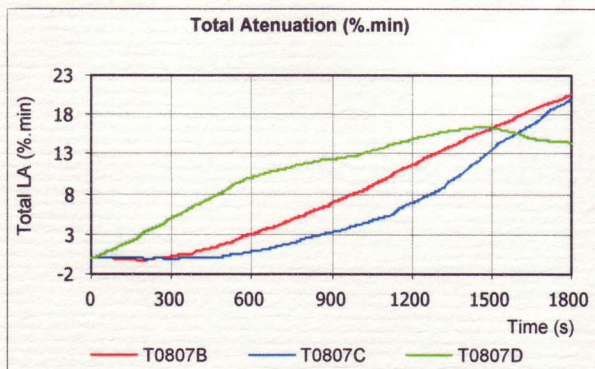
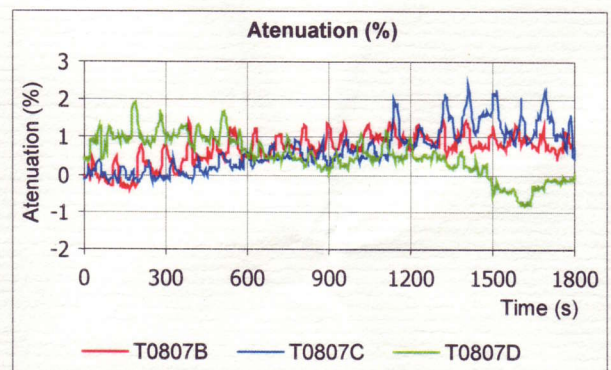
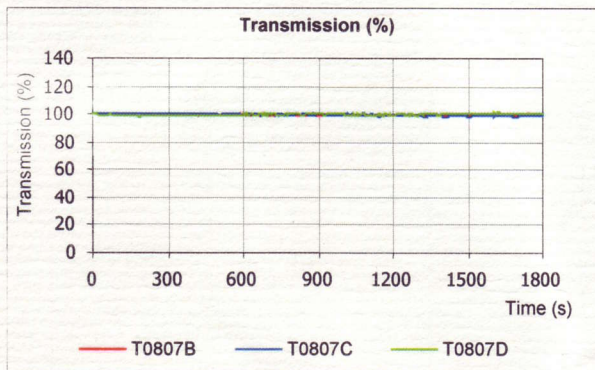
Numerical values

	Sample Nr:		
	T0807B	T0807C	T0807D
CF (kW/m ²) [Critical heat flux at extinguishment]	12,25	12,25	12,86
HF-30 (kW/m ²) [Heat flux ant 30 min]	12,25	12,25	12,86
Extinguishment time (s) [Time that the material needs to extinguish]	669	516	0
Maximun spread (mm) [Maximun distance that the flame spread reaches]	50	50	0
TLA-30 (%.min) [Total ligh attenuation]	20,47	19,86	14,40

Distance (mm)	Flame spread		
	Sample Nr		
	T0807B	T0807C	T0807D
	Time (s)		
50	608	510	0
100	0	0	0
150	0	0	0
200	0	0	0
250	0	0	0
300	0	0	0
350	0	0	0
400	0	0	0
450	0	0	0
500	0	0	0
550	0	0	0

Time (min)	Flame spread		
	Sample Nr		
	T0807B	T0807C	T0807D
	Distance (mm)		
10	50	50	0
20	50	50	0
30	50	50	0

Graphs




Average values obtained

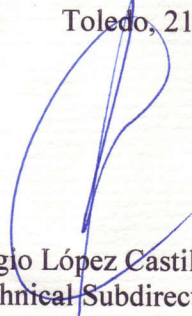
		Average
CF (kW/m ²)	[Critical heat flux at extinguishment]	12,45
HF-30 (kW/m ²)	[Heat flux ant 30 min]	12,45
Extinguishment time (s)	[Time that material needs to extinguish]	395
Maximun spread (mm)	[Maximun distance that the flame spread reaches]	33,3
TLA-30 (%.min)	[Total ligh attenuation]	18,24

Observations during the test

During the test realization there aren't sudden flames. It's appreciated poor, white-grey and dense smoke. There isn't particle fallen, neither flammable nor non flammablece.

Toledo, 21st of June of 2006


 Fdo: Diana Luengo Rojo
 Tehnical Director of LICOF


 Fdo: Sergio López Castillo
 Technical Subdirector of
 Reaction to Fire Laboratory

Annexes