AFITI LICOF Center for Fire Testing and Research

Association for the Promotion of Research and Fire Safety Technology

ENAC ENSAYOS Nº 41/LE104

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"

MINISTERIO DE INDUSTRIA, TURISMO Y COMERCIO

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

HEAD OFFICE & LABORATORIES
Address: Ant. Ctra. Valencia, km 23,400. E-28500 ARGANDA DEL REY (Madrid)
Telephone: +34 91 871 35 24
Fax: +34 91 871 20 05
Web: www.afiti.com
E.mail: licof@afiti.com afiti@afiti.com

CENTRAL OFFICE & LABORATORIES
C/ Río Estenilla, s/n - Pol. Ind. Sta. Mª de Benquerencia
(Centro Tecnológico de la Madera)
E-45007 TOLEDO
+34 925 231 559
+34 925 240 679

AFITI LICOF Center for Fire Testing and Research

MINISTERIO DE INDUSTRIA, TURISMO Y COMERCIO

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

Contet of the report

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	(ºC)	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.

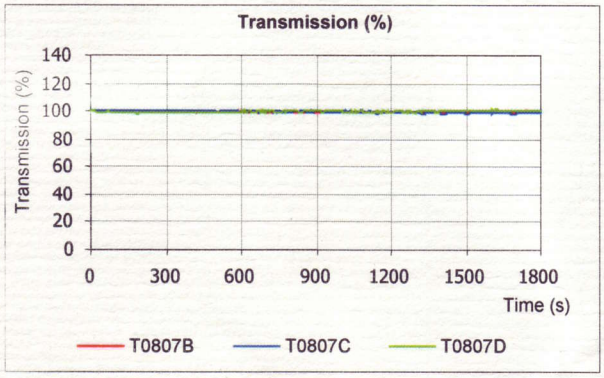
Numerical values

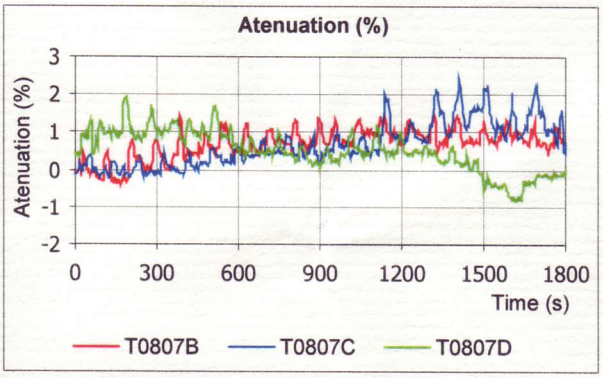
	Sample Nr:		
	T0807B	**T0807C**	**T0807D**
CF (kW/m^2) [*Critical heat flux at extinguishment*]	12,25	12,25	12,86
HF-30 (kW/m^2) [*Heat flux ant 30 min*]	12,25	12,25	12,86
Extinguishment time (s) [*Time that the material needs to extinguish*]	669	516	0
Maximun spread (mm) [*Maximun distance that the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

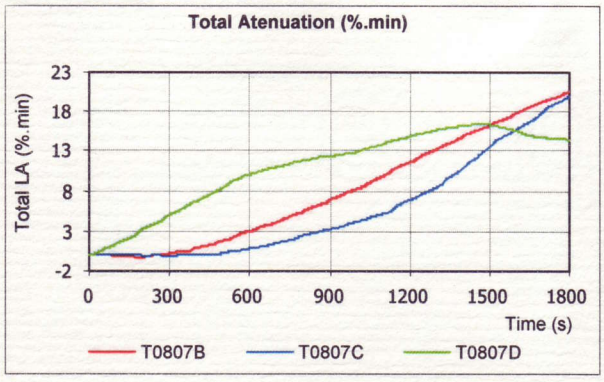
	Flame spread Sample Nr		
	T0807B	**T0807C**	**T0807D**
Distance (mm)	**Time** (s)		
50	608	510	0
100	0	0	0
150	0	0	0
200	0	0	0
250	0	0	0
300	0	0	0
350	0	0	0
400	0	0	0
450	0	0	0
500	0	0	0
550	0	0	0

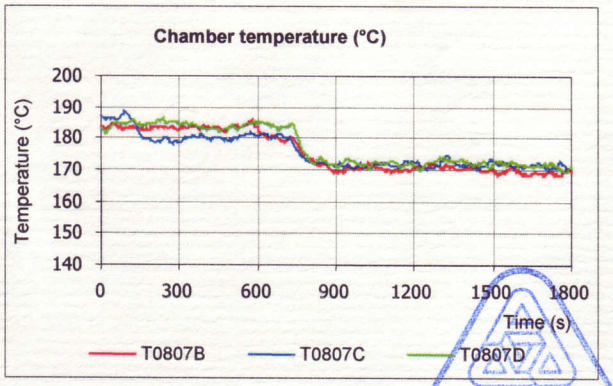
	Flame spread Sample Nr		
	T0807B	**T0807C**	**T0807D**
Time (min)	**Distance** (mm)		
10	50	50	0
20	50	50	0
30	50	50	0

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