

## **1<sup>st</sup> Additional Test Report Nr 14860**

### **Sponsor**

Bijlard International  
Platinastraat 141  
2718 SR Zoetemeer  
THE NETHERLANDS

### **Material**

Toluene free sprayable contact adhesive with high initial stitch

### **Trade Name**

Bijlard spuitlijm / Ankerweld spuitlijm 2344

### **Name of the manufacturer / supplier**

(1)

### **Nature of the tests**

Tests concerning the reaction to fire of this material according to the IMO resolution A.653 (16).

**This report consists of 7 pages, including 3 annexes**

## 1. THE REACTION TO FIRE

The aim of the reaction to fire tests is to determine the behaviour of the material concerning the contribution of this material to the development of a starting fire.

This behaviour is characterised by test results, only of a conventional nature, so that these test results do not have an "absolute value".

## 2. DESCRIPTION OF THE TEST METHOD

At the request of the sponsor, the test and the classification of the material are carried out in accordance with the prescriptions of: "IMO Resolution A.653 (16) - 1996 - Recommendation on improved fire test procedures for surface flammability of bulkhead, ceiling and deck finish materials."

Description of the test and classification method: annex 1

## 3. TEST SPECIMEN

The firm<sup>(2)</sup> provided the laboratory with a serie of 6 samples of 0,155 m x 0,800 m of a material, in order to determine the reaction to fire characteristics of the material.

Date of reception : 10/02/2011

Sampling : by the sponsor

Trade name : Bijlard spuitlijm / Ankerweld spuitlijm 2344

Description of the material:

	Nominal value	Measured value
Material	Adhesive	
Manufacturer / Supplier	(2)	
Thickness (mm)	0,15	(3)
Surface weight (g/m <sup>2</sup> )	100	(3)
Flame retardants	No	(3)

## 4. CONDITIONING

Before testing, the samples have been conditioned according to the specifications of the standards mentioned above.

Start conditioning : 10/02/2011

End conditioning : 17/02/2011

(2) For commercial reasons, this information is kept confidential, but is kept in the laboratory archives

## 5. RESULTS

The tests have been carried out on: 17/02/2011

Position of the pilot flame: test 1-2 not impinging; test 3 impinging.

### a) Observations:

Specimen number	1	2	3	1	2	3
FLAME SPREAD (s)				Heat for sustained burning (MJ/m <sup>2</sup> )		
50 mm	(1)	(1)	(1)	(1)	(1)	(1)
100 mm						
150 mm						
200 mm						
250 mm						
300 mm						
350 mm						
400 mm						
450 mm						
500 mm						
550 mm						
600 mm						
650 mm						
700 mm						
750 mm						
Max. flame spread (mm)	0	0	0			
Duration of the test (s)	600	600	600			

(1) Not reached

### b) Derived fire characteristics

DERIVED FIRE CHARACTERISTICS					
Specimen number		1	2	3	Average
Average heat for sustained burning (MJ/m <sup>2</sup> )	Qsb	≥ 1,5	≥ 1,5	≥ 1,5	≥ 1,5
Heat for ignition (MJ/m <sup>2</sup> )	HFI	(1)	(1)	(1)	(1)
Critical flux at extinguishment (kW/m <sup>2</sup> )	CFE	47,34	47,34	47,34	47,34
Peak heat release rate (kW)	Qp	0,16	0,27	0,17	0,20
Total heat release (MJ)	Qt	0,00	0,05	0,02	0,02

(1) Cannot be measured because of no ignition

### c) Additional observations

Sample 1: Charring; Sample 2: Charring; Sample 3: Charring, Flashing, Glowing.

d) Graph of Heat release rate (kW) in function of time (s) for each specimen :

See annex 2.

e) Pictures before and after the test:

See annex 3.

## 6. CONCLUSION

*The test results relate only to the behaviour of the product under the particular conditions of the test. These results are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.*

*The test results are only valid for the specimens of the product as they have been tested. Small differences in the composition or thickness of the specimen may significantly affect the performance during the test and may therefore invalidate the test results.*

*In order to obtain test results which are representative for the product which is supplied or used, the conformity between the test specimen and the product should be assured. This is the role of the manufacturer and/or the supplier.*

The product « **Bijlard spuitlijm / Ankerweld spuitlijm 2344** », as described in § 3 and under the conditions of the test, **has not exceeded the surface flammability criteria** mentioned in IMO A.653 (16) - 1991 **for floorcoverings and has not exceeded the surface flammability criteria** mentioned in IMO A.653 (16) - 1991 **for wallcoverings**, therefore **it meets the requirements for low flame spread** in compliance with regulations II-2/3.8, II-2/34 and II-2/49 of the International Convention for the Safety of Life at Sea, 1974, as amended.



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Project Assistant

Ghent 09 AUG. 2012



ir. K. CATRY  
Project Leader

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The present report constitutes an 1<sup>st</sup> additional report to Test Report Nr 14860 dated 28-03-2011. It has been drafted in accordance with the regulations of "EN ISO/IEC 17025: 2005 "Application Note: clause 5.10 [5.10/4] – Issue 01 - 2008/04/16 – amendment of test reports: clients changing product / company names (II) – for commercial reasons". The product "Bijlard spuitlijm / Ankerweld spuitlijm 2344" has not been retested. Present additional report does not contain any technical modifications to the original test report. Both the original and the new denomination of the product and of the company entrusted with marketing the product will be documented and entered in the laboratory's archives. This report may be used only literally and completely for publications. - For publications of certain texts, in which this report is mentioned, our permission must be obtained in advance.

**DETERMINATION OF THE FIRE CHARACTERISTICS OF A MATERIAL IN ACCORDANCE WITH "IMO resolution A.653 (16) : Recommendation on improved fire test procedures for surface flammability of bulkhead, ceiling and deck finish materials."**

Description:

A sample of 0,155 m x 0,800 m is exposed to the radiation heat of a radiant panel. This sample is fixed onto a support in such a way that the intensity of the radiation, incident on the surface of the sample, varies in a given direction following a prescribed law. At the same time, a gas burner flame is placed near the edge with the highest temperature. A minimum of three tests are carried out.

The times needed by the flame to reach certain distances are measured. They permit to draw a diagram of the flame spread in function of time.

This measurement of flame spread in function of time together with the flux incident on the specimen at different positions allows for the determination of certain fire characteristics :

- Average heat for sustained burning :  $Q_{sb}$
- critical flux at extinguishment : CFE.

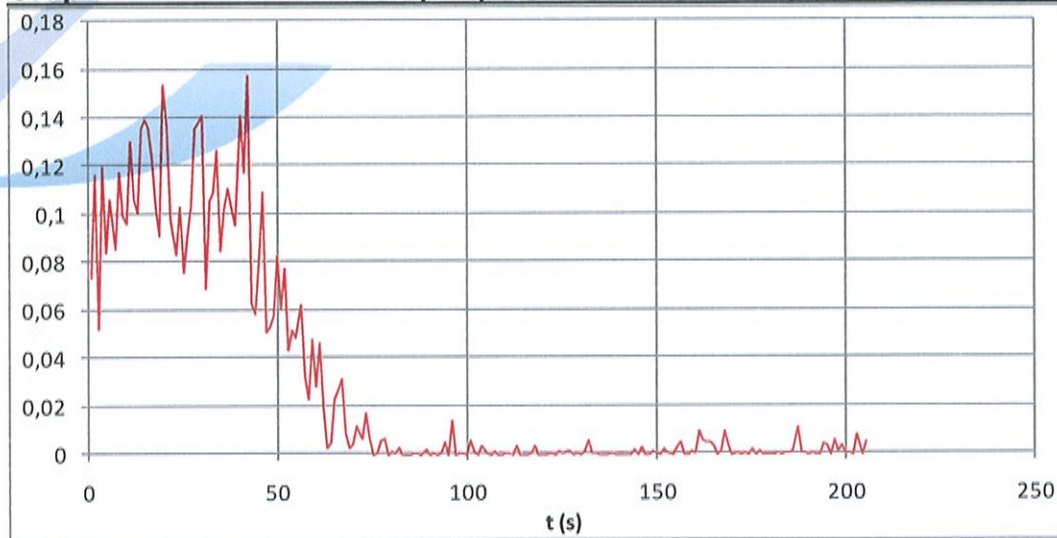
During the test the fume stack temperature is registered. This allows the determination of :

- the peak heat release rate :  $Q_p$
- the total heat release rate :  $Q_t$ .

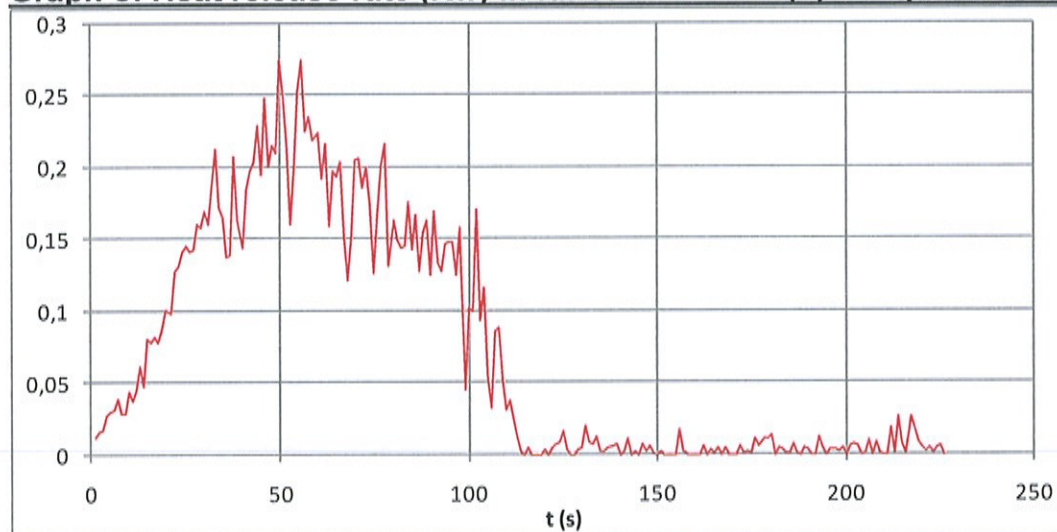
Surface flammability criteria:

Bulkhead, wall and ceiling linings				Floor coverings			
CFE kW/m <sup>2</sup>	$Q_{sb}$ MJ/m <sup>2</sup>	$Q_t$ MJ	$Q_p$ kW	CFE kW/m <sup>2</sup>	$Q_{sb}$ MJ/m <sup>2</sup>	$Q_t$ MJ	$Q_p$ kW
≥ 20,0	≥ 1,5	≤ 0,7	≤ 4,0	≥ 7,0	≥ 0,25	≤ 2,0	≤ 10,0

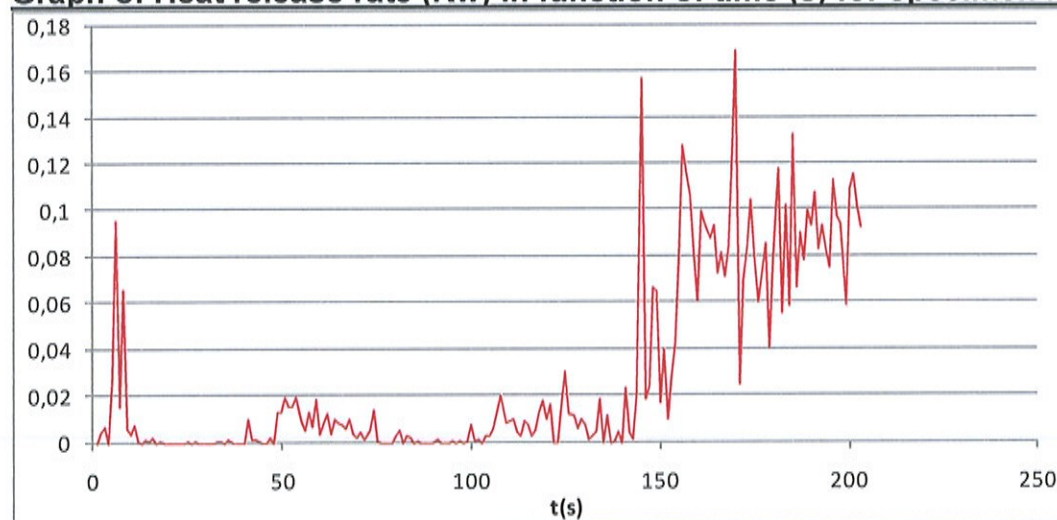
**Graph of Heat release rate (Kw) in function of time (s) for specimen Nr 1**



**Graph of Heat release rate (Kw) in function of time (s) for specimen Nr 2**



**Graph of Heat release rate (Kw) in function of time (s) for specimen Nr 3**



Pictures before and after the test

