

Customer Details: Askle SAS
200 rue Charles Tellier
ZI de Grezan
30034 NIMES CEDEX 1
France

For the attention of: Phil Rosser

TECHNICAL REPORT

Subject: Flammability testing of a mattress described as "Mattress VMAFR-HIPH" to BS EN 597-1:1995, BS EN 597-2:1995, BS 6807:2006, Section 9, Ignition Source 5 & foams to Schedule 1 Part I

Your Ref: CA-13S11-000987
Our Ref: FUR0213320
Date: 23rd April 2013
Date Sample Received: 3rd April 2013

Conditions of Issue:

This report may be forwarded to other parties provided that it is not changed in any way. It must not be published, for example by including it in advertisements, without the prior, written permission of SATRA.

Results given in this report refer only to the samples submitted for analysis and tested by SATRA. Comments are for guidance only.

Tests marked † fall outside the UKAS Accreditation Schedule for SATRA. All interpretations of results of such tests and the comments based upon them are outside the scope of UKAS accreditation and are based on current SATRA knowledge.

A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the customer as a result of information supplied in the report.

Report signed by: Andrew Munns
Position: Furniture Technologist
Department: Furniture Department

BS EN 597-1: 1995 Assessment of the ignitability of mattresses and upholstered bed bases: Ignition source: smouldering cigarette

Sample Identification

The mattress was described by the customer as:
Mattress VMAFR-HIPH

Test result: NON-IGNITION

The above test result relates only to the ignitability of the combination of materials under the particular conditions of test. It is not intended as a means of assessing the full potential fire hazard of the mattress, mattress pad or upholstered bed base in use.

Conditioning

The specimen was conditioned in an atmosphere of $23 \pm 2^\circ\text{C}$ and $50 \pm 5\% \text{rh}$ for more than 4 days.

Procedure

The test was carried out as described in BS EN 597-1 using cigarette ignition sources. All cigarette applications were made on the same test assembly.

Details of observations

Test site	Flat Site – Memory Foam Side		Flat Site – Normal Foam Side	
	1	2	3	4
Cigarette number	*	*	*	*
Smouldering criteria				
Unsafe escalating combustion. (3.1a)	No	No	No	No
Specimen smoulders until consumed. (3.1b)	No	No	No	No
Smoulders through thickness. (3.1c)	No	No	No	No
Smoulders more than 1 hour. (3.1d)	No	No	No	No
More than 50 mm from source. (3.1e)	No	No	No	No
Flaming criteria				
Occurrence of flaming. (3.2)	No	No	No	No

* Enter 'YES' if criteria exceeded or 'NO' if criteria not exceeded.

Testing by: T. Notley on 23rd April 2013
Askle SAS
FUR0213320
Date: 23rd April 2013

Signed:



BS EN 597-2: 1995 Assessment of the ignitability of mattresses and upholstered bed bases: Ignition source: match flame equivalent

Sample Identification

The mattress was described by the customer as:
Mattress VMAFR-HIPH

Test result: NON-IGNITION

The above test result relates only to the ignitability of the combination of materials under the particular conditions of test. It is not intended as a means of assessing the full potential fire hazard of the mattress, mattress pad or upholstered bed base in use.

Conditioning

The specimen was conditioned in an atmosphere of $23 \pm 2^\circ\text{C}$ and $50 \pm 5\% \text{rh}$ for more than 4 days.

Procedure

The test was carried out as described in BS EN 597-2 using a gas flame described as equivalent to a match flame source. All flame applications were made on the same test assembly.

Details of observations

Test site	Flat Site- Memory Foam Side		Flat Site – Normal Foam Side	
	1	2	3	4
Flame application number	1	2	3	4
Smouldering criteria	*	*	*	*
Unsafe escalating combustion. (3.1a)	No	No	No	No
Specimen smoulders until consumed. (3.1b)	No	No	No	No
Smoulders through thickness. (3.1c)	No	No	No	No
Smoulders more than 1 hour. (3.1d)	No	No	No	No
More than 50 mm from source. (3.1e)	No	No	No	No
Flaming criteria	*	*	*	*
Unsafe escalating combustion. (3.2a)	No	No	No	No
Specimen flames until consumed. (3.2b)	No	No	No	No
Flame front reaches extremities (3.2c)	No	No	No	No
Flame front penetrates thickness. (3.2c)	No	No	No	No
Flames more than 120s. (3.2d)	No	No	No	No

* Enter 'YES' if criteria exceeded or 'NO' if criteria not exceeded.

Testing by: T. Notley on 23rd April 2013
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Signed:



BS 6807: 2006 Methods of test for the ignitability of mattresses, upholstered divans and upholstered bed bases with flaming types of primary and secondary sources of ignition, Clause 9: mattress, upholstered divan or upholstered bed base tested with primary ignition sources

IGNITION SOURCE 5

Sample Identification

The mattress was described by the customer as:
 Mattress VMAFR-HIPH
 Memory foam side uppermost

Test result: NON-IGNITION

The above test result relates only to the ignitability of the combination of materials under the particular condition of test; it is not intended as a means of assessing the full potential fire hazard of the item in use.

Conditioning

The specimen was conditioned in an atmosphere of $23 \pm 2^\circ\text{C}$ and $50 \pm 5\% \text{rh}$ for more than 4 days.

Procedure

The test was carried out as described in BS 6807: 2006, using Ignition Source 5. All tests were carried out on the same specimen. The mattress was tested with the memory foam side facing upwards.

Details of observations

Ignition source position Source application number	Ignition from above		Ignition from below	
	1	2	3	4
Progressive smouldering ignition:				
Unsafe escalating combustion occurred (4.1a)	No	No	No	No
Smouldered until essentially consumed (4.1b)	No	No	No	No
Smouldered to extremities (4.1b)	No	No	No	No
Smouldered through full thickness (4.1b)	No	No	No	No
Time to cessation of smoke, heat or glowing (60 minute limit) (4.1d)	7 minutes 59 seconds	7 minutes 50 seconds	7 minutes 35 seconds	7 minutes 39 seconds
(Final examination) Extent of charring. (100 mm from source allowed) (4.1e)	30 mm	32 mm	N/A	N/A
Flaming ignition:				
Unsafe escalating combustion occurred (4.2a)	No	No	No	No
Flamed until essentially consumed (4.2b)	No	No	No	No
Flame front reached extremities (4.2c)	No	No	No	No
Flame front passed through full thickness (4.2c)	No	No	N/A	N/A
Time to flames self-extinguishing (10 minutes allowed) (4.2e)	3 minutes 11 seconds	2 minutes 59 seconds	3 minutes 38 seconds	3 minutes 30 seconds
Debris causes floor fire burning more than 10 min (4.2 g)	No	No	No	No

Note: all above times are from the ignition of the crib.

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BS 6807: 2006 Methods of test for the ignitability of mattresses, upholstered divans and upholstered bed bases with flaming types of primary and secondary sources of ignition, Clause 9: mattress, upholstered divan or upholstered bed base tested with primary ignition sources

IGNITION SOURCE 5

Sample Identification

The mattress was described by the customer as:
 Mattress VMAFR-HIPH
 Normal foam side uppermost

Test result: NON-IGNITION

The above test result relates only to the ignitability of the combination of materials under the particular condition of test; it is not intended as a means of assessing the full potential fire hazard of the item in use.

Conditioning

The specimen was conditioned in an atmosphere of $23 \pm 2^\circ\text{C}$ and $50 \pm 5\% \text{rh}$ for more than 4 days.

Procedure

The test was carried out as described in BS 6807: 2006, using Ignition Source 5. All tests were carried out on the same specimen. The mattress was tested with the normal foam side facing upwards.

Details of observations

Ignition source position	Ignition from above		Ignition from below	
	1	2	3	4
Source application number				
Progressive smouldering ignition:				
Unsafe escalating combustion occurred (4.1a)	No	No	No	No
Smouldered until essentially consumed (4.1b)	No	No	No	No
Smouldered to extremities (4.1b)	No	No	No	No
Smouldered through full thickness (4.1b)	No	No	No	No
Time to cessation of smoke, heat or glowing (60 minute limit) (4.1d)	7 minutes 29 seconds	7 minutes 34 seconds	7 minutes 47 seconds	7 minutes 22 seconds
(Final examination) Extent of charring. (100 mm from source allowed) (4.1e)	52 mm	67 mm	N/A	N/A
Flaming ignition:				
Unsafe escalating combustion occurred (4.2a)	No	No	No	No
Flamed until essentially consumed (4.2b)	No	No	No	No
Flame front reached extremities (4.2c)	No	No	No	No
Flame front passed through full thickness (4.2c)	No	No	N/A	N/A
Time to flames self-extinguishing (10 minutes allowed) (4.2e)	4 minutes 49 seconds	3 minutes 32 seconds	3 minutes 52 seconds	4 minutes 14 seconds
Debris causes floor fire burning more than 10 min (4.2 g)	No	No	No	No

Note: all above times are from the ignition of the crib.

Testing by: T. Notley on 23rd April 2013
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Signed:



Ignitability test for polyurethane foam in slab form according to Schedule 1 Part I of the Furniture and Furnishings (Fire) (Safety) Regulations 1988, amended 1989, 1993 and 2010 (SI 1988/No.1324, SI 1989/No.2358, SI 1993/No.207, SI 2010/No 2205)

Sample Identification

A polyurethane foam described by the customer as:
Memory foam removed from a Mattress VMAFR-HIPH

Test result

The following test result relates only to the ignitability of the combination of upholstery composites under the particular conditions of test; it is not intended as a means of assessing the full potential fire hazard of the materials in use.

This sample of foam PASSED the test specified in Schedule 1 Part I of the Furniture and Furnishings (Fire) (Safety) Regulations 1988 (amended 1989, 1993 and 2010).

Conditioning

More than 4 days at $20 \pm 5^\circ\text{C}$ and $50 \pm 20\%$ rh.

Procedure

The test, based on BS 5852: Part 2:1982, was carried out as described in Schedule 1 Part I of the Regulations using ignition source 5. A separate test assembly was used for each application.

Details of observations

Source application number	1	2
Progressive smouldering ignition:		
Unsafe escalating combustion occurred	No	No
Smouldered until essentially consumed	No	No
Smouldered to extremities	No	No
Smouldered through full thickness	No	No
Time to cessation of smoke, heat or glowing (60 minute limit)	6 minutes 57 seconds	8 minutes 34 seconds
Flaming ignition:		
Unsafe escalating combustion occurred	No	No
Flamed until essentially consumed	No	No
Flame front reached extremities	No	No
Flame front passed through full thickness	No	No
Time to flames self-extinguishing (10 minutes allowed)	3 minutes 17 seconds	3 minutes 6 seconds
Weight loss (g)	20	21

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Ignitability test for polyurethane foam in slab form according to Schedule 1 Part I of the Furniture and Furnishings (Fire) (Safety) Regulations 1988, amended 1989, 1993 and 2010 (SI 1988/No.1324, SI 1989/No.2358, SI 1993/No.207, SI 2010/No 2205)

Sample Identification

A polyurethane foam described by the customer as:
Normal foam removed from a Mattress VMAFR-HIPH

Test result

The following test result relates only to the ignitability of the combination of upholstery composites under the particular conditions of test; it is not intended as a means of assessing the full potential fire hazard of the materials in use.

This sample of foam PASSED the test specified in Schedule 1 Part I of the Furniture and Furnishings (Fire) (Safety) Regulations 1988 (amended 1989, 1993 and 2010).

Conditioning

More than 4 days at $20 \pm 5^\circ\text{C}$ and $50 \pm 20\%$ rh.

Procedure

The test, based on BS 5852: Part 2:1982, was carried out as described in Schedule 1 Part I of the Regulations using ignition source 5. A separate test assembly was used for each application.

Details of observations

Source application number	1	2
Progressive smouldering ignition:		
Unsafe escalating combustion occurred	No	No
Smouldered until essentially consumed	No	No
Smouldered to extremities	No	No
Smouldered through full thickness	No	No
Time to cessation of smoke, heat or glowing (60 minute limit)	6 minutes 34 seconds	10 minutes 32 seconds
Flaming ignition:		
Unsafe escalating combustion occurred	No	No
Flamed until essentially consumed	No	No
Flame front reached extremities	No	No
Flame front passed through full thickness	No	Yes
Time to flames self-extinguishing (10 minutes allowed)	3 minutes 8 seconds	4 minutes 13 seconds
Weight loss (g)	31	36

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TERMS AND CONDITIONS OF BUSINESS

1. **GENERAL**
Work done or services undertaken are subject to the terms and conditions detailed below and all other conditions, warranties and representations, expressed or implied are hereby excluded.
2. **PRICES**
Prices are based on current material and production costs, exchange rates, duty and freight and are subject to change without notice.
3. **DELIVERY ESTIMATES**
Delivery estimates are made in good faith and date from receipt of a written order and full information to enable us to proceed. While SATRA or its subsidiaries (hereafter referred to as "SATRA") make every effort to fulfil them, such estimates are subject to unforeseen events and if not maintained, cannot give rise to any claim. Offers "ex stock" are subject to prior sale.
4. **CANCELLATION AND RETURNS**
Cancellation of orders for goods, services, training or consultancy is only acceptable by prior agreement of SATRA and a charge will normally be made.
5. **CLAIMS**
Claims for errors, shortages etc should be notified within 10 days of date of receipt. In the event of goods damaged in transit, packing materials should be retained for examination; otherwise no liability can be accepted.
6. **PAYMENT TERMS**
Payment terms are net 21 days from date of invoice. Failure to comply with the terms of payment may result in delayed delivery of goods and services and a review of the Customer's credit account. Should the customer become subject to an administration order, or becomes bankrupt or goes into liquidation, SATRA has a right to cancel any contract and discontinue any work. SATRA reserves the right to adjust US Dollar and Euro sales price where customer exceeds credit terms and where the exchange rate has moved more than 10% since invoicing.
7. **RETENTION OF TITLE**
All goods remain the property of SATRA until paid in full. Under no circumstances will a customer's purchase order override our Retention of Title clause. In the case of software, the ownership of the software remains with SATRA. Payment of invoices in full will entitle the customer to use the software under licence until (a) they cease to be a member of SATRA or (b) they cease trading. In both instances, the licence shall then revert to SATRA.
8. **GUARANTEE**
All goods manufactured by SATRA are guaranteed both as regards material and workmanship. Any part returned carriage paid, within twelve months from date of supply and found defective, will be repaired or replaced at SATRA's option free of charge. SATRA admits no liability for loss, damage or delay consequent on any defect in any goods supplied by SATRA.
9. **TEST REPORTS**
Results given in test reports refer only to samples submitted for analysis and tested by SATRA. A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in a test report.
10. **TEST SAMPLES**
Unless otherwise agreed in advance, test samples will be disposed of 6 weeks after the date of the final report. If required, samples can be returned at the Customer's expense.
11. **RESPONSIBILITY**
Every effort is made to ensure accuracy in description, drawings and other information in correspondence, catalogues, etc but no warranty is given in this respect and SATRA shall not be liable for any error therein. SATRA carries out all tests and/or advises only on the basis that the same are carried out, made or given without any responsibility whether for negligence or otherwise. SATRA and its servants or agents will not be liable for any damage or loss direct or indirect of whatsoever kind, whether or not the same results directly or indirectly from negligence on the part of SATRA or its servants or agents.
12. **CONFIDENTIALITY**
Unless specifically excluded in the terms of an individual contract between SATRA and its Customer, the following shall apply to all reports, advice, drawings, photographs, specifications or data:
 - i. The above shall not be disclosed to third parties or used in litigation without the consent of SATRA.
 - ii. Where SATRA has given consent to disclosure, the Customer shall draw the attention of the third party to these terms of business and the basis on which SATRA undertakes test, reporting and advising. The Customer shall indemnify SATRA for any failure to do so.
 - iii. The above items are submitted to the Customer as confidential documents. Confidentiality shall continue to apply after completion of the business, but shall cease to apply to information or knowledge which may come into the public domain.
13. **CONSTRUCTION AND ARBITRATION**
The laws of England shall govern all contracts and the parties submit to exclusive jurisdiction of the courts of England, unless otherwise agreed.

Issue Date: 1st October 2009

GENERAL CONDITIONS AND INFORMATION CONCERNING FURNITURE TESTING

1. SATRA's General Terms and Conditions apply to both test reports and certificates.
2. Tested products/materials will be kept at SATRA for a limited time and then either returned to clients (at their cost) or will be destroyed.
3. Test Certificates can be provided to supplement test reports. Please request these and quote the test report number and the product/material reference.
4. Test Certificates relate to test reports and evaluations carrying the same SATRA CQ number and no others.
5. Further information on the test methods, specifications used, test results and evaluations are given in SATRA test reports, or are available upon request.
6. Any wording used to promote products as a result of SATRA test reports and/or certificates must be submitted to SATRA for approval, giving sufficient time to allow for clearance in writing. Ask for Policy Document C5130/12.
7. Tests carried out to demonstrate the ability of the product or material to perform satisfactorily in its intended environment do not ensure that failure will not eventually occur as a result of habitual misuse or after a long period of service.
8. Flammability test results relate only to ignitability of the combination of materials under the particular conditions of tests; they are not intended as a means of assessing the full potential fire hazard of the materials in use.
9. Flammability test results can only be applied to the batch of materials submitted for test. It is recommended by many Fire Officers and Trading Standards Officers that test results and certificates are renewed every six months through re-tests. More frequent testing of batches (such as once per month or each batch) may be needed to show due diligence.
10. SATRA Furniture – Fitness for Purpose Guidelines and SATRA Test Methods may be used where appropriate. Such occasions may include instances where there is no European or International standard that is appropriate. SATRA Guidelines and Test Methods reflect the current state of knowledge and are constantly being reviewed.
11. Safety critical items such as bunk beds, mirrors, glass furniture, motion furniture, nursery furniture, beds, electrical items and upholstery may need to comply with specific regulations. Clients are advised to check for conformance before supplying products.
12. Where due diligence is required, clients should be able to demonstrate, statistically, that the required performance level is consistently present throughout each batch. Thus test data is needed and this should be based upon sampling each batch in accordance with statistical sampling such as ISO 2859-1.
13. Reports must not be altered. Reports may be re-issued by SATRA (certain conditions apply) with different references.
14. The uncertainty of the results in this report is based on a standard uncertainty multiplied by a coverage factor $k=2$, which provides for a confidence level of approximately 95%. In accordance with the SATRA Quality Manual, information on uncertainty will be included in test reports when it is deemed relevant to the validity or application of the test results, or when a customer requests such information, or when the uncertainty affects compliance of the item tested to a particular specification.

Furn
June 2007