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Materials Science & Technology

Bru Textiles  
Satenrozen 2A  
B - 2550 Kontich

## Test Report N° 459604

<b>Test assignment</b>	<b>Determination of the Flammability and of the Smoke Density of textiles non fixed to buildings according to the Directive of the Fire Police, testing of construction materials and parts, version 1988, according to SN 198898 (1987) ; Smoke determination acc. VKF</b>
Client	Bru Textiles; B - 2550 Kontich
Test object	<b>Helio</b>
Client's ref	Tineke Verbruggen, Brigitte Gyselink
Order dated	13.12.2011
Test object received	15.12.2011
Test performed	19.12.2011
Number of pages	3
Attachments	-

This report has a validity of five years (Valid till 20.12.2016).

271 - bpa - controlled by *J. P.*

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Empa, Swiss Federal Laboratories for Materials Science and Technology  
St. Gallen, 20.12.2011

Expert

*Patrizia Ballistreri*  
Patrizia Ballistreri



STS 083

Note The test results are valid solely for the tested object. The use of the test report for advertizing purposes, any reference to it or the publication of excerpts require the approval of the Empa (see Information Sheet). Test reports and supporting documents are retained for 10 years.

**Test sample**

Object (decl.) **Helio**  
 Material (decl.) **100% Polyester**  
 Weight approx. (decl.) **203g/m<sup>2</sup>**  
 Colour (decl.) **beige / black**

**Determination of the flammability according to SN 198'898 (1987)**

**Test conditions**

**Conditioning**

Samples min. 24h at (20 ± 2) °C / (65 ± 5) % rH.  
 Pre-treatment none, wash durability not tested!

**Test procedure**

The conditioned samples at a climate according to SNV 95150 are hung in a defined burning chamber and are put into contact at the lower edge with a defined (40 ± 2)mm long Propane gas flame during 3s and 15s. The burner is inclined by 30° relatively to the vertical line.

The damaged length and the afterglow time are assessed for samples which do not ignite; for those which extinct in the measuring length, the afterflame time is also assessed. For all other samples, the rate of flame spread between two markings is determined.

**Requirements** Peak of flame ≤ 400mm  
 Afterflame time max. 5s  
 Afterglow time max. 300s  
 Damaged length max. 150mm  
 18 of 20 samples have to fulfil the Requirements

**Result**

Test condition as delivered (wash durability not tested!)

Sample N°	Flamespread time mm/s	Afterflame time s	Afterglow time s	Damaged length mm	melt and /or dropp off
<b>Lengthwise: Ignition time 3s</b>					
1	-	1	-	48	melt
2	-	-	-	42	melt
3	-	0	-	45	melt
4	-	-	-	39	melt
5	-	15	-	80	melt and dropp off
<b>Lengthwise: Ignition time 15s</b>					
1	-	-	-	83	melt
2	-	-	-	95	melt
3	-	-	-	82	melt and dropp off *)
4	-	-	-	80	melt
5	-	-	-	79	melt
<b>Crosswise: Ignition time 3s</b>					
1	-	1	-	63	melt and dropp off
2	-	-	-	48	melt
3	-	0	-	46	melt
4	-	1	-	45	melt and dropp off
5	-	1	-	57	melt
<b>Crosswise: Ignition time 15s</b>					
1	-	-	-	72	melt and dropp off *)
2	-	-	-	85	melt
3	-	-	-	74	melt
4	-	-	-	78	melt and dropp off
5	-	-	-	83	melt and dropp off

\*) burning droplets

## Determination of the Smoke Density Following VKF

### Test Principle and Procedure

The test procedure for determining the smoke density consists in exposing a defined test body of (30 x 30 x 4) mm at least 2g to a defined flame in a standardized device with a defined air flow, and that till the sample has been burnt down. In the course of this test, the maximum measurable light absorption of the so generated smoke is determined by photometry. The smoke density is determined in three tests. Should the results not agree, up to six tests will be effected and the maximum and minimum values crossed off; the average of the results is indeed decisive for the classification.

### Classification

Classification	demand
Smoke generation 1 (strong smoke generation)	Maximum light Absorption > 90%
Smoke generation 2 (medium smoke generation)	Maximum light Absorption > 50 - 90%
Smoke generation 3 (slight smoke generation)	Maximum light Absorption 0 - 50%

### Result

Test body 2g; Sample holder bowl

Maximum light absorption 82% (average value of 3 samples)  
(individual values 82 / 84 / 80 %)

**Class 2** (medium smoke generation)

**Classification Following the Directive for Fire Police Prescriptions, Building Materials and Building Elements, Part B (Test Conditions), Edition 1988**

**Fire Protection Classification : 5.2**

(class 5.2 stands for "low combustible / medium smoke generation")

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