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Test Report No. 410779-01

Fire test for the classification according to EN 13501-1:2010

1 Procedure

You gave us the order to test sample mentioned below. Type and extent of the tests as well as their results are stated in the following report. Individual results can be found in the annexes.

Assignment Reaction to fire test for construction products according to EN ISO 11925-2:2010 and EN ISO 9239-1:2010
Construction product tested..... textile floor covering
Sample designation..... Sample carpet (100 % wool)
Customer..... SERKO HALI
Order date..... 02.05.2011
Your reference Ziya Arslan
Report issued by Dipl.-Ing. Ulrike Balg, direct dial -133

2 Brief Description of the Sample Material

Type of manufacture woven
Type of surface cut pile
Colouring / patterning red, blue patterned
fibre composition of use surface 100 % wool *
Type of backing finish
Specimen sampled by customer
Number of charge..... not known
Date of production not known

Page 1 of 3

Sample quantity..... 1,30 m x 3,0 m

TFI reference n° 11-05-0034

* Customer's information

3 Summary of the Test Results

3.1 Ignitability in the case of direct exposure to the impingement of a flame (annex KB)

Characteristics according to EN ISO 11925-2:2010

Samples ignited..... no

Charred distance ≤ 150 mm

Duration of sustained burning..... 0 s

3.2 Burning behaviour under a radiant heat source (annexes RP, R and F)

Characteristics according to EN ISO 9239-1:2010

Critical radiant flux..... 9,1 kW/m²

Smoke development..... 74 % x min

The burning behaviour characteristics mentioned above are only valid for the installation method mentioned in annex RP.

4 Reference

4.1

The test results are only valid for the construction product as described under paragraph 2 and in annex KT, used as a horizontal floor covering installed on a mineral substrate according to EN 13238:2010, using adhesives or not.

4.2

The test results relate to the behaviour of the test specimen of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

4.3

This test-report is the basis for a classification report according to EN 13501-1:2010.

5 Annexes

The individual results as well as the type and scope of the tests are summarized in the following annexes:

Characteristics of the construction product ^a	KT	410779-01
Burning behaviour - single-flame-source-test ^a	KB	410779-01
Burning behaviour - radiant-panel-test ^a	RP	410779-01
Smoke density diagrams radiant-panel-test.....	R	410779-01
Pictures radiant-panel-test.....	F	410779-01

The tests marked ^a are certified according to EN ISO/IEC 17025.

Aachen, 30.05.2011



Dr. Ernst Schröder

The present document is provided with a qualified electronic signature and is valid without autograph signature.

The present test report is established to the best of our knowledge. Only the entire report shall be reproduced. Under no circumstances, extracts shall be used. Furthermore, we apply the "General Terms and Conditions for the Execution of Contracts" of the Textiles & Flooring Institute GmbH, also with regard to the order execution.

Annex KT – Characteristics of the construction product

1 Procedure

Sample designation.....Sample carpet (100 % wool)
 TFI reference number..... 11-05-0034
 Testing period 11.05.2011
 Colourred, blue

2 Test methods

ISO 1765:1986 Machine-made textile floor coverings – Determination of thickness
 ISO 8543:1998 Textile floor coverings – Methods for determination of mass

Deviations from the standard:

- results declared as averages instead of individual results

3 Test results

	Manufacturer information	TFI-results	
Type of manufacture	textile floor covering	textile floor covering	
Type of surface	cut pile	cut pile	
Fibre composition of use surface	100 % wool	not tested	
Type of backing	not known	finish	
Dimensions	wall-to-wall	wall-to-wall	
Total thickness [mm]	15,0	18,1	
Total mass per unit area [g/m ²]	4250	4359	(CV= 1,4 %)

CV = Coefficient of Variation

Annex KB – Burning behaviour – single-flame-source-test

1 Procedure

Sample designation Sample carpet (100 % wool)

TFI reference number 11-05-0034

Testing period 30.05.2011

The product identification characteristics can be found on the second page of the test report, or in annex KT.

2 Test methods

Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame according to EN ISO 11925-2:2010, Part 2: Single-flame source test.

Ignitability when subjected to direct impingement of flame: This test method is used to determine the ignitability of building products by direct small flame impingement. The specimens are tested in a vertical orientation without using an additional radiant heat source.

The test specimen were installed loose laid on a mineral substrate according to EN 13238:2010 (thickness (8 ± 2) mm, density (1.800 ± 200) kg/m³).

The test specimen were conditioned for 21 days according to ISO 554:1976 (temperature (23 ± 2) °C, relative humidity (50 ± 5) %).

3 Test results

3.1 Surface ignition

Characteristics	Sample n°					
	1	2	3	4	5	6
Direction of production	lengthwise	lengthwise	lengthwise	crosswise	crosswise	crosswise
Flames extinct after (s) ¹⁾	15,0	15,0	15,0	15,0	15,0	15,0
Sample ignited	no	no	no	no	no	no
Paper ignited	no	no	no	no	no	no
150 mm reference line reached	no	no	no	no	no	no

¹⁾ this includes the time of the flame application itself.

Duration of flame application: 15 s

Special observations: none

Annex RP – Burning behaviour – radiant-panel-test

1 Procedure

Sample designation.....Sample carpet (100 % wool)

TFI reference number.....11-05-0034

Testing period30.05.2011

The product identification characteristics can be found on the second page of the test-report or in annex KT.

2 Test methods

Reaction to fire tests for floorings according to EN ISO 9239-1:2010. Part 1: Determination of the burning behaviour using a radiant heat source

Determination of the burning behaviour using a radiant heat source: This test method is used for assessing the wind-opposed burning behaviour and the spread of flame on horizontally mounted floor coverings exposed to a heat flux radiant gradient in a test chamber, when ignited with a pilot flame.

The test specimen were installed loose laid on a mineral substrate according to EN 13238:2010 (thickness (8 ± 2) mm, density (1.800 ± 200) kg/m³).

The test specimen were conditioned for 11 days according to ISO 554:1976 (temperature (23 ± 2) °C, relative humidity (50 ± 5) %).

3 Test results

50 mm mark [mm]	heat flux [kW/m ²]		time at which the flame front reached a reference mark [min:s]								
			Sample n°								
			n° 1		n° 2		n° 3		n° 4		
				sample 1	sample 2	sample 3	sample 1	sample 1	sample 1		
100	≥ 11			2:05	2:05	2:05	2:05	2:05	2:05		
150	10,5			2:15	2:15	2:15	2:15	2:15	2:15		
200	9,7			2:30	2:25	2:30	2:30	2:30	2:30		
250	8,6			-	-	-	-	-	-		
300	7,5			-	-	-	-	-	-		
350	6,4			-	-	-	-	-	-		
400	5,3			-	-	-	-	-	-		
450	4,5			-	-	-	-	-	-		
500	3,7			-	-	-	-	-	-		
550	3,1			-	-	-	-	-	-		
600	2,7			-	-	-	-	-	-		
650	2,3			-	-	-	-	-	-		
700	1,9			-	-	-	-	-	-		
750	1,7			-	-	-	-	-	-		
800	1,5			-	-	-	-	-	-		
850	1,3			-	-	-	-	-	-		
900	1,1			-	-	-	-	-	-		
HF-10 [mm / kW/mm ²]	\bar{X} (1-3) =	230	9,1	240	8,8	230	9,1	220	9,3	220	9,3
HF-20 [mm / kW/mm ²]	\bar{X} (1-3) =	-	-	-	-	-	-	-	-	-	-
HF-30 [mm / kW/mm ²]	\bar{X} (1-3) =	-	-	-	-	-	-	-	-	-	-
extinguished after 30 min [yes / no]				no		no		no		no	
flame extinguished after [min:s]				12:55		12:55		12:45		13:15	
max. burnt distance [mm]	\bar{X} (1-3) =	230		240		230		220		220	
CHF [kW/m ²]	\bar{X} (1-3) =	9,1		8,8		9,1		9,3		9,3	
max. light attenuation [%]	\bar{X} (1-3) =	25		26		26		24		25	
smoke development [% x min]	\bar{X} (1-3) =	74		65		79		77		78	
assessment of smoke density				low		low		low		low	

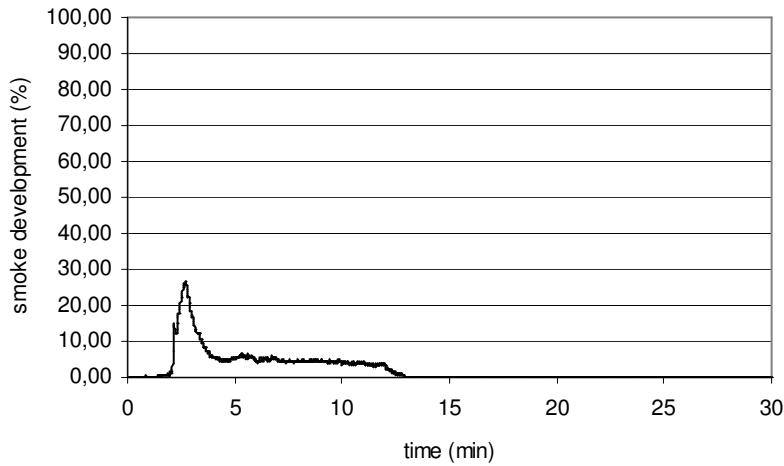
Special observations:

Sample 1-4:

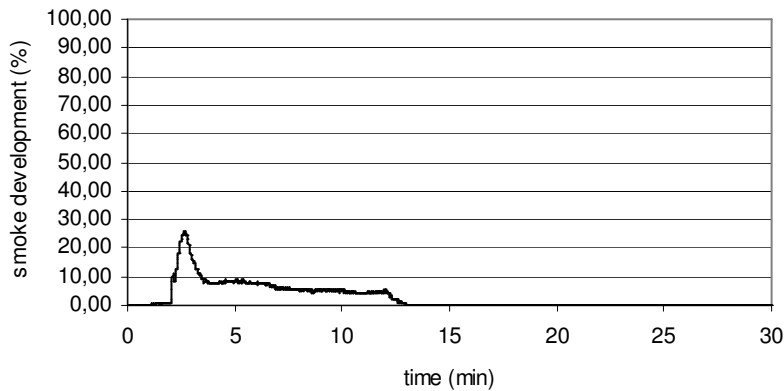
- material singes up to a distance of 300 mm during a pre-radiation time of 2 minutes

Annex R – Smoke density diagrams radiant-panel-test

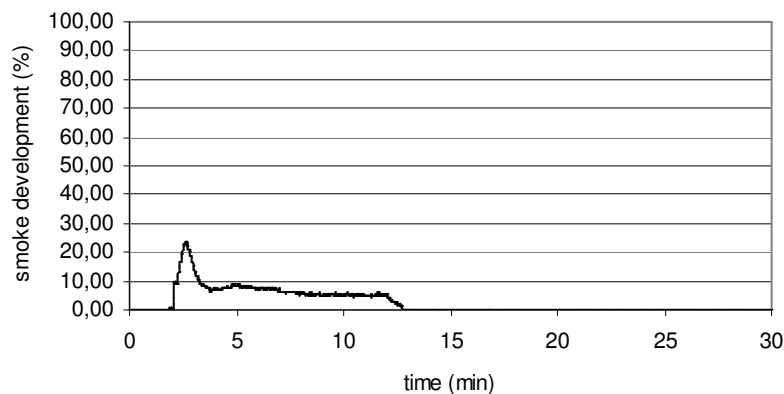
n° 1 (sample 1, crosswise)



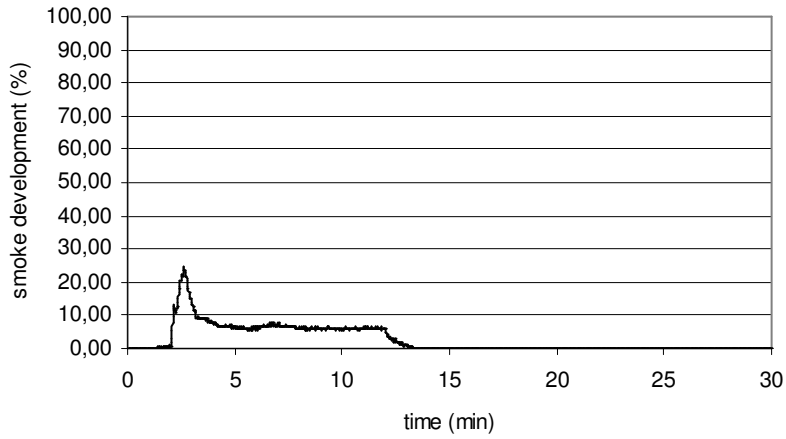
n° 2 (sample 2, crosswise)



n° 3 (sample 3, crosswise)

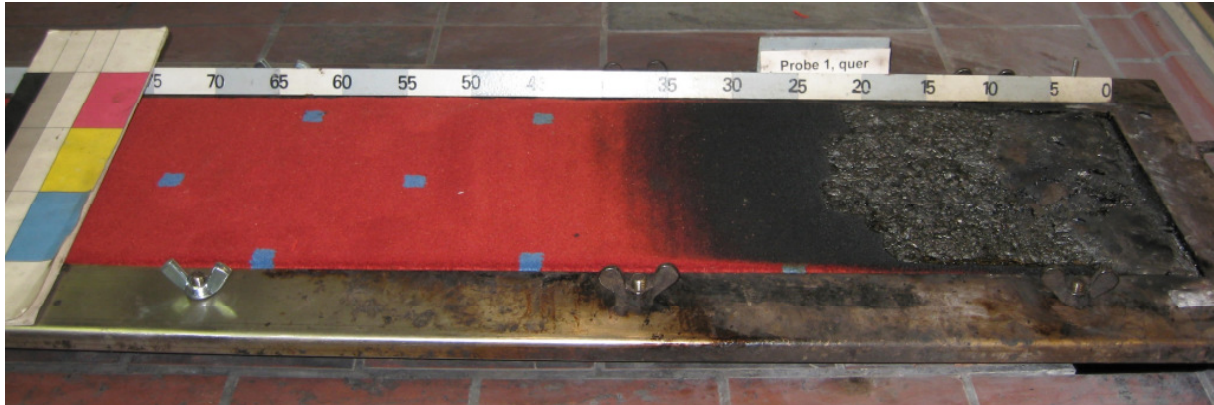


n° 4 (sample 1, lengthwise)

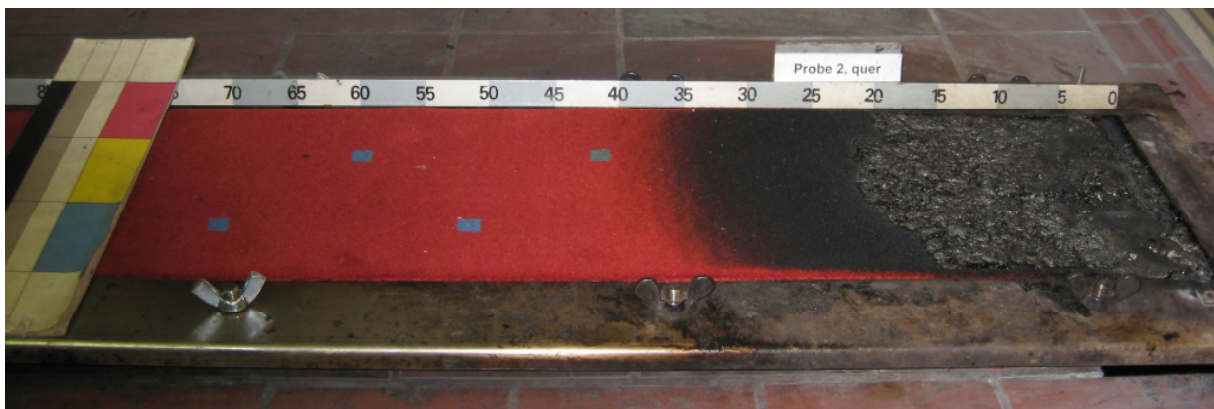


Annex F – Pictures radiant-panel-test

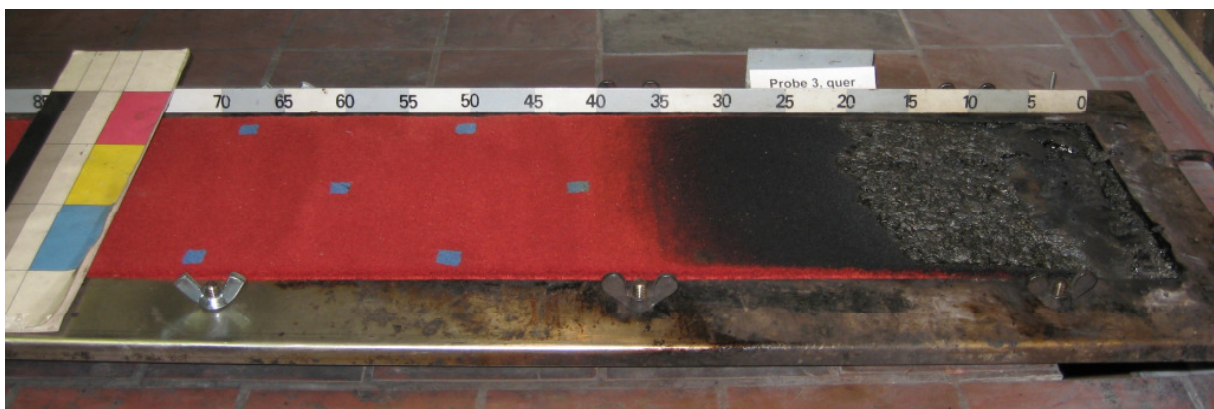
n° 1 (sample 1, crosswise)



n° 2 (sample 2, crosswise)



n° 3 (sample 3, crosswise)



n° 4 (sample 1, lengthwise)

