

TFI Report 470800-01

Reaction to fire test

Customer Best Wool Carpets bv
Kanaaldijk 3
5683 CR Best
NETHERLANDS

Product textile floor covering
YAK

This report includes 3 pages and 2 annex(es).

Responsible at TFI

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Aachen, 04 July 2017



Dr. Alexander Siebel
head of the testing laboratory

The present document is provided with an advanced electronic signature.

This report only applies to the tested samples and has been 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 TFI Aachen GmbH, also with regard to the order execution.

1 Transaction

Test order	Reaction to fire test for construction products according to EN ISO 9239-1:2010
Order date	10 May 2017
Your reference	A. Severijn
Product designation	YAK, Rol.Nr. 930672
TFI sample number	17-05-0127
Date of manufacture	not specified
Date of sample receipt	16 May 2017
Sampling performed by	Customer

2 Product Specification

Type of manufacture	tufted
Type of surface	loop pile
Backing	woven textile backing
Pattern	tonal effect without pattern
Colour	beige, grey
Use surface	80% Wool, 20 % Yak*
Type of delivery	wall-to-wall
Total thickness [mm]	10,3
Total mass per unit area [g/m²]	2532

* customer information

3 Results

Burning behaviour using a radiant heat source according to EN ISO 9239-1:2010

Average critical heat flux production direction [kW/m²]	10.1
Average critical heat flux cross production direction [kW/m²]	9.0
Integrated smoke density production direction [% x min]	13
Integrated smoke density cross production direction [% x min]	11

Requirements for relevant properties product standard (EN 1307:2014+A1:2016) fulfilled

Adhesion	none
Substrate according to EN 13238:2010	fibre cement board

The test results relate to the behaviour of the test specimens of a construction 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 construction product in use.

Floor coverings meet the requirements for the reaction to fire classification (Euro fire-class) according to EN 13501-1:2010 provided that the mean value over 3 tests reaches the critical heat flux mentioned below

$$B_{fl-s1}: \geq 8,0 \text{ kW/m}^2$$

$$C_{fl-s1}: \geq 4,5 \text{ kW/m}^2$$

$$D_{fl-s1}: \geq 3,0 \text{ kW/m}^2$$

and that the smoke density amounts to $\leq 750 \% \times \text{min.}$

Furthermore, the requirements for material class E_{fl} shall be fulfilled.

If the results are confirmed after having performed a complete test in compliance with EN ISO 9239-1:2010, the product can be classified as follows with regard to its fire behaviour: **B_{fl-s1}**

This orientating test will not replace any classification report.

4 Annexes

Photographs F 470800-01

Reaction to Fire ^a RP 470800-01

The annexes marked ^a are based on tests accredited in accordance with EN ISO/IEC 17025.

Annex F - Photographs

1 Transaction

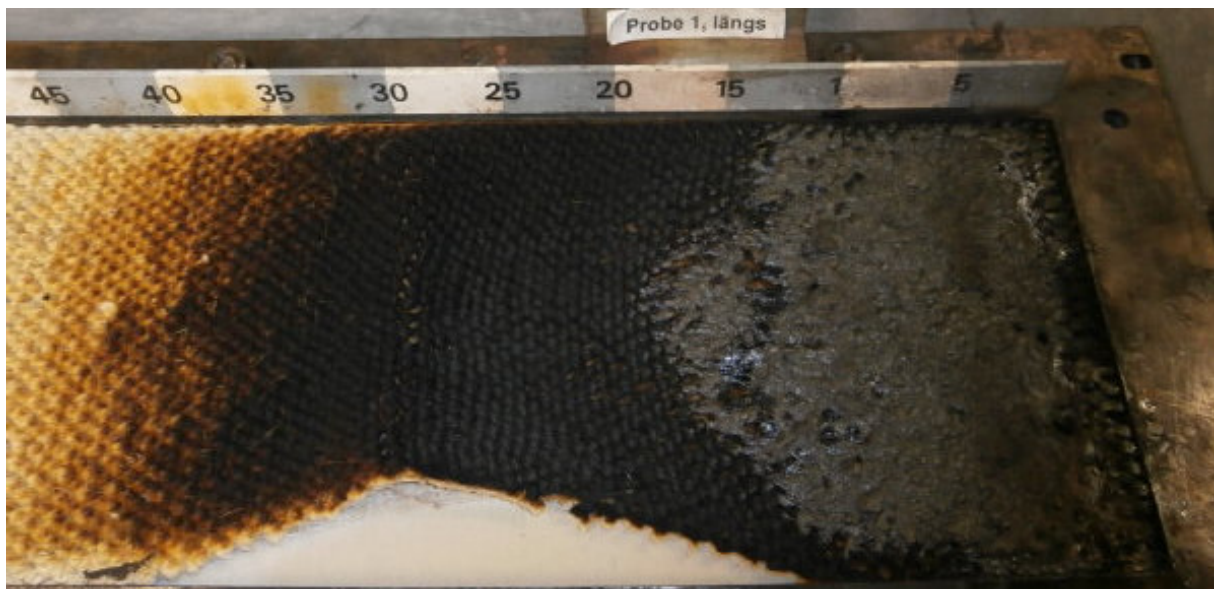
Product designation	YAK
TFI sample number	17-05-0127
Testing period	27 June 2017-30 June 2017

2 Test Method / Requirements

-not specified-

3 Results

3.1. Specimen 1, in production direction



3.2. Specimen 2, cross production direction



Annex RP – Reaction to Fire

1 Transaction

Product designation	YAK
TFI sample number	17-05-0127
Testing period	27 June 2017-30 June 2017

2 Test Method / Requirements

EN ISO 9239-1:2010 Part 1	Determination of the burning behaviour using a radiant heat source
Substrate according to EN 13238:2010	Fibre cement board
Adhesion	-none -
Joint according to EN ISO 9239-1:2010	No
Conditioning	Conditioning according to EN 13238:2010
Deviation	reduced number of specimens (1 in production direction, 1 cross production direction)

3 Results

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Annex RP - Burning behaviour

Sample designation 17-05-0127

Sample

Sample No.: 1
Direction: in production direction

Observation

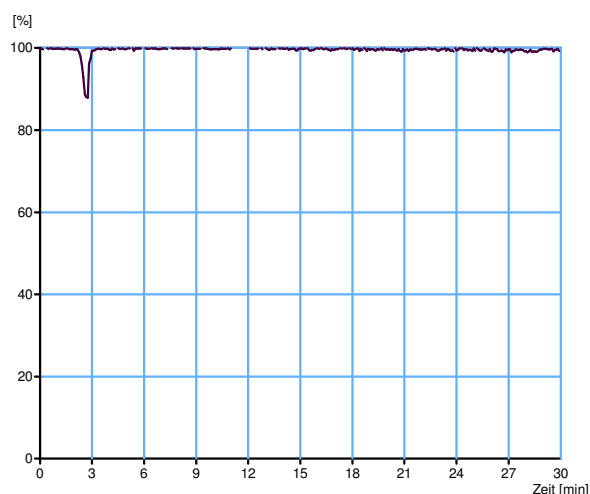
molten/singed during pre-radiation up to	230 mm
buckled/contracted from pilot flame area up to	0 mm
penetration of flame through substrate	-
transitory flaming	-
blistering	-
glowing, after flame has extinguished	-

Results

Position [mm]	Time [min:s]	Heat Flow [kW/m ²]
50	02:06	12.35
100	02:14	11.39
150	02:44	10.44
200	-	-
250	-	-
300	-	-
350	-	-
400	-	-
450	-	-
500	-	-
550	-	-
600	-	-
650	-	-
700	-	-
750	-	-
800	-	-
850	-	-
900	-	-
950	-	-
1000	-	-

Time [min:s]	Position [mm]	Heat Flow [kW/m ²]
10:00	170	10.05
20:00	170	10.05
30:00	170	10.05

Smoke density



CHF [kW/m ²]	10.05
HF_30 [kW/m ²]	10.05
Smoke density integral [%*min]	13.1
Flame extinguished after [min:s]	12:00
max. burnt distance [mm]	170
max. light attenuation [%]	12.1



Annex RP - Burning behaviour

Sample designation 17-05-0127

Sample

Sample No.: 1
Direction: cross production direction

Observation

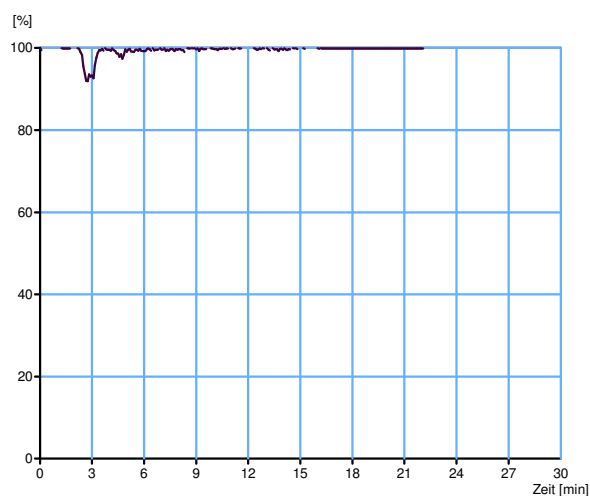
molten/singed during pre-radiation up to	250 mm
buckled/contracted from pilot flame area up to	0 mm
penetration of flame through substrate	-
transitory flaming	-
blistering	-
glowing, after flame has extinguished	-

Results

Position [mm]	Time [min:s]	Heat Flow [kW/m ²]
50	02:14	12.35
100	02:27	11.39
150	02:53	10.44
200	03:49	9.48
250	-	-
300	-	-
350	-	-
400	-	-
450	-	-
500	-	-
550	-	-
600	-	-
650	-	-
700	-	-
750	-	-
800	-	-
850	-	-
900	-	-
950	-	-
1000	-	-

Time [min:s]	Position [mm]	Heat Flow [kW/m ²]
10:00	221	9.03
20:00	221	9.03
30:00	221	9.03

Smoke density



CHF [kW/m ²]	9.03
HF_30 [kW/m ²]	9.03
Smoke density integral [%*min]	10.7
Flame extinguished after [min:s]	12:05
max. burnt distance [mm]	221
max. light attenuation [%]	8.0