

**Test report no. 095111.1 – Pi**  
**(English Version of the test report no. 094265.1-Pi)**

Orderer: Tapetenfabrik  
Gebr. Rasch GmbH & Co. KG  
Raschplatz 1  
49565 Bramsche  
Germany

Order from: 29.10.2009 – Bestellung Bü57180

Order: Tests of the fire behaviour according to DIN 4102-1: 1998-05,  
fire class B1, of wallpaper product group  
„Wässriger Direktdruck auf Vlies“,  
item number 724 486

Notes: In Germany this test report can be used only for a building  
material, not for a building product.

For sale on the German market, other special papers according  
to the German “Landesbauordnung” are needed in addition.

This test report can be used for these special papers.

This test report consists of 7 pages.

The test material has been consumed.

In case of any dispute the german version is decisive. The test report shall be published unabridged.  
Any partial publishing requires written allowance by the testing institute. The test results refer only to  
the tested material.



## 1. Test material

### 1.1 Sampling and delivery

date: - / by orderer  
delivery: 29.10.2009  
number of samples: 1 roll  
dimension: 10,05 m x 0,53 m

### 1.2 Information about the samples

name: „Wässriger Direktdruck auf Vlies“  
item number: 724 486  
thickness: 0,21 mm  
weight per unit area: 154 g/m<sup>2</sup>

### 1.3 Mounting

The wallpaper was pasted on plasterboards with a wallpaper paste.

## 2. Fire tests

### 2.1 Review

All fire tests were carried out according to DIN 4102-1: 1998-05.

character and location of tests

tests	number of tests	lab
Single-flame source test	10	MPA BAU HANNOVER
Brandschacht-test	1	

## 2.2 Brandschacht-test

The results of the Brandschacht-test are compiled in the next table. The development of smoke temperature is shown in fig. 1, the appearance of samples after burning in fig. 3.

The integral value

$$I = \int_{0 \text{ min}}^{10 \text{ min}} S \cdot dt$$

was calculated from the curve in fig. 2.

results of the Brandschacht-test

observations		specimen A
max. vertical flame spread time after beginning	cm min:s	70 01:13
melting and burning through time after beginning	min:s	—
flames on the reverse side of samples time after beginning	min:s	—
flaming droplets/particles		—
residual length		
single values	cm	47
	cm	43
	cm	46
	cm	43
mean value	cm	45
max. smoke temperature time after beginning	° C min:s	112 01:41
subsequent fire	min:s	—
smoke intensity		
max. opacity of the smoke	%	< 1
integral value I	min·%	< 1

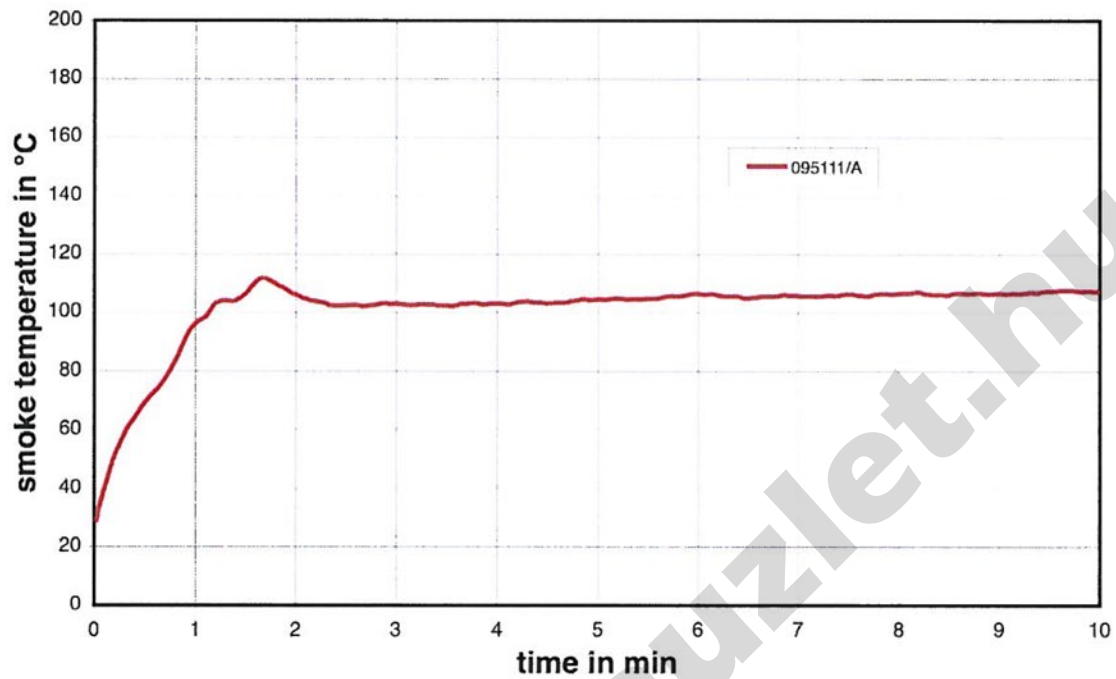


fig 1: development of smoke temperature

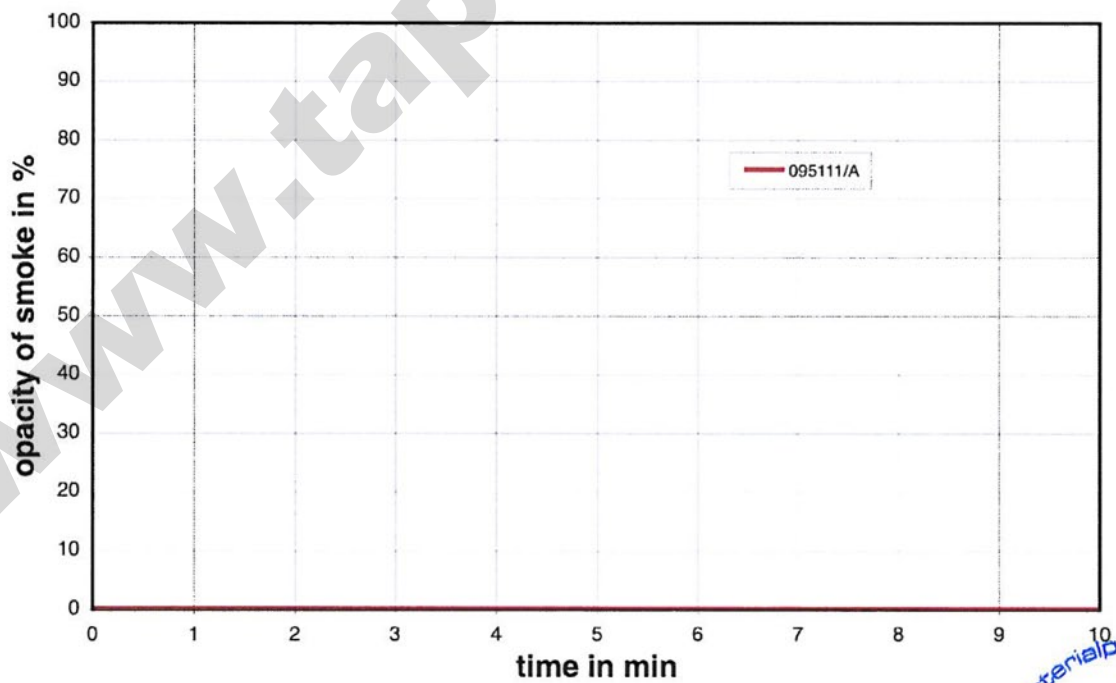


fig 2: development of opacity of smoke



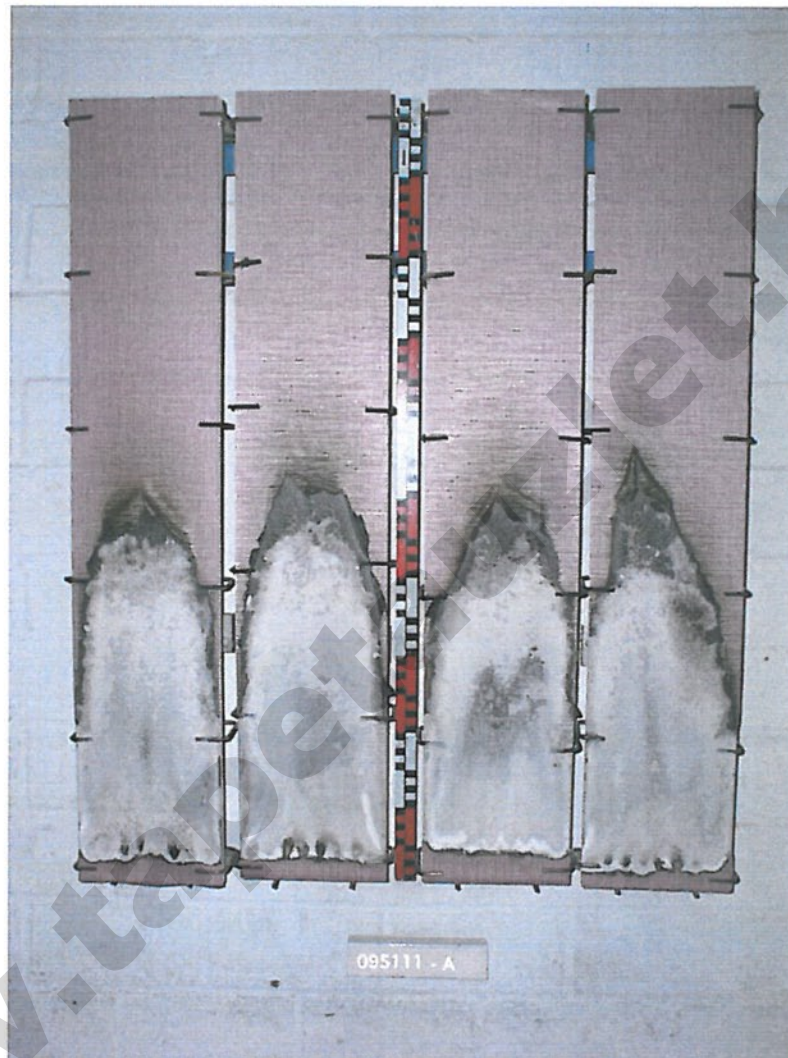


fig. 3: Appearance of specimen A  
after 10-minutes of flame treatment

### 2.3 Single-flame source test

The tests were carried out as edge flame attacks according to DIN 4102-1: 1998-05 clause 6.2.5.2 and as surface flame attacks according to DIN 4102-1:1998-05 clause 6.2.5.3.

flame application time: 15 s  
 observation time: 20 s  
 number of tests: 10

position of flame application		edge					surface				
specimen no.		1	2	3	4	5	6	7	8	9	10
ignition occurs after	s	0,7	0,8	0,9	0,9	0,7	1,4	1,7	1,5	1,8	1,8
duration of flames	s	14,9	14,8	14,5	14,7	14,7	14,1	14,0	14,1	13,9	13,8
max. vertical flame spread	mm	10	20	10	20	10	20	20	20	20	20
smoke production		moderate									
flaming droplets/particles		no ignition of the filter paper									

Requirement: max. vertical flame spread < 150 mm

### 3. Summary

summary of test results

name		Produktgruppe „Wässriger Direktdruck auf Vlies“ item number 724 486
thickness	mm	0,21
weight per unit area	g/m <sup>2</sup>	154
Brandschacht-test		
max. vertical flame spread	cm	70
residual length	cm	45
max. smoke temperature	°C	112
flaming droplets/particles		nein
max. opacity of smoke	%	< 1
integral value	min·%	< 1
single-flame source test		
max. flame length	mm	20
flaming droplets/particles		—

### 4. Classification

The product „Wässriger Direktdruck auf Vlies“, item number 724 486, with a weight per unit area of 154 g/m<sup>2</sup> fulfils the requirements of DIN 4102-1 – B1.

During the tests there were no flaming droplets/particles according to DIN 4102-1.

### 5. Notes

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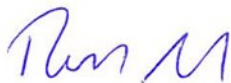
For sale on the German market, other special papers according to the German “Landesbauordnung” are needed in addition.

This test report can be used for these special papers.

The validity of this test report expires on 30.11.2014.

Hannover, 07.12.2009

Head of fire laboratory



(ORR Dipl.-Ing. Restorff)



Technician



(Dipl.-Ing. Piechulla)