



Testing. Advising. Assuring.

Test report No. 2009-2296

for applying of a required "Verwendbarkeitsnachweis"
issued 25.01.2010

Applicant: Hewlett Packard Company
16399 West Bernardo Drive
San Diego CA 92127
USA

Date of order: 18.11.2009
Date of sampling: no official taking out of the sample from
a representative of the Bodycote
Warrington Brandhaus
Date of arrival: 23.11.2009
Date of test: 10.12.2009 + 22.01.2010

Order

Testing of the flammability (building class B1) according to DIN 4102-1 (Mai 1998)

Description / designation of the test object

HP Light Display fabric, CH006A

Description of the relevant test procedure

DIN 4102 Teil 1 (Mai 1998)

This test report did not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the
"Verwendbarkeitsnachweis".

1. Description of the test material

1.1 Details of the customer:

HP Light Display fabric, CH006A

Construction: none Details

1.2 At the sample preparation in the Exova Brandhaus determined values:

Pattern

.

Colour: white

Weight: 193 g/m²

The samples were stored before testing under climatic conditions (23°C / 50 % rel. humidity).

2. Test results**2.1 Brandschachtprüfung nach DIN 4102-1**

Sample A: fabric tested in production direction

Sample B: fabric tested crosswise to the production direction

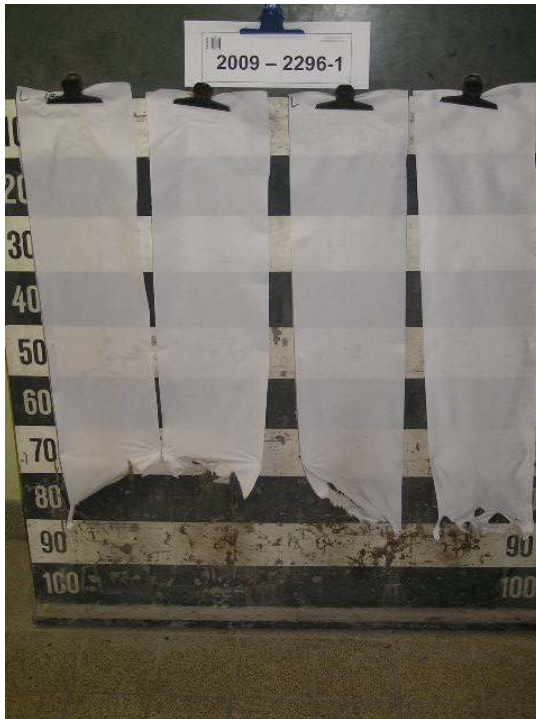
Test results of the Brandschacht tests part 1						
line no.		Measurements test sample				
			A	B	C	
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1			
2	<u>flame height max. over lower sample edge</u> time ¹⁾	cm	30	30		
		min : s	0:08	0:10		
3	<u>ascertainments on the front side</u> Flaming/glowing time ¹⁾	min : s	0:02	0:03		
4	<u>melting / burning through</u> time ¹⁾	min : s	0:06	0:04		
5	<u>ascertainments on the back side</u> Flaming/glowing time ¹⁾	min : s	no	no		
6	<u>discolouring</u> time ¹⁾	min : s				
7	<u>burning droplets</u> begin ¹⁾	min : s	not occured	not occured		
8	extent					
9	occasional dropping of material					
10	<u>separating from burning sample parts</u> begin ¹⁾	min : s	not occured	not occured		
11	occasional separating parts					
12	constant separating parts					
13	duration of burning on the sieve tray (max.)	min : s	not occured	not occured		
14	<u>influnce on the burner flame by dropping of / separating material</u> time ¹⁾	min : s	no	no		
15	<u>earlier end of test</u> end of the fire scenario on the sample ¹⁾	min : s				
16	time of a possible resulted test stop ¹⁾	min : s				

¹⁾ time from start of test

Test results of the Brandschacht tests part 2						
line no.		Measurements test sample				
			A	B	C	
17	<u>flaming after end of test</u>	min : s				
18	duration		not occurred	not occurred		
19	number of sample	cm	--/--	--/--		
20	front side of sample		--/--	--/--		
21	backside of sample		--/--	--/--		
22	flame length					
22	<u>glowing after end of test</u>	min . s				
23	duration		not occurred	not occurred		
24	number of sample		--/--	--/--		
25	place of occurrence		--/--	--/--		
26	lower sample part		--/--	--/--		
27	upper sample part		--/--	--/--		
28	front side of sample		--/--	--/--		
29	backside of sample		--/--	--/--		
28	<u>smoke density</u>					
29	< 400 % x min		1	3		
30	> 440 % x min		--/--	--/--		
30	diagram in annex no.		1	2		
31	<u>residual length</u>	cm				
32	single results		70 / 71 69 / 71	72 / 70 70 / 71		
33	average of the single results	cm	70	70		
33	foto of the sample on page		5	5		
34	<u>smoke temperature</u>	°C				
35	max. of the average results		116	116		
36	time ¹⁾		8:35	9:26		
36	diagram in annex no.		1	1		

¹⁾ time from start of test

Remarks:



Appearance of sample A
after the "Brandschacht" test



Appearance of sample B
after the "Brandschacht" test

2.2 Normal flammability test according to DIN 4102-1

Test with edge ignition without deposit
 Flame application on: lower sample edge
 Test direction: in direction of production

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	-	-	-	-	-
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self extinguishing of the flame [s]	3	3	3	3	3
Max. flame height [mm]	30	30	30	30	30
Time [s]	3	3	3	3	3
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression)	low smoke production				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

in cross direction:

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	-	-	-	-	-
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self extinguishing of the flame [s]	2	2	2	2	2
Max. flame height [mm]	20	20	20	20	20
Time [s]	2	2	2	2	2
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression)	low smoke production				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks : none

Appearance of the sample after the small burner test:



Assessment

The in chapter one described material fulfils the requirements of the building class B2 according to DIN 4102-1 (Mai 1998).

The determined test results show that the material fulfils also the requirements of the building class

B1

according to DIN 4102-1 (Mai 1998).

Special comment

The fire test result is only valid for the in chapter one described material, in the tested thicknesses, square weights and colours, in free hanging configuration,. The distance to other plane material must be more then ≥ 40 mm.

In accordance to the experience of the test institute the test result is also valid for the colour amongst.

The material wasn't tested after an outside storage.

In combination with other materials (for example coatings, deposits) the burning behaviour could be influenced unfavourable so that the classification above is not valid any longer. According to DIN 4102-1 the burning behaviour in combination with other materials has to be tested separately.

This test certificate did not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

Frankfurt, the 25.01.2010

A handwritten signature in blue ink, appearing to read 'Anders H. Schmid'.

H. Anders / H. Schmid
Tester in charge

A handwritten signature in blue ink, appearing to read 'Zachäus'.

Dipl.-Ing. T. Zachäus
Laboratory Supervisor

This Test report is valid until 09.12.2014.

The results of the tests relate only to the behaviour of the test sample which is designated on the top.

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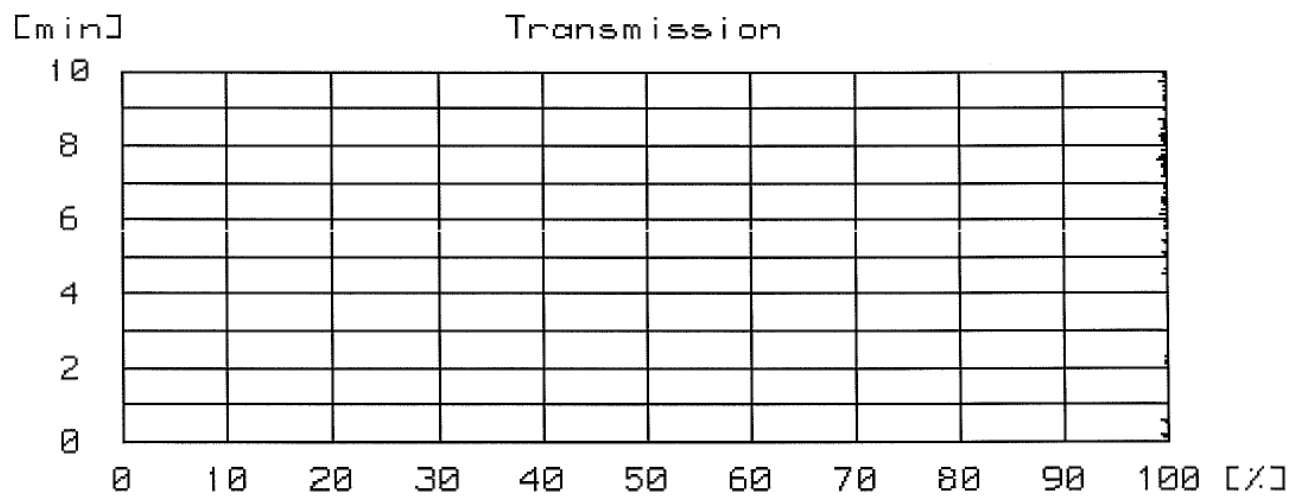
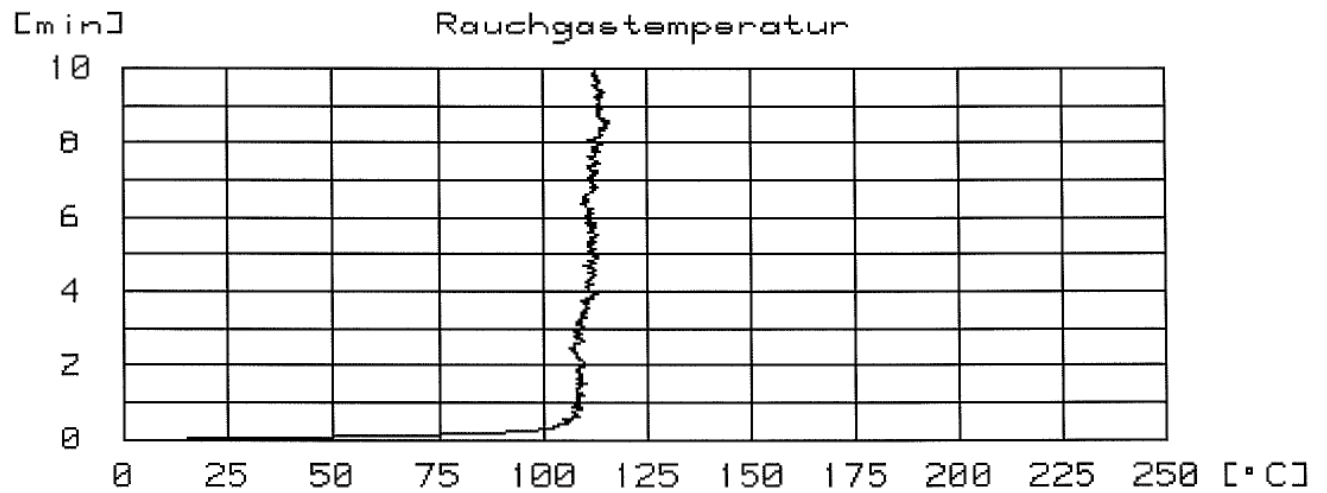
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This Test report is a translation of the German version 2009-2296 (issued 25.01.2010). In case of doubt only the German version is valid

This test report contains 8 pages and 2 annexes.

Annex 1 to the Test report No. 2009-2296 dated 25.01.2010

Sample A:



Annex 2 to the Test report No. 2009-2296 dated 25.01.2010

Sample B:

