MPA NRW.
Materialprüfungsamt Nordrhein-Westfalen
PRÜFEN • ÜBERWACHEN • ZERTIFIZIEREN

Aussenstelle Erwitte • Auf den Thränen 2 • 59597 Erwitte • Telefon (02943) 897-0 • Telefax (02943) 897 33 • E-Mail: erwitte@mpanrw.de

TEST-CERTIFICATE

No. 230005314-7

English version

issued 06.February 2006

Sponsor:

Avery Dennison Mat´s BV
Rijndijk 86

2394 AJ Hazerswoude / Niederlande

Date of application:	30. November 2005
Date of sampling:	Samples were send in by the sponsor
Samples delivered on	29. November 2005
Date of testing:	20. January 2006, 24. January 2006 and 25. January 2006

Order

Testing according to DIN 4102-1 (May 1998) class B1

Description / Name of tested product

Self-adhesive foils „Avery® Crystal Glass Film“, „Avery® Frosted Glass Film“, „Avery® Etched Glass Film“ and „Avery® Dusted Glass Film“ used for signage and advertising sheets

Applied test procedure

DIN 4102 part 1 (May 1998)

This test certificate does not replace the attestation of use according to the German building regulations if necessary. It can be used for the application of such attestation of use.

Remark: This test certificate is a translation of the original test certificate 230005314-7 issued 06. February 2006 in German language and is only allowed to use together with the original test certificate.

This test certificate is valid until 05. February 2011.
The test results only relate to the above named product.
Any change in form or content to a test certificate can only be made by the approval of MPA NRW .
This test certificate consists of 8 pages and 1 appendix.

Name of tested product:

„Avery® Crystal Glass Film“
„Avery® Frosted Glass Film“
„Avery® Etched Glass Film“
„Avery® Dusted Glass Film“

Description of samples

Translucent, colourless PVC foils with a self-adhesive coating on one side based on acrylic resin; the self-adhesive coating is covered by a one side coated, white respectively bleached kraft paper.

Thickness of the PVC foil of the film types „Avery® Crystal Glass Film“,„Avery® Frosted Glass Film“ and „Avery® Dusted Glass Film“: 80 µm
Thickness of the PVC foil of the film type „Avery® Etched Glass Film“: 60 µm

Thickness of the PVC foil with the self-adhesive coating of the film types „Avery® Crystal Glass Film“,„Avery® Frosted Glass Film“ and „Avery® Dusted Glass Film“: 110 µm
Thickness of the PVC foil with the self-adhesive coating of the film type „Avery® Etched Glass Film“: 90 µm

The foils additionally differ in their optical appearance as following:
„Avery® Crystal Glass Film“: crystal effekt
„Avery® Frosted Glass Film“: appearance as frosted glass
„Avery® Etched Glass Film“: etched appearance
„Avery® Dusted Glass Film“: milky

(Information as provided by the sponsor)

Colour of the tested self-adhesive foils: colourless

Table 1: Characteristic values of the tested materials

		minimum value	arithmetical value	maximum value
Thickness of the self-adhesive foil without the kraft paper covering	mm			
a) Crystal, Frosted, Dusted		0,10	0,11	0,11
b) Etched		--	0,10	--
Mass per unit area of the self-adhesive foil without the kraft paper covering	g/m²			
a) Crystal, Frosted, Dusted		--	136	--
b) Etched		--	119	--

Special notes: None

Results of the Brandschacht test (part 1)

row-no.	film type:	measurements test specimen Crystal A	Frosted B	Etched C	Dusted D
1	No. of test specimen arrangement according to DIN 4102, part 15 , table 1	7	7	7	7
2	Max. flame height above bottom edge cm	70	70	60	60
	Time [1] min : s	1:30	1:30	1:00	1:00
4	Melt through / burn through Time [1] min : s	--	--	--	--
	Observations on the backside of the specimens				
5	Flames/smouldering Time [1] min : s	--	--	--	--
6	Discolouration Time [1] min : s	10:00	10:00	10:00	10:00
7	Burning droplets Start [1] min : s	--	--	--	--
	Extent				
8	sporadic burning droplets	--	--	--	--
9	continually falling particles	--	--	--	--
	Falling particles which burns				
10	Start [1] min : s	--	--	5:40	5:05
11	sporadic falling parts	--	--	x	x
12	continually falling particles	--	--	--	--
13	Duration of the burning on the screen bottom (max.) min : s	--	--	0:03	0:02
14	Interference of the burner flame by dripping /falling particles Time [1] min : s	--	--	--	--
15	Early termination of the test End of burning at the specimen [1] min : s	--	--	--	--
16	Time of early cancellation of the test [1] min : s	--	--	--	--

[1] Time counting from the start of the test

Results of the Brandschachttest (part 2)

row-no.			measurements test specimen							
			A		B		C		D	
	Continuous burning after termination of the test									
17	Duration	min : s	--		--		--		--	
18	Number of specimens		--		--		--		--	
19	Front side of the specimen		--		--		--		--	
20	Back side of the specimen		--		--		--		--	
21	Flame length	cm	--		--		--		--	
	Smouldering after termination of the test									
22	Duration	min : s	0:10		0:07		0:05		0:18	
23	Number of specimens		4		4		2		4	
	Location									
24	Lower half of the specimens		x		x		x		x	
25	Upper half of the specimens		--		--		--		--	
26	Front side of the specimen		x		x		x		x	
27	Backside of the specimen		--		--		--		--	
	Smoke development									
28	≤ 400 % x min		16		33		18		15	
29	> 400 % x min		--		--		--		--	
30	Diagram in appendix		1		--		--		--	
	Residual lengths		41	41	36	40	45	46	47	46
31	Single values	cm	39	39	40	38	42	46	45	46
32	Average values	cm	40		38		45		46	
33	Photo of the specimen on page		--		5		--		--	
	Smoke temperature									
34	Maximum value of the averaged values	°C	118		114		109		112	
35	Time [1)]	min : s	2:00		10:00		10:00		10:00	
36	Diagram in appendix Nr.		1		--		--		--	
37	Remarks:									
	For the test the self-adhesive foils were glued on steel sheets with a thickness of 0,88 mm.									

Picture 1: Appearance of specimen B after the test

Results of the B2-testing according to DIN 4102-01
(Tests with flaming the edge)

Protection of edges: none
Point of flame attack: lower edge, front side, flaming of the self-adhesive foil „Avery® Crystal Glass Film“ on steel sheet

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	--	--	--	--
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	--	--	--	--
Max. height of the flame (cm)	--	--	--	--	--
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	not detectable				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Point of flame attack: lower edge, front side, flaming of the self-adhesive foil „Avery® Frosted Glass Film“ on steel sheet

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	--	--	--	--
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	--	--	--	--
Max. height of the flame (cm)	--	--	--	--	--
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	not detectable				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Results of the B2-testing according to DIN 4102-01
(Tests with flaming the edge)

Protection of edges: none
Point of flame attack: lower edge, front side, flaming of the self-adhesive foil „Avery® Etched Glass Film“ on steel sheet

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	--	--	--	--
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	--	--	--	--
Max. height of the flame (cm)	--	--	--	--	--
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	not detectable				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Point of flame attack: lower edge, front side, flaming of the self-adhesive foil „Avery® Dusted Glass Film“ on steel sheet

Specimen No.	1	2	3	4	5
(Times stated from start of test)					
Ignition (s)	--	--	--	--	--
Flame passing the limit mark (s)	--	--	--	--	--
Self extinguishment (s)	--	--	--	--	--
Max. height of the flame (cm)	--	--	--	--	--
Continuous burning after 20 s	--	--	--	--	--
Continuous smouldering after 20 s	--	--	--	--	--
Extinguishment of flames / glowing after passing the limit mark	--	--	--	--	--
Smoke development (visual observation)	not detectable				
Falling of burning particles / droplets time (s)	--	--	--	--	--

Assessment

- The product described on page 2 fulfilled the requirements of building products according to Baustoffklasse B2. According to the results, the product as tested in the described arrangement also fulfil the requirements of building products according to Baustoffklasse B1. In consequence the product can be classified as Baustoffklasse B1 (schwerentflammbare Baustoffe) according to DIN 4102 part 1 (Mai 1998). This assessment is only valid, if the self-adhesive foils are glued on steel substrate. This assessment is also valid, if the surface of the self-adhesive foils will be printed. The material may not be weathered in the outside.

Special remark

- This test certificate is valid till 05. February 2011. The period of validity can be extended on application.

- Since the material is used for signage and advertising sheets it is no building product according to §2 chapter 9 no. 1 MBO. An allgemeines bauaufsichtliches Prüfzeugnis of the test institute respectively an allgemeine bauaufsichtliche Zulassung of Deutsches Institut für Bautechnik, Berlin is not necessary.

- This test report is not valid, if the tested material is used as building product according to the German building regulations.

Marking

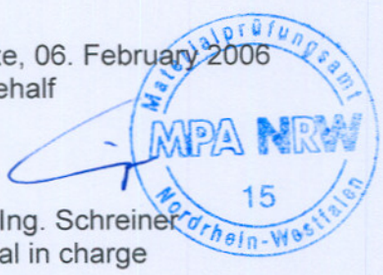
The above mentioned material has to be marked as following:

- "Only schwerentflammbar (class DIN 4102-B1) on steel substrate"

The marking shall be done on the material, on an enclosed paper or on the packaging or, if this would be to difficult, on the delivery-note or on an enclosure to the delivery-note.

This test certificate is solely valid in combination with the original test certificate issue in German language and dated of 06. February 2006. In case of doubt, the certificate issued in German language is valid.

Erwitte, 06. February 2006
On behalf



Dipl.-Ing. Schreiner
Official in charge

Date of issue of this English version: 06. February 2006

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Max. flue gas-temperature = 118 °C at [min : s] 01 : 32 Smoke-development [% x min]: 16	Enclosure 1 of test report no. 230005314-7 of 06. February 2006