

Received: 10/16/2009	Completed: 10/28/2009	Letter: T	rb	P.O.#:	Test Report #:	2-80721-0-
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**Client's Identification** BUSmark OV5045 and BUSmark OV5055. Lot No: 1748882-001. Date of Mfg: 8/12/2009. Style: Clear Film with Clear Over Laminating, Pressure Sensitive Adhesive. (see continuation)

**Tested For: Kirit Patel/Dick Dupont**

**Key Test: ASTM E 162 NC**

Flexcon Co., Inc.

1 Flexcon Industrial Park, Office #4

Spencer, MA 01562-2642

**Tel: 1-(508)-885-8274**

**Ext:**

**Fax: 1-(508)-885-8399**

**CLIENT'S IDENTIFICATION (continuation):**

Composition: Cast Vinyl Film with Acrylic Adhesive on Polyester Liner.

Weight: .2587 lb/msi. Density: N/A. Thickness: .003".

End Use Application: Protective Film For Perforated Window Graphics.

Backing Removed Before Testing. [Specimen Exposed to Heat Source on Clear Film Side]

PC: 24H+ME

APPROXIMATE THICKNESS OF MATERIAL (as measured by Govmark): 0.003"

TEST PERFORMED: ASTM E 162 - Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source

SPECIMEN PREPARATION: The sample was supplied in a film form with a disposable pull-away layer which exposed an adhesive backing intended to be applied to a base product. For the test, the adhesive backing was applied to a noncombustible 0.5" Etera board (a cement asbestos substitute). Each specimen was wrapped around the Etera board in such a manner as to fully adhere the specimen's adhesive backing to the Etera board. The face of the film test specimen exposed to the heat source measured 6.0" x 18".

BRIEF DESCRIPTION OF TEST: The test specimen faces a radiant heat source. At the beginning of the test period an igniting flame impinges at the top of the specimen. Visual observation is made of the downward progression of the flame front. The heat given off by the burning specimen is automatically recorded. The combination of the two factors, flame front progression and heat, results in a Flame Spread Index.

RESULTS: Specimen	Flame Progression (mm:ss)					Net Stack Rise°C	Q	FS	Flame Spread Index	Flaming Dripping, or Flaming Running (yes/no)
	3.0"	6.0"	9.0"	12.0"	15.0"					
1	FN	FN	FN	FN	FN	0.5	0.1	1.0	0.1	No
2	FN	FN	FN	FN	FN	9.8	2.8	1.0	2.8	No
3	FN	FN	FN	FN	FN	9.8	2.8	1.0	2.8	No
4	FN	FN	FN	FN	FN	4.9	1.4	1.0	1.4	No
									Avg:	1.8

**ABBREVIATIONS USED:**

F = Flashed beyond benchmark.

FN = Flame front did not reach this benchmark.

**CALCULATION FACTORS:**

Etera board correction factor: 0.30

Beta: 19.80

FLUX: 3.62, 2.14, 0.97 (Flux Transducer # 6024)



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REMARKS:

Specimen #	Non Sustained Flame Front Off Gas Ignition (yes/no)	Sustained Flame Front Ignition at (mm:ss)	All Flaming Out (mm:ss)	Test End (mm:ss)	Drips Flame on Test Floor (yes/no)
1	No	00:10	02:33	15:00	No
2	No	00:08	02:32	15:00	No
3	No	00:08	02:16	15:00	No
4	No	00:08	02:29	15:00	No

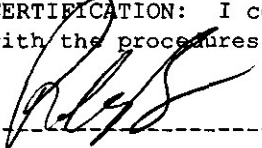
ABBREVIATIONS WHICH MAY BE USED:

DNI = Did not ignite  
SB = Still burning at test end

ACCEPTANCE CRITERIA: None indicated.

CONCLUSION: Not applicable.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by ASTM E 162.

  
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**Robert I. Brown**  
AUTHORIZED SIGNATURE  
THE GOVMARK ORGANIZATION, INC.

NOV 04 2009

Enclosure: See cover letter "SMC6737" dated October 29, 2009

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Received: 10/16/2009 Completed: 10/28/2009 Letter: T1 rb P.O.#: Test Report #: 2-80721-1-

Client's Identification: BUSmark OV5045 and BUSmark OV5055. Lot No: 1748882-001. Date of Mfg: 8/12/2009. Style: Clear Film with Clear Over Laminating, Pressure Sensitive Adhesive. (see continuation)

Tested For: **Kirit Patel/Dick Dupont** Key Test: ASTM E 662 NC  
Flexcon Co., Inc.  
1 Flexcon Industrial Park, Office #4  
Spencer, MA 01562-2642  
Tel: 1-(508)-885-8274 Ext:  
Fax: 1-(508)-885-8399

CLIENT'S IDENTIFICATION (continuation):  
Composition: Cast Vinyl Film with Acrylic Adhesive on Polyester Liner.  
Weight: .2587 lb/msi. Density: N/A. Thickness: .003".  
End Use Application: Protective Film For Perforated Window Graphics.  
Backing Removed Before Testing. [Specimen Exposed to Heat Source on Clear Film Side]

Category: Smoke Density LE 2009; R 7/09; V 7/09 PC: 24H+ME DL/jd  
Test Room RH 50%

APPROXIMATE THICKNESS OF MATERIAL (as measured by Govmark): .003 "

TEST PERFORMED: ASTM E 662 - Standard Test Method For Specific Optical Density of Smoke Generated by Solid Materials (NFPA Designation No. 258)

BRIEF DESCRIPTION OF TEST: Two separate tests are conducted on multiple specimens. In one test the face of each specimen is exposed to a radiant heat source of 2.5 w/cm<sup>2</sup> (non flaming mode). In a second test completely new specimens are subjected to both the radiant heat source and 6 small igniting flames (flaming mode). As smoke accumulates in the test chamber, the percent light obscuration is converted to a smoke density value. Typically, the highest value within a maximum test period of 20 minutes is recorded, along with interim value at 90 seconds and 4 minutes.

Flaming dripping, and flaming running are optionally reported, since this information is required by certain specification and guidelines for public transportation vehicles.

Normally a total of 3 specimens are tested in each mode; however, when there is a wide variation in individual specimen results, a total of 6 specimens are tested.

RESULTS:	Specimen #	Flaming Mode	Flaming Dripping, or Flaming Running ** (yes/no)	Non Flaming Mode	Flaming Dripping, or Flaming Running ** (yes/no)
90 Seconds:	1	16	No	3	No
Specific Optical Density	2	16	No	6	No
	3	10	No	4	No
	Avg:	14		4	
4 Minutes:	1	20	No	8	No
Specific Optical Density	2	20	No	12	No
	3	20	No	11	No
	Avg:	20		10	
Within 20 Minutes:	1	26	No	39	No
Maximum Specific Optical Density	2	25	No	40	No
	3	36	No	28	No
	Avg:	29		36	

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NOTES:

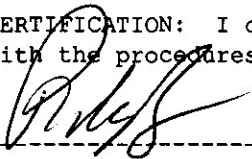
1. An asterisk (\*) next to a result indicates that the value is lower than an earlier value as a result of a correction for particle deposits on the glass which is part of the optical system.
2. \*\* Flaming dripping, or flaming running are not normally reported during this test. However, this information might be required if the product is used in public transportation vehicles.

REMARKS: None.

ACCEPTANCE CRITERIA: None indicated.

CONCLUSION: Not applicable.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by ASTM E 662 (NFPA Designation No. 258).

  
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**Robert I. Brown**

AUTHORIZED SIGNATURE  
THE GOVMARK ORGANIZATION, INC.

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