

Received:06/14/2011 Completed:06/17/2011 Letter: E rb P.O.#: Test Report #: 2-87979-0-

Client's Identification Rephouse Ballistic Rubber Tile/Block. End Use of Product: As Anti-Ricochet Surfaces in Shooting Ranges.

Tested For: **Mike Brinkers** Key Test: ASTM E 662 595  
 Rephouse (M) Sdn Bhd, 37 Jalan Jasmine 3 Bandar Bukit Beruntung 48300 Selangor DE MALAYSIA  
 Tel: 011 60 0 3 6028 5388 Ext: Fax: 011 60 0 3 6028 5688

Category: Smoke Density LE 2009; R 7/09; V 7/09 PC: 24H+ME DL/jd

APPROXIMATE THICKNESS OF MATERIAL (as measured by Govmark): 1.007"

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	14	Yes	7	No
Specific Optical Density	2	9	Yes	10	No
	3	10	Yes	8	No
	Avg:	11		8	
4 Minutes:	1	50	No	99	No
Specific Optical Density	2	30	No	129	No
	3	44	No	124	No
	Avg:	41		117	
Within 20 Minutes:	1	372	No	528	No
Maximum Specific Optical Density	2	251	No	478	No
	3	300	No	486	No
	Avg:	308		497	

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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).

  
 AUTHORIZED SIGNATURE  
 THE GOVMARK ORGANIZATION, INC. / ec / jpb  
**MS. PHYLLIS PETTIT**

JUN 21 2011

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Received:06/14/2011 Completed:06/17/2011 Letter: E1 rb P.O.#: Test Report #: 2-87979-1-

Client's Identification: Rephouse Ballistic Rubber Tile/Block. End Use of Product: As Anti-Ricochet Surfaces in Shooting Ranges.

Tested For: **Mike Brinkers** Key Test: ASTM E 648 (BLDG) 595  
 Rephouse (M) Sdn Bhd, 37 Jalan Jasmine 3 Bandar Bukit Beruntung Tel: 011 60 0 3 6028 5388 Ext:  
 48300 Selangor DE MALAYSIA Fax: 011 60 0 3 6028 5688

BLDG: V 4/09 PC: 48H or 96H /jd

APPROXIMATE THICKNESS OF MATERIAL (as measured by Govmark): 1.007"

TEST PERFORMED: ASTM E 648 - Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source (NFPA Designation No. 253)

SPECIMEN PREPARATION:

- Each specimen was laid flat over a 1/4" Etera board (a cement asbestos substitute). No bonding agent was used. [PC: 48H]
- Each specimen was bonded to a 1/4" Etera board (a cement asbestos substitute) using \_\_\_\_\_. [PC: 96H]
- Each specimen, with self adhesive backing, was bonded to a 1/4" Etera board (a cement asbestos substitute) [PC: 96H]
- Each specimen was placed over a rubber coated jute and animal hair 50 oz/yd<sup>2</sup> cushioning material [PC: 48H]

RESULTS: Specimen #	Furthest Progression of Flame Front		Critical Radiant Flux (watts/cm <sup>2</sup> )
	(inches)	(cm)	
1	20.0	50.8	0.50
2	18.2	46.2	0.56
3	17.4	44.2	0.58
Avg:			0.55

CODE CLASSIFICATION -- As cited by:

- (1) The 2009 Edition of NFPA 101 Life Safety Code paragraph, 10.2.7.4
- (2) The 2009 Edition of NFPA 5000 Building Construction & Safety Code, paragraph 10.6.4
- (3) The 2009 Edition of the International Building Code, paragraph 804.2

Class I: Minimum 0.45 watts/cm<sup>2</sup>  
 Class II: Minimum 0.22 watts/cm<sup>2</sup>

CONCLUSION: Based on the above Results and Code Classification, the item tested is assigned a:

Class I rating;  Class II rating;  Not Rated

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REMARKS: None.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by ASTM E 648 (NFPA Designation No. 253).

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AUTHORIZED SIGNATURE

THE GOVMARK ORGANIZATION, INC. / ec /jb

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