RAMTECH LABORATORIES, INC.

14104 ORANGE AVENUE, PARAMOUNT, CALIFORNIA 90723-2019 • TELEPHONE (562) 633-4824 • FAX (562) 633-4128

Mr. Murray Scott MATTA PRODUCTS CO., LTD. P.O. Box 16 Otaki, New Zealand November 12, 1999

Laboratory No. 11437-99

RE: Fire exposure testing (ASTM E108) on your Play-Matta System (playground surface system)

Dear Mr. Scott:

In accordance with your request, fire resistance tests have been conducted on your Play-Matta System. The testing was conducted in accordance with specification the of the American Society for Testing and Materials (ASTM E108) Burning Brand Procedure, Class B exposures.

Product Description

Play Matta System (rubber matting) with fire retardant additives

- A. Top mat: 500mm X 500mm X 25mm thickness (interlocking) Nominal size (U.S. units) 20" X 20" X 1"thick
- B. Lower shock pad: 500mm X 500mm X 60mm thickness Nominal size (U.S. units) 20" X 20" X 2 3/8" thick

The ASTM E 108 fire testing procedure was selected due to the fact that there is no specific standard relating to the fire resistance performance of playground matting. The ASTM E108 standard relates to the fire resistance of roofing and walking decks for fires originating from outside the structure, and was considered to be an appropriate method by which to evaluate the Play-Matta System.

The Play-Matta System was subjected to 2 (two) class B burning brand tests. The class B brands are $6" \times 6" \times 2 \%$ and are assembled with 500 grams of Douglas Fir wood constructed into a free burning crib. The brands are fully ignited with a gas burner flame, and then placed on the test mat surface. The full assembly is subjected to a continuos 12mph wind, that is supplied by a calibrated wind tunnel.

The results of the tests are detailed in attached test data tables.

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Conclusion:

The 2 class B burning brand tests show that the Play-Matta Systems is self extinguishing. There was no lateral flame spread and no burn through of the shock pad mat. The top mats developed a heavy char layer and self extinguished early in the tests at approximately 9-10 minutes. The full Play-Matta System self extinguished at 41 minutes and 30 seconds in the first test and 43 minutes in the second test

Respectfully Submitted,

Ramtech Laboratories, Inc.

Ronald A. Macey, P.E Laboratory Director

AMTECH LABORATORIES, INC.
14104 ORANGE AVENUE, PARAMOUNT, CALIFORNIA TELEPHONE NO. (562) 633-4825

TEST DATA FOR ASTM E108	(CLASS "B" BURI	NING BRAN	ID)	
Client: Matta Products Co., LTD.	Test No.:	1	of:	2
ate November 10, 1999	Page No.:	1	of:	_2
est Laboratory: Ramtech Laboratories, INC.	_			
Description:500mm X 500mm X 25 mm top mat (interlock 500mm X 500mmX 60 mm thick (lower shock Ambient Temperature: 65.0 °F	pad) nominal dir Relative Hum	nension zo	58 %	3/8" thick,
Brand Weight: 510 Grams	Interlayment:	None		
Product: Play- Matta System	Fastener:	None		to describe and
Deck No.: 1	Test Slope:	1/4	inches per	horizontal foot
Ignition of Brand:				
Fach 6 x 6 face for 30 seconds.				
B. Each 2-1/4" by 6 inch face for 30 seconds.				
C. Each 6 by 6 inch face again for 30 seconds.				
Time Min/Sec Test conducted by: R.A. Macey & Anthor	y Gonzales			11.
Willinger Personal P	RELIMINARY CH			: 1/4 "/ft.

Time	
Min/Sec	Test conducted by: R.A. Macey & Anthony Gonzales 1/4 "/ft.
	PRELIMINARY CHECK. BEGINGEST E.
0:00	Flaming "B" brand placed on Play -Matta Surface
00:3	Test assembly subjected to a continuos 12mph wind
1:09	Surface ignition behind brand
1:30	Light smoke
2:04	Top mat surface fully ignited behind the burning brand
3:00	Moderate smoke .
	1450
4:00	Brand 15% consumed
	Surface flaming receding back on top mat, heavy surface char developing
4:30	Surface failing feeding back on top may nearly surface shall be a second of the second
5.00	Top Mat burnt through – shock pad ignites
5:00	Top Mat bank though
5:30	Brand 35 % consumed – heavy smoke as shock pad ignites
5.30	
7:16	Brand 65% consumed – burning behind brand has diminished
7.10	
9:15	Top mat self extinguished – moderate to heavy smoke
	· · · · · · · · · · · · · · · · · · ·
10:00	80% Brand consumed – brand appears to be melting through to lower shock pad
12:00	Moderate smoking as flaming continues



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Time	
Min/Sec	
	Los M. Coosumed
14:00	Brand 95 % Consumed
	Shock pad burning under top mat
16:00	
16:38	Flame protruding through burned hole in top mat
10.50	
18:00	Moderate smoke – brand 100% consumed
	Moderate smoke – slight burning on front face of mat surface -
20:00	Moderate smoke – slight burning or many
	Moderate smoking
22:00	Moderate streams
23:00	Moderate smoking
23.00	
24:00	Shock pad still flaming through hole in top mat
A COLUMN TO THE PARTY OF THE PA	Shock mat continues to burn, but flaming is beginning to diminish
26:00	Shock mat continues to built, but harming to beginning
	Flaming continues to diminish – moderate smoke
28:00	
20.00	Lower shock pad flaming is still decreasing
30:00	
35:00	Flaming continues to decrease
35.00	
41:30	Play-Matta assembly – self extinguished no further flaming
	t florion
43:00	No signs of flaming
	Test assembly beginning to cool
45:00	
50:00	Test terminated as assembly continues to cool down
50.00	
Section 1	
Secretary and the secretary an	

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1104 ORANGE AVENUE, PARAMOUNT, CALIFORNIA TELEPHONE NO. (562) 633-4824

TEST DATA FOR ASTM E108 (CLASS "B" BURNING BRAND) lient: Matta Products Co., LTD. Test No.: of: Date November 10, 1999 Page No.: est Laboratory: Ramtech Laboratories, INC. Description:500mm X 500mm X 25 mm top mat (interlocking) nominal dimension: 20" X " 20" X 1" thick 500mm X 500mmX 60 mm thick (lower shock pad) nominal dimension 20" X 20" X2 3/8" thick 66.5°F 56 % Ambient Temperature: Relative Humidity: 520 Grams Interlayment: None Brand Weight: Product: Play- Matta System Fastener: None Test Slope: 1/4 inches per horizontal foot Deck No.: 2

- Ignition of Brand:
- A. Each 6 x 6 face for 30 seconds.
- B. Each 2-1/4" by 6 inch face for 30 seconds.
- C. Each 6 by 6 inch face again for 30 seconds.

C. Each o by	6 Inch race again for 50 seconds.
Time	
Min/Sec	Test conducted by: R.A. Macey & Anthony Gonzales
	PRELIMINARY CHECK: DECK SLOPE: 1/4 "/ft.
	12mph WIND VELOCITY: 1056 ft/min. average three readings
0:00	Flaming "B" brand placed on Play –Matta Surface
00:3	Test assembly subjected to a continuos 12mph wind
1:15	Light smoke; mat surface behind brand ignited
2:00	Light smoke
2:12	Top mat surface fully ignited behind the burning brand
3:00	Brand 10% consumed – moderate smoke
0.00	
4:00	Flame receding on top mat as heavy suface char is devolping
4.00	
4:25	Top mat burned through, shock pad ignites
4.20	
5:00	35% consumed brand – heavy smoke starting as shock pad ignites
3.00	
6:00	50% consumed brand – moderate smoke
8:00	70% brand consumed moderate to heavy smoke
9:40	All flaming coming from lower shock pad – top mat self extinguished
10:00	Brand 85% consumed
11:45	Brand 95% consumed-/moderate smoke





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Time Min/Sec	
12:00	Smoke density increasing moderate to heavy
14:00	Only bottom pad burning
16:00	Shock pad continues to burn below top mat
17:30	Flame decreasing only moderate smoking brand 100% consumed
18:00-	Moderate smoke
20:00	Flaming continues to diminish
22:00	Moderate smoking flaming of lower shock pad continues
26:00	Moderate smoking – flame diminishing
26:00	Shock mat continues to burn, but flaming is beginning to diminish
29:00	Flaming continues to diminish – moderate smoke
30:00	Lower shock pad flaming is still decreasing
35:00	Lower shock pad flaming is still decreasing
43:00	Play-Matta assembly – self extinguished no further flaming
45:00	No signs of flaming assembly beginning to cool
50:00	Test terminated as assembly continues to cool down

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