

REPORT NUMBER: 102816357MID-001 ORIGINAL ISSUE DATE: November 30, 2016 REVISED DATE: N/A

EVALUATION CENTER

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PRODUCT EVALUATED: Terasun Magnesium Board.

EVALUATION PROPERTY: ULC S135-04 standard test method for the determination of combustibility parameters the determination of combustibility parameters of building materials using an oxygen consumption calorimeter (cone calorimeter)

Report for compliance with the applicable requirements in accordance to the National Building Code of Canada for materials used in buildings that are required to be noncombustible.

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TEST REPORT



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2 Introduction

Intertek has conducted testing for Zhejiang Terasun Air Duct Co., Ltd., onTerasun Magnesium Board to evaluate heat and smoke release rates. Testing was conducted following the standard methods of ULC S135-04 Standard Test Method for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter) in accordance with the National Building Code of Canada for materials used in buildings that are required to be noncombustible. The evaluation began November 29, 2016 and was completed November 29, 2016.

3 Test Samples

3.1. SAMPLE SELECTION

Samples were selected by an Intertek auditor. Samples were received at the Intertek Middleton Evaluation Center on November 15, 2016 in good condition.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

Sampe name: Terasun Magnesium Board.

Sample description: Model: 12mm thickness. Samples were cut to 100 +/- 1 mm by 100 +/-1 mm dimensions by the client.

Specimens were conditioned to moisture equilibrium (constant mass) at an ambient temperature of $23 \pm 3^{\circ}$ C and a relative humidity of $50 \pm 5\%$.

4 **Testing and Evaluation Methods**

4.1. ULC S135-04

The testing was performed in accordance with the ULC S135-04 standard. Specimens in the test are burned in ambient air conditions, while being subjected to a predetermined external heat flux. Testing was done at 50 kW/m² with spark ignition.

Collect data for at least 15 minutes.

The total *heat release* per unit area shall be compared for the three specimens. If any of these readings differ by more than 10% from the average of the three readings, then a further set of three specimens shall be tested. In such cases, report the averages for peak heat release rate per unit area, total heat release per unit area, and total smoke extinction area using the set of six readings.



National Building Code of Canada:

Materials used in buildings that are required to be of noncombustible combustible that have been tested in conformance with ULC-S135, "Test for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter)," at a heat flux of 50 kW/m² where:

- The materials' total heat release is not more than 3 MJ/m²,
- the materials' average total smoke extinction area is not more than 1.0 m², and
- the test duration is extended beyond the time stipulated in the referenced standard until it is clear that there is no further release of heat or smoke.

4.2. Deviation from Standard Method

There were no deviations from the standard.



5 Testing and Evaluation Results

5.1. RESULTS AND OBSERVATIONS

Sample description Material name/ID	102816357MID-001 Terasun Mg Board 102816357MID-001 Terasun Mg Board										
Specimen informati	on										
E Thickness Initial mass Surface area Heat flux Separation Orientation	13.1 MJ/kg 12 mm 125.6 g 88.4 cm ² 50 kW/m ² 25 mm Horizontal	S N E G M S	pecimen ni lominal duo idge frame Grid used? 1anufacture ponsor	umber ct flow rate used? er	1 24 l/s Yes No		Condition Temperat RH	ed? ure	Yes 23°C 50%		
Test Standard used Date of test Time of test Date of report	ULC S135 29/11/2016 07:43 29/11/2016	A A R	Pre-test co Imbient ten Imbient pre Relative hur	onditions nperature essure nidity	18.9°C 96.811 35%	C 1 kPa	Test time Time to ig Time to fl End of tes End of tes (for calcul	es Inition ameout at criteric at time	0 s s on Use 900	r entered s	
Apparatus specifica	tions	I	nitial con	ditions							
C-factor Duct diameter O2 delay time CO2 delay time CO delay time OD corr. factor	0.04298 0.114 m 17 s 17 s 17 s 1.0055	B B M	Baseline ambient oxygen20.786%Baseline oxygen20.952%Baseline carbon dioxide0.0759%Mass at sustained flaming125.6 g				Heat Release Results THR (0-300) 0.88 MJ/m² THR (0-600) 2.40 MJ/m² THR (0-1200) - Fuel load 0.35 MJ/kg				
Test results (betwee	en 0 and 90	0 s)									
Total heat release 5.0 MJ/m² Total oxygen consumed 3.7 g Mass lost 31.5 g Average specific MLR 4.33 g/(s ^{·m²}) Total smoke release 75.0 m²/m² Total smoke production 0.7 m² MAHRE 5.5 kW/m²			He Eff Ma Sp Ca Ca	eat release r fective heat ass loss rate ecific extinc irbon mono» irbon dioxide	ate (kW/m of comb. ((g/s) tion area (i kide yield (l e yield (kg/	²) MJ/kg) m²/kg) kg/kg) 'kg)	Mean 5.45 1.38 0.035 18.58 0.0088 0.16	Peak 13.15 77.51 0.246 3237.91 7.7142 120.09	at ti 725 184 109 14 900 309	me (s)	
Test averages								1			
from ignition to igni Heat release rate (kW/ Effective heat of comb Mass loss rate (g/s) Specific extinction area Carbon monoxide yield Carbon dioxide yield (k	i tion plus 'm²) . (MJ/kg) a (m²/kg) l (kg/kg) kg/kg)	1 min 0.70 0.20 0.031 15.70 0.0001 0.08	2 min 0.74 0.20 0.032 18.36 0.0015 0.09	3 min 1.58 0.37 0.038 15.41 0.0025 0.09	4 min 2.15 0.48 0.040 13.95 0.0031 0.10	5 min 2.73 0.57 0.043 11.79 0.0034 0.11	6 min 3.00 0.62 0.043 11.11 0.0038 0.11	0 9 5. 1. 0. 18 0.	s - 05 s .47 .38 .035 8.54 .0088 .17	0 s - 905 s 5.47 1.38 0.035 18.54 0.0088 0.17	
Smoke results Total smoke release: r Total smoke release: f Total smoke release: v	s - 0 s) 00 s))	0.0 m²/m² 75.0 m²/m 75.0 m²/m	1 ² 1 ²								



102816357MID-001 Terasun Mg Board

Sample description

Material name/ID 102816357MID-001 Terasun Mg Board								
Specimen informa	ation							
E Thickness Initial mass Surface area Heat flux Separation Orientation	13.1 MJ/kg 12 mm 125.9 g 88.4 cm ² 50 kW/m ² 25 mm Horizontal	Specimen r Nominal du Edge frame Grid used? Manufactur Sponsor	number ict flow rate e used? er	2 24 l/s Yes No		Conditioned? Temperature RH	? Yes 23°C 50%	
Test		Pre-test c	onditions			Test times		
Standard used Date of test Time of test Date of report	ULC S135 29/11/2016 08:05 29/11/2016	Ambient te Ambient pr Relative hu	mperature essure midity	18.6°0 96.811 35%	C L kPa	Time to ignit Time to flam End of test o End of test t (for calculati	tion 0 s leout s triterion Use ime 900 ons)	r entered s
Apparatus specifi	cations	Initial cor	nditions		-			
C-factor Duct diameter O2 delay time CO2 delay time CO delay time OD corr. factor	0.04298 0.114 m 17 s 17 s 17 s 1.0055	Baseline an Baseline ox Baseline ca Mass at sus	nbient oxyge ygen rbon dioxide stained flam	en 20.786 20.948 e 0.0787 ing 125.9	5% 3% 7% g	Heat Relea THR (0-300) THR (0-600) THR (0-1200 Fuel load	se Results 0.56 M 0.92 M 0) - 0.08 M	J/m² J/m² J/kg
Test results (betv	veen 0 and 900 s	5)						
Total heat release Total oxygen consur Mass lost Average specific ML Total smoke release Total smoke produc MAHRE	1.1 MJ/m ² med 1.2 g 31.3 g R 4.30 g/(s ⁻ rr 81.2 m ² /m tion 0.7 m ² 2.0 kW/m ²	n ²) Si ² C	eat release (ffective heat lass loss rate pecific extine arbon mono arbon dioxid	rate (kW/m of comb. (e (g/s) ction area (i xide yield (l e yield (kg/	²) C MJ/kg) C m ² /kg) 2 kg/kg) C kg) C	Mean Pe 0.70 6.5 0.18 66 0.035 0.2 21.40 43 0.0085 7.3 0.12 87	ak at ti 59 126 .34 330 285 625 36.10 523 3949 783 .35 135	me (s)
Test averages								
from ignition to ig Heat release rate (k Effective heat of con Mass loss rate (g/s) Specific extinction a Carbon monoxide yi Carbon dioxide yield	gnition plus 1 W/m²) 0. nb. (MJ/kg) 0. rea (m²/kg) 16 eld (kg/kg) 0. l (kg/kg) 0.	min 2 min 02 0.64 00 0.17 034 0.032 5.12 22.98 0002 0.0020 06 0.08	3 min 1.20 0.29 0.037 19.28 0.0033 0.09	4 min 1.68 0.37 0.040 17.63 0.0036 0.10	5 min 1.64 0.34 0.042 16.20 0.0039 0.10	6 min 1.76 0.37 0.042 16.03 0.0045 0.10	0 s - 946 s 0.65 0.17 0.034 22.42 0.0091 0.12	0 s - 946 s 0.65 0.17 0.034 22.42 0.0091 0.12
Smoke results Total smoke release Total smoke release Total smoke release	:: non-flaming pha :: flaming phase (0 :: whole test (0 s -	se (0 s - 0 s) s - 900 s) 900 s)	0.0 m²/m 81.2 m²/n 81.2 m²/n	2 n ² n ²				



Sample description Material name/ID	102816 102816	5357MID-0 5357MID-0	01 Terasun 01 Terasun	Mg Board Mg Board				
Specimen informat E Thickness Initial mass Surface area Heat flux Separation Orientation	tion 13.1 MJ/k 12 mm 125.1 g 88.4 cm ² 50 kW/m ² 25 mm Horizontal	g S N E S	pecimen nu lominal duct dge frame u irid used? lanufacture ponsor	mber : flow rate used?	3 24 l/s Yes No		Conditioned Temperatur RH	d? Yes re 23°C 50%
Test Standard used Date of test Time of test Date of report	ULC S135 29/11/201 08:28 29/11/201	.6 A .6 R	Pre-test co Imbient tem Imbient pres Ielative hum	nditions perature ssure idity	18.8°C 96.82 36%	C 1 kPa	Test times Time to ign Time to flan End of test End of test	s iition not recorded meout s criterion User entered time 900 s tione
Apparatus specifica C-factor Duct diameter O2 delay time C02 delay time C0 delay time OD corr. factor	ations 0.04298 0.114 m 17 s 17 s 17 s 1.0055	I B B B N	nitial cond aseline amb aseline oxyo aseline carb 1ass at susta	itions vient oxyge gen von dioxide ained flami	n 20.78: 20.95; 0.074: ng no ign	Heat Release Results THR (0-300) 0.44 MJ/m² THR (0-600) 1.24 MJ/m² THR (0-1200) - Fuel load 0.16 MJ/kg		
Test results (betwo Total heat release Total oxygen consum Mass lost Average specific MLR Total smoke release Total smoke producti MAHRE	een 0 and 9 2.2 MJ, 2.0 g 32.2 g 4.46 g, 24.4 m on 0.2 m ² 3.5 kW	00 s) /m ² /(s·m ²) / ² /m ²	Hea Effe Ma: Spe Car Car	at release r ective heat ss loss rate ecific extino bon mono: bon dioxid	ate (kW/m of comb. ((g/s) tion area (kide yield (l e yield (kg/	²) MJ/kg) m²/kg) kg/kg) ′kg)	Mean P 2.36 7 0.58 7 0.036 0 -3.28 2 0.0076 1 0.12 1	Peak at time (s) .54 856 8.32 660 .360 626 086.32 209 4.9949 786 58.40 786
Test averages between time 0 an Heat release rate (kW Effective heat of com Mass loss rate (g/s) Specific extinction are Carbon monoxide yield	d 1 min V/m ²) b. (MJ/kg) ea (m ² /kg) ld (kg/kg) (ka/kg)	2 min 0.68 0.26 0.023 -4.33 0.0009 0 10	3 min 0.81 0.22 0.033 -2.36 0.0015 0.08	4 min 0.89 0.22 0.036 -3.41 0.0026 0.08	5 min 0.96 0.21 0.041 -4.40 0.0029 0.08	6 min 1.18 0.24 0.043 -4.72 0.0032 0.08	1.31 0.27 0.044 -4.29 2 0.0034 0.08	0 s - 0 s - 908 s 908 s 2.39 2.39 0.60 0.60 0.035 0.035 -3.33 -3.33 0.0078 0.0078 0.12 0.12

Smoke results

Total smoke release: whole test (0 s - 900 s)

24.4 m²/m²



Sample description	102816357MID-001 Terasun Mg Board
Material name/ID	102816357MID-001 Terasun Mg Board

Specimen information	on				
E Thickness Initial mass Surface area Heat flux Separation Orientation	13.1 MJ/kg 12 mm 124.7 g 88.4 cm ² 50 kW/m ² 25 mm Horizontal	Specimen number Nominal duct flow rat Edge frame used? Grid used? Manufacturer Sponsor	4 e 24 l/s Yes No	Conditioned? Temperature RH	Yes 23°C 50%
				· · · ·	
Standard used Date of test Time of test Date of report	ULC S135 29/11/2016 10:24 29/11/2016	Pre-test conditions Ambient temperature Ambient pressure Relative humidity	21.3°C 97.15 kPa 32%	Time to ignition Time to flamed End of test crit End of test tim (for calculation	n not recorded out s erion User entered e 900 s is)
Apparatus specificat C-factor Duct diameter O2 delay time CO2 delay time CO delay time OD corr. factor	tions 0.04298 0.114 m 17 s 17 s 17 s 1.0055	Initial conditions Baseline ambient oxy Baseline oxygen Baseline carbon dioxid Mass at sustained flar	gen 20.771% 20.946% de 0.0756% ning no ignition	Heat Release THR (0-300) THR (0-600) THR (0-1200) Fuel load	e Results 0.12 MJ/m ² 0.43 MJ/m ² - 0.07 MJ/kg
Test results (betwee	en 0 and 900 s)	I		M	
Total heat release Total oxygen consumer Mass lost Average specific MLR Total smoke release Total smoke production MAHRE	1.0 MJ/m ² d 1.1 g 32.0 g 4.33 g/(s·m ²) 29.3 m ² /m ² n 0.3 m ² 1.1 kW/m ²	Heat release Effective hea Mass loss ra Specific exti Carbon mon Carbon diox	e rate (kW/m ²) at of comb. (MJ/kg) te (g/s) nction area (m ² /kg) oxide yield (kg/kg) ide yield (kg/kg)	Mean Pean 0.48 5.50 0.12 75.33 0.036 0.410 0.15 4527 0.0063 20.10 0.12 372.4	at time (s) 717 3 566 6 207 /.03 787 034 459 46 459
Test averages					0
between time 0 and Heat release rate (kW/ Effective heat of comb Mass loss rate (g/s) Specific extinction area Carbon monoxide yield Carbon dioxide yield (k	1 min 2 m m ²) -1.2: (MJ/kg) -0.3: 0.03 0.03 (m ² /kg) -4.8: (kg/kg) 0.00 g/kg) 0.08	in 3 min 4 min 3 -1.31 -1.01 3 -0.31 -0.23 2 0.037 0.038 3 -1.28 1.04 08 0.0011 0.0023 0.08 0.09	5 min 6 mir -0.86 -0.82 -0.18 -0.16 0.043 0.044 0.19 -0.34 0.0025 0.002 0.09 0.09	-0.81 -0.16 0.044 -0.40 8 0.0031 0.09	903 s 903 s 903 s 903 s 0.48 0.48 0.12 0.12 0.035 0.035 0.14 0.14 0.0063 0.0063 0.12 0.12
Smoke results Total smoke release: w	/hole test (0 s - 90	00 s) 29.3 m ² /	/m²		



102816357MID-001 Terasun Mg Board

Sample description

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Material name/ID 102816357MID-001 Terasun Mg Board									
Specimen informati	on								
E Thickness Initial mass Surface area Heat flux Separation Orientation	13.1 MJ/kg 12 mm 126.6 g 88.4 cm ² 50 kW/m ² 25 mm Horizontal	g Sp No Ec Gr Ma Sp	becimen nu ominal duc Ige frame rid used? anufacture bonsor	ımber t flow rate used? r	5 24 I/s Yes No		Conditioned Temperature RH	? Yes 23°C 50%	
TestStandard usedULC S135Date of test29/11/2016Time of test09:13Date of report29/11/2016			r e-test co nbient ten nbient pre elative hun	nditions operature ssure hidity	19.3°C 96.90 35%	C L kPa	Test times Time to ignition not recorded Time to flameout s End of test criterion User entered End of test time 900 s (for calculations) (for calculations)		
Apparatus specifica C-factor Duct diameter O2 delay time CO2 delay time CO delay time OD corr. factor	tions 0.04298 0.114 m 17 s 17 s 17 s 1.0055	In Ba Ba Ma	nitial cond aseline aml aseline oxy aseline carl ass at sust	ditions bient oxygen 20.779% ygen 20.949% bon dioxide 0.0735% tained flaming no ignition			Heat Relea THR (0-300) THR (0-600) THR (0-1200 Fuel load	se Results 0.22 M 0.53 M 0) - 0.10 M	J/m² J/m² J/kg
Test results (betwe	en 0 and 90	00 s)					Mean Pe	eak att	ime (s)
Total heat release1.4 MJ/m²Total oxygen consumed1.5 gMass lost32.6 gAverage specific MLR4.47 g/(s·m²)Total smoke release31.5 m²/m²Total smoke production0.3 m²MAHRE1.6 kW/m²		'm² (s·m²) ²/m² /m²	Hea Effi Ma Spe Car Car	at release r ective heat ss loss rate ecific extinc rbon mono» rbon dioxide	ate (kW/m of comb. (e (g/s) ttion area (i kide yield (l e yield (kg/	²) MJ/kg) m²/kg) kg/kg) 'kg)	1.18 7.0 0.29 53 0.036 0.1 0.58 32 0.0082 19 0.12 20	56 749 .42 877 230 895 69.41 601 .9390 799 8.65 799	
Test averages								•	•
between time 0 and Heat release rate (kW/ Effective heat of comb Mass loss rate (g/s) Specific extinction area Carbon monoxide yield Carbon dioxide yield (k	I 1 min /m²) (MJ/kg) a (m²/kg) d (kg/kg) «g/kg)	2 min -0.49 -0.16 0.028 -2.20 0.0017 0.08	3 min -0.59 -0.16 0.034 0.00 0.0019 0.07	4 min -0.31 -0.08 0.037 0.59 0.0032 0.07	5 min -0.12 -0.03 0.041 -0.91 0.0036 0.08	6 min -0.02 -0.00 0.043 0.19 0.0038 0.08	0.01 0.00 0.044 -0.07 0.0040 0.08	903 s 1.19 0.29 0.036 0.65 0.0083 0.12	903 s 1.19 0.29 0.036 0.65 0.0083 0.12
Smoke results Total smoke release: v	vhole test (0	s - 900 s)		31.5 m²/m	1 ²				



102816357MID-001 Terasun Mg Board

Sample description

Material name/ID 102816357MID-001 Terasun Mg Board									
Specimen informa	ition								
E Thickness Initial mass Surface area Heat flux Separation Orientation	13.1 MJ/kg 12 mm 123.5 g 88.4 cm ² 50 kW/m ² 25 mm Horizontal	g Sp No Ec Gr Ma Sp	becimen nu ominal duc Ige frame rid used? anufacture bonsor	umber it flow rate used? er	6 24 I/s Yes No		Conditioned Temperature RH	? Yes 23°C 50%	
Test Standard used Date of test Time of test Date of report	ULC S135 29/11/201 09:32 29/11/201	6 Ar 6 Ar 6	Pre-test conditions Ambient temperature 20.9°C Ambient pressure 96.976 kP Relative humidity 34%				Test times Time to ignition not recorded Time to flameout s End of test criterion User entered End of test time 900 s (for calculations) S		
Apparatus specifie C-factor Duct diameter O2 delay time CO2 delay time CO delay time OD corr. factor	cations 0.04298 0.114 m 17 s 17 s 17 s 1.0055	In Ba Ba Ma	aitial cond aseline am aseline oxy aseline car ass at sust	litions bient oxyge gen bon dioxide ained flami	en 20.767 20.949 0.0742 ng no ign	7% 9% L% ition	Heat Relea THR (0-300) THR (0-600) THR (0-1200 Fuel load	se Results 0 0.18 M 0 0.61 M 0) - 0.08 M	1]/m² 1]/m² 1]/kg
Test results (betw Total heat release Total oxygen consur Mass lost Average specific MLI Total smoke release Total smoke product MAHRE	00 s) 'm² (s·m²) ²/m² /m²	He Eff Ma Sp Ca Ca	at release r ective heat ss loss rate ecific extinc rbon mono rbon dioxid	rate (kW/m of comb. ((g/s) ttion area (i kide yield (k e yield (kg/	²) MJ/kg) m²/kg) ‹g/kg) kg)	Mean Pe 0.87 6. 0.21 64 0.036 0. -8.64 33 0.0064 3. 0.13 59	eak at t 39 891 4.08 322 279 233 115.56 321 5049 539 9.50 539	time (s)	
Test averages								•	0
between time 0 at Heat release rate (k' Effective heat of cor Mass loss rate (g/s) Specific extinction at Carbon monoxide yield	nd 1 min W/m ²) nb. (MJ/kg) rea (m ² /kg) eld (kg/kg) (kg/kg)	2 min -0.58 -0.16 0.031 -14.27 0.0004 0.09	3 min -0.63 -0.16 0.035 -12.30 0.0010 0.09	4 min -0.78 -0.17 0.039 -10.44 0.0021 0.09	5 min -0.61 -0.12 0.044 -8.87 0.0023 0.09	6 min -0.37 -0.07 0.045 -7.80 0.0026 0.10	-0.02 -0.00 0.045 -8.24 0.0029 0.10	903 s 0.88 0.22 0.036 -8.64 0.0065 0.13	903 s 0.88 0.22 0.036 -8.64 0.0065 0.13
Smoke results Total smoke release	: whole test ((s - 900 s)		17.1 m²/m	1 ²				



Heat f Orient	lux ation	50 Ho	kW/m² rizontal			Surface Retainer	area frame use	88.4 d? Yes	4 cm ²	
Test a	averages									
Test	t(ig) t (s)	(fo) (s)	t(end) (s)	HRR(pea (kW/m²)	<)	tpeak (s)	THR (MJ/m²)	HRR(60) (kW/m²)) HRR(180)) (kW/m²)	HRR(300) (kW/m²)
Mean	0 ()	900	7.81		677.5	2.00	-0.14	0.27	0.73
1 2 3 4 5 6	0 0 0 0 0 0		900 900 900 900 900 900 900	13.15 6.59 7.60 5.50 7.66 6.39		725 126 857 717 749 891	4.96 1.12 2.26 1.01 1.44 1.18	0.70 0.02 0.72 -1.23 -0.49 -0.58	1.58 1.20 0.95 -1.01 -0.31 -0.78	2.73 1.64 1.24 -0.82 -0.02 -0.37
Test	Flux (kW/m²)	t (mm)	Area (cm²	m(i) (g))	m(s) (g)	m(f) (g)	∆m (g)	Ave MLR (g/s·m²)	EHC(av) (MJ/kg)
Mean		12		12	5.2	125.2	93.3	32.0	4.4	0.46
1 2 3 4 5 6	50 50 50 50 50 50	12 12 12 12 12 12 12	88.4 88.4 88.4 88.4 88.4 88.4 88.4	125 125 125 124 126 123	.6 .9 .1 .7 .6 .5	125.6 125.9 125.1 124.7 126.6 123.5	94.1 94.6 93.0 92.7 94.0 91.1	31.5 31.3 32.1 32.0 32.6 32.4	4.3 4.3 4.5 4.3 4.5 4.4	1.38 0.18 0.60 0.12 0.29 0.21
Test	THR(0-300) (MJ/m²)	THR(0 (MJ/m	-600) TH ²) (M	R(0-1200) J/m²)	SP (m	R(av) (SEA(av) (m²/kg)	Fuel load (MJ/kg)	MARHE (kW/m²)	
Mean	0.40	1.02	-		0.	0002 4	4.80	0.14	2.40	
1 2 3 4 5 6	0.88 0.56 0.45 0.12 0.22 0.18	2.40 0.92 1.26 0.43 0.53 0.61			0.0 0.0 -0. 0.0 0.0	0007 0007 0001 0000 0000 0000 0000 0003	18.58 21.40 -3.28 0.15 0.58 -8.64	0.35 0.08 0.16 0.07 0.10 0.08	5.51 1.98 2.84 1.12 1.60 1.36	
Test	Date	Specim	en # Line	e colour F	ilena	me				
1 Board	29/11/2016 1.csv	1				5\Data\Int	tertek Shar	nghai\10281	6357\102816357	MID-001 Terasun Mg
∠ Board 3	2.csv 29/11/2016	∠ 3			:		tertek Shar	nghai\10281	6357\102816357	MID-001 Terasun Mg
Board 4	3.csv 29/11/2016	4		(::\CC!	5\Data\Ini	tertek Shar	nghai\10281	6357\102816357	MID-001 Terasun Mg
Board 5	4.csv 29/11/2016	5		C	:\CC!	5\Data\In	tertek Shar	nghai\10281	6357\102816357	MID-001 Terasun Mg
The test assessin	g the potential fire 0.CSV	e behaviour hazard of th	of the test sp ne product in	ecimens of a use.	product	t under the r	certicular conc	litions of the te	st; they are not intend	ded to be the sole criterion for

Observations for all of the samples:

All specimens visibly darkened bu did not ignite.



Graphs

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The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.



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The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.



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The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.



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Summary of Total Smoke Production

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	Total Smoke Production
Specimen #	m ²
1	0.7
2	0.7
3	0.2
4	0.3
5	0.3
6	0.2
Average	0.4



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6 Conclusion

Intertek has conducted testing for Zhejiang Terasun Air Duct Co., Ltd., onTerasun Magnesium Board to evaluate heat and smoke release rates. Testing was conducted following the standard methods of ULC S135-04 Standard Test Method for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter) in accordance with the National Building Code of Canada for materials used in buildings that are required to be of noncombustible.

There are no pass/fail criteria for ULC S135-04.

With reference to the National Building Code of Canada, the material had an average total heat release of 2.00 MJ/m^2 (3 MJ/m² maximum allowable) and average total smoke extinction area of 0.4 m^2 (1.0 m^2 maximum allowable). It therefore **passed** the National Building Code of Canada for materials used in buildings that are required to be noncombustible.

The conclusions of this test report may be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

INTERTEK

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REVISION SUMMARY

DATE	SUMMARY
November 30, 2016	Original date of report