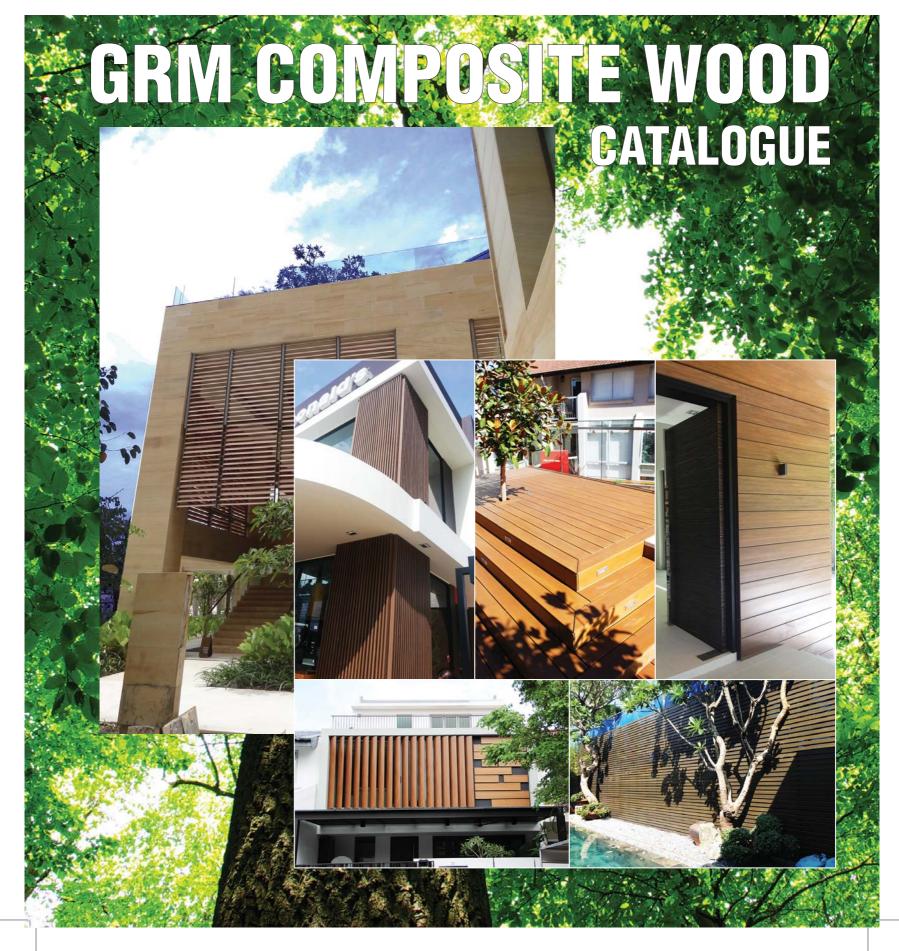


High Performance Green Building System



# About us

#### **COMPANY OVERVIEW**

GRM Composite Wood (M) Sdn Bhd, a composite wood trading company which offer a full array of lightweight materials to minimize cost, improve quality, and seeks to lead by an example in creating a successful and growing business environment, benefiting the community.

Our products line covers a wide range of composite wood products ranging from composite wood pellets, flooring, decking, ceiling, louver, cladding, wall panel, screening, street furniture, railing series and we also produce custom design base on your requirement. We specialized in providing solutions for DIY market, Building Systems and Constructions. All products are easy to install and maintain. Each piece has a consistent quality and finishing, which does not require sanding, priming or sealing for internal wall or ceiling application. It is the perfect material that can be used for both interior and exterior of the residential or commercial projects.

#### MISSION

keep our global environment greener, minimize deforestation, and lessen the environmental impact, by introducing and offering to our customer the Composite wood products produced by GRM, at a price that quite literally does not cost the earth.

#### DESCRIPTION

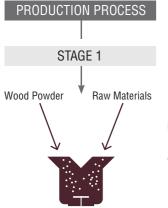
The visions of our company are to become the leader in the market that inspires our customers to improve their environmental practices, and to become a responsible company in supporting a sustainable future for our children and our planet. It means not just "talking the talk," but "walking the talk."

Save the natural tree, use the farm tree



### **GRM PROCESS**

GRM Pellet is composed of wood powder from virgin spruce tree, resin and addictive, the powder are mixed to a dough-like consistency and then extruded out to form GRM Pellet.



**Mixer** Raw materials are placed into the mixer and mixed evenly.



**Pelletizer** Pellets are then extruded out from the pelletizer at a

formulated temperature.

Package and Deliver The pellets are then finally packaged and delivered

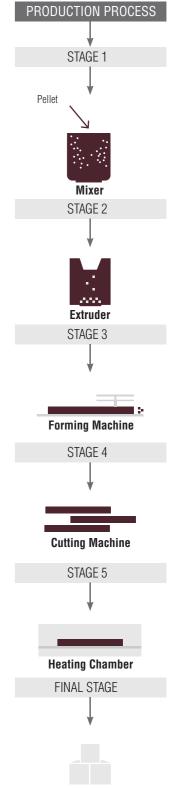


#### CUSTOM MADE DESIGN

We specialised in custom made design should you wish to require a certain design or profile. At GRM we have the ability to design Innovative and Environmentally Friendly products.

### **GRM Pellet**

GRM uses only the finest raw materials to produce GRM Pellets. With stringent quality assurance control and using modern technologies, will provide assurance that you're getting consistency with our manufacturing.



Package and Deliver

#### IMAGINE WHAT GRM COMPOSITE PRODUCTS CAN DO



- Cladding
- Internal/External Wall Panel
- Ceiling
- Flooring
- Decking
- Screening/Sun Shades
- Facades
- Louver/Blade
- Pole/Beam/Fence/Lath
- Furniture
- The possibilities are endless...

#### **Surface Finish Appearance**





The ability to withstand all weather



Anti-termite

Against ignition



Resistant to water



No h







Long life





Can be recycled after their use

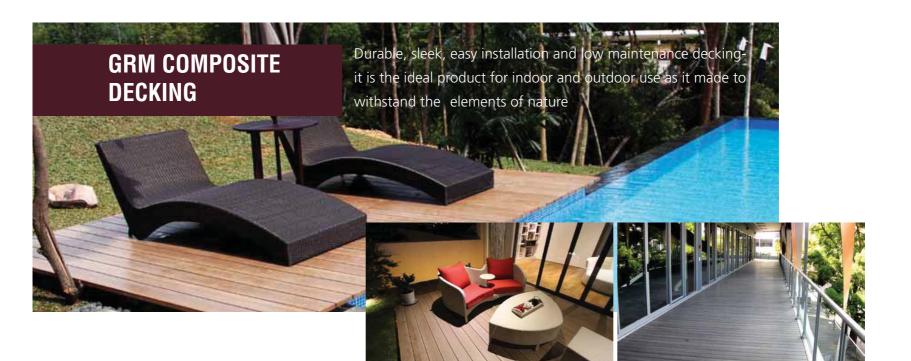


Can be fixed with screws

## FEATURES AND BENEFITS OF GRM PRODUCTS

Like similar applications of natural wood products, our products provide the beauty of natural timber appearances that have slight visible colour tone and hue differences across it. They also simulate the grain; grow rings and many other visual characteristics of timber.

GRM composite products behaves like wood and can be shaped using conventional woodworking tools but also provide the additional benefit of being moisture and rot resistant. GRM products are usually preferred over natural wood in many applications due to certain comparative advantages such as:





**Decking** 90 x 28

# DB 09028 w 90mm x h 28mm



Decking 90 x 32











# Decking End 140 x 28

# DBE 14028 w 140mm x h 28mm



**Decking Tongue & Groove** 140 x 28

# DBTG 14028 w 140mm x h 28mm





# DBS 14028 w 140mm x h 28mm



Decking 140 x 32





# DB 16520 w 165mm x h 20mm



**Decking Bone** 45 x 35 # DB 04535 w 45mm x h 35mm

### **GRM DECKING CLIP INSTALLATION METHOD**







**Decking Clip** 28mm / 3mm ADC 28-3 T





**Stainless Connector** 28 mm/3mm ADC-S/S h







فته طنه طنه DC 08307/4 W 83mm x H 7mm



**Decking Clip Brown** 20mm / 3mm ADC 20-3 T







#### **GRM COMPOSITE INTERNAL PANELLING**

With its natural timber look, an alternative application for residential or commercial that bring adding value to your investment. With its easy installation, painting or varnishing is not required for internal application for ceiling or internal panelling.





Wall Panel Indoor 320 x 14

# WPI 32014 w 320mm x h 14mm



909000 # WPI 10010 w 100mm x h 10mm



Wall Panel Indoor

# WPI 05003 w 50mm x h 3mm



Wall Panel Indoor 240 x 6 \_\_\_\_\_

# WPI 24006

w 240mm x h 6mm



# WPI 06007 w 60mm x h 7mm



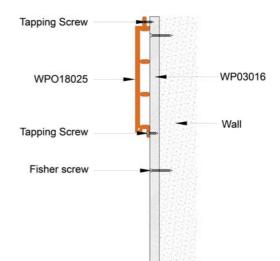
Wall Panel Indoor 18 x 6

# WPI 01806 w 18mm x h 6mm



### GRM COMPOSITE WALL PANEL OUTDOOR

Protect your home or building against the elements of nature with style. Simply a touch of elegance which brings warmth and architecturallydesign to your home or building.





Wall Panel Outdoor 200 X 35



w 200mm x h 35mm



Wall Panel Outdoor 185 x 18



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**Wall Panel Outdoor** 240 x 30

# WPO 24030

w 240mm x h 30mm

Wall Panel Outdoor

208 x 56

198 x 12

# WPO 20856 w 208mm x h 56mm

# WPO 19812

w 198mm x h 12mm

Wall Panel Outdoor

Wall Panel Outdoor

160 X 60

# WPO 16060

w 160mm x h 60mm



Wall Panel Outdoor 240 x 28

# WPO 24028 w 240mm x h 28mm



Wall Panel Outdoor 200 x 6

# WPO 20006 w 200mm x h 6mm





Wall Panel Outdoor 180 x 33

# WPO 18033 w 180mm x h 33mm

Wall Panel Outdoor 180 x 06



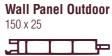
w 180mm x h 06mm







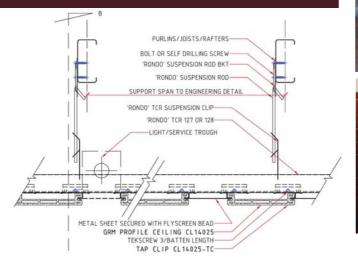




w 180mm x h 25mm

# WPO 15025 w 150mm x h 25mm

### **GRM COMPOSITE** CEILING







#### Ceiling Panel 248 x 10

# CL 24810 w 248mm x h 10mm



# CL 12408 w 124mm x h 8mm

#### **Ceiling** 96 x 15

٢ כ # CL 09615 w 96mm x h 15mm



#### **Ceiling** 68 x 25

# CL 06825 w 68mm x h 25mm



**Ceiling** 100 x 12 ------# CL 10012

Ceiling Panel 140 x 25

# CL 14025 w 140mm x h 25mm

w 100mm x h 12mm



# CL 07010 w 70mm x h 10mm



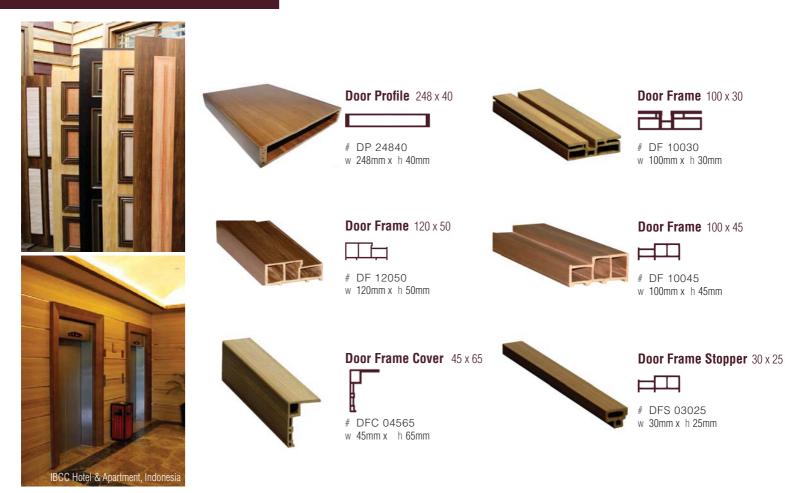
**Ceiling** 68 x 16

# CL 06816 w 68mm x h 16mm



### **GRM COMPOSITE DOOR PROFILE**

Smooth aesthetically pleasing design and finish. Integrated architrave with fine curved edges and a finish that enhances the overall appeal.



#### **GRM COMPOSITE** HALF LOG

Simply rugged, lightweight and durable fire retardant composite half log profile which provides a country facade look.









Half Log 65 x 32 

# HL 06532 w 65mm x h 32mm



IBCC Hotel & Apartment, Indonesia

Mulia Villa, Indonesia

### **GRM COMPOSITE** WALL PANEL

With its low maintenance, sleek appearance, easy installation design, our column and ceiling are the ultimate addition to your building to stylize and protect it.



#### Wall Panel 160 x 16

- # WP 16016
- w 160mm x h 16mm



#### 

WPH 16016 w 160mm x h 16mm



#### Wall Panel 120 x 3

# WP 12003 w 120mm x h 3mm



#### Wall Panel 65 x 16

WP 06516 # w 65mm x h 16mm



#### Wall Panel 50 x 12

# WP 05012

#### w 50mm x h 12mm





# WP 05010 w 50mm x h 10mm



#### Wall Panel 30 x 16

# WP 03016 w 30mm x h 16mm







#### GRM COMPOSITE COLUMN

GRM composite column is a simple, cost effective and attractive column. Simply lightweight and a unique innovative system.





**Octagon Column** 35 x 12

Column Panel 100 x 25

**Column Panel** 88 x 12

# CP 10025

w 100mm x h 25mm

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# OC 03512 w 35mm x h 12mm





### **GRM COMPOSITE** COLUMN

GRM composite column is a simple, cost effective and attractive column. Simply lightweight and a unique innovative system.















Octagon Column 35 x 12





**PROFILE JOINT Column Panel & Column Panel Joint** 88 x 12 30 x 30



**PROFILE JOINT Octagon Column & Column Panel** 35 x 12 88 x 12



**PROFILE JOINT Column Panel & Column Panel** 232 x 25 100 x 25



**PROFILE JOINT Octagon Column & Column Panel** 35 x 12 188 x 12



**PROFILE JOINT** Circle Column Dia.





236 x 12

### GRM COMPOSITE LOUVER BLADES

Look no further if you are seeking a stylish, low maintenance, easy to install solution to provide privacy and protect your outdoor area.



### GRM COMPOSITE FACADES SCREEN

With its low maintenance and easy installation design, our facades are ultenate addition to your buiding to stylise and protect it.





#### Facade Screen 280 x 40

# FS 28040 w 280mm x h 40mm

ГТ



### **Facade Screen** 250 x 100



# FS 250100 w 250mm x h 100mm

Facade Screen

# FS 09025 w 90mm x h 25mm

90 x 25



#### **Facade Screen** 220 x 50



# FS 22050 w 220mm x h 50mm



### **Facade Screen** 50 x 75



# FS 05075 w 50mm x h 75mm





### Facade Screen with Clip $50 \times 50$

# FSC 05050 w 50mm x h 50mm





### ALUMUNIUM FOR LOUVER BLADES



 Louver Insert
 & Louver

 300 x 50
 300x50



ALUMUNIUM JOINT Louver Insert & Louver 300x50 300x50













GRM Black Louver Cover-300 A ALC 30050 A

#### PLASTIC COVER FOR LOUVER BLADES



GRM Black Louver Cover-90 A ALC 9019 A



GRM Black Louver Cover-90 B ALC 9019 B



GRM Black Louver Connector-90 (P) ALC PC9019



GRM Black Louver Cover-150 ALC 15035



GRM Black Louver Connector-150 (D) ALC DS15035



GRM Black Louver Connector-150 (P) ALC PS15035



GRM Black Louver Cover-300 B ALC 30050 B



GRM Black Louver Connector-300 (D) ALC DS30050



GRM Black Louver Connector-300 (P) ALC PS30050

### **GRM COMPOSITE SIDE 4 SIDE OUTDOOR**

With our variety scantling sizes of S4S Composite Wood, you can apply our products to commercial facade applications.







63 x 30 







# S4SO 06330

w 63mm x h 30mm

Side 4 Side Outdoor



w 56mm x h 35mm







32 x 32

# S4SO 04232 w 42mm x h 32mm

Side 4 Side Outdoor







# S4SO 07575 w 75mm x h 75mm

# S4SO 03232





Side 4 Side Outdoor 150 x 30



# S4SO 15030 w 150mm x h 30mm

Side 4 Side Outdoor 100 x 50

# S4SO 10050 w 100mm x h 50mm

Side 4 Side Outoor 100 x 25

# S4SO 10025 w 100mm x h 25mm

Side 4 Side Outdoor 90 x 90





# S4SO 08040 w 80mm x h 40mm



The Jewel Box at Mount Faber, Singapore





: Grand Summit, Indonesia Тор

Middle : Sun Yat Sen Memorial Hall. Hong Kong Bottom : Fast Food Restaurant. Thailand

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### **GRM COMPOSITE SIDE 4 SIDE INDOOR**

With our variety scantling sizes of S4S Composite Wood, you can apply our products to commercial facade applications.



#### Side 4 Side Indoor 75 x 75

# S4SI 07575 w 75mm x h 75mm



75 x 50

Side 4 Side Indoor

# S4SI 07550 w 75mm x h 50mm



Side 4 Side Indoor 56 x 35

# S4SI 05635 w 56mm x h 35mm



Side 4 Side Indoor 50 x 50 # S4SI 05050











Side 4 Side Indoor

150 x 50



# S4SI 15030 w 150mm x h 30mm



100 x 50

Side 4 Side Indoor

# S4SI 10050 w 100mm x h 50mm

#### Side 4 Side Indoor 100 x 25

# S4SI 10025 w 100mm x h 25mm

#### Side 4 Side Indoor



S4SI 09090 # w 90mm x h 90mm





w 80mm x h 40mm

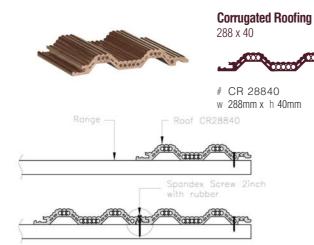
Waroeng Lamongan, Batam Top: Bottom L: Wilkinson Road, Singapore Bottom R: Grand Summit, Indonesia

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### **GRM COMPOSITE** ROOFING

GRM composite roofing is designed lightweight, robust, non-combustible and provides an aesthetic natural wood look which will complement the ambience feeling of nature.





...........

HILE DE STATUTO

Top: Bottom:

Grand View Resort, Taiwan Japanese Sushi Restaurant, Indonesia

### GRM COMPOSITE RAIL & FENCE SYSTEM







**Handrail** 42 x 5



Baluster

31 x 31 # BL 03131 w 31mm x h 31mm





Imagine what you can do with our composite Railing & handrail system, simply innovative and versatile.



120 x 120 # FP 120120 w 120mm x h 120mm

Fence Post



# FP 30050

w 300mm x h 50mm

Handrail



# HR 06055 w 60mm x h 55mm

#### Handrail 60 x 59

 $\oplus$ 

# HR 06059 w 60mm x h 59mm



# HR 13050 w 130mm x h 50mm

**Handrail** 115 x 50



# HR 11550 w 115mm x h 50mm







63 x 56

**Post Support** 

# PS 125125 w 125mm x h 125mm

**Support Rail** 

47 x 47

125 x 125

# BR 06356 w 63mm x h 56mm





Top:Jewel Box, SingaporeBottom L:Warehouse, Indonesia

### **GRM COMPOSITE** The decorative finishing touch accessories for every-application for decking, flooring, cladding **FINISHING ACCESSORIES** and ceiling application. 0 Cover Mould 21 x 5 **Cover Mould** 28 x 6





# CM 02806 w 28mm x h 6mm









Edge Profile 28 x 28

# EP 02828 w 28mm x h 28mm







# CM 02105



Г # EP 07530 w 75mm x h 30mm

Edge Profle 21 x 21

Г # EP 02121 w 21mm x h 21mm



**Quad** 19 x 19 # Q 01919 w 19mm x h 19mm

**Quad** 12 x 12

# Q 01212 w 12mm x h 12mm





w 9mm x h 9mm



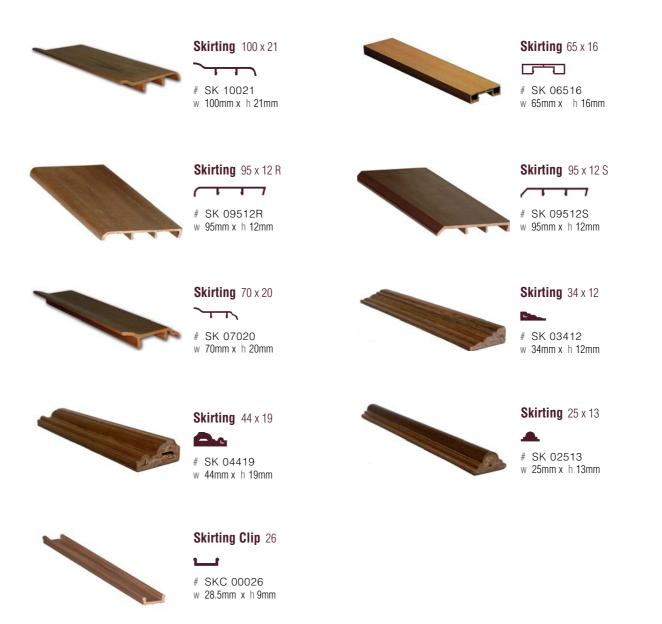






#### GRM COMPOSITE SKIRTING

Our architectural fire retardant composite skirtings adds it final touches to add elegance for different application.





# Material Properties

PROPERTY	STANDARD	RESULTS
Density(kg/m³)	ASTM D2395 : 2007a	694 kg/m <sup>3</sup>
Shore D Hardness, median	ASTM D2240 : 2000	53
Water Absorption (%)	ASTM D1037 : 2006a Section 23 Method A	After 2 Hours - 0.33%
	ASTM D1037 : 2006a Section 23 Method A	After 24 Hours - 0.69%
Nail Pull Resistance	ASTM D1037 : 2006a Section 14	791N
Maximum Tensile Strength (Mpa)	ASTM D638 : 2003	15.6 Mpa
Modulus of Elasticity (Mpa)	ASTM D638 : 2003	1684 Mpa
Elongation at break (%)	ASTM D638 : 2003	2.7%
Flexural Strength (Mpa)	ASTM D6109 : 2005	32.2 Mpa
Modulus of Elasticity (Mpa)	ASTM D6109 : 2005	2102 Mpa
Maximum Compressive Strength (Mpa)	ASTM D695 : 2002a	193 Mpa
Coefficient of Thermal Expansion	ASTM E831 : 2000	A) After a1 (25 to 50° C): 92 μm/m°C
	ASTM E831 : 2000	B) a2(90 to 110°C) 298 μm/m°C
Fire Test	A) British Standard 476 : Part 6 : 1989	Class 2
	B) British Standard 476 : Part 7 : 1997	Class 2
	C) ASTM E84 : 2009c	Class B
Csiro Fire Test	AS/NZs 3837:1998	25kW/m <sup>2</sup> Pass
	AS/NZs 3959:2009	BAL 29 Pass
Formaldehyde	ENV 717-1:2004	Pass
Heavy Metal*	HS-GC-MSD	N.D***
Solvent**	HS-GC-MSD	N.D***
Linear Thermal Expansion Coefficient ASTM D696-08		62.50μm/m.°C

\*Lead (Pb), Cadmium (Cd), Chromium Hexavalent (Cr  $^{\rm 6*})$  , Chromium (Cr), Mercury (Hg)

\*\*Halogenated Solvent, Aromatic Solvent

\*\*\* ND - Not Detectable

# Material Properties

PROPERTY	STANDARD	RESULTS
Compression Strength (at 50% deformation)	ASTM D695-08	181
Compressive Strength	ASTM D695-08	20.6 Mpa
Vicat Softening temperature	ASTM D1525-07	83.4°C
Mechanical fastener holding test	ASTM D1037-06a Section 16	777.0N
Impact resistance	ASTM D4495-00(2005)	47J
Specific gravity	ASTM D2395-07a Method A	0.7415
Moisture content	ASTM D1037-06a section 6	0.27%
Total Volatile Organic Compounds Emissions	ASTM D5116-06	Pass
Formaldehyde Emission Rate	ASTM D5116-06	Pass
Phenylcyclohexene Emission Rate	ASTM D5116-06	Pass
Total Phthalates Emission	ASTM D5116-06	Pass
Total Particles Emission	ASTM D5116-06	Pass
Ignitability	AS / NZS 1530.3:1999	13 / 20
Spread of Flame	AS / NZS 1530.3:1999	0 / 10
Heat Evolved	AS / NZS 1530.3:1999	1 / 10
Smoke Developed	AS / NZS 1530.3:1999	7 / 10
Coefficients of Friction with Intergrain Ultradeck and Ultra Grip Coating	AS/NZS 4856:2004	R11
Coefficients of Friction	ASTM D1894:2001	Us - 0.40 Uk - 0.21
Measurement of Gamma Radiation	In House Lab Testing Method	ND
Measurement of Selenium, Se	Inductively Coupled Plasma - Automic Emission Spectrometry	<10.0 ppm
Measurement of Asbestos	NOISH 9002	ND

All test are either done by TUV - PSB Singapore, Sucofindo - Indonesia, SGS - Singapore, SGS - China, Sirim Malaysia or CSIRO Australia. Contact our sales representaitve for more detailed test reports.

Manufacturer	PT. Green Resources Material Latrade Industrial Park, Block E-3 JL. Sei Binti, Tanjung Uncang Batam 29422 IndonesiaGreen Resources 18 Mandai Estate Singapore 729910 t (+65) 3150 608		#07-03	
	t (+62) 778 393 899 f (+62) 778 393 299 e wpc@latrade-batam.com w www.grm.latrade-batam.com	f (+65) 6793 03 e wpc@latrade. w www.grm.latra	365 .com.sg	
Australia	Unit 2, 74-80 Helen Street, Sefton NSW 2162 Australia		ar GRM Biowood Myanmar Co. Ltd No. 63 Setsayar U Tun Street, Shwe Pyi Thar Industrial Zone 4 Shwe Pyi Tha Township, Yangon	
	t (+61) 2 9644 6766 f (+61) 2 9644 5633 e info@grmaustralia.com.au w www.grmaustralia.com.au		t (+95) 1 2301008 / 2301004 f (+95) 1 215581	
Batam	PT. Mulia Artha Graha MAG Marketing Office, Latrade Industri JI Sei Binti, Tanjung Uncang		<b>10</b> Creative Solutions & Innovation Rm. 603 Allied Bank Bldg 410 Quintin Paredes St, Binondo, Philippines Manila	
	Batam 29422 Indonesia t (+62) 812 70103080 / (+62) 811 69 f (+62) 778 393 299 e info@mag-batam.com		t (+63) 2247 2068 m (+63) 9209700200 e ungjames.csi@gmail.com	
Brunei Sarawak Sabah	w www.mag-batam.com Goldmyne Hardware Sdn Bhd Spg.322 Unit No. 1 & 2	Singapo	<b>re</b> GRM Biowood International (SG) Pte Ltd 190 Yio Chu Kang Road Singapore 545637	
	Blk C, Warisan Mata-Mata Complex Kampong Mata-Mata, Gadong BE1718, PO Box 1079 Gadong Post Office, BE3978, Bandar Seri		<ul> <li>t (+65) 6281 1707</li> <li>f (+65) 6281 1830</li> <li>e sales@tsh.com.sg</li> <li>w www.tsh.com.sg</li> </ul>	
	Begawan, Brunei Darussalam t (+673) 2448109 f (+673) 2447377		San Synergy Pte Ltd 7030 Ang Mo Kio Ave 5 #07-36 Northstar@AMK Singapore 569880	
<b>China</b> Dashan (ShenZhen) Environmemtal Technology Pte L No 33, 17/F, Changpin, Honghua			t (+65) 6522 5806 m (+65) 9631 1664 e gerald.lim@san-synergy.com	
	<ul> <li>99 Futian Free Trade Zone,</li> <li>Shenzhen,518038</li> <li>t (+86) 755 83983058</li> <li>f (+86) 755 83983048</li> </ul>	Taiwa	an Latrade Green Resources Material Co.Ltd 2nd Floor, 301 Sung Chiang Road Taipei 104, Taiwan R.O.C	
	e dashanmu@hotmail.com w www.dsgrm.com	Theiler	t (+886) 02 25053841 f (+886) 02 25163715	
Jakarta	PT. Composite Solutions Kawasan Industri Pulogadung JI. Pulobuaran Raya Gudang No. IIA Jakarta Timur 13920 - Indonesia	Inanar	nd GRM (Thailand) Co., Ltd 431 Prachanarumit Road Bang Sue Bangkok 10800, Thailand t (+662) 585 4784	
	t (+62) 21 4683 0995 f (+62) 21 4683 0994 e info@grm-compositesolutions.com w www.grm-compositesolutions.com		<ul> <li>f (+662) 911 2265</li> <li>e biowoodthailand@gmail.com</li> <li>w www.grmthailand.com</li> </ul>	
Malaysia	TPN Composite Wood Sdn. Bhd f (+60) 162448788	Vietna	<ul> <li>Tan Thanh Co. Ltd</li> <li>5th Floor, HEAC Building</li> <li>14 -16 Ham Long Street</li> <li>Hanoi - Vietnam</li> </ul>	
	<ul><li>e info@tpncompositewood.com</li><li>w www.tpncompositewood.com</li></ul>		t (+844) 3945 4058 f (+844) 3945 4061	





# Composite wood... ...it is wood

Beautiful, natural and renewable... GRM products enhances our living environment. Its stored carbon and low embodied energy help reduce our carbon footprint which contribute to the Greenhouse effect. Not only are you considering the environment when choosing GRM products, you are choosing a sustainable, high quality timber alternative that can also add value to your investment. Whit hollow structure design, GRM products stronger then solid design, not easy to bend and cool when summer



member of







green building council australia MEMBER 2011-2012





