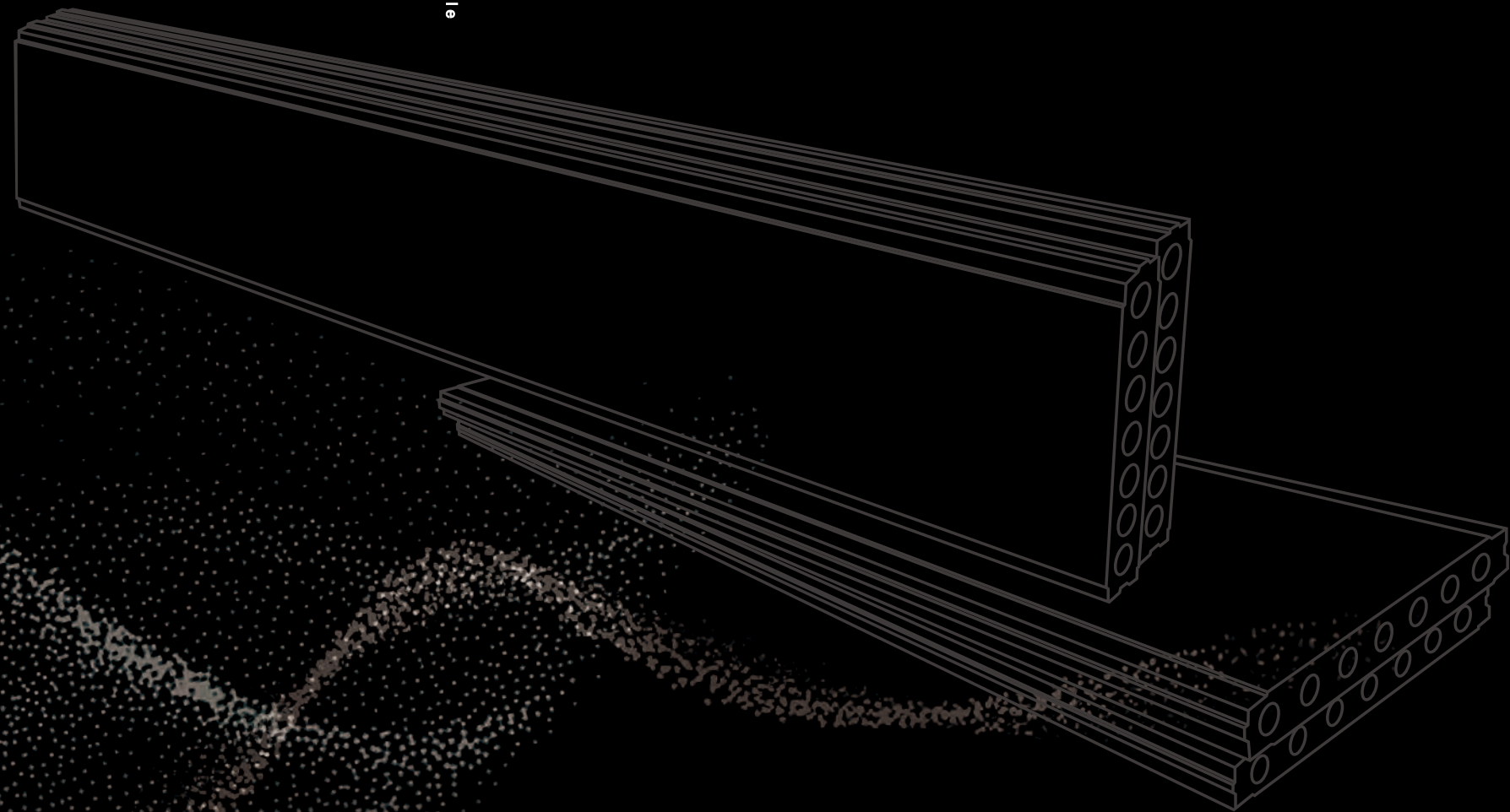


Ref: JCP/08/2022/007

JOE Green Concrete Panel Profile



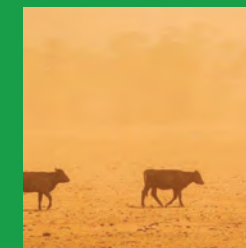
E-Catalogue :



Contact Us :







BOEDIMAN WIDJAJA、黄忠仁先生- 工商管理硕士  
JOE Green Group创始人兼首席执行官



“用可再循环废料创造和开发环保的轻质骨料，这些再生骨料可减低全球气候变暖的挑战，以进一步建立未来可持续发展的环保计划。”

走向绿化 ♻️ 走向全球



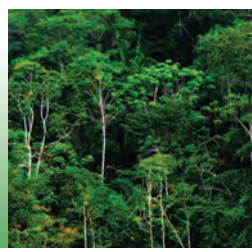
## 关怀与热诚

我们只有一个地球（JOE-仅有一个地球），我们必须保护好它防止因污染和对大自然的过度开发而引发全球变暖。

JOE Green是零废料制造商。所有生产废料与未通过质量控制的墙板将被再循环。

JOE Green是一家拥有ISO 14001:2015质量管理体系认证的公司，该证书有助于以可持续的方式保护我们的环境。此外，JOE Green在提高工厂效率、节约资源、减少浪费以及安全设计和优质墙体方面的表现也获得了ISO 9001:2015质量管理体系的认证。同时，以ISO 45001:2018质量管理体系为指导，以创建健康，安全的工作环境，以最大程度地减少失误和意外事故的发生。该认证符合新加坡安全之星证书(bizSAFE Star) 的标准。

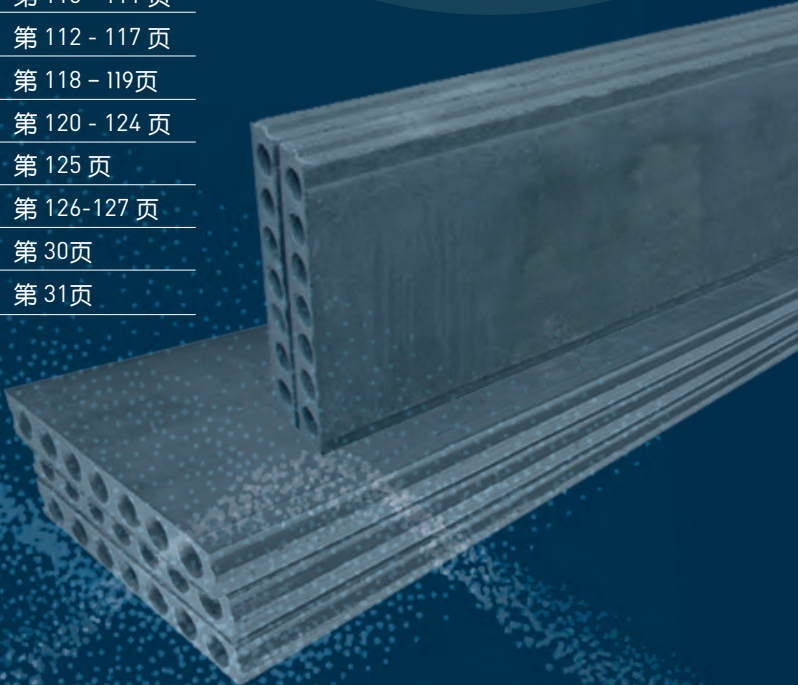
目前，JOE Green所生产的产品被认为是一种环保且超高效的产品，并认证至少可使用占有原材料30%的再生混凝土骨料。 我们的产品因在新加坡、马来西亚、柬埔寨和印度尼西亚的著名项目而受到新加坡和国际上著名的开发商、建筑师、专业顾问和承包商的信赖与推荐。





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零浪费



可持续发展的环保规划  
快

速发展是造成碳足迹的最大因素因为混凝土是建筑环境的主要组成部分（占2019年全球二氧化碳排放量的8%）。在这种情况下，JOE Green和Gramata Fordea公司提供了从整体上减少碳排放量的解决方案。

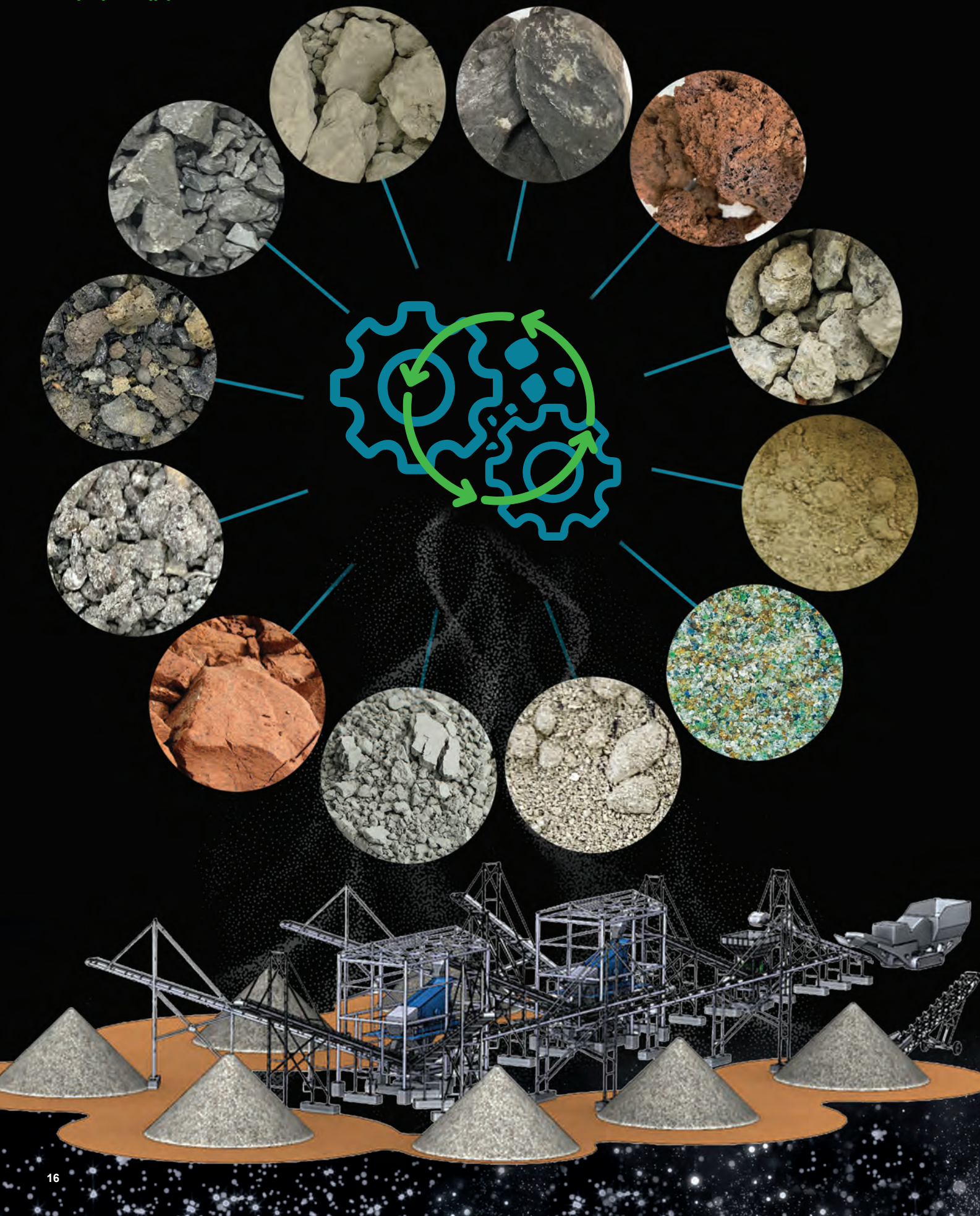
新加坡政府一贯重视寻找一食用水、食品、沙子、废料处理和有限堆填区，以及越来越多废料成为严重环境困扰的解决方案。

我们的使命是将废料变废为宝，利用其为混凝土和其他行业的新再生材料，这是非常关键的解决方案。 由于对这种骨料的巨大需求，我们将能大量回收废料在循环，做再生骨料。

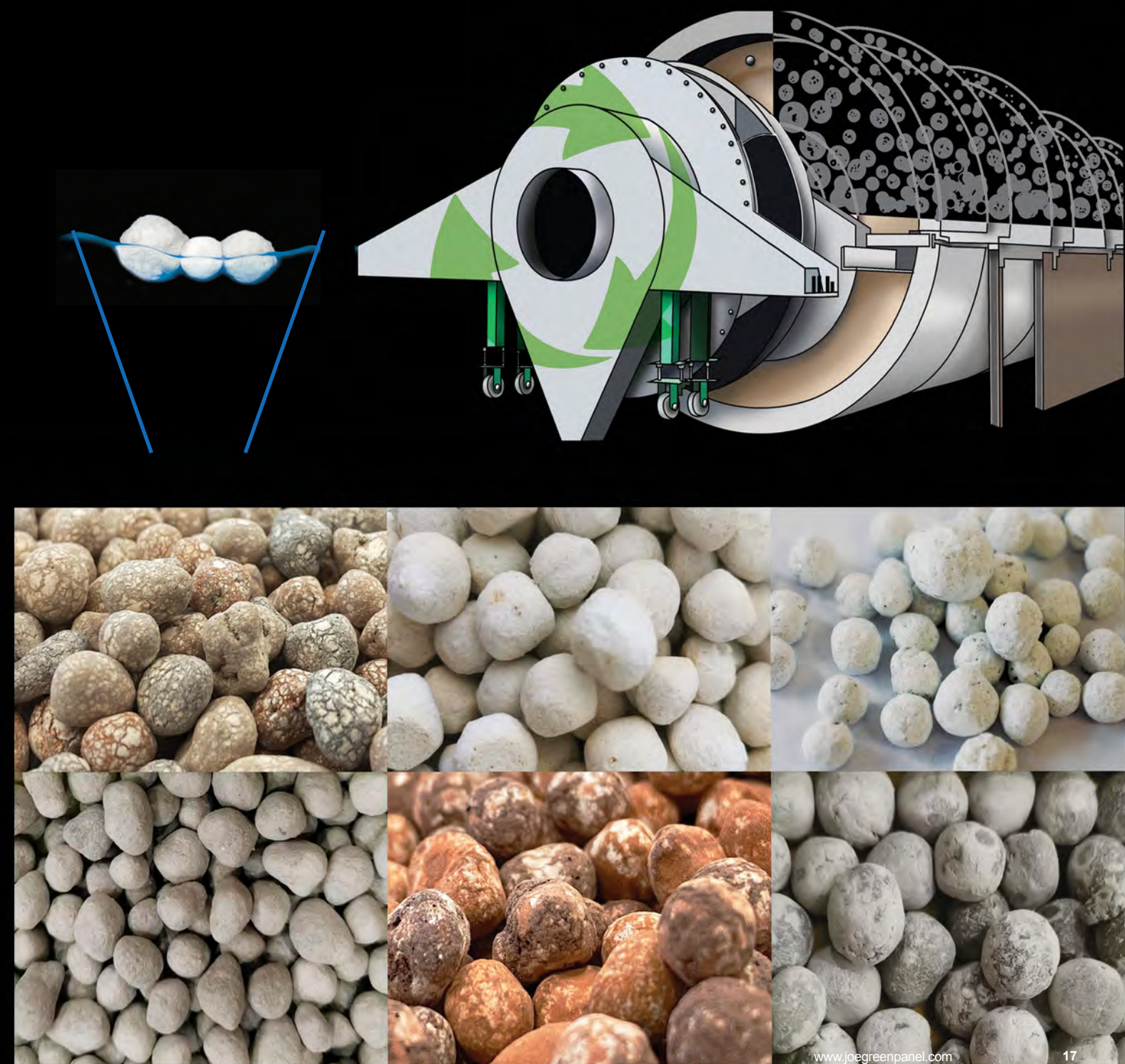
碳排放量对社会和经济的影响







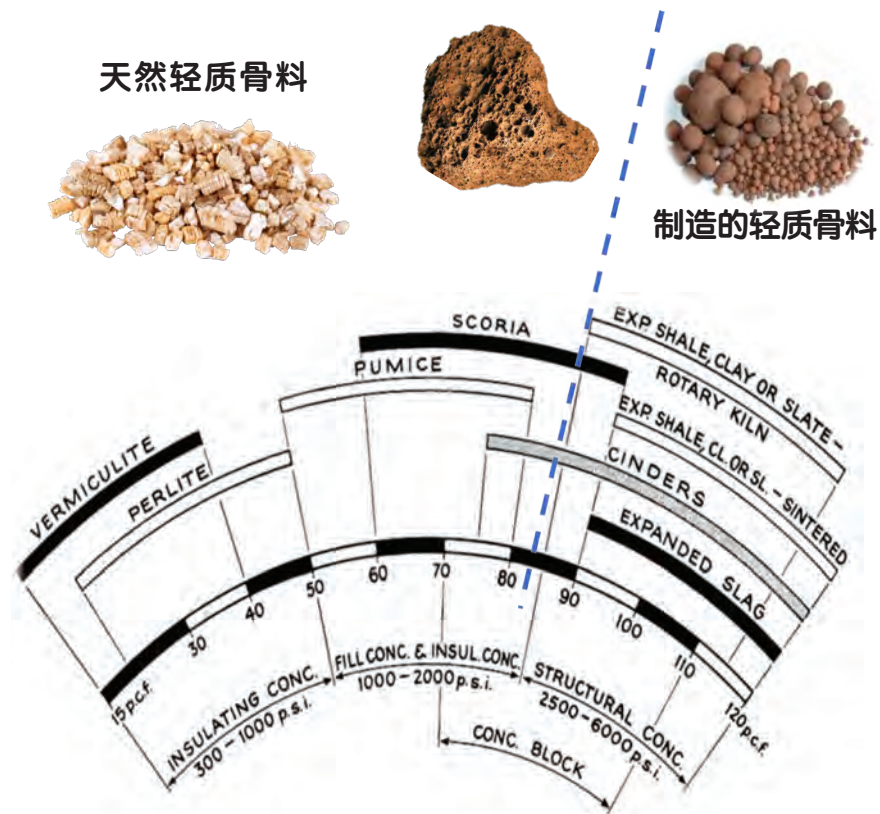
我们与顶尖的创新制造商展开合作，以便开发出了低碳排放的高科技以及节能设备。  
 我们使用最新的设备能将各废料转化为各类轻质骨料，有助于环保，且可用于各种行业。



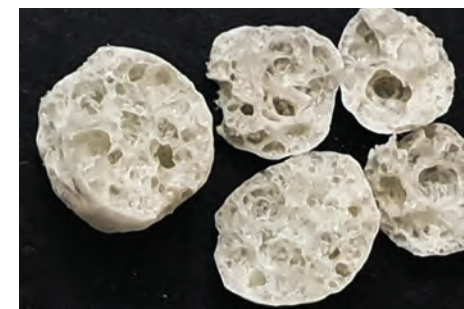


## 环保的轻质骨料是什么？

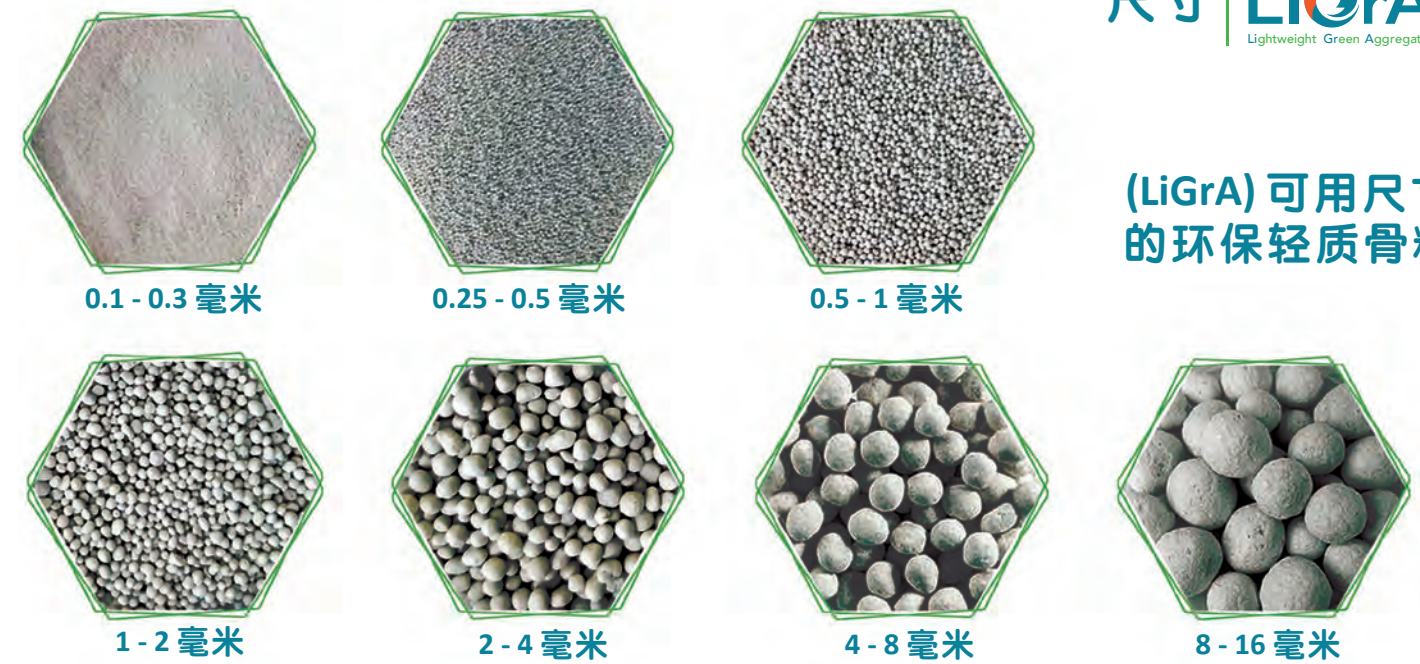
轻质骨料是具有许多应用的轻质材料的颗粒或粒料。它们既可以从自然资源中开采，也可以使用矿物制造。另一方面，轻质绿色骨料 (LiGrA) 是由废料制成的。



结构化的环保轻质骨料(LiGrA)  
密密麻麻的毛孔



非结构化的环保轻质骨料(LiGrA)  
松散的毛孔粗大



(LiGrA) 可用尺寸  
的环保轻质骨料

## 用再生轻质混凝土建造的轻质结构



Duke Energy Centre ( 美国 )



Heidrun Platform ( 挪威 )



Wellington 体育场 ( 新西兰 )



The Nordhordland 桥梁 ( 诺德兰 )

## 环保型轻质混凝土是什么？

环保型轻质混凝土是通过用轻质骨料代替重骨料来生产的。



1立方米正常重量  
混凝土

水泥	细骨料 (沙)
水	粗骨料 (花岗岩)

密度 2400 公斤/立方米



部分替换或  
完全替换  
已取代

1立方米的轻质  
混凝土

水泥	细骨料 (轻质骨料)
水	粗骨料 (轻质骨料)

密度 800 至 2000 公斤/立方米  
用于结构应用  
和  
低于密度 800 公斤/立方米  
用于非结构性应用

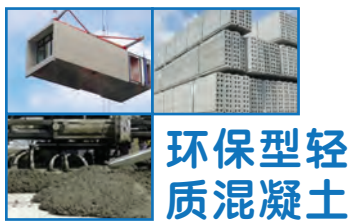


# 是解决方案



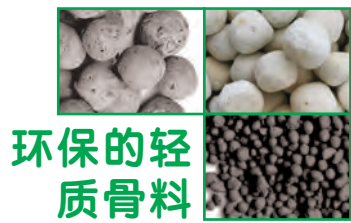
LiGrA 凭借其技术能够将**废料**转化为绿化，**环保的轻质骨料**，从而作为**环保型轻质混凝土**的再生骨料。

- 提供回收废物的途径
- 减少垃圾填埋和废物处理问题
- 减少对自然资源的开发
- 制造优于其原始形式的产品



### 优点：

- 节省成本和施工时间
- 节省搬运和运输成本
- 节省基础成本
- 更耐用的结构
- 更抗地震
- 更长的建筑使用寿命
- 立柱间节省的空间更大
- 节省过樑和加劲肋成本
- 较低的起重能力
- 节能
- 建立可持续发展的环境

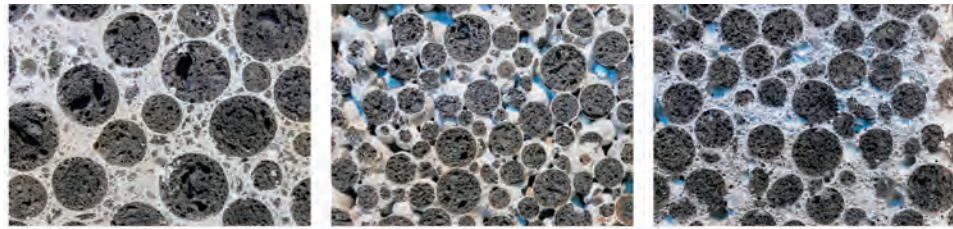


### 优点：

- 轻巧而结实
- 100% 可回收和再循环
- 环保
- 碳排放量更低
- 经济又有竞争力
- 对健康无危害
- 不可燃
- 高耐火性
- 良好的防火隔热能力
- 高隔音
- 吸水率低

## 再生轻质混凝土优于普通重量混凝土

内部和外部固化	持续的力量增长
强大的界面骨料和水泥	终身耐用
骨料和水泥的模量相容性	均匀应力分布

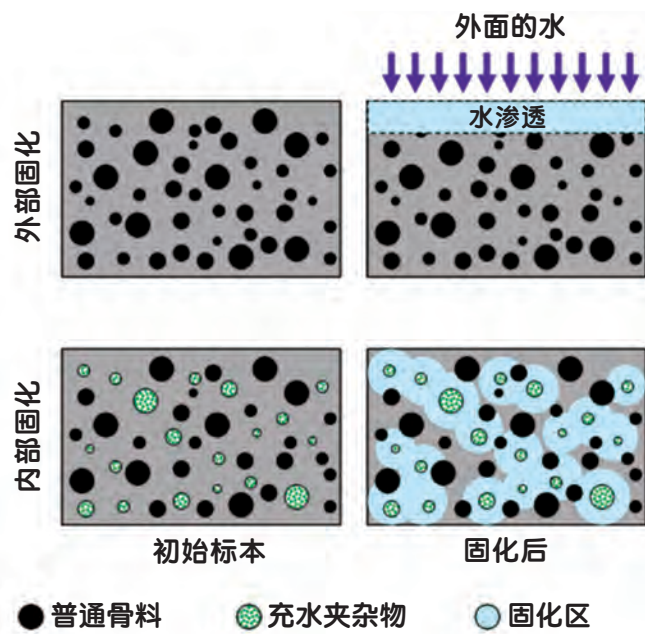


(a) 具有密集矩阵结构的结构轻质混凝土图像；  
(b) 具有开孔结构的轻骨料混凝土图像；  
(c) 多孔基体填充开孔结构的轻骨料混凝土图像

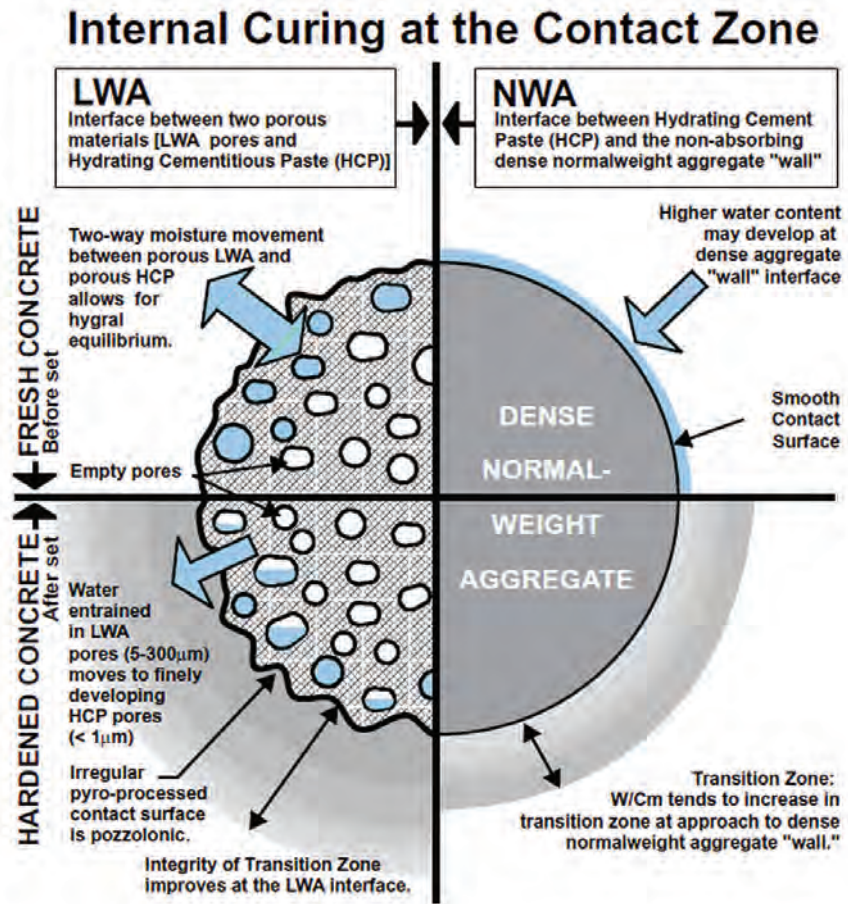
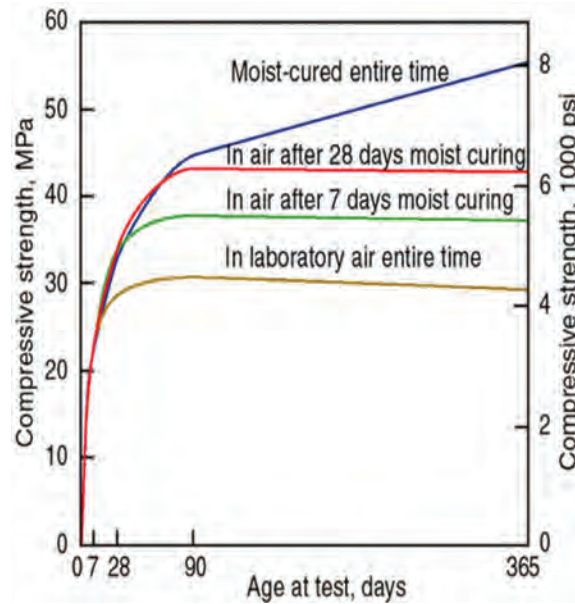


下水轻质混凝土船 U.S.S. 1919 年的 SELMA

1919 年：26.7 兆帕  
1980 年：55.2 兆帕



## 轻质混凝土卓越的性能





LiGrA 的技术与一些知名大学、专业人士和工业参与者的高等教育研究所协力合作，为建筑行业提供先进的建筑材料。我们的新配方和定制产生了许多新产品，这些产品提供了具有成本效益的高质量解决方案，并与技术保持同步并开拓新领域。我们先进的研发实验室和敬业的专业科学家和工程师不断为未来开发新的可持续绿色产品。符合世界 GO GREEN PLAN 的基准。



隔热（屋顶，地板，防火门）



耐热石膏和干灰浆



耐热涂料和墙纸



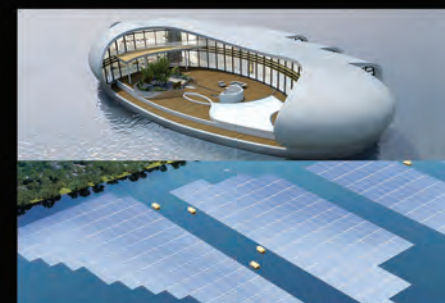
PPVC & PBU 预制混凝土



轻质建材



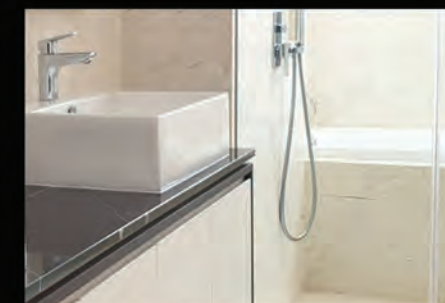
轻型现成混凝土和  
Industrialised Building System (IBS)



浮动混凝土和结构



油田管道保温



用于陶瓷和聚合物产品的轻质  
填料



岩土工程应用（挡土墙，土壤稳  
定性和地基）



废水处理



汽车车身复合材料



水培培养基



过滤介质



装饰材料





建筑废料



至少含有 30% RCA

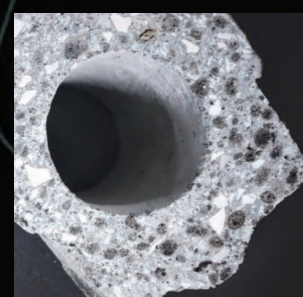


## JOE Green 的墙板设计凹槽



### XS/X5

厚度 : 75 - 200mm  
公称重量 : 128 - 281 kg/m<sup>2</sup>  
防火等级 : 1 - 4 小时  
隔音性能 : STC 47 - 58  
公称密度 : 2,200 kg/m<sup>3</sup>  
吸水率 : 6%  
抗压强度 : >40 MPa



### X3

厚度 : 75 - 200mm  
公称重量 : 93 - 204 kg/m<sup>2</sup>  
防火等级 : 2 - 4 小时  
隔音性能 : STC 45 - 54  
公称密度 : 1,600 kg/m<sup>3</sup>  
吸水率 : 11%  
抗压强度 : >25 MPa



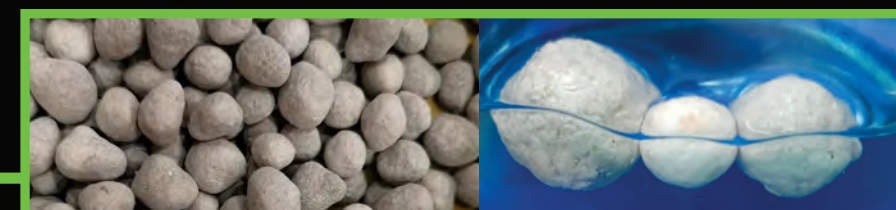
### X2

厚度 : 75 - 200mm  
公称重量 : 84 - 166 kg/m<sup>2</sup>  
防火等级 : 2 - 4 小时  
隔音性能 : STC 41 - 50  
公称密度 : 1,300 kg/m<sup>3</sup>  
吸水率 : 14%  
抗压强度 : >15 MPa



### X1

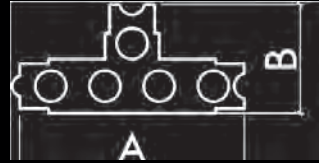
厚度 : 75 - 200mm  
公称重量 : 58 - 115 kg/m<sup>2</sup>  
防火等级 : 2 - 4 小时  
隔音性能 : STC 39 - 48  
公称密度 : 900 kg/m<sup>3</sup>  
吸水率 : 15%  
抗压强度 : >5 MPa



材质 : 环保轻质集料  
特点 : 超轻、结实、坚固  
性能 : 比其它空心墙板轻  
耐火性高  
吸水性低  
隔音性能强  
抗压强度更高  
绿色环保  
经济实惠  
只刷一层灰泥

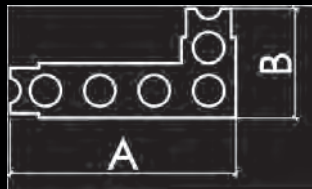


## T型接头



可选厚度	尺寸
75mm, Ø 40mm	: A=290mm : B= 143mm
90mm, Ø 58mm	: A=290mm : B= 185mm
100mm, Ø 64mm	: A=290mm : B= 195mm
150mm, Ø 40mm	: A=290mm : B= 270mm
200mm, Ø 64mm	: A=290mm : B= 350mm

## L型接头



可选厚度	尺寸
75mm, Ø 40mm	: A=290mm : B= 143mm
90mm, Ø 58mm	: A=290mm : B= 185mm
100mm, Ø 64mm	: A=290mm : B= 195mm
150mm, Ø 40mm	: A=290mm : B= 270mm
200mm, Ø 64mm	: A=290mm : B= 350mm

### 可特殊定制其它尺寸

宽度: 100mm, 200mm, 和 300mm  
抗拉钢丝数量: 8 - 12 根  
固体板  
机电凹槽  
槽线  
隔音板  
钢筋和灌浆抗爆设计  
钢筋和灌浆加筋板

## 定制

宽度	: 600mm, 300mm, 200mm, 100mm
可选厚度	: 200mm, Ø 64mm 150mm, Ø 40mm 100mm, Ø 64mm 100mm, Ø 40mm 90mm, Ø 58mm 75mm, Ø 40mm

注: 可供实心面板  
(75mm 厚除外)  
可定制面板

标准 (XS / X5)	最大板高
200mm 实心	: 最高 6.0m (带钢丝)
150mm 实心	: 最高 6.0m (带钢丝)
100mm 实心	: 最高 6.0m (带钢丝)
200mm, Ø 64mm	: 最高 6.0m (带钢丝)
150mm, Ø 40mm	: 最高 6.0m (带钢丝)
100mm, Ø 64mm	: 最高 5.2m (带钢丝)
100mm, Ø 40mm	: 最高 6.0m (带钢丝)
90mm, Ø 58mm	: 最高 4.5m (带钢丝)
75mm, Ø 40mm	: 最高 3.3m

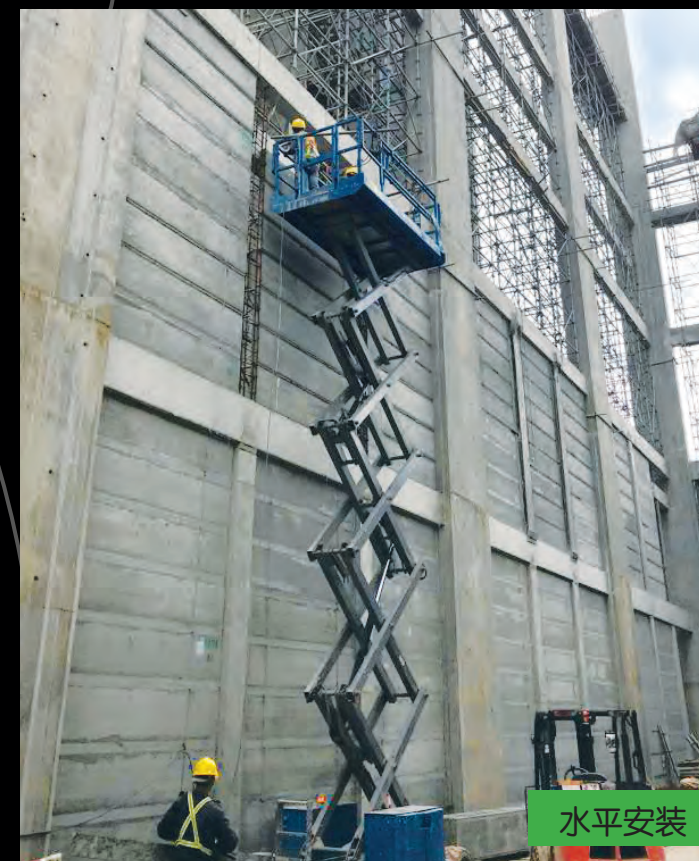
注: 高度 3.3m 米以上的面板将  
采用钢丝, 以确保安全性和抗  
冲击强度

X1 & X2 & X3	最大板高
X1 100mm, Ø 64mm	: 最高 5.2m (带钢丝)
X1 100mm, Ø 40mm	: 最高 6.0m (带钢丝)
X2 100mm, Ø 64mm	: 最高 5.2m (带钢丝)
X2 100mm, Ø 40mm	: 最高 6.0m (带钢丝)
X3 100mm, Ø 64mm	: 最高 5.2m (带钢丝)
X3 100mm, Ø 40mm	: 最高 6.0m (带钢丝)

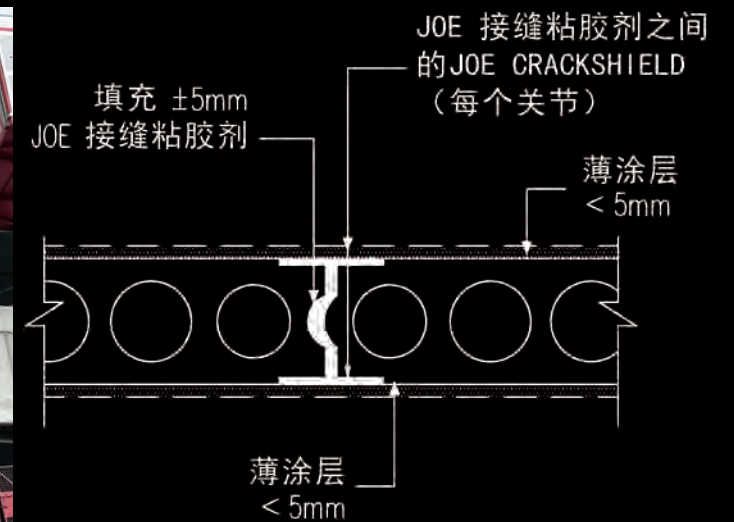
强化抗拉钢丝	: 抗拉强度最低 600 MPa (Ø3, Ø4.5, Ø5)
凹槽设计	: 深度 6mm 宽度 40mm



垂直安装



水平安装












长板用高强度钢丝加固



钢筋和灌浆定制



测试人员:

功能要求	JOE 标准环保混凝土面板		JOE 环保轻型板				
	100mm 实心	150mm 实心	100mm (Ø64mm) X1	100mm X1 实心	100mm (Ø64mm) X2	100mm X2 实心	100mm (Ø64mm) X3
ASTM - E90							
隔音性能 (STC)	{STC 54-55}	{STC 57-58}	STC 41*	无	STC 43*	{STC 45}	STC 47*
ASTM C 518							
热导性 (W/m <sup>0</sup> K) K - 值	0.9012	无	0.2306	无	0.535	无	0.4393
热阻 (m <sup>2</sup> °K/W) R - 值	0.111		0.434		0.189		0.2276
BS 476: 第 22 部分 : 1987							
耐火性							
完整性	无	无	196分钟*	无	132分钟*	无	无
隔热性			169分钟*		120分钟*		
挠曲试验 (mm)			-3mm		12mm		
曲线下的面积与标准之差 (%)			0.0		0.1		
耐火性 (4 小时, 单墙)							
完整性	260分钟*	260分钟*	无	240分钟*	无	240分钟*	120分钟*
隔热性	260分钟*	260分钟*		240分钟*		240分钟*	120分钟*
挠曲试验 (mm)	5mm	23mm		8mm		32mm	25mm
曲线下的面积与标准之差 (%)	0.0	0.0		0.0		0.0	0.0
BS EN 772							
抗压强度 - 立方体	57.90 N/mm <sup>2</sup>		-	-	-	-	-
抗压强度 - 截面	40.9 N/mm <sup>2</sup>	-	3.7 N/mm <sup>2</sup>	7.1 N/mm <sup>2</sup>	11.3 N/mm <sup>2</sup>	17.5 N/mm <sup>2</sup>	19.6 N/mm <sup>2</sup>
SS 271: 1983							
吸水性 (24 小时浸泡) - Setsco 实验室 (不得超过 23.5%)	5.57 %	无	14.94 %	20.16 %	14.60 %	12.58 %	11.31 %
干燥收缩 - Setsco 实验室 (不得超过 0.09%)	0.05 %		0.09 %		0.08 %		0.07 %
SS 492: 2001 / BS 5234 (冲击测试)							
隔断墙刚度的确定	无	无	标准偏差	无	标准偏差	无	标准偏差
小型硬体撞击造成的表面损坏			标准偏差		标准偏差		标准偏差
小型硬体冲击造成的穿孔			标准偏差		标准偏差		标准偏差
大型软体冲击造成的损坏			标准偏差		标准偏差		标准偏差
大型软体冲击造成的结构损坏			标准偏差		标准偏差		标准偏差
摔门测试			标准偏差		标准偏差		标准偏差
轻型锚具拉拔试验			通过了		通过了		通过了
轻型锚具下拉试验			通过了		通过了		通过了
重型锚具洗涤盆 (N)			1500		1500		1500
重型锚具壁厨 (N)			4000		4000		4000
水平荷载/人群压力 (3.0 kN/m)			达 3.0 kN/m		达 3.0 kN/m		达 3.0 kN/m
1. 挠度 (mm)			-0.745		-2.334		-0.4
2. 残余挠度 (mm)			-0.2		-0.2		-0.1
抗弯强度 (N/mm <sup>2</sup> )			10.80 N/mm <sup>2</sup>		0.8 N/mm <sup>2</sup>		3.5 N/mm <sup>2</sup>









**FOOTNOTE :**  
 \* - Varies as per thickness  
 # - Skimcoat Finishing  
 NA - Not Available

**REFERENCES :**  
 (1) Quoted the report by Lightweight Concrete Journal, that the moisture of AAC wall lab test at 45% moisture content when the wall is just built. In time to come, the moisture will drop to 3.5%. The ratio of 45% and 3.5% will result in what I said 11dB drop of sound insulation.  
 (2) Panels and other materials which show a water absorption test should directly be connected to the length of time the test sample was submersed under water.  
 The relationship between these two factors are important and directly related until maximum value is reached.  
 (3) Requires Plastering to achieve thickness to comply Code for electrical installation - 50mm cover to Electrical Conduits , without damaging the Steel Reinforcement of ALC Panel.

PROPERTIES		COMPARISON FOR 100MM THICK WALL MATERIALS					COMPARISON FOR 100MM THICK WALL MATERIALS				
		JOE X5 (XS)	Other Panel	Red Brick	JOE X3	AAC Block Bata Ringan	ALC/GIP Panel Bata Ringan	SANDWICH PANEL (EPS)	JOE X2	Dry Wall / Gypsum Board	JOE X1
TEST REPORTS	Nominal Density (kg/m3)	2200	2200	1760	1600	550	800	720	1300	10	900
	Weight (kg/m2)- 100mm thickness	135	145	160	96	80	80	72	85	100 (Frame & Insulation)	65
	Maximum Height without lintel (mm)	8000*	3300	3000	6000*	3000	6000	3000	6000*	2400	6000*
	Compressive Strength (MPa) Cube	49	25	2 - 4	-	4.5	4.5	-	-	NA	-
	Compressive Strength (MPa) Section	42-59	15	2.5	20	2.5 - 5	5 - 7	4	11 - 17	NA	3 - 7
	Water Absorption (Percentage)	6% (24-hr immersed)	5% (30-min immersed) <sup>2</sup>	15 - 25%	11% (24-hr immersed)	35 - 60%	35 - 60%	20%	13% (24-hr immersed)	Not Usable (Dry Areas Only)	15% (24 -hr immersed)
	Water Absorption (Capillary) g/m <sup>2</sup> s <sup>0.5</sup>	24	NA	NA	NA	130	190	45	11 (WP-SPEC)	Not Usable (Dry Areas Only)	NA
	Air Tightness Certified	Yes	No	No	No	No	No	No	No	No	No
	Thermal Coductivity (W/K.m) - 100mm (Lower is Better)	0.74	NA	1.15	0.44	0.15 - 0.25	0.15 - 0.25	0.26	0.54	0.17	0.23
	Fire Rating (Hours)	1 - 4	1 - 2 (needs infill)	1 - 2	2 - 4	3 - 4	2 - 4	1 - 4	2 - 4	1 - 2 (needs infill)	2 - 4
Sound Transmission Class (STC)	49 - 58	37 - 41	37 - 42	45 - 54	35 - 40 (11dB Drop after 3-6 Mos) <sup>1</sup>	40 - 46 (11dB Drop after 3-6 Mos.) <sup>1</sup>	41	41 - 50	35 - 52 (Rock Wool) (Requires Insulation)	39 - 48	
PERFORMANCE	Buildability (Labour Saving Index))	0.85 <sup>#</sup>	0.85 <sup>#</sup>	Demerits	0.85 <sup>#</sup>	0.10	0.85 <sup>#</sup>	0.85 <sup>#</sup>	0.85 <sup>#</sup>	1.00	0.85 <sup>#</sup>
	Productivity (m <sup>2</sup> /manday)	20	18	6	22	12	18	18	24	23	25
	Use of Green Recycled Material	Yes	No	No	Yes	No	No	No	Yes	No	Yes
	Use of Flammable Material	No	No	No	No	No	No	Yes	No	No	No
	Heavyweight Anchorage (4000N) Strength & Robustness	Severe Duty (Highest)	Severe Duty (Highest)	Pass (chemical & mechanical fixing)	Severe Duty (Highest)	Pass (chemical fixing)	Pass (chemical fixing)	Medium - Severe Duty	Severe Duty (Highest)	Pass (mechanical fixing- special bolt)	Severe Duty (Highest)
	Customised Height Available	Yes (8M)	No	No	Yes (6M)	No	Yes (3M or 6M only)	No	Yes (6M)	No	Yes (6M)
	Customised Thickness Available	75 - 200	75 - 200	100 - 230	75 - 200	100-200	75-200	100-200	75 - 200	75-150	75- 200
	Wire Reinforcement (safety & strength) (Earthquake, Vibration, Movement, Impact)	High tensile wire (600 Mpa) 3-5mm dia	No	No	High tensile wire (600 Mpa) 3-5mm dia	No	BRC Mesh	BRC Mesh	High tensile wire (600 Mpa) 3-5mm dia	Metal Stud	High tensile wire (600 Mpa) 3-5mm dia
	Crack Resistance Accessories	1. JOE UV Crackshield 2. JOE Bond Adhesive	Wire or Fiber Mesh	-	1. JOE Crackshield 2. JOE Bond Adhesive	Wire or Fiber Mesh	Wire or Fiber Mesh	Fiber Mesh	1. JOE Crackshield 2. JOE Bond Adhesive	-	1. JOE Crackshield 2. JOE Bond Adhesive
	Stopper Cap for Hollow Insert	Yes	No	No	Yes	No	No	No	Yes	No	Yes
	Joint Recess for Stronger Joints	Yes	No	No	Yes	No	No	No	Yes	No	Yes
	Product Structure	Strong & Compact	Low Strength, More Sand, Less Cement	Compact, Low Strength	Strong & Compact & Lightweight	Porous, Full of Capillary, Low Strength, Potential Fungus/Molding Growth	Porous, Full of Capillary, Low Strength, Potential Fungus/Molding Growth	Porous, Low Strength, Easy to Debond, Weak Glue Adhesive	Strong & Compact & Lightweight	Fragile, Easy to Break, Lowest Strength	Strong & Compact & Lightweight
Production Process	Extrusion Flat Surface, Compact, Special Customised Machine	Extrusion on Conveyor, Potential Uneven Wavy Surface	Moulding, Potential Uneven Wavy Plate Surface	Extrusion Flat Surface, Compact, Special Customised Machine	Moulding, Potential Uneven Wavy Plate Surface	Moulding, Potential Uneven Wavy Plate Surface	Moulding, Potential Uneven Wavy Surface	Extrusion Flat Surface, Compact, Special Customised Machine	Extrusion on Metal Roller, Potential Uneven Surface, Thin & Brittle	Extrusion Flat Surface, Compact, Special Customised Machine	
Finishing Application (mm)	Thin Skimcoat	Plaster + Skimcoat	Plaster + Skimcoat	Thin Skimcoat	Plaster + Skimcoat	Plaster + Skimcoat	Plaster + Skimcoat	Thin Skimcoat	Putty	Thin Skimcoat	
COST SAVINGS	Plaster Material & Labor Savings	-	15-25 mm (3 Layers)	15-25 mm (3 Layers)	-	15-25 mm (3 Layers)	-	15-25 mm (3 Layers)	-	-	-
	Skimcoat Material & Labor Savings (Due to Flatness & Waving)	1 - 5mm (1 Layer)	5 - 15mm (1 Layer)	5 - 20mm (1 - 2 Layer)	1 - 5mm (1 Layer)	5 - 10mm (1 - 2 Layer)	5 - 10mm (1 - 2 Layer)	10 mm (2 - 3 Layers)	1 - 5mm (1 Layer)	Rockwool & Putty	1 - 5mm (1 Layer)
	Total Weight (kg/m2) (After Finishing)	155	185	260	115	140	140	122	105	105	85
	Lintel Savings	Up to 8M	Every 3M	Every 3M	Up to 6M	Every 3M	Every 3M	Every 3M	Up to 6M	Every 3M	Up to 6M
	Stiffener Savings	Up to 8M	Every 3M	Every 3M	Up to 6M	Every 3M	Every 3M	Every 3M	Up to 6M	Every 3M	Up to 6M
	M&E Services Savings (MEP - Indonesia)	Services can be run through hollow core with minimum opening	Services can be run through hollow core with minimum opening	Require surface hacking & trimming for recess	Services can be run through hollow core with minimum opening	Require surface hacking & trimming for recess	Require surface Cutting and Trimming for recess (Max. 30mm) No cutting to BRC reinforcement	Require surface Cutting and Trimming for recess (Max. 30mm) No cutting to BRC reinforcement	Services can be run through hollow core with minimum opening	By fitting services before closing up	Services can be run through hollow core with minimum opening
	Wall Fixing	L-bracket + Sleeve Anchor / H10 Dowel Bar	Bracket / H10 Dowel Bar	Wall Tie	L-bracket + Sleeve Anchor / H10 Dowel Bar	Wall Tie	Wall Panel Bracket	Wall Panel Bracket	L-bracket + Sleeve Anchor / H10 Dowel Bar	Metal Stud & Drive Pins	L-bracket + Sleeve Anchor / H10 Dowel Bar
	Site Houskeepiing & Wastage	Min. Wastage & Cutting due to Custom Length	More Wastage Higher Breakage	More Wet Works & High Wastage	Min. Wastage & Cutting due to Custom Length	More Wastage Higher Breakage	More patching material to M&E Works / More Debris to handle	More patching material to M&E Works / More Debris to handle	Min. Wastage & Cutting due to Custom Length	More Wastage (12 - 15%)	Min. Wastage & Cutting due to Custom Length
	External Waterproofing	Joints Only	Full Surface Waterproofing	Full Surface Waterproofing	Joints Only	Full Surface Waterproofing	Full Surface Waterproofing	Joints Only	Joints Only	Not Recommended (Indoor Only)	Joints Only
	Additional Scaffolding / Work Platform Savings Based on Single Tier @ 3.3M	-	-	Needs Scaffolding / Work Platform	-	Needs Scaffolding / Work Platform	Needs Scaffolding / Work Platform	-	-	Needs Scaffolding / Work Platform	-





 BCA GREEN MARK		Singapore Green Mark		Higher Scoring			
		Requirements		X1	X2	X3	XS/X5
1	 <b>ENERGY EFFICIENCY</b>		Reduced Heat Gain ( ETTV)	✓	✓	✓	✓
2	 <b>HEALTH &amp; WELLBEING</b>	HW 1.2 HW 2.3	HW 1.2 Material Emissions Sound	✓	✓	✓ ✓	✓ ✓
3	 <b>RESILIENCE</b>	RE 1.1 b RE 1.2b	Resources Urban Heat Island Mitigation	✓	✓	✓	✓
4	 <b>WHOLE LIFE CARBON</b>	CN 1.1 CN 1.2 CN 1.3 CN 2.1 CN 2.2 CN 3.2	Whole Life Carbon Calculation Embodied Carbon 2030 Transition Plan Sustainable Construction Sustainable Products & Finishes Fit out Products	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓
5	 <b>MAINTAINABILITY</b>	General 1.5 1.5.1 1.5.2 2.5	BIM model Design Factor - Masonry & Lightweight Concrete Panel Reduce risk of Water ingress and Efflorescence formation Reduce risk of façade flaking/peeling/cracking /blistering Basement and Car Park	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓



malaysia greenbuildingindex			Higher Scoring			
Applicable GBI Credits	Criteria	X1	X2	X3	XS/X5	
1 Energy Efficiency Minimum Energy Efficiency Performance	EE	✓	✓	✓	✓	
2 Indoor Environmental Quality Indoor Air Pollutants Mould Prevention Internal Noise Levels / Sound Installation IQA Before & During Occupancy	EE	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	
3 Suistanable Planing & Management Suistanable Construction Qlasic - Quality Assessment System for Building IBS - Industrialised Building System	SM	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	
4 Material & Resources Material Reuse & Selection Recycled Content Materials Regional Materials MateriL Manufacture & Ingredients Storage & Collection of Recyclabels Construction Waste Management	MR	✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓ ✓ ✓	





## 设计规范和规格

为满足每个项目的独特需求和不同规格要求，例如隔音墙需求和电影院的隔音、防火或防爆等级要求、以及相关形状/图案方面的要求，我们可以修改墙孔数量/墙洞数量、以及布钢线的数量（从8到12根线），且能够满足无孔洞的实心/固体板要求。我们还生产各种厚度的板件、L & T接头和各种配件，以防止接缝破裂并便于安装。

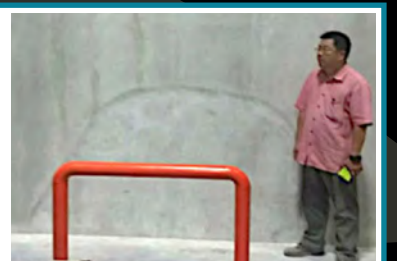
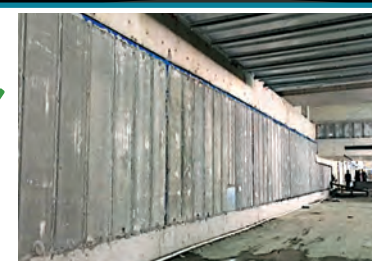
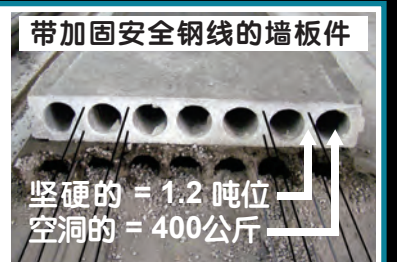
新加坡的带沟槽线设计的隔音墙



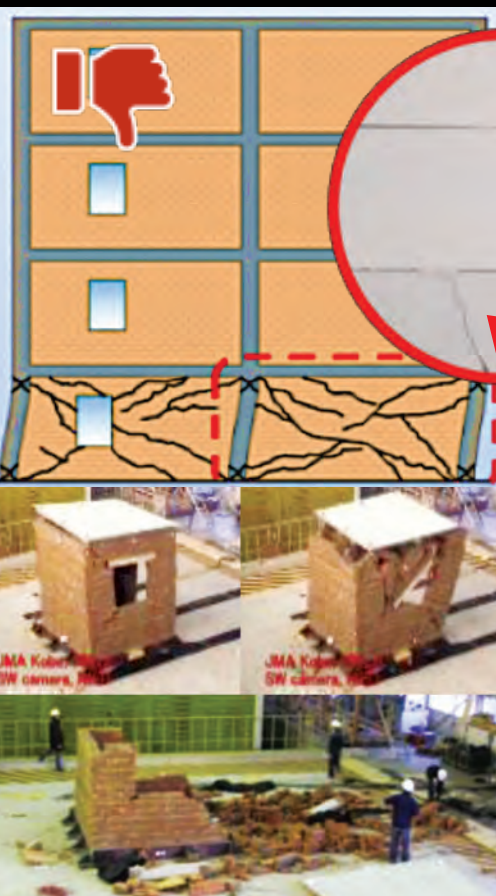
墙体图案设计



特殊订购的块尺寸-所有厚度和型号







砖缝中的薄弱，薄层  
砖墙中的许多水泥接缝都是横线，在地震冲击时容易塌陷。砖墙的顶部和底部如未采用固定方式连接至建筑结构上，其抗震能力会非常弱。



### 带加固安全钢线的墙板系统

带加固安全钢线的墙板系统  
如墙板上无太多横线接口，且墙的顶部和底部采用支架/销钉以固定方式连接，将更能够承受振动力。



PANEL EARTHQUAKE RESISTANT



钢丝增强墙面板的接头牢固，牢固，完全接触。可以将地震的影响降到最低

Earthquake Proof Building Design - Chile



加强强度和安全性 的钢丝



产品:  
JOE Green 带加固安全钢线的墙板系统  
事件:  
被叉车撞到并损坏  
地点:  
Tampines 仓库 L3  
解决方案:  
容易通过修补和灌浆修复



墙被叉车意外击中损坏



JOE墙板的其它功能应用用作两倍体积区域的防火强力天花板

医院气密性测试 (NCID)



气密性测试

空气传输 = 0% 通过TUV认证

外墙水密性测试



水密性测试 = 0% 渗漏

重载安装能力  
普通锚套 M8 每点高达  
400公斤 (空心部分) 和 1.2 吨位 (实心部分)







### JOE 接缝粘胶剂（水泥胶粘剂）

是一种即用型水泥聚合物，其含有经过验证的水泥胶粘剂混合物，主要用于各种板件和砖块。该产品能够最大限度地减少开裂和收缩，仅需要添加一定数量，并与水混合，即可使用。

#### 技术资料（典型/特别）

重量：40 公斤/盒  
密度：1.4 gm/cm<sup>3</sup>  
混合后要在30分钟内使用

设定时间：首次 - 五个小时  
消耗（预估）：1 盒 = 6 m<sup>2</sup> - 8 m<sup>2</sup>

#### 使用指南：

- 1 涂有水泥的表面必须清洁、无灰尘、无油污和任何污垢。水泥施用之前，必须先喷水润湿表面。
- 2 混合 26% - 28%，10 - 11 升水量。
- 3 搅拌时将水泥倒入水中。
- 4 使用电动搅拌器搅拌5分钟，直至搅拌均匀。
- 5 混合物必须在搅拌后30分钟内使用。
- 6 对于大孔/缝隙，请采用手持泵，确保间隙完全闭合。



**用途**

- 内外墙接缝
- 内外角
- 结构与墙壁之间的接缝

类型	宽度/厚度	长度	单元/纸箱
ROLL	50 mm/0.5 mm	40 M	10 Rolls



#### 描述

JOE Crackshield 由 UPVC 材料制成，该接缝胶采用特殊配方，具有很强的抗拉强度，能够承受拉伸和变形。墙板胶带的中心是柔性的，可自由移动，能够与JOE接缝胶粘剂兼容，且可用于：

1. 内角和外角的强化接缝，以及立柱、横梁和天花板之间的结构接缝。
2. 防止因热力、拉伸和其他原因而引起的开裂变形。JOE Crackshield比其他纤维和金属丝网具有更强的性能。
3. 在外墙和潮湿区域内使用板件时，能提高防水等级，并减少接缝之间的渗水。
4. 设计上的小孔，从而咬紧夹层之间的接缝。
5. 可灵活折叠和弯曲，且易于在边角、肘部和扁平接头上使用。



#### 描述和用法

- 根据40mm、58/64mm的孔径要求，从而封闭 JOE Green 墙板件末端的孔洞。
- 与支撑棉杆、海绵或其他材料相比，该配件非常易于使用。
- 在作用于外壁时，可防止渗漏，能够提高胶粘面而咬紧与结构之间的墙关节。
- 防止JOE粘合剂掉入孔洞中，并确保水泥灌浆的密度。
- 强化墙板件顶部的接缝处，增加与表面的接触面积，从而降低移动风险。

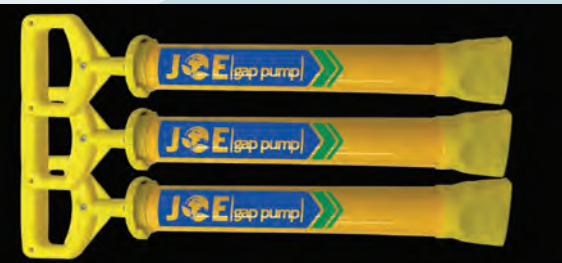
类型	深度	直径	单位/箱
Capping	30mm	40mm	500 Pieces
(PP)	20mm	58/64mm	500 Pieces

#### 使用方法：

当垂直安装墙板件时，每个孔洞须设置墙板件顶部；当横安装墙板件时，每个孔洞须设置墙板件两端。



JOE BOND  
JOINT BONDING ADHESIVE



JOE 配件  
GAP PUMP



JOE 配件  
CRACKSHIELD



JOE PIM  
PANEL INSTALLATION MACHINE



JOE 配件（孔塞）  
STOPPERCAP



JOE 安全设备  
SAFETY SHOES



JOE 安全设备  
TOOLS BAG



JOE 配件  
ACRYSHIELD



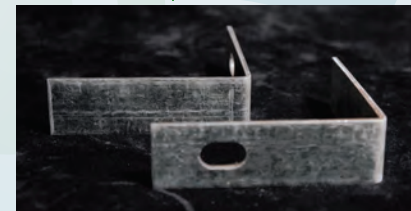
JOE 配件  
SLEEVE ANCHOR



JOE 安全设备  
SOCKS



JOE 配件  
GRAVITY ANCHOR



JOE 配件  
L BRACKET



JOE 安全设备  
MASKER



## PUBLIC DEVELOPERS



## DEVELOPERS



## ARCHITECTS



## MAIN CONTRACTORS



Land Transport Authority



**CHANGI**  
airport singapore

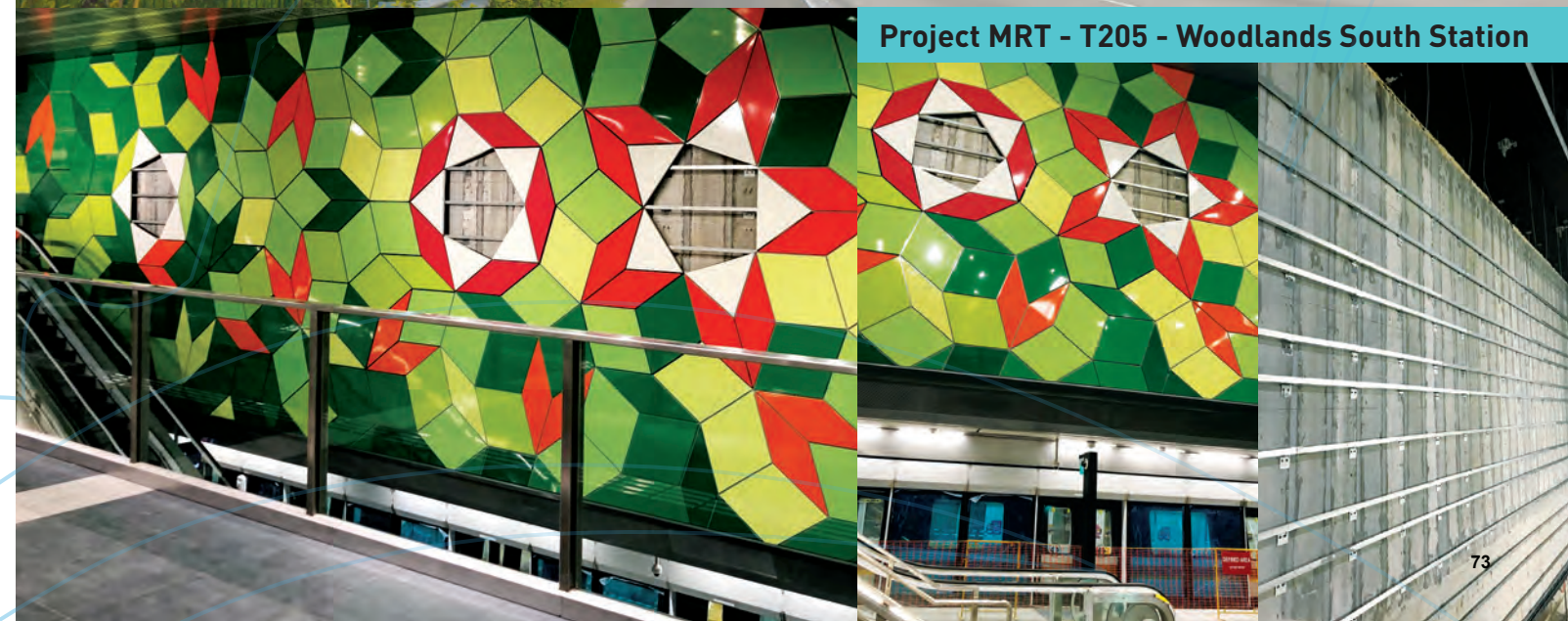


JEWEL  
CHANG AIRPORT

## Efficient & Cost Effective Noise Barrier Walls



## Project MRT - T205 - Woodlands South Station







  
 STARS OF KOVAN



ROYAL SQUARE  
 AT NOVENA



Hillion


 MARINA ONE  
 Residences | Offices | Retail



Northpoint City  
 NORTH PARK  
 Residences







THE WOODLEIGH  
RESIDENCES

THE WOODLEIGH  
MALL

SOUTH BEACH

EON  
SHENTON

V  
ON SHENTON

DUO<sup>®</sup>  
RESIDENCES.OFFICES.RETAIL.HOTEL



Paya Lebar Quarter Mall



Paya Lebar Quarter



King Albert Park (KAP)



Le Quest @ Bukit Batok West Avenue 6



SENGKANG GRAND RESIDENCES



FUNAN, comprises a retail component, two office blocks and lyf Funan Singapore serviced residence



ONE KM



ONE HOLLAND VILLAGE Residences



Twin VEW Condominium



Martin Modern Condominium











Coco Palms Condominium



Seven Palms Sentosa Cove



Ripple Bay Condominium at 2 Pasir Ris Link



The Greenwich Residential



Forest Woods Residences



The Amore EC at Edgedale Plains



THE TOPIARY Executive Condominium



THE LAKEFRONT RESIDENCES Condominium



Ecopolitan EC at Punggol Walk



The Tapestry Condominium



Sky Park Residences Executive Condominium



Thomson Impressions Condominium



Bartley Ridge Condominium



Sea Esta Condominium



KOVAN REGENCY Condominium



Waterfront Gold Condo at Bedok Reservoir Rd



THE INFLORA Condominium



euHabitat Condominium



SKY GREEN Condominium



WILSHIRE RESIDENCES



SIGNATURE AT YISHUN  
Executive Condominium



PARC Life Condominium



ROYALGREEN Condominium @ Bukit Timah



15 Holland Hill



Grandeur Park Residences Condominium



Seventy St Patrick's Condominium









**BIDADARI  
ESTATE**



Alkaff  
LAKEVIEW

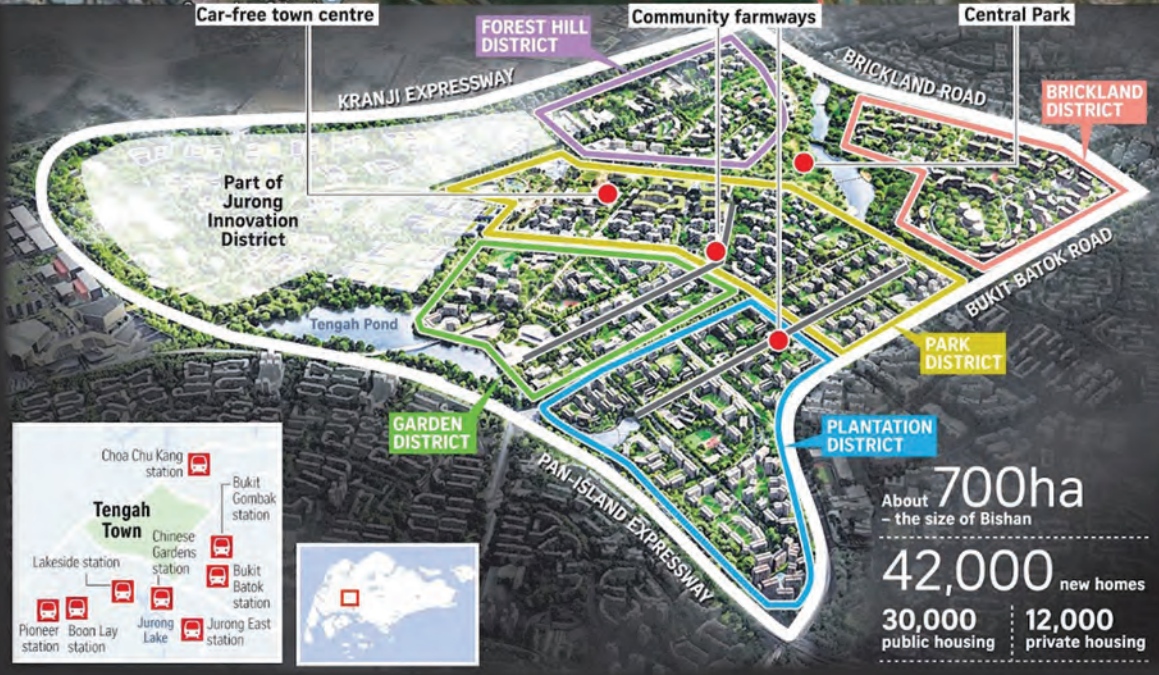
Alkaff  
COURTVIEW





**SkyResidence @ Dawson**

**"TENGAH The Next New HDB Town Project"**



**700ha**  
 About the size of Bishan

**42,000** new homes  
 30,000 public housing | 12,000 private housing





**Integrated Care Hub (ICH)**



**HOMETEAANS KHATIB**



NTUC Health Nursing Home (Chai Chee)



St. Andrew's Nursing Home at Jalan Penjara



Mandalay - Novena



Ren Ci @ Ang Mo Kio (Nursing Home)



National Cancer Centre Singapore



NATIONAL SKIN CENTRE (NSC) Singapore



**BCA ACADEMY**  
 of the built environment

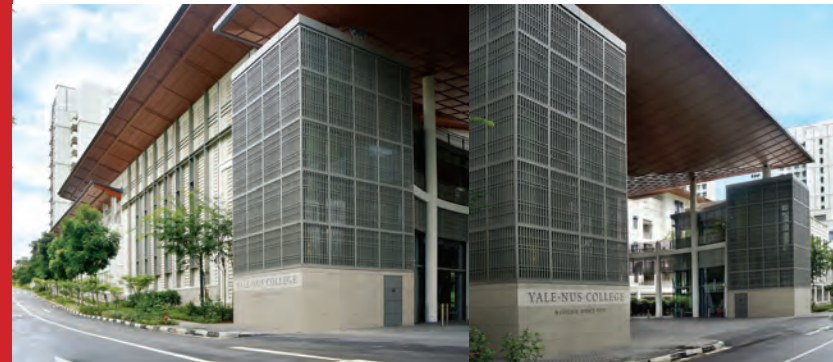


LEE KONG CHIAN  
 SCHOOL OF  
 MEDICINE  
 NTU Yunnan Garden Campus

**SUTD**  
 SINGAPORE UNIVERSITY OF  
 TECHNOLOGY AND DESIGN



**NUS**  
 National University  
 of Singapore



**YaleNUS College**

**NUS**  
 National University  
 of Singapore



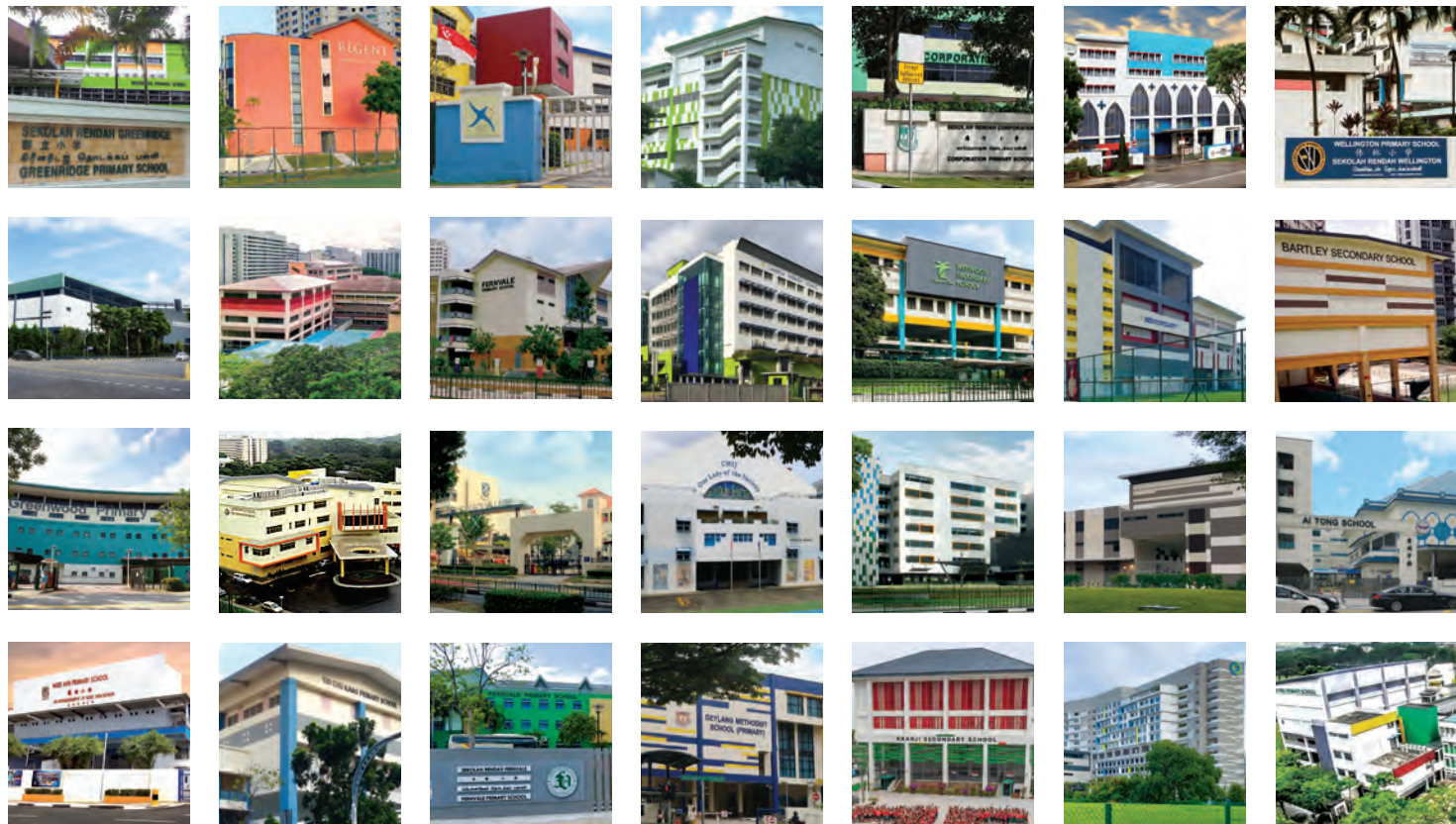
**NANYANG  
 TECHNOLOGICAL  
 UNIVERSITY**  
 SINGAPORE







## More Than Hundred Schools Projects in Singapore





## Professional Choice



Singapore Chinese Cultural Centre (SCCC)



OUE Downtown



SBF Center







Hotel Boss



AXA Tower at 8 Shenton Way



Robinson Tower Redevelopment



CapitaSpring at 88 Market St



Guoco Tower at Tanjong Pagar Centre



New PSA Corporate HQ



InterContinental Singapore Robertson Quay



Orchard Hotel Singapore





## High-Tech Industrial Buildings



Industrial Development at Ang Mo Kio Street 65 for ST Electronics



JTC Furniture Hub @ Sungei Kadut



NORDCOM I

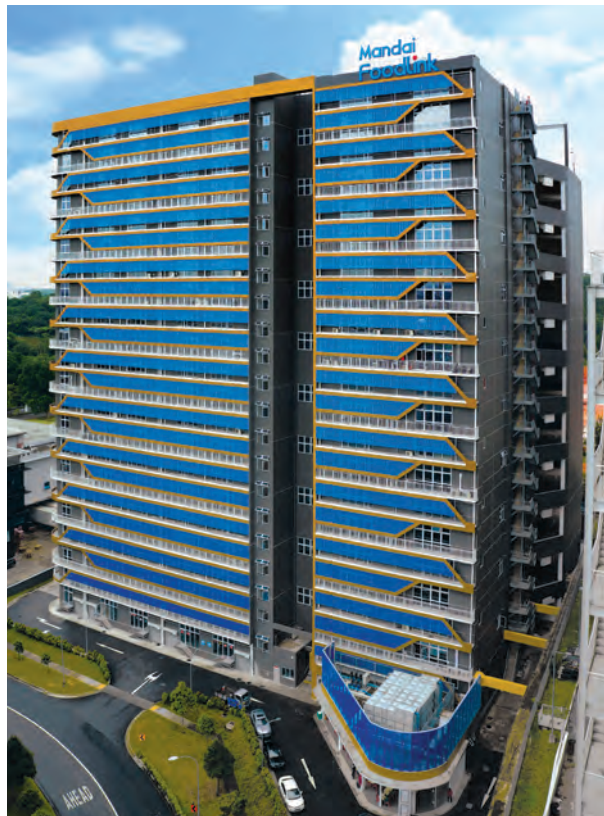


NORDCOM II

T-SPACE



JTC MedTech Hub @ MedTech Park



Mandai Foodlink at 5 Mandai Link



THE WESTCOM at 1 Tuas South Avenue 6



Micron 300mm NAND Facility at 1 North Coast Drive



JTC Business Aviation Complex at Seletar



Tagore 8 at 421 Tagore Industrial Avenue





JTC Chemicals Hub @ Tuas South



The InDex @ Tuas South Ave 3



External Facade

Industrial Building With Ancillary Office at Tuas South Link



Mandai Link Logistics' Warehouses-Cold Storage at Mandai Link



Data Center at Loyang Drive



6 Storey Warehouse at 47 Jln Buroh



COSL (Singapore) at 3 Benoi Rd



STTelemedia Global Data Centres at 51 Defu Lane 10



Jurong Shipyard Office at Tuas South Boulevard / Tuas View Extension



Using panel 5.2m height for external wall and window opening





EATON RESIDENCES at Kuala Lumpur, Malaysia



MERIDIN EAST



FOREST CITY Projects (Plot 4 - Phase 1, Plot 26 - Phase 2, Plot 26 - Phase 4),  
Johor Bahru, Malaysia



THE AMERALD Resort Hotel at Pengerang, Johor,  
Malaysia



Taman Pelangi Indah Sales Gallery by SP Setia



Holiday Inn Johor Bahru City Centre



Sky Habitat @ Meldrum Hills, Johor  
Bahru, Malaysia



Warehouse, Chemical and Paint Store for Malaysia Marine and Heavy  
Engineering Sdn Bhd, Johor, Malaysia



Walkway Slab at Podium



Perimeter Fence

GRANDVIEW 360° Condominium, Johor Bahru, Malaysia







Nilai District Police Headquarters, Malaysia



Additional Buildings In Johor State CIDB Complex at Jalan Tampoi, Johor Bahru, Malaysia



ISKANDAR Residences Medini @ Nusajaya, Johor Bahru



PS Jalan Reko Kajang for Petronas



Marlborough College Malaysia, Johor







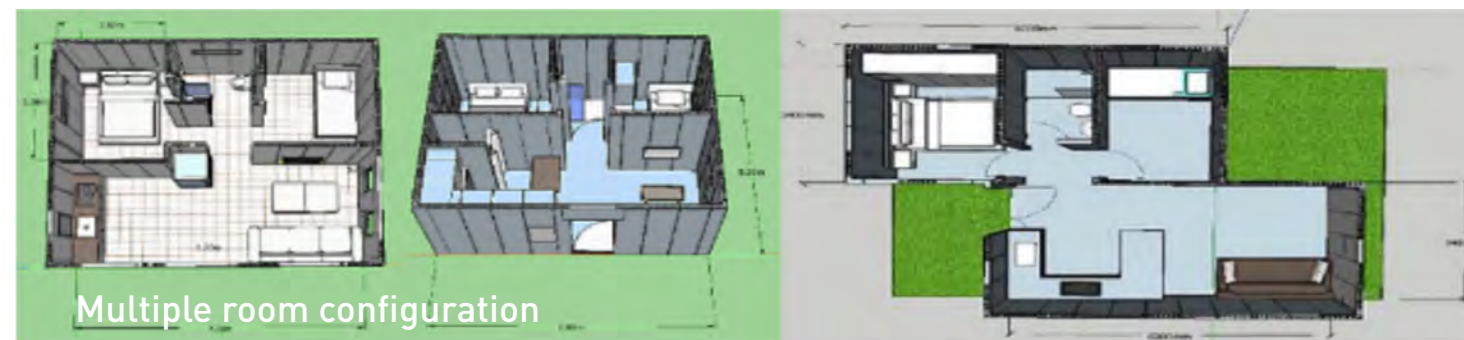
Gereja Reformed Injili Indonesia (GRII) Batam, Indonesia

Hotel santika Batam, Indonesia





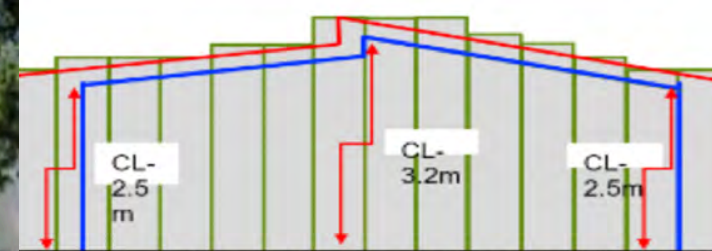
- ✓ **No In-Situ Structural Columns**
- ✓ **Fast & Simple Construction**
- ✓ **High Quality**



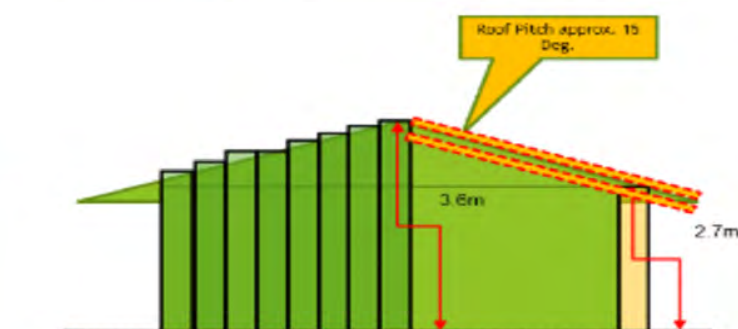
Semi-D : Low-cost Housing w/ Picked Roof / Flat False Ceiling  
Partition Wall Between Unit to use JOE Panel & Duplicate for Terrace Layout



Typical Terrace Facade can duplicate the front entrance design



Concept Roofing Design as photo with stagger roof profile for Modern Look



Gable end / corner Unit can have similar treatment.





# JOE Green Wall Panel System for Affordable housing / Worker Dormitory / Etc.



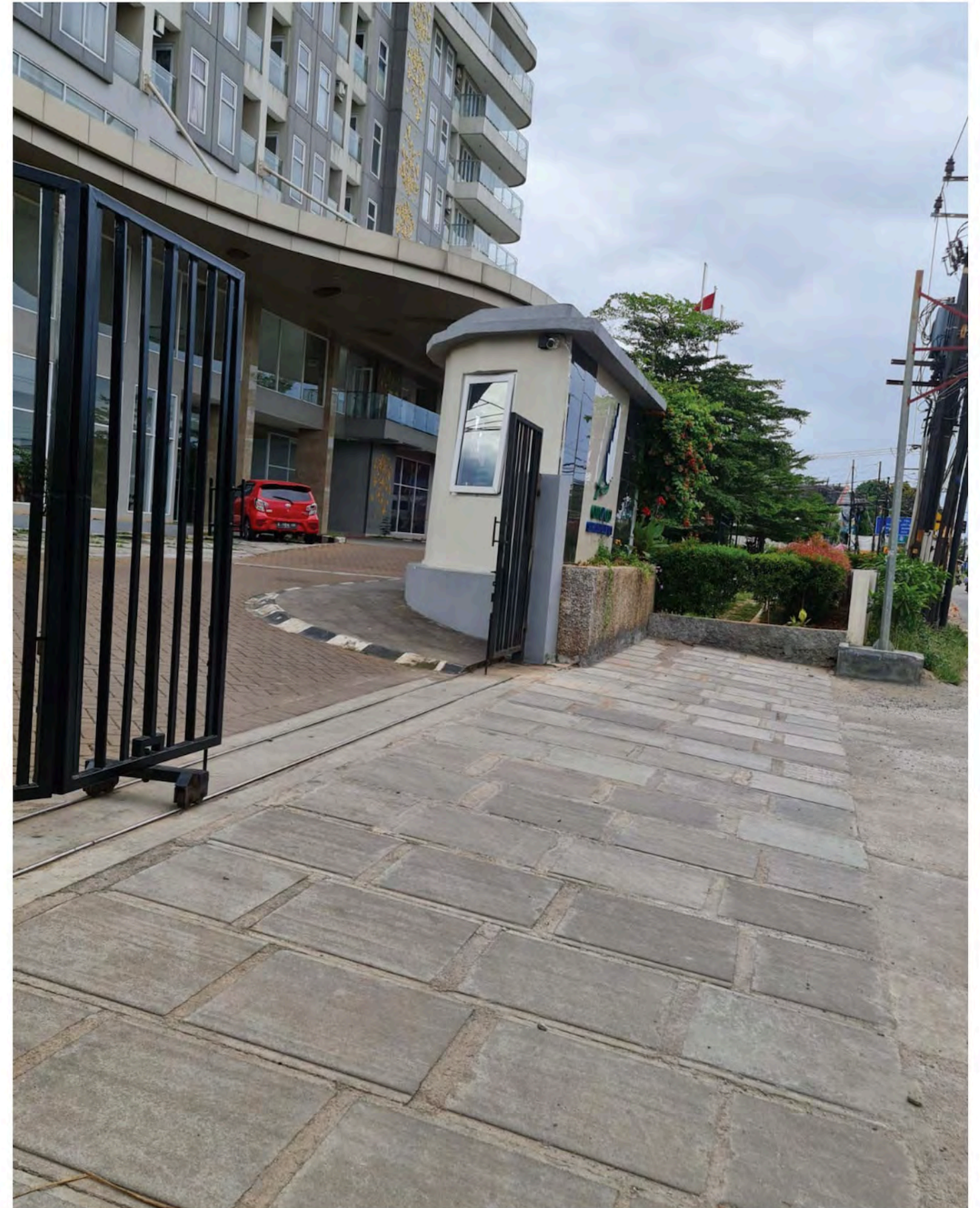
○ Reinforcement bar

○ Rebar for stiffeners

□ C-Channel or Capping Beam



## Using JOE Green Wall Panel System for Concrete Flooring Slab.







JOE Green Lightweight Concrete Panel has received an Excellent rating certification mark from SGBC and TÜV SÜD PSB at SGBC-BCA Sustainable Leadership Awards Gala Dinner 2016. Today, JOE Green Concrete Panel has been awarded the rating Leader under SGBC product certification scheme



Managing Director of JOE Green, Mr. Boediman Widjaja, received a trophy as one of the winner Asia Green Business Awards 2015/16 in BEI Asia Awards 2015/16 for JOE Green Lightweight Concrete Wall Panel product



Director of JOE Green, Ms. Cindy Lim, received a trophy in Singapore Brands 2012 Gala Dinner Night, 28 April 2012



Ms. Charlina Lim from JOE Green was receiving a trophy as one of the winner of Asia Green Business Awards 2017 in BEI Asia Awards 2017 for JOE Green Lightweight Concrete Wall Panel product



Mr. Boediman Widjaja and Ms. Charlina Lim represented JOE Green to receive a trophy as one of the winner of Enterprise 50 Awards. E50 recognises the enterprises whose journey to innovation is helping to shape a sustainable future.



We had honorary guests visiting JOE's plant, HQ and project sites to observe our usage of recycle concrete aggregates and waste materials for eco-friendly green products, to make our earth more sustainable.



Petronas and Dua Medan Construction Sdn Bhd Team



Construction Industry Development Board Malaysia (CIDB) with 40 PKMM (Persatuan Kontraktor Melayu Malaysia)



China Communications Construction



Sunway Construction Sdn Bhd visited Tiong Woon Corporation's Warehouse project site



Country Garden Pacificview Sdn Bhd for Forest City, Gelang Patah



SKS Group and Atria Architects visit JOE Green's project site Holiday Inn JBCC



An honour to have the Ambassador of the Republic of Indonesia H.E. I Gede Ngurah Swajaya visit JOE Green HQ at Amazana Building Singapore



Ministry of Manpower (MOM) Singapore visited The MKZ Condominium project site

An honour to have the Ambassador of the Republic of Indonesia H.E. Suryo Pratomo visit JOE Green HQ and Lab at Amazana Building Singapore





CEO of Housing and Development Board (HDB), Dr Cheong Koon Hean, visit HDB project site at Sengkang East Road



JOE Green's prestigious project Pollux Habibie Meisterstadt Batam residential towers topping-out ceremony on April 2019



BCA's Super Low Energy Buildings Department Environmental Sustainability Group visit JOE Green Lab



ECOWORLD Development Group



MCL Land Ltd, Lum Chang Building Contractors Pte Ltd, P&T Architects & Engineers Ltd



Lum Chang Building Contractors Pte Ltd



AESLER Architects Indonesia (PT. Aesler Grup Internasional)



PT PP Tbk visit JOE Green HQ in Singapore for their Indonesia construction projects



Nan Shan Group, Bintan - Indonesia & China



Woh Hup, construction and civil engineering specialist company



Pulau Intan



Shimizu Corporation and ExxonMobil Asia Pacific Pte Ltd





Teambuild Singapore



Straits Construction Pte Ltd



JOE Green visits HLH Group HQ in Cambodia to see the projects and potential set up new factory



Obayashi Corporation visited Ripple Bay Condominium Singapore project site



Mr. Richard Koh, MD of Nawarat Group - Thailand



Chiu Teng Enterprise



Daewoo Engineering & Construction Co. Ltd.



Nippon Paint Singapore

Singapore



Malaysia



Indonesia



India



China



Hong Kong



Hong Kong



Australia



New Zealand



USA



Cambodia



European Union



USA





### Professional Verdicts :

*"The Right Wall Panel for Every Construction"*



*"Our project hotel Santika Batam had completed in December 2019. We would like to thank JOE Green Team for the full support. We have been satisfied using your products, in terms of cost savings, time and quality of products. We have other projects that may need your support again. We will contact you soon. Thank you very much."*

**Frans Bambang**  
Manager

**CV. MEGA CONTRACTOR INDONESIA**

*"Compare to other precast wall panels, we definitely can see the quality and precision of JOE Green panel far more better for INOAC Project."*

**Tipluk Jati**  
Director

**PT. AGNI SATYA PERSADA INDONESIA**

*"JOE Green products e.g. panels, brackets and accessories are found to be in high quality standard. JOE Green wall panel system is easy to install & hence can improve productivity. JOE Green's technical support i.e. submission of shopdrawings & details is also excellent. The technical personnel is found to be knowledgeable, responsive. JOE Green panel can be further improved if the panel use in the residential dwelling unit can be lighter in weight, currently need 3 - 4 workers to erect 1 panel"*

**Lim Jit Heng**  
Project Manager



*"Good material. It would be important to brief customers every construction details shown in the catalogue, especially to the worker of the erector on the dos and don'ts"*

**Mdm Eng Y H**  
Project Manager



*"We have been with JOE Green for many years. Their product quality is good & have a broad product range."*

**Ivy Toh**  
Contract Manager



*"We are the 1st time work with JOE Green and very satisfy with JOE Green product quality."*

**Tan Teck Chong**  
Senior Project Manager



*"Installing Joe Green product is very easy. All the material accessories were designed to make it easy. Joe Green product also can be cut to size required, so it can speed up the installation time. We experience those things in one of our project in PIK 2."*

**Setyowati K**  
Director



*"JOE Green offers wide range of solid and reliable products that not only improve work productivity. It also stands out in term of value proposition that we can offer to our clients"*

**Wayne Fu Cheng**  
Director



*"Overall service is excellent"*

**Marvin Laxamana**  
Quantity Surveyor



*"JOE Green's service is good"*

**Jackson Tiong**  
Contract Manager



*"Dear JOE Green, we are very impressed with the strong technical knowledge and fast support of the team. Overall we are very satisfied with your commitment and service"*

**Soh Lip Hong**  
Project Manager



*"Quality products, prompt delivery and great support !"*

**Johnny Xu**  
Director



*"Service and product quality from JOE Green is good"*

**May Beh**  
Purchaser



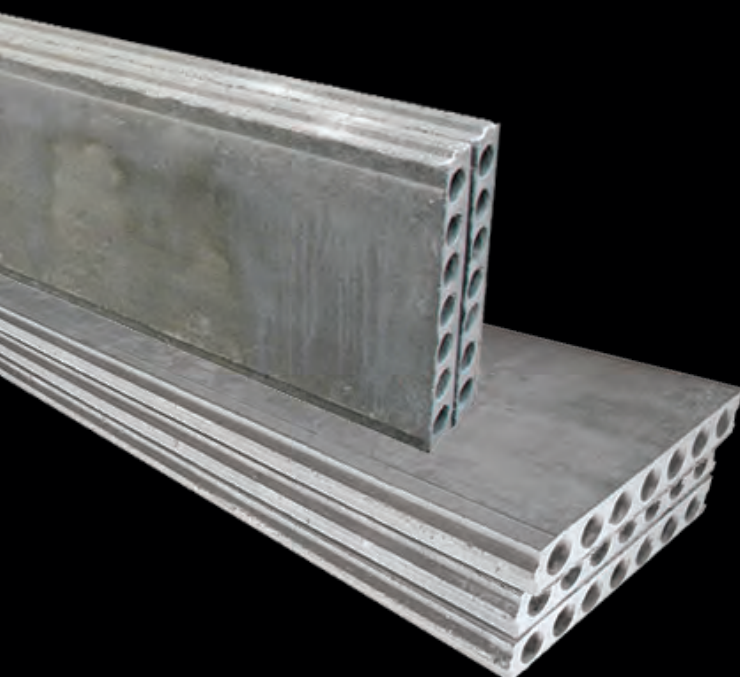
*"The product is good. However the product delivery process need to be improved. Moving forward the contractor's installer need to familiarize with JOE product and take advantage of the speed and quality of JOE product offering for elevating construction industry standard."*

**Ar. Selamat**  
Director, JYP Architects Sdn Bhd  
Principal, Arkitek Selamat Sdn Bhd



*"Joe Green products are strong and good quality. The sizes are cut precisely according to our requirement so the waste of material are limited. We do Tokyo River-side Project."*

**Harjoto H**  
Director





## 拓展至全球市场

JOE Green 已拥有大份新加坡市场，并跻身行业先驱/跨国企业。随着新型轻骨料的发展 (LiGrA) 和卓越墙板制造技术的研究成功，我们非常有信心 JOE Green 将为全球的再循环轻质墙体系统做出贡献。

我们的主要目的是为传统墙面系统提供替代方案，从而使之成为更强、更轻、更高性能和更安全的优越系统。

拓展全球市场是我们在国际认证混凝土和墙板系统行业的目标和愿景，从而建立新的行业标准。

走向绿化  走向全球

墙板专家  
最强  
最高的  
最轻的

绿色轻量化技术的艺术

适用于混凝土、建筑和其他行业的合适骨料

你的节约，我们的使命



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 E: charlina@joegreenpanel.com



Cert. No.:022-015  
 Eco-Friendly Building  
 Material/Low Emission  
 Concrete/Cement/  
 30% Recycled Content



SINGAPORE  
 GREEN  
 BUILDING  
 PRODUCT  
 LEADER  
 SGBC



MyHP0085/17



BS EN 14692: 2007 + A1: 2012  
 CERT. NO.: PC00004



JOE Green 的总部  
amazana 建造  
新加坡