



Transforming tradition for green, sustainable and efficient construction

 A member of
LafargeHolcim

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- **Transforming Tradition**
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 - Rethinking possibilities
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- **Wrap Up**
 - Dry mortar in a nut shell
 - Selection Guide

DRY MORTAR

- **1950 Industrial Revolution**
 - Everything driven by machine
 - Prompt Introduction of drymix technology in the Western Countries
 - The high efficiency of drymix mortar revolutionized the construction industry – rapid adaption (partly spurred by the rebuilding works after WWII)
- **1970 Industrialization of Mortars**
 - Introduction of first machine for rendering
- **2000 Explosion of Demand in South East Asia (China)**
- **2020 South East Asia**
 - Machine application (?)



One of the first mortar mixers in action on a jobsite in Germany (1970)

DRY MORTAR

Continue..

- **Rapid adaption due to increase efficiency and technological and commercial advantages**
 - One-component product
 - Thin application
 - Critical applications (water proofing and etc.)



2-pack tile adhesive



One-component thin bed tile adhesive

DRY MORTAR

Continue..

- **Known benefits of dry mortar**
 - Improved quality & consistency (no risk of impurities)
 - Less storage space needed
 - Ease of handling – just add water
 - Very low wastage of material at site
 - High efficiency – quicker construction possible (crucial in today's environment, where construction period is less than 2 years)

DRY MORTAR

Continue..

- **Key Drymix mortar application:**

- Cement render & plaster (35%)
- Cementitious tile adhesive (32%)
- Skim-coats (16%)
- Others (14%)
 - Brick laying mortar
 - Cementitious waterproofing
 - ETICS (External Thermal Insulation Composite system) – Temperature control



Render & Plaster (35%)



Tile Adhesive (32%)



Skim-Coats (16%)



Brick laying (<14%)

CONSTRUCTION INDUSTRY TODAY

- **21st century: The Age of Environmental Revolution**
 - Environmental is the mantra of the century. Environment driving the way we think and act.
 - The impact of building and construction industry on environment is under heavy scrutiny
 - The reason of adaption of drymix mortar evolved, not just efficiency, sustainability comes into play



CONSTRUCTION INDUSTRY TODAY

FACT: Building industry is a large producer of waste and intensive user of virgin material.

- **Globally, building consume:**

- 16% of water
- 40% of energy
- 70% Sulphur oxides produced by fuel combustion through the creation of electricity used to power houses and offices

Improvement in construction practice & design stage throughout the building cycle is crucial to bring significant environmental benefits.

How dry mortar contribute to a sustainable construction?

Sustainability

Defined as “ Meeting the needs of present without compromising the ability of the future generation in meeting their own needs”

We shall explore the contribution of dry mortar to the environment from these 4 aspects:

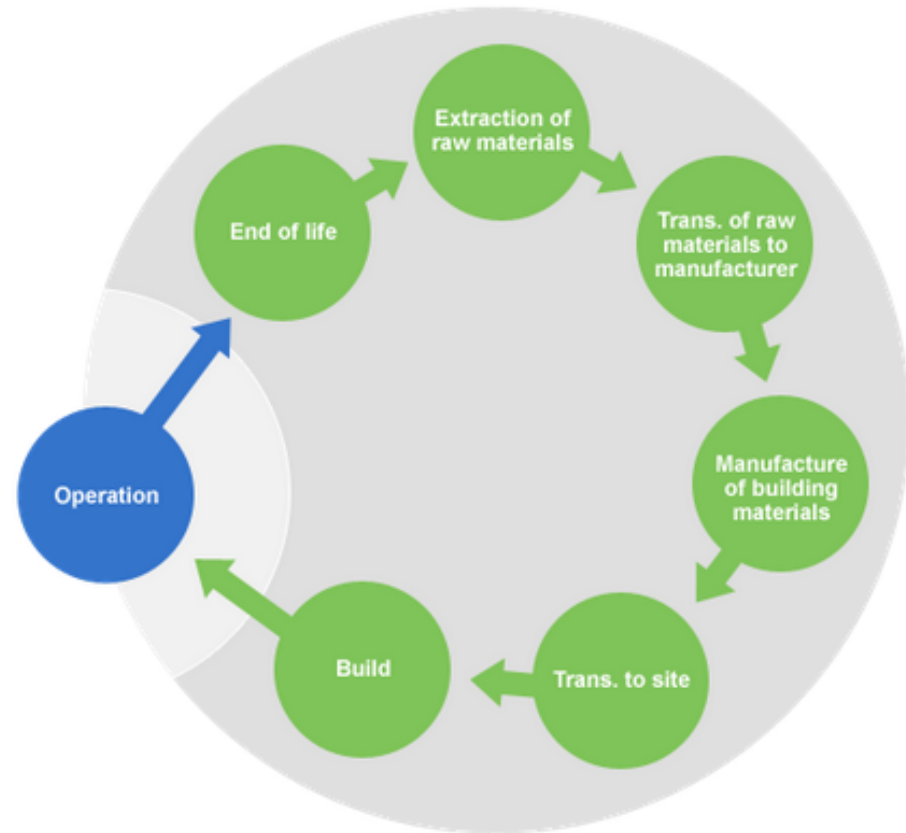
- **Carbon footprint**
- **Durability**
- **Quality**
- **Efficiency**

CARBON FOOTPRINT

- **What is carbon foot print?**

- 2 types of carbon emission with respect to building: operational and embodied carbon
- **Operational carbon** refers to CO₂ emitted during the life of a building, from the 'regulated' and the 'unregulated' loads associated with the use of the building. Including heating, cooling, lighting and etc.
- **Embodied CO₂** - refers to **carbon dioxide** emitted during the manufacture, transport and construction of building materials, together with end of life emissions (*cradle-to-grave approach*)
- **Carbon footprint = embodied carbon in the material**

EMBODIED CARBON IN THE CONSTRUCTION LIFECYCLE



CARBON FOOTPRINT

- **Carbon footprint: using calculation of embodied CO₂**
 - Comparison between site mix plaster with cement sand ratio of 1:4/5 and factory premixed plaster .
 - The amount of embodied CO₂ per m² of 15mm thick of site-mix plaster is almost **2x of premixed plaster**

4.21kg Embodied CO₂ for a site mix base plaster

<2.5kg Embodied CO₂ for dry mix mortar

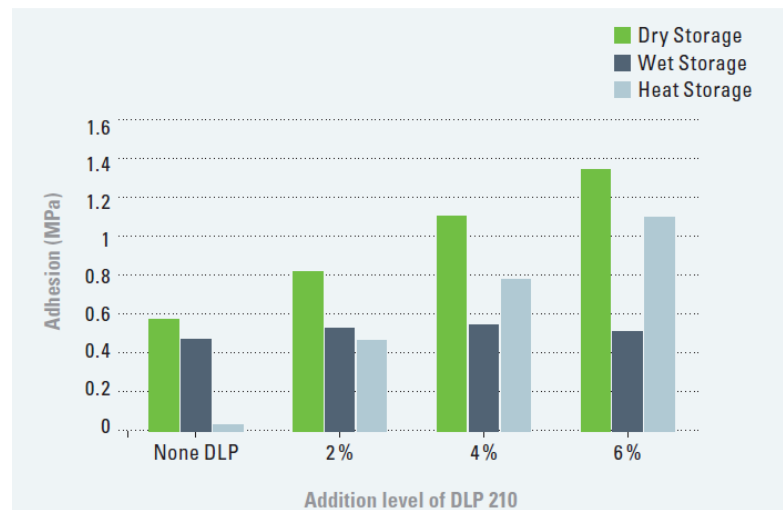
Calculation based on Dow Construction Chemical's specific study in Abu Dhabi

- **A typical 20'x40' Double Storey Terrace House (Intermediate Unit) completed with dry mortar reduces 734kg CO₂**

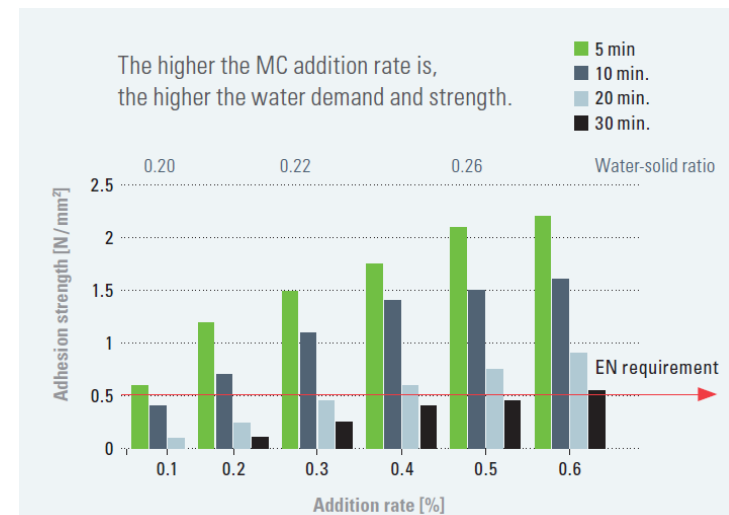
+Calculation based on assumptions: 1. Full brick wall system. 2. Direct calculation based on 15mm wall plaster and floor screed thickness. 3. Total wall and floor area 432m² per unit

DURABILITY

- **Extended durability enable long term performance.**
 - **Example: Modern Tile Adhesive**
 - Adhesion properties are among the critical requirement for tile adhesive as they determine the durability of the entire tiling system
 - Tile adhesive performance is especially crucial for low water absorptive & large format tile
 - Additives use in the tile adhesive improve **spreadability, open time** and **adhesion strength**



Modification of tile adhesive can be done with to meet various tiling requirement *Source: Dow Construction Chemical



Modification of tile adhesive can be done with to meet various tiling requirement*Source: Dow Construction Chemical

QUALITY

- **Consistency of product**
 - Factory precision at jobsite
 - One-component system -> water is the only variable
 - Excellent finishing leads to improved quality living



EFFICIENCY: Versatile dry mortar enable high speed of installation

- **Application:** Hand trowel and Machine Application



Hand trowel



Machine Application

EFFICIENCY: Versatile dry mortar enable high speed of installation

- **Delivery:** Bags and Silo dry mortar



Dry mortar in bags



Dry mortar in silo for speedy large volume installation

RETHINK, REDIFINE

- This section we will explore the age-old wall building and plastering process
- Redefine the traditional lengthy, high material usage and cost intensive wet work
- Break free misconception surrounding our long term favorite - brick wall
- Relook & redefine brick wall system
- **“Industrialized”** brick wall system while maintaining its charm
- This is not just a theory, it is a real case in Ipoh.

COMMON WALL TYPES

Base Information



Common Clay Brick

- Made from clay by burning it at high temperatures
- Oldest manufactured building material
- Weight ~ 2.5 kg each



Cement Sand Brick

- Made from a mixture of cement and sand
- Lowest cost bricks available
- Weight ~ 2.5kg each



Lightweight Block

- Made of cement, sand, lime and aluminum powder (expanding agent)
- Autoclaved to produce extremely small, finely disperse air pockets within the material
- 25% weight of concrete
- Weight ~ 7-15 kg each



Concrete Wall

- Made of cement, aggregates and reinforcement
- Pre-fabricated/ Cast In-situ
- Reduce risk of hollowness, surface cracks and unevenness in wall surface

COMMON WALL TYPES

Base Information



Common Clay Brick



Cement Sand Brick



Lightweight Block



Concrete Wall

Masonry unit wall

- IBS
- High precision (?)
- 3~5mm skim-coat/render
- Weight
- High cost (material , transport)

Common Wall Types

Lightweight Block



- **Categorized as “IBS” due to their inherent unit precision, speed of installation and surface flatness**
- **Quick Assembly:**
 - Block laying - Thin Joint Mortar Method
 - 1 AAC block = 7 brick
 - Wall installation rate = $\sim 20\text{m}^2$ / man day **(2x of traditional brick wall + plaster)**
- **Accuracy: Material Saving**
 - Interior – 110mm [Block 100mm + skim-coat (5mm on both sides)]
 - Exterior – 140mm [Block 125mm + skim-coat 5mm + Render 10mm]
- **Sound insulation**
 - Equivalent with brick wall ($\sim 40\text{dB}$)
- **Limited Manufacturer:**
 - Long waiting time
 - Cost: 100mm - RM4, 125mm - RM5 (10~25x brick; 25xcement-sand)

Common Wall Types

Brick Wall



Common Clay Brick



Cement Sand Brick

- **Brick laying – thick mortar bed method**
- **1 AAC block = 7 brick**
- **Wall thickness – 150mm [Brick 114mm + 20mm + 20mm] – thick plastering**
- **Wall installation rate = $\sim 10\text{m}^2$ / man day**
- **Cost: Clay – RM0.40/pc, Cement-Sand - RM0.20/pc**
- **Sound insulation: $\sim 40\text{dB}$**

Common Perception on Brick Wall

Preferred BUT..

- **Expensive (Luxury)**
 - **High material usage**
 - Thick plaster needed
 - Hollowness
 - Cracks
 - **Labour intensive**
 - **Lengthy: ~10m²/man day**
-
- **Why is it so? Take a deeper look**

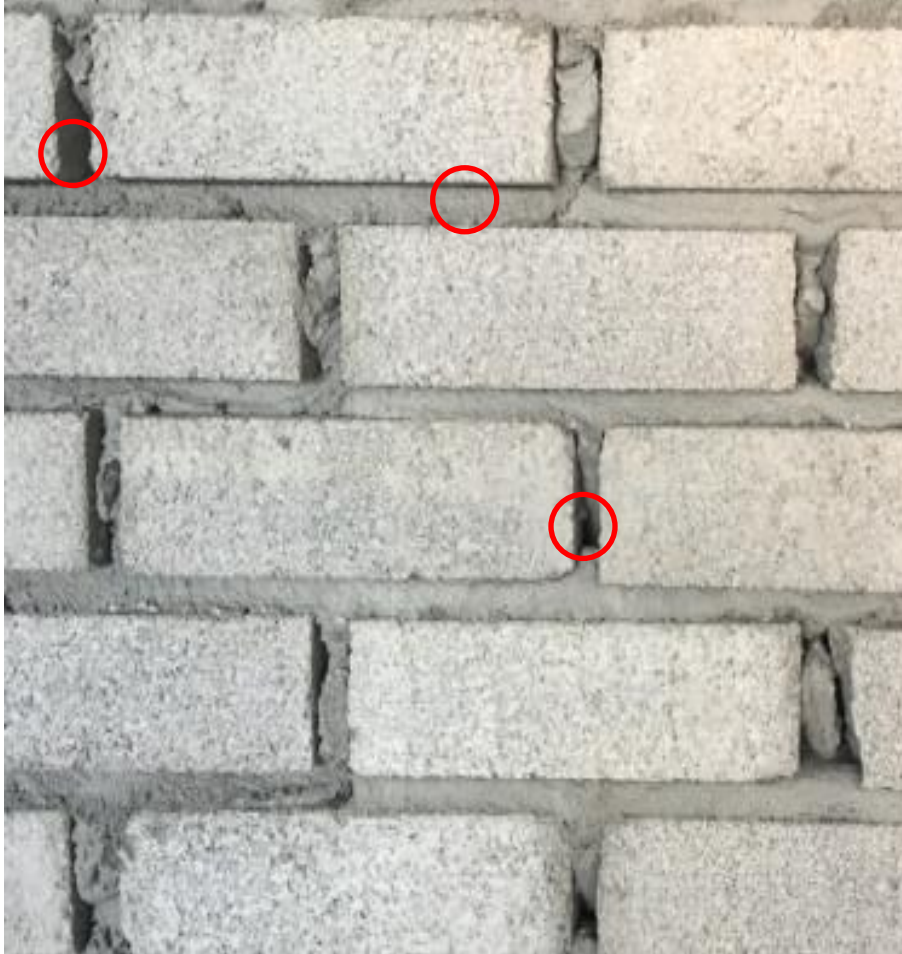
Not properly aligned brick wall



Overly thick mortar joint



Void in Mortar Joint



Overly Thick Plaster



All these give brick wall a bad name



Snowball effect.

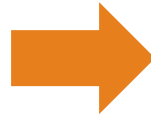
Overly thick joint mortar (material wastage) make proper alignment difficult
Improper alignment requires thicker mortar to level (time & material wastage)
Thicker mortar takes longer time to dry and complete (labour intensive, time wastage)

Rethinking Possibilities

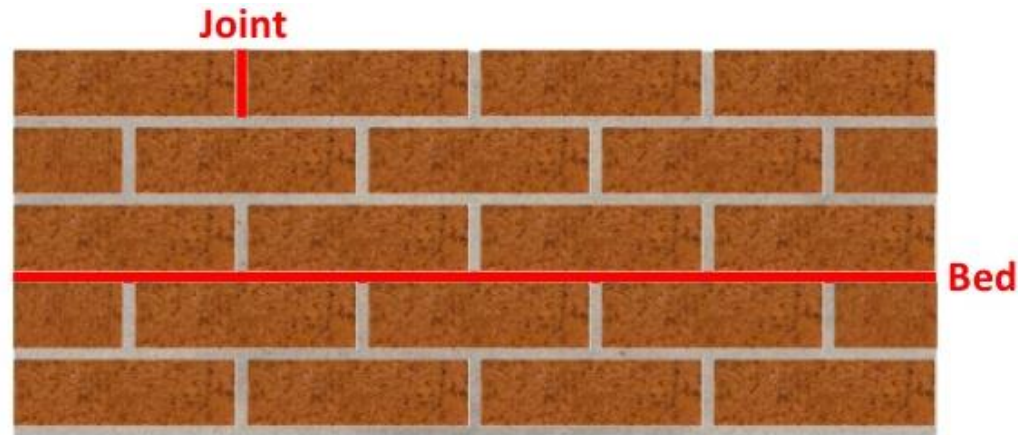
Is there a better way to build brick wall?

Rethinking Possibilities

What if we build brick wall the way we build block wall?



Mortar Joint



Functions:

- Binds together individual masonry unit to achieve total overall wall compression strength
- Ensure watertightness of the wall
- Critical to completely filled vertical joint as these joints do not undergo natural compression from the weight of the bricks above.

Joint Mortar

Thick Bed vs. Thin Bed Method



- **UBBL 2003** : Does not specifically stated requirement of joint-mortar thickness, nor party wall plastering/ rendering thickness¹.
- **American Standard AS3700**, mortar bed joints are required to be **<10mm (+/- 3mm)** unless the design specifies another thickness² ; while design thickness of thin-bed mortar joints shall be **≥ 2mm** and **< 4mm**

¹ All party wall shall generally not less than 200mm total thickness of solid masonry or in-situ concrete.

² The effects of greater thickness on compression and **flexural strength** shall taken into account in the design.

Effect of Thickness on Joint Mortar Performance



Test Sample Set Up



Failure Mode

Effect of Thickness on Joint Mortar Performance

Joint Thickness (mm)	Conventional Mortar (No Polymer)		Mortar (Polymer modified)	
	Mean Compressive Strength (MPa)	Standard Deviation in MPa (%)	Mean Compressive Strength (MPa)	Standard Deviation in MPa (%)
10	6.94	0.65 (9.4%)	-	-
4	7.40	0.38 (5.1%)	8.29	-
2	-	-	9.15	-

6% improvement with 60% reduction in thickness

10% improvement with 50% reduction in thickness

Source: Effects of joint thickness, adhesion and web shells to the face shell bedded concrete masonry laid in compression, Australian Journal of Structural Engineering.

- **Compressive strength of the masonry wall increases** with reduced mortar joint thickness. Higher consistency observed.
- **Polymer modified mortar exhibited higher compressive strength (12% improvement)** compared with conventional site-mix mortar



Case Report: PR1MA at Bandar Meru Raya, Ipoh

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Case Study: PR1MA Project in Ipoh

BALLOTTED

PR1MA @ Bandar Meru Raya, Ipoh, Utara Perak (Ipoh)



Home type
Apartment

Total units
1,011

Proposed project site area
8.8 Acres

Land status
Leasehold

Proposed unit sizes

- Block A & B - Apartment Type A & B (3 Bedrooms): 1,137 sq ft
- Block C & D - Apartment Type A & B (3 Bedrooms): 959 sq ft

How it all started?

- **Contractor is an experienced dry mortar user and has been practicing brickwork with thin bed mortar method (controlling around 2~4mm) in some of their projects**
- **The Story**
 - PR1MA project
 - Qlassic points of min. 70%
 - IBS system
 - Tight time frame
 - INTIAL PLAN: 2~4mm thin bed adhesive + 5mm plastering
 - ACTUAL: 5mm mortar joint + <10mm plastering

The Result

- **Speed of installation**

- 1 week 5units apartment with 1000sqft in floor space
- 50% time saving compared with traditional thick mortar joint & 20mm plaster

- **Material Cost**

- Plaster: 20mm vs 10mm (50% material saving) +
- Joint mortar: 15mm vs 5mm (60% material saving) +

Multi Block Apartment - Speed and Quality is Crucial



Brick laying in progress



Well aligned wall with thin bed joint mortar before plastering



Well aligned wall with thin bed joint mortar before plastering



Well aligned wall makes thin plastering possible



Challenges with Brick Wall & Thin Bed Method

- **Change of habit**
- **Commitment of stakeholders (contractor)**
- **Supervision**



DRY MORTAR & GREEN BUILDING INDEX

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THE GBI RATING SYSTEM

Achieving points in these targeted areas will mean that the building will likely be more environment-friendly than those that do not address the issues. Under the GBI assessment framework, points will also be awarded for achieving and incorporating environment-friendly features which are above current industry practice.

ENERGY EFFICIENCY (EE)

Improve energy consumption by optimising building orientation, minimizing solar heat gain through the building envelope, harvesting natural lighting, adopting the best practices in building services including use of renewable energy, and ensuring proper testing, commissioning and regular maintenance.



MATERIALS & RESOURCES (MR)

Promote the use of environment-friendly materials sourced from sustainable sources and recycling. Implement proper construction waste management with storage, collection and re-use of recyclables and construction formwork and waste.



WATER EFFICIENCY (WE)

Rainwater harvesting, water recycling and water-saving fittings.



INDOOR ENVIRONMENT QUALITY (EQ)

Achieve good quality performance in indoor air quality, acoustics, visual and thermal comfort. These will involve the use of low volatile organic compound materials, application of quality air filtration, proper control of air temperature, movement and humidity.



SUSTAINABLE SITE PLANNING & MANAGEMENT (SM)

Selecting appropriate sites with planned access to public transportation, community services, open spaces and landscaping. Avoiding and conserving environmentally sensitive areas through the redevelopment of existing sites and brownfields. Implementing proper construction management, storm water management and reducing the strain on existing infrastructure capacity.



INNOVATION (IN)

Innovative design and initiatives that meet the objectives of the GBI.

BUILDING TYPE \ ITEM	ENERGY EFFICIENCY (EE)	INDOOR ENVIRONMENT QUALITY (EQ)	SUSTAINABLE SITE PLANNING & MANAGEMENT (SM)	MATERIALS & RESOURCES (MR)	WATER EFFICIENCY (WE)	INNOVATION (IN)
NON-RESIDENTIAL NEW CONSTRUCTION	35	21	16	11	10	7
RESIDENTIAL NEW CONSTRUCTION	23	12	33	12	12	8
INDUSTRIAL NEW CONSTRUCTION	33	22	18	10	10	7
NON-RESIDENTIAL NEW CONSTRUCTION: DATA CENTRE	35	21	16	11	10	7
NON-RESIDENTIAL NEW CONSTRUCTION: RETAIL	35	21	16	11	10	7
NON-RESIDENTIAL NEW CONSTRUCTION: HOTEL	35	21	16	11	10	7
NON-RESIDENTIAL NEW CONSTRUCTION: RESORT	35	16	15	13	12	9
NON-RESIDENTIAL EXISTING BUILDING	38	21	10	9	12	10
INDUSTRIAL EXISTING BUILDING	38	22	10	8	12	10
NON-RESIDENTIAL EXISTING BUILDING: DATA CENTRE	38	21	10	9	12	10
NON-RESIDENTIAL EXISTING BUILDING: RETAIL	38	21	10	9	12	10
NON-RESIDENTIAL EXISTING BUILDING: HOTEL	38	21	10	9	12	10
NON-RESIDENTIAL EXISTING BUILDING: RESORT	38	16	10	9	14	13
TOWNSHIP	20	15	26	14	15	10

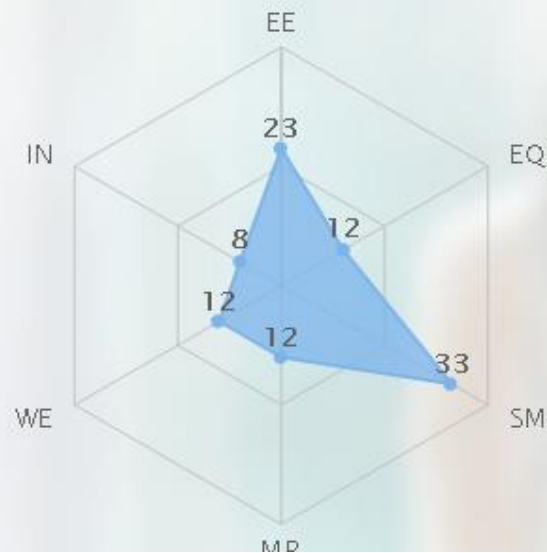
RNC - Categories & Points

RESIDENTIAL

The GBI Residential New Construction(RNC) Rating Tool evaluates the sustainable aspects of residential buildings. This includes linked houses, apartments, condominiums, townhouses, semi-detached and bungalows.

This tool places more emphasis on Sustainable Site Planning & Management (SM), followed by Energy Efficiency (EE). This serves to encourage developers and home owners to consider the environmental quality of homes and their inhabitants through better site selection, provisions of public transport access, increased community services and connectivity, as well as improved infrastructure.

Such achievements will help reduce the negative impact to the environment and create a better and safer place for residents and the community as a whole.



PART	ITEM	MAXIMUM POINTS
1	Energy Efficiency (EE)	23
2	Indoor Environment Quality (EQ)	12
3	Sustainable Site Planning & Management (SM)	33
4	Materials & Resources (MR)	12
5	Water Efficiency (WE)	12
6	Innovation (IN)	8
TOTAL SCORE		100

DRY MORTAR IN GREEN BUILDING INDEX

2

INDOOR ENVIRONMENTAL QUALITY (EQ)

AIR QUALITY, LIGHTING, VISUAL AND ACOUSTIC COMFORT | EVALUATION

12 POINTS

EQ2	VOLATILE ORGANIC COMPOUNDS MINIMISATION		
	Reduce the detrimental impact on occupant's health from finishes that emit internal air pollutants.		
	<i>1 point is awarded for any 2 of the following items, up to a maximum of 2 points:</i>		
	1. Low VOC paint and coating to walls (at least 90% of walls) OR no paint or coating used.		
	2. Low VOC paint and coating to ceilings (at least 90% of ceilings) OR no paint or coating used.		
	3. Low VOC carpet or interior flooring (at least 90% of flooring) OR no carpet or interior flooring used.		
	4. Low VOC adhesive and sealant (at least 90% of overall usage) OR no adhesive or sealant used.	2	2

0.5pt
for green certified of dry
mortar

DRYMIX MORTAR IN GREEN BUILDING INDEX

3

SUSTAINABLE SITE PLANNING & MANAGEMENT (SM)

SITE PLANNING | CONSTRUCTION MANAGEMENT | TRANSPORTATION | DESIGN

33 POINTS

SM7	IBS – INDUSTRIALISED BUILDING SYSTEM		
	Encourage IBS and reduce on-site construction. Reduce material wastages from construction material and process.		
	CIDB IBS score $\geq 50\%$, OR	1	2
	CIDB IBS score $\geq 70\%$.	2	

Max 2pt

8	Blockwork system ⁽⁷⁾	0.5
9	Pre-assemble brickwall / blockwall ⁽⁸⁾	1.0
10	Common brickwall	0.0

Notes :

1. Precast concrete panels include sandwich panel, solid panel and bay-window. Precast concrete includes products of factory precasting, site precasting or the use of tilt-up systems.
2. Wall cladding consists of panel acting as wall or facade and not as a skim to brickwall.
3. For full height windows, use the IBS Factor for panel glass. For wall with non-full height windows, take the highest or widest material e.g. brickwall, precast wall, glass, etc.
4. Precast dry wall include cementitious panels and composite gypsum boards.
5. Reusable formworks include plastic, breglass, steel, aluminium and other metal formworks that can be used repeatedly.
6. Timber formwork means the timber components are sized, cut and fabricated in-situ to form the formworks and the required temporary works. This is commonly referred to as stickbuilt formwork. Timber includes plywood.
7. Blockwork System either (loadbearing or non-loadbearing) includes hollow block, interlocking blocks, lightweight concrete blocks that can be laid on adhesive mortar.
8. Pre-assemble brickwall/blockwall means brick that being laid in form of a panel and transported to site.
9. Wall constructed using tunnel formworks, use Factor of 0.6.
10. For other wall system not mentioned in the table please refer to IBS Centre, CIDB for IBS Factor.

Factor 0.5
for usage brickwork +premixed
Precedence: PRIMA Project in
Ipoh

Blockwork system including hollow
blocks, interlocking blocks,
lightweight concrete blocks that can
be laid on **adhesive mortar**

DRY MIX MORTAR IN GREEN BUILDING INDEX

4

MATERIALS & RESOURCES (MR)

REUSED AND RECYCLED MATERIALS | SUSTAINABLE RESOURCES | WASTE MANAGEMENT

12 POINTS

SUSTAINABLE RESOURCES			
MR3	REGIONAL MATERIALS		
	Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation. Mechanical, electrical and plumbing components shall not be included. Only include materials permanently installed in the project.		
	Use building products or materials that have been extracted, harvested or recovered, as well as manufactured, within Malaysia for $\geq 50\%$ (based on cost) of the total material value, OR	1	2
	Use building products or materials that have been extracted, harvested or recovered, as well as manufactured, within Malaysia for $\geq 75\%$ (based on cost) of the total material value.	2	

Max 2pt
for local products

6

INNOVATION (IN)

INNOVATION IN DESIGN & ENVIRONMENTAL DESIGN INITIATIVES | GREEN BUILDING INDEX FACILITATOR GBIF)

8 POINTS

ITEM	ASSESSMENT CRITERIA	DETAIL POINTS	MAX POINTS	SCORES
IN1	INNOVATION IN DESIGN & ENVIRONMENTAL DESIGN INITIATIVES Provide the design team and the project the opportunity to be awarded points for exceptional performance requirements set by GBI rating system 1 point for each approved innovation and environmental design initiative up to a maximum of 7 points, such as, but not limited to: • Bioswale (25% of the building perimeter) • Central Vacuum System (50% of NLA) • Central Pneumatic Waste Collection System • Charging Station for Hybrid or Electric Car (5% of the total parking spaces provided, up to a maximum of 20 nos) • CUI $\leq 0.5 \text{ m}^3/\text{m}^2$ • External Shading Devices (50% of glazed façade) • Herb and/or Food Garden (Landed-25% of landscape area. Low-rise and High-rise-10% of landscape area or 20m² whichever is the larger) • LED Façade Lighting (only where mandated by Local Authority) • Light Pipes (1% of NLA) • Substantial usage of Green Label Product • Sustainable Construction Practice (with substantial environmental impact) • Performance 'over and above' any of the Tool's stated criterias (awarded on a case-by-case basis) • Preserve existing greenery (awarded on a case-by-case basis) • Promote Biodiversity (with substantial environmental impact) • Provide only 5-Star Energy Efficient Appliances approved by KeTTHA, e.g. Air-Conditioning, Refrigerator, Fan, Television etc. • Real time energy and water usage display and educational facilities • Recycling Fire System Water (Sprinkler and Wet Riser systems, where applicable) during regular testing • Regenerative Lift (50% of installed lifts) • Self-cleaning Façade (90% of facade area) • Solar Hot Water System (composition to meet Shower requirement for all Bathrooms) • Turbine Ventilator (all roofs) • Vertical Green Wall (10% of the facade area) • Wind Chimney	7	7	

- Substantial usage of Green Label Product -> **Low VOC CTA**
- Sustainable construction practice (with substantial environmental impact) -> **premixed, reduced material & wastages**
- Performance 'over and above' any of the Tools stated criteria -> **premixed, min overall wall thickness, increased efficiency (time, labour, rework)**

Max 7pt



SPECIFICATION

Wall, Floor & Tiling Finishes

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Sample Specification on Brick Wall Plasterwork

EXTERNAL PLASTERWORK

SUPPLY and APPLY LAFARGE 19mm Thick QuickPlast (399) or other approved equivalent plastering system; complete with 1 layer of 2-5mm Thick Lafarge 'Base Grey' (380) and finished with 1 layer of LAFARGE crack isolation membrane - "Liquidrender(C): finished smooth with a steel trowel and including raking out joints of brickwall or hacking concrete surfaces for key on; applied strictly in accordance to the manufact

- C To external surface of R.C. '
- D To external surface of brick

'Lafarge' or other equal and approved internal plaster comprising 19mm (in 2 layer) 'Quickplast 399' undercoat and 3mm 'Quickskim 388' finishing coat applied all in accordance with manufacturer's written specification including specified metal lathing at bricks/concrete intersections and PVC angle beads at all corners and edges

Plainface to sides of brickwall

M2

Ditto to sides of isolated column

M2

Sample Specification – RC Render & Tiling Work

PLASTERING AND PAVING

'Lafarge Quickplast' or other equal and approved internal plastering consisting of two coats of cement and sand (1:3) finished with a steel float and including raking out joints of brickwall or hacking concrete surface for key on

20mm Thick to concrete surfaces

- A To soffit of landing slab
- B To sloping soffit of staircase varying from 2 above floor level
- C To sides of staircase stringer 210mm (mini (maximum) wide including finishing to profil

EXTERNAL FINISHES

TILE AND SLAB FINISHES: EXTERNALLY

Matt Porcelain Tiles; "Niro - Wave GWV 05" or approved equivalent; 600mm x 600mm x 10mm thick; all laid to Architect's designed patterns; on and including cement and sand (1:3) beds and backings; to the overall total thickness required; pointing with coloured cement to Architect's approval

To floors
generally

SPECIFICATIONS

Specifying the right way

Standard Specification is organized based the following system:

- BRICK WALL SYSTEM (Premixed/Site Mix solution)
- BLOCK WALL SYSTEM
- CONCRETE WALL SYSTEM
- SOFFIT OF CEILING
- TILING WORKS
- FLOOR SCREED



QuickMix Product Datasheet



2016_Lafarge QuickMix Guide_SUMMARY



2016_Lafarge QuickMix Spec_SAMPLE TEMPLATE

SPECIFICATION GUIDE FOR DURABLE BRICK WALL FINISHING - SMOOTH FINISH (INTERNAL) & HYDROPHOBIC SEMI-SMOOTH FINISH (EXTERNAL) SOLUTION

1. SUBSTRATE : Brick Wall (Clay / Cement Sand Brick)

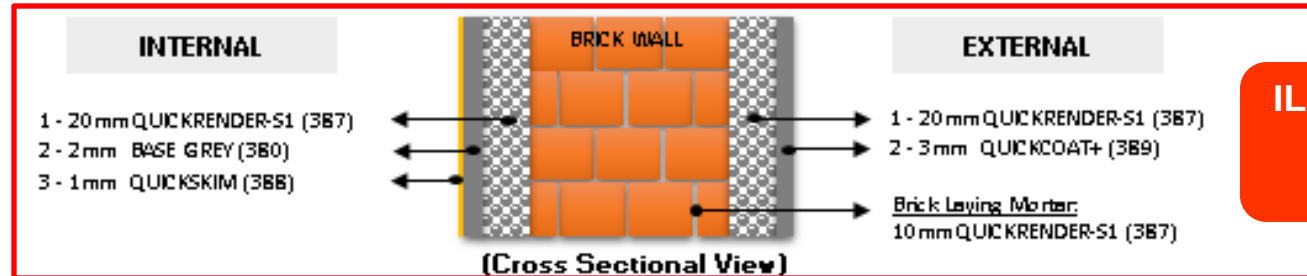


ILLUSTRATION
OF THE
SYSTEM

ITEM	DESCRIPTION	UNIT	QTY	AMOUNT
	BRICKWORK			
	CLAY / CEMENT SAND BRICK UNITS TO BE LAID IN FULL MORTAR BED WITH 10MM "QUICKMIX™ QUICKRENDER-S1 (387)" , IN ACCORDANCE TO MANUFACTURER'S INSTRUCTION, INCLUDING MESH REINFORCEMENT IN THE MORTAR JOINTS AT EVERY 4TH COURSE OF BRICKWORK			
A	10mm thick QUICKRENDER-S1 (387) to brickwall units	m2		
	WALL FINISHES			
	INTERNAL WALL FINISHES			
	"LA FARGE" PROPRIETARY POLYMER CEMENT-SAND MORTAR CONSIST OF 20MM "QUICKMIX™ QUICKRENDER-S1 (387)" TO BE APPLIED AS UNDERCOAT ON BRICK WALLS IN 2 COATS, AND FINISHED WITH WOOD FLOAT, INCLUDING FIBRE LATH REINFORCEMENT AT JOINTS BETWEEN DISSIMILAR MATERIALS, IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS			
	1. Brick (Premix) 1. Brick (SiteMix) 2. Block 3. RC 4. Ceiling 5. Tiling 6. Screed			

TYPE OF
SYSTEM

TILING WORK

TILING WORK

Homogeneous/ Porcelain / Ceramic wall tiles laid in approved pattern on cement and sand (1:3) backing screed (measured separately) as described bedded with **6mm 'QuickMix SuperBond (369)'** adhesive conforming to EN12004: **Class C2TES1** and jointed and pointed in grout or other equal and approved adhesive and cement grout as described to match to walls and columns

600mm x 600mm tiles

1200mm x 600mm tiles



Wrap up



QUICKMIX DRY MORTAR IN A NUT SHELL

PLASTER



SKIM-COAT



TILE ADHESIVE



FLOOR SCREED



POLYMERIC COATING



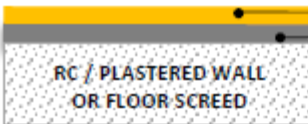
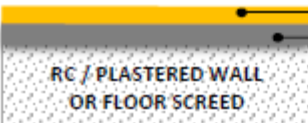
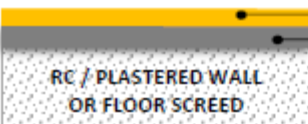
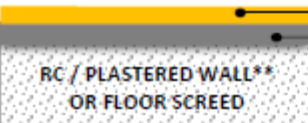
SELECTION GUIDE – WALL FINISHES

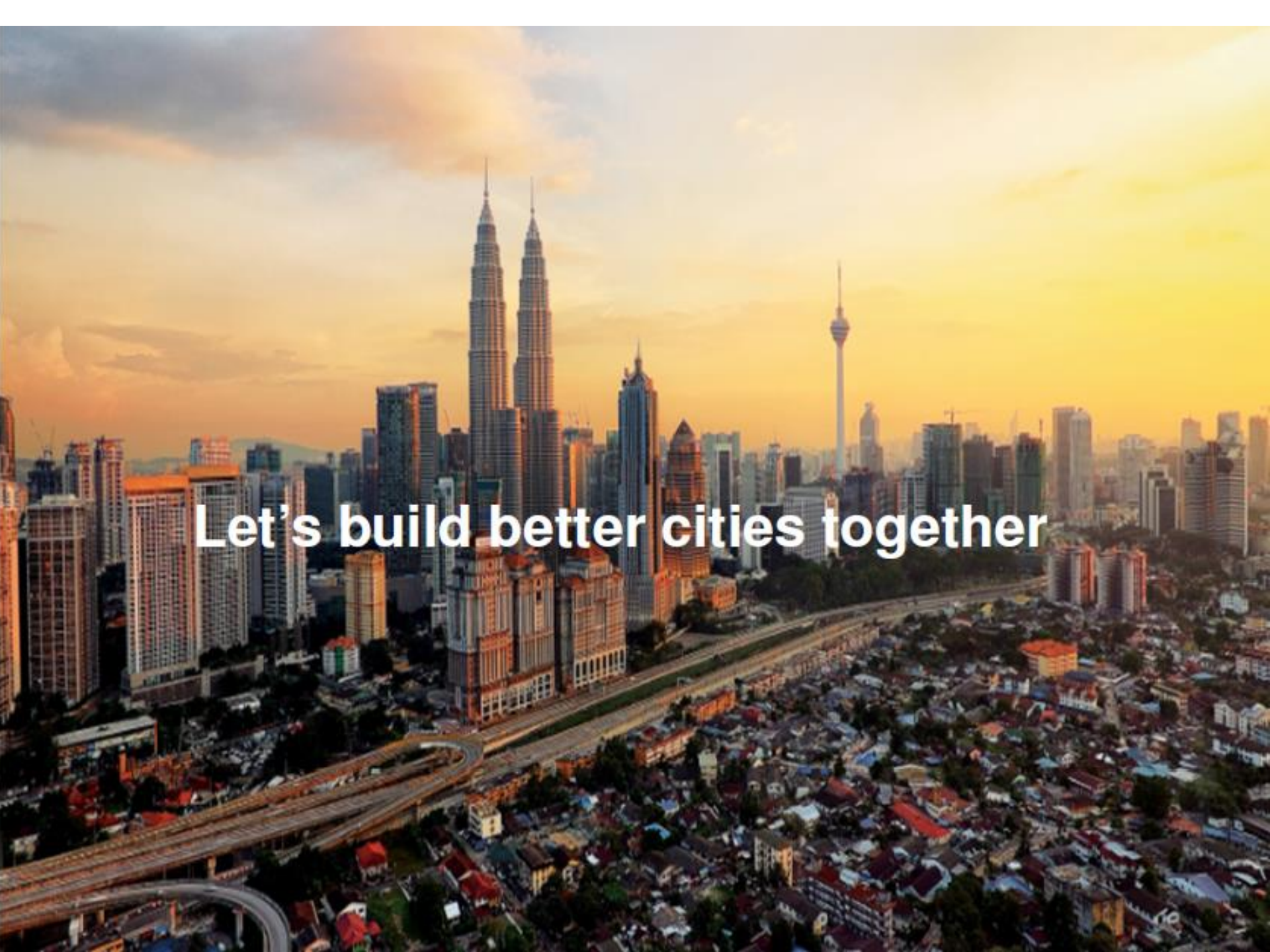
NO	SUBSTRATE
1	Brick Wall (Clay/ Cement Sand Brick) INTERNAL 1 - QUICKRENDER-S1 (387) 2 - BASE GREY (380) 3 - QUICKSKIM (388) EXTERNAL 1 - QUICKRENDER-S1 (387) 2 - QUICKCOAT+ (389) 10mm QUICKRENDER-S1 (387)
2	Block Wall (Light Weight/ ALC, Concrete Block) (Note 2) INTERNAL 1 - BASE GREY (380) 2 - QUICKSKIM (388) EXTERNAL 1 - THIN PLASTER+ (386) 2 - QUICKCOAT + (389) 2mm THIN JOINT MORTAR (362)
3	Concrete Panel / RC Wall INTERNAL 1- BASE GREY (380) 2- QUICKSKIM (388) EXTERNAL 1 - THIN PLASTER+ (386) 2 - QUICKCOAT + (389)

SELECTION GUIDE – SOFFIT OF CEILING

NO	SUBSTRATE
1	Ceiling Soffit 1 - BASE WHITE (385) 2 - FINISH WHITE (382)  CEILING SOFFIT

SELECTION GUIDE – TILING

NO	TILE SIZE
1	300mm X 300mm TILE SIZE  2 - 300mm X 300mm TILE 1 - TILE ADHESIVE (361) 
2	600mm X 600mm TILE SIZE  2 - 600mm x 600mm TILE 1 - TILE ADHESIVE (361)*  ----- OR -----  2 - 600mm x 600mm TILE 1 - SUPERBOND (369)*  
3	MORE THAN 600mm X 600mm TILE SIZE  2 - > 600mm x 600mm TILE 1 - SUPERBOND (369)*  

An aerial photograph of the Kuala Lumpur skyline at sunset. The Petronas Twin Towers are the central focus, with the Kuala Lumpur Tower visible to the right. The city is densely packed with buildings, and a multi-lane highway runs through the foreground. The sky is filled with soft, orange and yellow clouds.

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