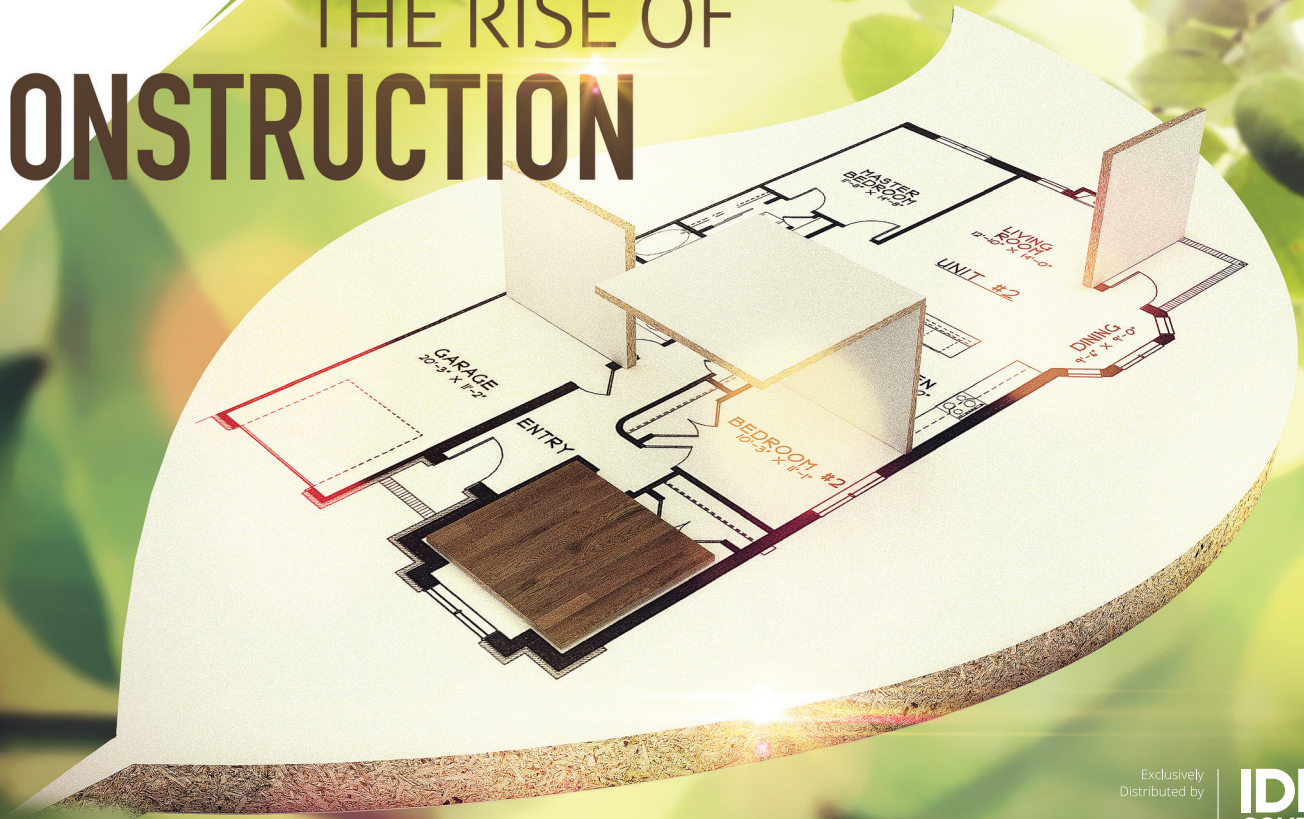
palmeco

THE RISE OF CONSTRUCTION



Exclusively Distributed by IDEAL COVERINGS

A BREAKTHROUGH IN GREEN CONSTRUCTION TECHNOLOGY

- **PalmEco™ Master Board** is the new building board that delivers four performance advantages – high fire resistance, high moisture resistance, superior acoustic properties and high impact performance.

- PalmEco™ Board is the revolutionary new building board that is tough, durable and delivers superb high–quality finish.
  It is versatile and easy to install as you can nail and screw it.

- PalmEco™ Board class A1building board that complies with BS476 Part4:1970 and has been tested for strong fire protection performance.

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PalmEco™ COMPOSITION

Palm fiber waste, magnesium, PalmEco™ Tech Catalyst binder

- Virtually impervious to water.
- High fire resistance.
- Unaffected by insects, including termites & carpenter ants.
- Non-nutrient for mould or mildew.
- Completely non-toxic.
- Strong impact resistance compared with other lining products.

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PalmEco™ ORIGINAL, PATENT AND ALL NATURAL

- The structure of Palmeco board is formed by mixing palm fiber and natural minerals in well tested formulation and process.
- No adhesive, formaldehyde and any toxic substance.

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PalmEco™ ORIGINAL, PATENT AND ALL NATURAL

Certificate of Patency

for Invention for Palmeco technology and Manufacturing Processes

Green Label certified product

It is produced in accordance to IOS 14001. At least 16 credit points under Beam and Leeds rating scheme

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PalmEco™ IS MEETING THE INTERNATIONAL STANDARDS

- BS476 Part4: 1970 - non combustible
- ASTM E119 - 2hr fire resistant rated
- Australia and New Zealand - A1 non combustible
- BS-EN1364 -1:1999 - 2 hr fire rated
- Green label/Beam certified products

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PalmEco™ TECHNICAL SPECIFICATIONS OVERVIEW

Thickness	6mm, 9mm, 12mm, 15mm, 18mm
Size	1220mm x 2440mm
Fire Resistance	BS476 Part 4: 1970 non-combustible
Moisture Resistance	Semi-exposed/Resistant to the effects of moisture
Normal Dry Density (Average)	1000kg/m^3
Impact Strength	2.5kj/m^2
Flexural Strength	14N/mm^2
Acoustic	40 dB (Rw)
Finish	Front face (smooth) - Back face (coarse)
Surface Alkalinity	pH 8-9 Colour Off-white

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PalmEco™ SPECIFICATIONS

- **Density:** 800 - 1200 kg/m^3
- **Standard thickness:** 6/9/12/15/18mm
- **Standard size:** 1220mm x 2440mm
- **Special order:** 1200mm x 2400mm
- **Special order:** 1200mm x 3000mm

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PalmEco™ KEY BENEFITS

- **Moisture resistant**
  PalmEco™ master board will remain stable and does not degrade even when in contact with constant humidity.
- **Fire protection**
  PalmEco™ master board has excellent fire resisting properties and has been tested to provide up to 60 minutes fire protection for steel and timber frame partitions.
- **Fast and easy installation**
  PalmEco™ master board can be installed quickly and conveniently using standard fixings and metalwork.
- **Good thermal and sound insulation**
  PalmEco™ master board can enhance thermal and acoustic properties when incorporated as part of a ceiling system.
- **Light in weight**
  Lightweight PalmEco™ master board eases the handling and installation processes and reduces the overall product cost.
- **Biological and chemical resistance**
  PalmEco™ master board is resistant to mould growth, and attack by rodents, insects and most chemicals.

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PRODUCTS COMPARISON

	Organic	Inorganic
Products	Plywood, MDF, fiber boards	MgO boards, Gypsum boards, Calcium silicate boards, Cement boards
Advantages	Strength	Fire resistant
	Hold to nail	Water resistant
	Easy to cut	Termite resistant
Disadvantages	Not water resistant	Brittle
	Not termite resistant	Low flexural strength
	Easy to burn	Not environmentally friendly production
	VOC	

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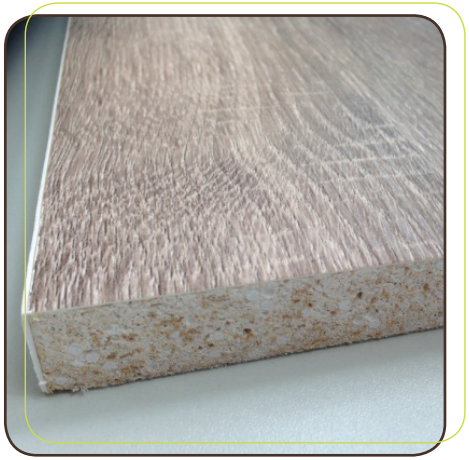
PalmEco™ PATENTED TECHNOLOGY

- PalmEco combines the advantages of **organic and inorganic** boards.
- The palm fiber used gives the board the strength that can not be matched by other similar products in the market.
- It is also less brittle. It has good insulation and acoustic effect.



A1 Class Fire Resistant Material

Green And It Does Not Contain Any Harmful Substance

Strong Resistant To Termites

Strong Water Resistant. No Swelling.

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PalmEco™ IS EASY TO WORK WITH

Cutting & sawing

Fixing

Nailing

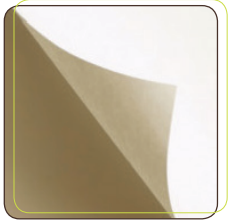
Planning & sanding

Drilling

Painting

Plastering

Screwing



Papering

Tiling

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PalmEco™ IS IDEAL FOR MANY APPLICATIONS

- WALL AND ROOF LININGS
- PARTITIONS
- CEILINGS
- UNDERLAYMENT FLOORING
- WET ROOM FLOORING OVERLAYS
- SOFFITS
- PORTABLE AND PREFABRICATED BUILDINGS
- CANOPIES
- SERVICES ENCLOSURES
- ROOF SHEATHING
- ACOUSTIC UNDERLAY
- **IDEAL COVERINGS**

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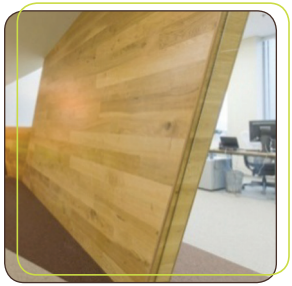
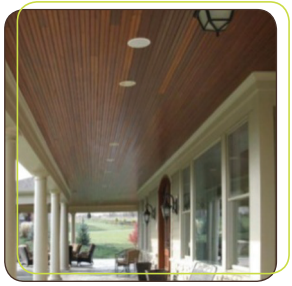
PalmEco™ IS IDEAL FOR MANY APPLICATIONS

External wall

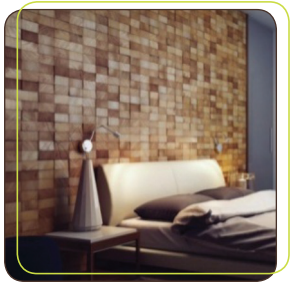


Interior walls

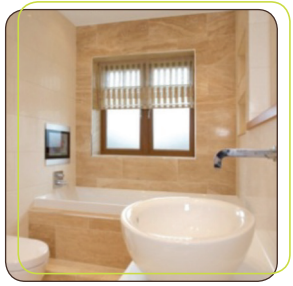
Ceiling



Outdoor ceiling



Feature walls



Wet rooms

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PalmEco™ IS IDEAL FOR MANY FLOORING APPLICATIONS

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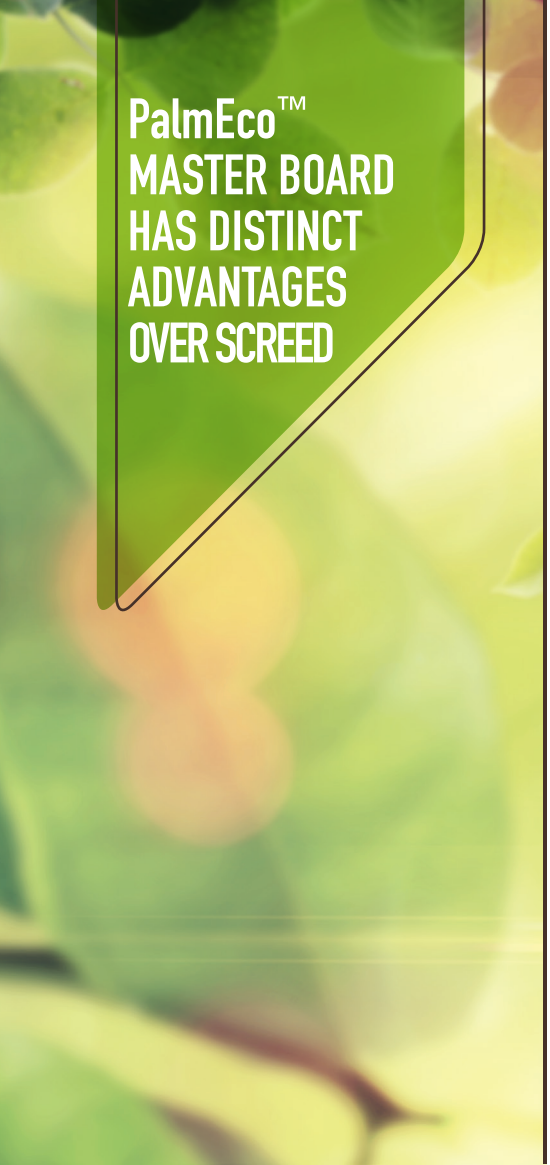

PalmEco™ MASTER BOARD HAS DISTINCT ADVANTAGES OVER SCREED

	PalmEco™	Screed
Thickness	6mm, 9mm, 12mm, 15mm, 18mm	50-100mm un-bonded screed 65mm-75mm floating screed
Fire rating	PalmEco boards are non flammable, non explosive and non combustible. Tested to BS476 part 4 1970 Class A1 (GB8624-2006) ASTM E119 – 2 hrs	(BS 476: Part 4) non-combustible
Dry density	1000 kg/m^3	2,000 kg/m^3
Flexural strength	14N/mm^2	4N/mm^2
Acoustic	40 dB (Rw)	Need acoustic insulation
Thermal conductivity	0.124w/mK	2.0w/mK +/- 0.2
Water resistance	High	low
Require Self leveling	no	yes
Preparation time	Ready to use	Requires preparation on site
Strength	Ductile	Brittle
Time to dry	12 hrs	3-4 days

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PalmEco™ MASTER BOARD IS EASY TO DECORATE IN WALLING APPLICATIONS

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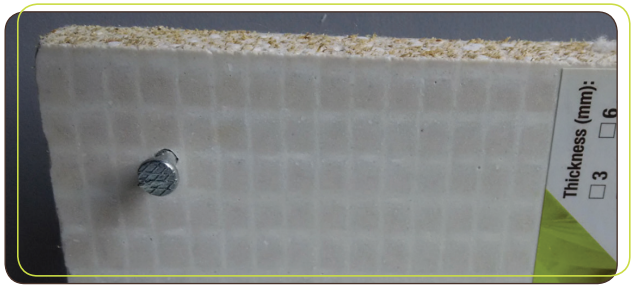
PalmEco™ HAS MANY COMPETITIVE ADVANTAGES



Not brittle. Can nail

Strength to hold heavy objects

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PalmEco™ BOARD HAS DISTINCT ADVANTAGES OVER PLASTER

- Ductile not brittle
- A1 class fire resistant material
- Strong water resistant- No swelling, No cracking
- Doesn't need repair
- Even wall surface
- Termites resistant
- Cost effective

Cracked plaster wall

Plaster wall

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PalmEco™ BOARD HAS DISTINCT ADVANTAGES OVER GYPSUM BOARD

	PalmEco™ board	Gypsum board
Environmental friendless	Excellent	Poor
Flame resistance	Excellent	Poor
Water resistance	Excellent	Poor
Fastener strength	Excellent	Poor
Insect resistance	Excellent	Good
Acoustic	Excellent	poor
Bending strength	Excellent	Poor
Nailing and screwing	Excellent	Poor

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PalmEco™ BOARD HAS DISTINCT ADVANTAGES OVER CEMENT BOARD

	PalmEco™ board	Cement board
Thickness	6mm, 9mm, 12mm, 15mm, 18mm	4.5mm, 6mm, 9mm, 12mm, 18mm
Fire rating	•PalmEco boards are non flammable, non explosive and non combustible. •Tested to BS476 part 4 1970 Class A1 (GB8624-2006) ASTM E119 – 2 hrs	(BS 476: Part 4) non-combustible
Dry density	1000 kg/m^3	1200 kg/m^3
Impact strength ASTM C 1186	2.5kj/m^2	1.5kj/m^2
Bending strength	8.11 MPa	Transverse ≥ 11MPa Vertical ≤ 8.5 MPa
Thermal conductivity	0.124w/mK	≤0.17w/mK
Water absorption ASTM C 1186	23.89%	≤29.5%
Flexural strength	High (Ductile)	Low (Brittle)
Surface	Smooth	Rough (need plastering before painting)
Cutting tools	Doesn't need special tools	Needs special tools

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PalmEco™ CASE STUDIES

Zero Carbon Building (ZCB) – BEAM highest Platinum rating

- Achieved BEAM Platinum.
- Specified by BEAM professionals as environmental product for use as tile underlayer in wet room because moisture will not cause Palmeco masterboards to swell and deform. Zero Carbon Building (ZCB) is developed by Hong Kong's leading property developer New World Development.

CC WU Building – BEAM Gold Rating

- PalmEco™ boards were specified for use in the building's renovation works.
- PalmEco™ Master is easy to use and free of any hazardous substances. Palmeco's strong resistant to fire and moisture and its environmental approach enables very high credit ratings under BEAM.

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PalmEco™ CASE STUDIES

Australia and Peru

- Newly invented SIP prefab house system producer – TECTA System specified PalmEco because its physical properties are appropriate boards for its systems.
- SIP Home construction company in Peru specified PalmEco 9mm boards for their projects.

Grand Hyatt Grissini

- PalmEco was used for ceiling because of its strength, water and fire resistant capabilities.

APB Centre – BEAM highest Platinum rating

- Architectural Services Department, The Government of the HKSAR.
- PalmEco Master 12mm was specified for walls because of its strong fire resistance.
- Sustainable and easy to apply. Satisfies both design and BEAM requirements.

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