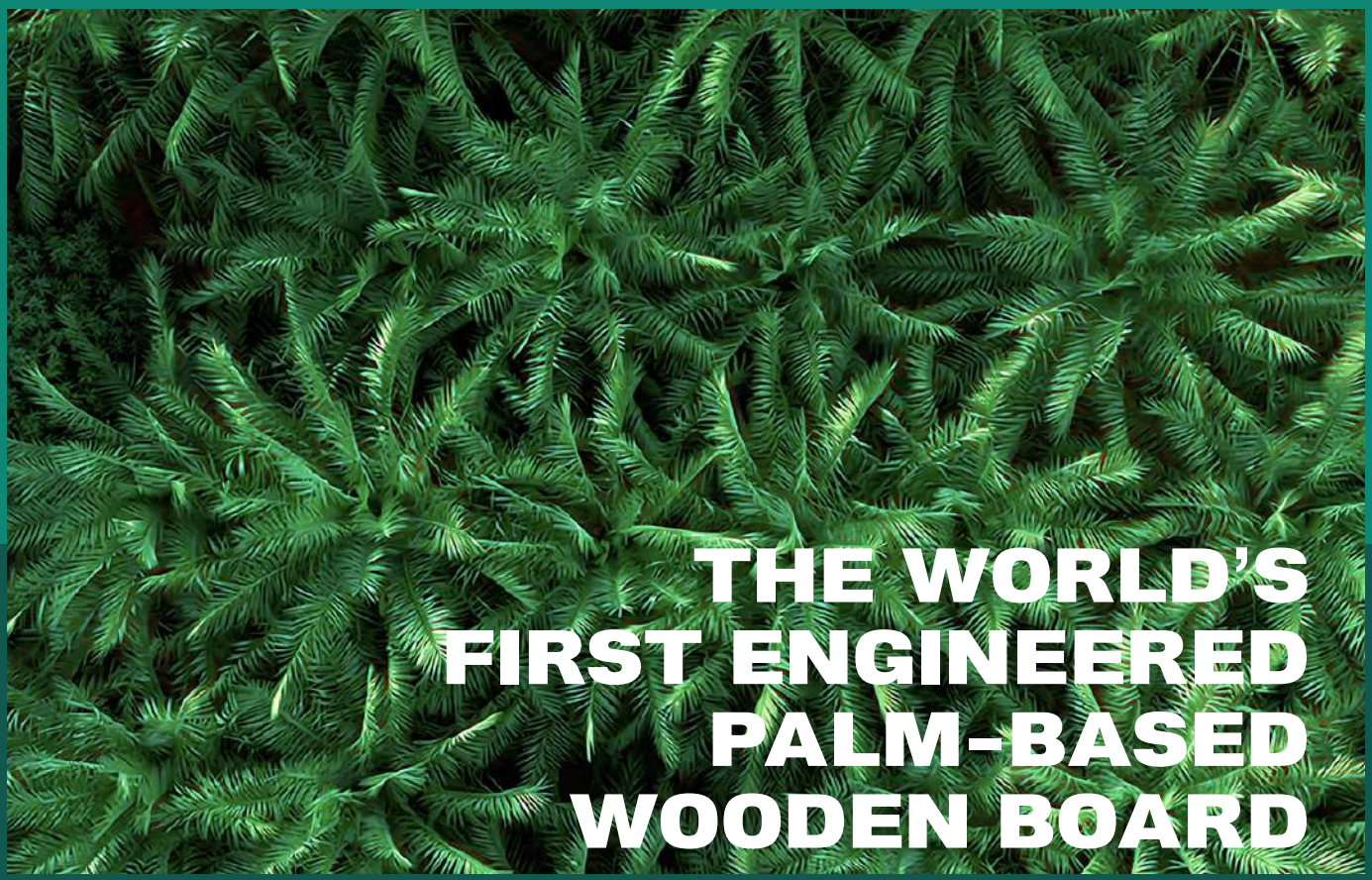
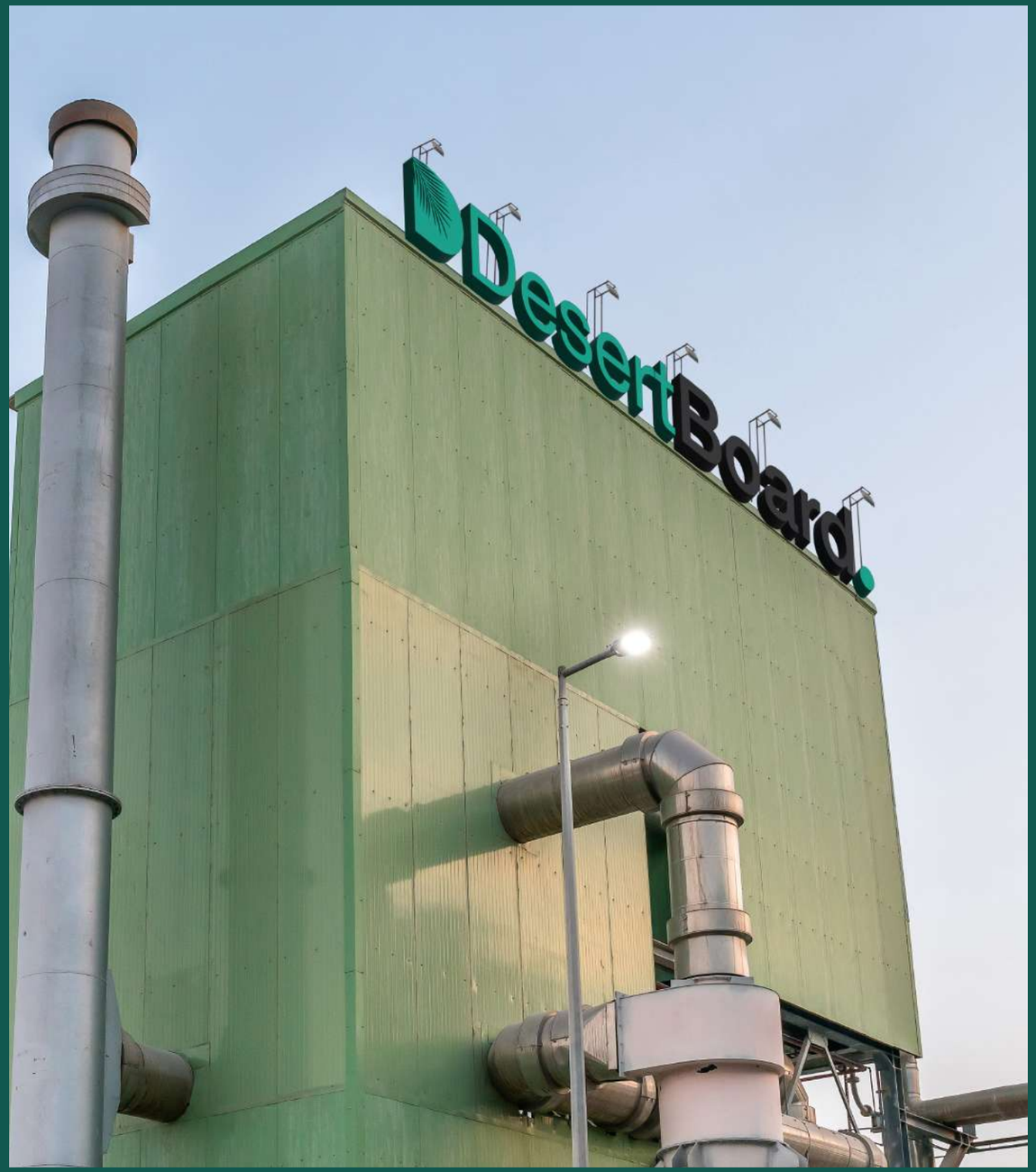
DesertBoard.



THE WORLD'S FIRST ENGINEERED PALM-BASED WOODEN BOARD

DESIGN AWARD 2025



DesertBoard.

Beyond Net Zero – the carbon sink board that will reduce the carbon footprint of your built environment.

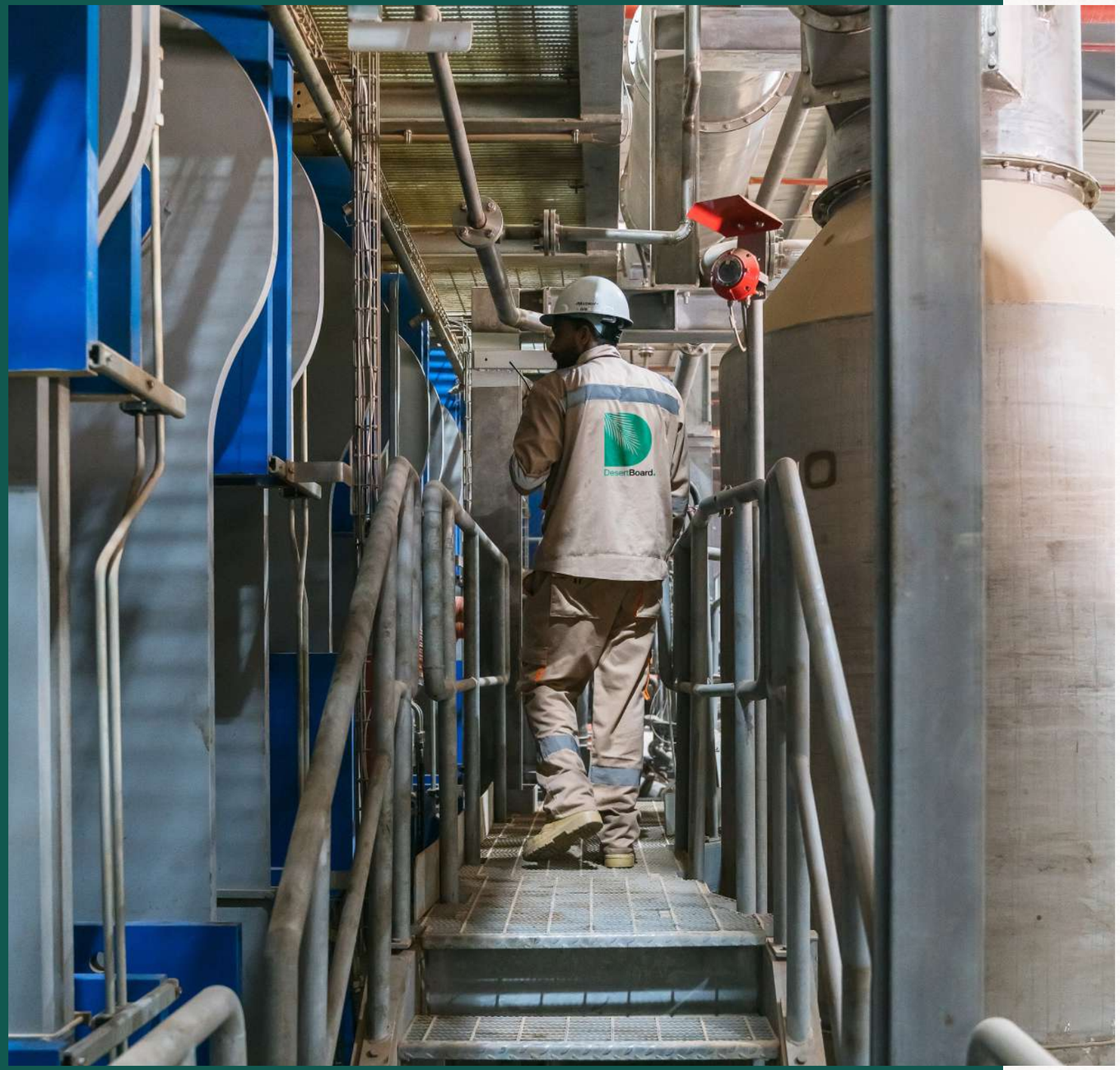


TABLE OF CONTENTS

About the Company

DesertBoard® is the manufacturer of the region's most sustainable building material, Palm Strand Board (PSB®), crafted from annually regenerated date palm fronds.

Registered in 2011, DesertBoard® was driven by an ambitious vision to transform abundantly available raw materials into sustainable wooden boards. During this period, we undertook extensive experimentation, research, and development to create Palm Strand Board (PSB®), laying the foundation for a revolutionary sustainable building material.

A decade later, in 2021, DesertBoard® marked a major milestone with the inauguration of its factory and the successful production of the first PSB® engineered wooden board, setting a new standard in sustainable building materials.

Addressing a critical environmental challenge, DesertBoard upcycles pruned palm fronds through a one-of-a-kind patented process, becoming the world's first factory to produce a Super E0 (zero-emission) grade board, equivalent in strength to Oriented Strand Board 3 & Oriented Strand Board 4.

WHAT IS PSB®?

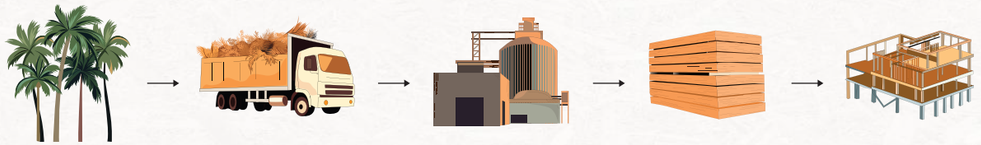
The World's First Engineered Palm-Based Board

PSB® is an engineered wooden board developed from pruned date palm fronds-a widely available and often discarded agricultural byproduct in the region.

Unlike conventional wooden boards such as OSB, MDF, and plywood that rely on deforestation, PSB® is produced without cutting down a single tree, making it a truly sustainable alternative. This homegrown innovation reflects a significant step forward in the development of eco-conscious materials within the construction and design industry.

Manufactured using a patented process, PSB® stands out for its exceptional environmental and performance features. It is 100% sustainable, contains zero formaldehyde, is highly moisture resistant, termite-resistant, acoustically insulated, versatile, offers up to 120 minutes of fire resistance, acts as a carbon sink, and contributes to biogenic carbon sequestration.

PSB® CREATION PROCESS



PSB® Supreme Specification Comparison

PANELBOARDS COMPARISON (PSB® SUPREME)													
PRODUCT SPECS	**PSB SUPREME**	OSB 1	OSB 2	OSB 3	MDF	PB - (P1)	PB - (P2)	PB - (P3)	PB - (P4)	PB - (P5)	PB - (P6)	PB - (P7)	PLYWOOD
THICKNESS - (mm)	**18 mm**	18 mm			18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm
DENSITY - (Kg/m³)	**800 kg/m³**	800 - 850 kg/m³			720 kg/m³	650 kg/m³							570 - 590 Kg/m³
IB - (N/mm²)	**0.30**	≥0.26	≥0.3	≥0.32	≥0.55	≥0.24	≥0.35	≥0.45	≥0.35	≥0.45	≥0.4	≥0.65	-
TS 24H - (%)	**15.0**	≤25	≤20	≤15	≤12	≤15	≤15	≤14	≤15	≤10	≤14	≤8	-
MOR MAJOR AXIS - (N/mm²)	**18.0**	≥16	≥18	≥18	20	≥11.5	≥13	≥14	≥15	≥16	≥16	≥18.5	48 - 50
MOR MINOR AXIS - (N/mm²)	**9.0**	≥8	≥9	≥9	NA	NA	NA	NA	NA	NA	NA	NA	34.5 - 36.5
MOE MAJOR AXIS - (N/mm²)	**3500**	≥2500	≥3500	≥3500	2200	NA	≥1600	≥1950	≥2300	≥2400	≥2550	≥2800	6218 - 6309
MOE MINOR AXIS - (N/mm²)	**1400**	≥1200	≥1400	≥1400	NA	NA	NA	NA	NA	NA	NA	NA	4749 - 4818

PSB® Prime Specification Comparison

PANELBOARDS COMPARISON (PSB® PRIME)													
PRODUCT SPECS	**PSB PRIME**	OSB 1	OSB 2	OSB 3	MDF	PB - (P1)	PB - (P2)	PB - (P3)	PB - (P4)	PB - (P5)	PB - (P6)	PB - (P7)	PLYWOOD
THICKNESS - (mm)	**18 mm**	18 mm			18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm
DENSITY - (Kg/m³)	**800 kg/m³**	800 - 850 kg/m³			720 kg/m³	650 kg/m³							570 - 590 Kg/m³
IB - (N/mm²)	**0.30**	≥0.26	≥0.3	≥0.32	≥0.55	≥0.24	≥0.35	≥0.45	≥0.35	≥0.45	≥0.4	≥0.65	-
TS 24H - (%)	**20.0**	≤25	≤20	≤15	≤12	≤15	≤15	≤14	≤15	≤10	≤14	≤8	-
MOR MAJOR AXIS - (N/mm²)	**16.0**	≥16	≥18	≥18	20	≥11.5	≥13	≥14	≥15	≥16	≥16	≥18.5	48 - 50
MOR MINOR AXIS - (N/mm²)	**8.0**	≥8	≥9	≥9	NA	NA	NA	NA	NA	NA	NA	NA	34.5 - 36.5
MOE MAJOR AXIS - (N/mm²)	**2500**	≥2500	≥3500	≥3500	2200	NA	≥1600	≥1950	≥2300	≥2400	≥2550	≥2800	6218 - 6309
MOE MINOR AXIS - (N/mm²)	**1200**	≥1200	≥1400	≥1400	NA	NA	NA	NA	NA	NA	NA	NA	4749 - 4818

PSB® Conform Specification Comparison

PANELBOARDS COMPARISON (PSB® CONFORM)													
PRODUCT SPECS	**PSB CONFORM**	OSB 1	OSB 2	OSB 3	MDF	PB - (P1)	PB - (P2)	PB - (P3)	PB - (P4)	PB - (P5)	PB - (P6)	PB - (P7)	PLYWOOD
THICKNESS - (mm)	**18 mm**	18 mm			18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm
DENSITY - (Kg/m³)	**900 kg/m³**	800 - 850 kg/m³			720 kg/m³	650 kg/m³							570 - 590 Kg/m³
IB - (N/mm²)	**0.40**	≥0.26	≥0.3	≥0.32	≥0.55	≥0.24	≥0.35	≥0.45	≥0.35	≥0.45	≥0.4	≥0.65	-
TS 24H - (%)	**12.0**	≤25	≤20	≤15	≤12	≤15	≤15	≤14	≤15	≤10	≤14	≤8	-
MOR MAJOR AXIS - (N/mm²)	**18.0**	≥16	≥18	≥18	20	≥11.5	≥13	≥14	≥15	≥16	≥16	≥18.5	48 - 50
MOR MINOR AXIS - (N/mm²)	**9.0**	≥8	≥9	≥9	NA	NA	NA	NA	NA	NA	NA	NA	34.5 - 36.5
MOE MAJOR AXIS - (N/mm²)	**3500**	≥2500	≥3500	≥3500	2200	NA	≥1600	≥1950	≥2300	≥2400	≥2550	≥2800	6218 - 6309
MOE MINOR AXIS - (N/mm²)	**1400**	≥1200	≥1400	≥1400	NA	NA	NA	NA	NA	NA	NA	NA	4749 - 4818

PSB® Ultra Specification Comparison

PANELBOARDS COMPARISON (PSB® ULTRA)													
PRODUCT SPECS	**PSB ULTRA**	OSB 1	OSB 2	OSB 3	MDF	PB - (P1)	PB - (P2)	PB - (P3)	PB - (P4)	PB - (P5)	PB - (P6)	PB - (P7)	PLYWOOD
THICKNESS - (mm)	**18mm**	18 mm			18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm	18 mm
DENSITY - (Kg/m³)	**900 kg/m³**	800 - 850 kg/m³			720 kg/m³	650 kg/m³							570 - 590 Kg/m³
IB - (N/mm²)	**0.40**	≥0.26	≥0.3	≥0.32	≥0.55	≥0.24	≥0.35	≥0.45	≥0.35	≥0.45	≥0.4	≥0.65	-
TS 24H - (%)	**12.0**	≤25	≤20	≤15	≤12	≤15	≤15	≤14	≤15	≤10	≤14	≤8	-
MOR MAJOR AXIS - (N/mm²)	**18.0**	≥16	≥18	≥18	20	≥11.5	≥13	≥14	≥15	≥16	≥16	≥18.5	48 - 50
MOR MINOR AXIS - (N/mm²)	**9.0**	≥8	≥9	≥9	NA	NA	NA	NA	NA	NA	NA	NA	34.5 - 36.5
MOE MAJOR AXIS - (N/mm²)	**3500**	≥2500	≥3500	≥3500	2200	NA	≥1600	≥1950	≥2300	≥2400	≥2550	≥2800	6218 - 6309
MOE MINOR AXIS - (N/mm²)	**1400**	≥1200	≥1400	≥1400	NA	NA	NA	NA	NA	NA	NA	NA	4749 - 4818

IF DESIGN AWARD WINNER 2025

DesertBoard has emerged as a standout winner at the esteemed Global iF Design Awards 2025 in Hamburg. Recognised for its innovation and commitment to eco-friendly solutions, DesertBoard secured four prestigious titles: Best Sustainable Building Material, Best Sustainable Building Panel, Best Sustainable Door Core, and Best Fire-Rated Sustainable Door.

The Global iF Design Awards, backed by the non-profit iF Design Foundation, celebrate groundbreaking designs that influence industries worldwide. This year, a jury of 131 design experts from 23 countries evaluated over 11,000 entries from 66 nations, selecting DesertBoard for its revolutionary approach to sustainability in construction materials.

DesertBoard's award-winning innovation, Palm Strand Board (PSB®), is redefining the construction industry by introducing the region's most sustainable alternative to traditional engineered wood boards. By repurposing pruned palm fronds, DesertBoard actively reduces methane emissions, a major contributor to climate change, while promoting a circular economy.

OUR FACILITIES

DesertBoard's Research & Development facility stands as a beacon of innovation and excellence within the industry. Below, we outline the distinctive attributes and practices that set our factory apart:

1. Commitment to Excellence and Innovation:

At DesertBoard, we prioritize rigorous testing and continual enhancement of our processes. Our unwavering commitment ensures that our products not only meet but consistently exceed industry benchmarks.

2. Using a Patented Process and Technology:

Our eco-friendly manufacturing process, powered by German Continuous Press technology and a patented method, produces 6,200 PSB® boards per day, accommodating 16 (20-foot containers) daily. After assembly, the PSB® boards' edges and surfaces are coated, laminated, painted, or finished with the compatible material to achieve a smooth surface.

3. Sustainable Manufacturing Process:

Through regular testing in our laboratories and partnerships with independent third-party testing organizations, we guarantee the utmost quality and performance of our products. Furthermore, in order to improve productivity and safeguard the Health and Safety of our employees, our plant is automated with dust extraction systems to reduce the amount of dust generated during the production process.

4. Adherence to European Standards and Sustainability Certifications:

DesertBoard's products comply with rigorous Gulf, American, European, and Asian standards and have earned certifications from globally recognized bodies dedicated to sustainability. Our affiliations with the Emirates Green Building Council (a member of the World Green Building Council), United Nations Climate Action, United Nations Climate Neutral Now and the International Code Council underscore our dedication to eco-friendly practices.

5. Innovative Energy and Waste Management:

We source our electricity from the UAE's grid, which is steadily shifting towards sustainability through the incorporation of various renewable energy sources such as solar, nuclear, wind, and hydroelectric, among others. This shift reflects our commitment to minimizing our environmental footprint. DesertBoard distinguishes itself with a unique approach that marries unparalleled quality and innovation with an unwavering dedication to environmental stewardship in its manufacturing processes.

APPLICATIONS OF PSB®

FIRE RATED DOOR CORES

PSB® EcoCore FR is ideal for constructing fire-rated door cores, providing both strength and fire resistance up to 90 minutes.

FURNITURE

Used as a core material in furniture manufacturing, contributing to the durability and stability of furniture pieces.

CABINETRY

Employed in cabinetry construction to create strong and moisture-resistant cabinet doors and panels.

WALL CLADDING

Used for wall cladding applications to enhance the appearance and strength of walls while resisting moisture.

FLOORING

Serves as a durable and moisture-resistant flooring material, ideal for both residential and commercial spaces. Its strength and resistance to wear make it a practical choice.

HOUSE BUILDING

Can be used in various aspects of housing construction, including as a structural material in framing, sheathing, for I joists, (I beams), and subflooring.

BOOTHS AND STANDS

Ideal to create booths, stands, and partitions at various events, trade shows, or exhibitions.

SITE HOARDING

Suitable for creating sturdy site hoarding and construction barriers.

KITCHEN CABINETS

Optimal for kitchen cabinets and cupboards.

FORMWORK AND SHUTTERING

Enables cost reduction through multiple utilization, (40+ times vertically) for creating formwork and shuttering, providing durability and reusability for concrete moulds.

PACKAGING

A sustainable solution for reusable packaging.

DIY

A versatile material for DIY projects.

MODULAR AND PORTABLE STRUCTURES

Suitable for constructing modular and portable buildings or structures due to its strength and resistance to environmental factors.

THE PSB® RANGE

DesertBoard PSB® can be tuned with diverse performance characteristics to suit a wide range of architectural and design applications.

PSB® PRIME

Zero formaldehyde, high strength, moisture resistance, versatile, and non-load bearing board, designed for a wide range of interior applications.

PSB® SUPREME

A zero-formaldehyde, high-strength, high-moisture-resistant, high-performance board with enhanced screw-holding capacity, ideal for exterior applications.

PSB® ULTRA

Zero Formaldehyde, ultra-high moisture resistance, higher screw hold capacity, superior strength and stability, and an ideal choice for heavy-duty applications

PSB® ECOCORE SUPREME

Zero formaldehyde, high strength, high moisture resistance, specifically tailored for use in door cores or frames.

PSB® ECOCORE FR

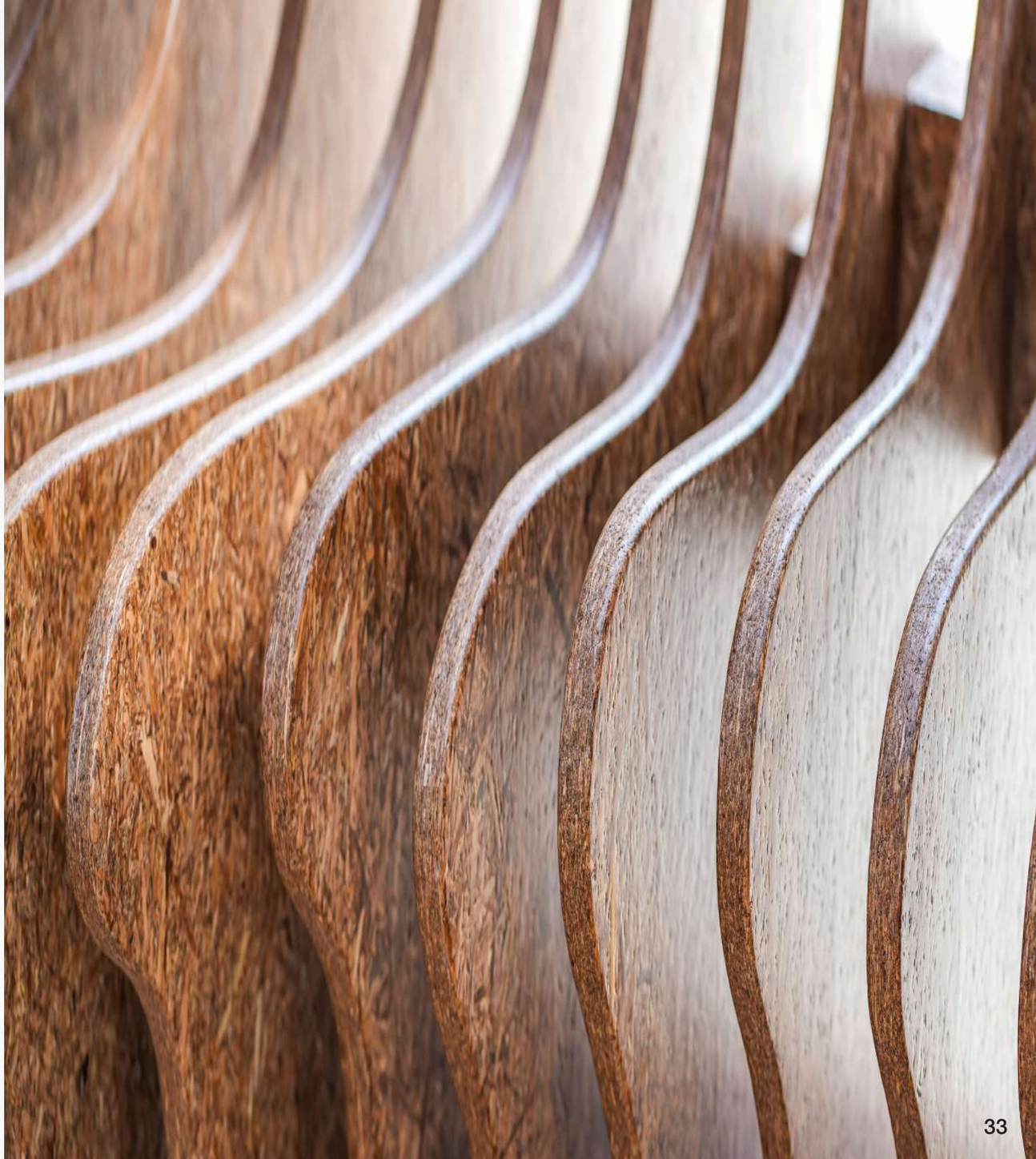
A zero formaldehyde, high-strength, and high-moisture-resistant board, engineered with a specialized fire-retardant component and offering up to 120 minutes of fire resistance.
(Certified in accordance with EN 1634-1, BS 476, and UL 10C standards)

PSB® CONFORM

A zero-formaldehyde, high-strength, durable, and ultra-high-moisture-resistant board, designed specifically for shuttering applications.

PSB® DESIGN

Zero formaldehyde, smooth surface, moisture resistance, versatile, ideal for DIY and creative projects.



HEALTH CONCERNS WITH UREA FORMALDEHYDE & TRADITIONAL WOODEN BOARDS

Traditional wooden boards made with urea formaldehyde can pose several health concerns due to the emission of formaldehyde gas.

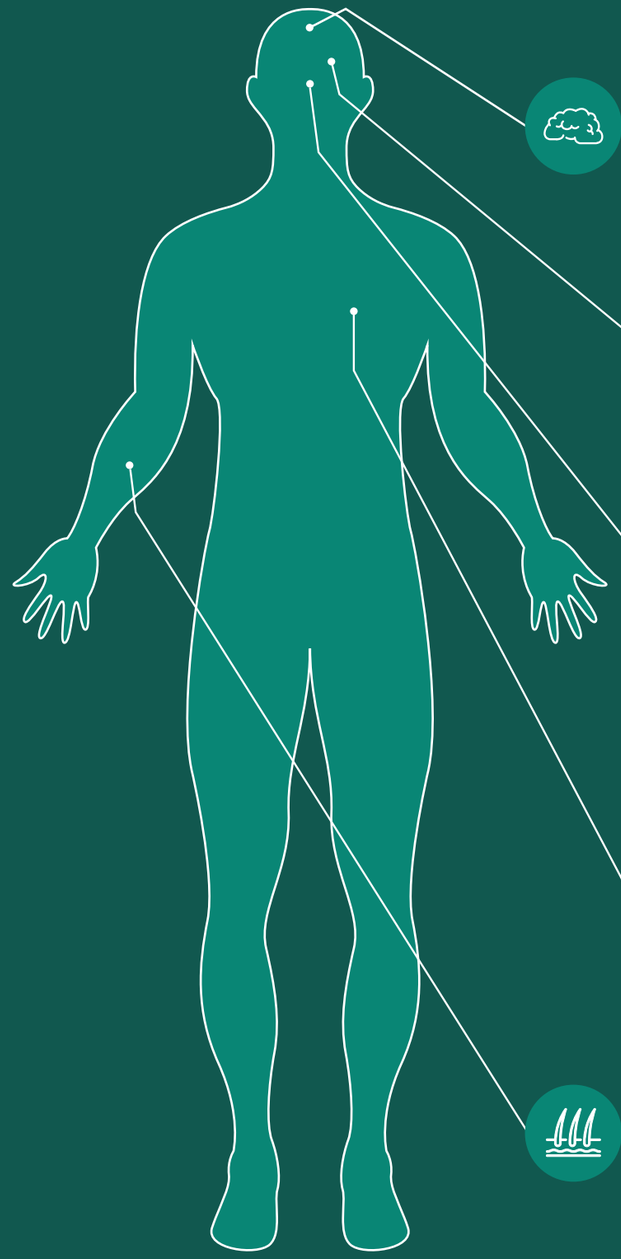
In contrast, zero-formaldehyde construction boards like PSB® represents a revolutionary advancement in the industry, for both workers and end-users. Here's why:

1. Improved Indoor Air Quality:
Zero-formaldehyde construction boards eliminate the emission of formaldehyde gas, leading to healthier indoor environments. This is particularly beneficial for workers who spend extended periods in construction settings, and for end-users who reside or work in buildings constructed with these boards.

2. Reduced Health Risks:
By eliminating formaldehyde emissions, Zero-formaldehyde construction boards reduce the risk of respiratory issues, skin and eye irritation, allergies, and long-term health effects, including cancers like nasopharyngeal cancer and leukemia.

3. Enhanced Safety:
Workers involved in the manufacturing and installation of zero-formaldehyde construction boards are exposed to lower health risks, contributing to improved workplace efficiency, eliminating employee illness, improving safety and overall well-being.

"Build Responsibly, Live Beautifully, Breathe Easily with DesertBoard's PSB®"



BRAIN
Headache, weakness, drowsiness/lethargy, difficulty concentrating, irritability, anxiety, nausea, diziness.

EYES
Dryness, itching/stinging, tearing, redness.

UPPER RESPIRATORY TRACT
Dryness, itching/stinging, nasal congestion, nasal drip, sneezing, nosebleed, throat pain.

LUNGS
Chest tightness, drowning, sensation, wheezing, dry cough, bronchitis.

SKIN
Redness, dryness, general and localised itching.

Health Concerns With Urea Formaldehyde & Traditional Wooden Boards

PSB® UNIQUE CHARACTERISTICS

ZERO EMISSIONS

Experience a healthier living environment with PSB®. Our meticulously manufactured boards are made with Zero Formaldehyde PMDI resin and therefore completely free from toxic formaldehyde emissions (As per the Al Sa'afat Certificate of Product Conformity).

SUSTAINABLE

PSB® is a 100% sustainable building material, upcycled from regenerative palm fronds (Zero deforestation) that are trimmed yearly to maintain the health of the tree. Unlike traditional wooden boards that often depend on logging and forest depletion, PSB® offers an eco-friendly alternative without compromising natural resources.

BIOGENIC CARBON SEQUESTRATION

Discover eco-innovation with our PSB®, minimizing environmental impact. Each standard m3 of PSB® sequesters 1,430 kg of CO2e, locking carbon in the material. Certified by an Eco Platform verified Environmental Product Declaration.

CONSTRUCTION PERFORMANCE

PSB® boards are engineered for exceptional durability, making them ideal for demanding applications. A study conducted by the College of Engineering, Abu Dhabi University, United Arab Emirates compared PSB® (18 mm) with MDF and particle boards through compression tests using the ELE-3000 Compressive Testing Machine. Under axial loading, PSB® recorded only a 16% reduction in thickness, significantly outperforming MDF boards (50% reduction) and particle boards (44.5% reduction).

FIRE RESISTANCE

PSB® EcoCore FR is specifically engineered with a specialized fire-retardant component to enhance its performance in critical structural elements such as door frames and shutters. By integrating advanced fire-resistant additives during manufacturing, it delivers superior fire safety performance—certified for 30, 60, 90, and 120 minutes of resistance in accordance with EN 1634-1, BS 476, and UL 10C standards.

INDOOR & OUTDOOR

PSB® boards are conscientiously designed for both indoor and outdoor applications and deliver exceptional performance.

PSB® UNIQUE CHARACTERISTICS

SOUND INSULATION

PSB® is engineered to significantly reduce noise transmission by efficiently absorbing and dissipating sound waves, achieving a noise reduction of up to 40 decibels (As per Al-Futtaim Sound Transmission Test). This makes PSB® an ideal solution for environments where minimizing noise pollution is critical, such as residential, commercial, or industrial spaces.

MOISTURE RESISTANCE

PSB® offers exceptional moisture resistance, providing long-lasting protection against humidity-related damage. This is supported by a study conducted by the Engineering Department at Abu Dhabi University, which used the Krüss Drop Shape Analyzer to measure water contact angles and assess surface wettability of various wood types. The results showed that MDF exhibited mild hydrophilicity with a contact angle of 50.2° and limited water spreading, while PSB demonstrated superior moisture resistance with a higher contact angle of 72.0°, indicating less absorption. Plywood fell in between at 65°, confirming PSB®'s enhanced ability to withstand water damage in humid conditions.

TERMITE RESISTANCE

PSB® wooden board offers natural resistance to termites, safeguarding structures from costly damage. Its built-in durability eliminates the need for harmful chemical treatments, making it a safer, eco-friendly choice.

HIGH SCREW WITHDRAWAL STRENGTH

PSB® has a high screw withdrawal value of 1,356 N at the edge and 1,112 N on the face, according to British Standard BS EN 320:2011 (Material Lab Certification). This makes the board an ideal choice for designing furniture, cabinets, and other structural assemblies that require strong joint components.

VERSATILE

PSB® wooden boards can be coated, laminated, or veneered to achieve a wide range of finishes—from classic to contemporary. Their inherent versatility ensures they seamlessly complement any aesthetic vision.

PSB® CERTIFICATION PARTNERS

Fire Rating Certificate

ESL
مختبر الإمارات للسلامة
EMIRATES SAFETY LABORATORY

لإدارة العامة للدفاع المدني - دبي
DIRECTORATE GEN. OF DUBAI CIVIL DEFENS

intertek
Total Quality. Assured.

THOMAS BELL-WRIGHT
INTERNATIONAL CONSULTANTS

Formaldehyde Certificate

AL SA'FAT
Dubai Green Building Evaluation System

بلدية دبي
DUBAI MUNICIPALITY

Environmental Product Declaration (EPD) Certificate

IMQ

Life Cycle Assessment (LCA) Certificate

IMQ

Environment Certificate

SSGM
جمعية الاستدامة والمواد الخضراء
SOCIETY OF SUSTAINABILITY & GREEN MATERIALS

Management and Safety Certificate

ISO

Technical Certificate

ماتيريال لاب
Material Lab

مختبرات ويمبي
WIMPEY LABORATORIES

IAS
INTERNATIONAL ACCREDITATION SERVICE®

Acoustic Insulation Certificate

Al-Futtaim

Timeline Of A Sustainable Revolution

1997 2011 2021 2023 2025

CULTURAL IMPORTANCE

Across cultures, the palm tree has held significant importance, not just symbolically, but also as an essential necessity of daily life. In various religious texts, from the Quran to the Bible, palm trees are frequently referenced, symbolizing victory, peace, and fertility. Furthermore, throughout history, the way of life in the Middle East has relied on Palm trees as a source of nourishment and building material for houses.

1997: THE SEED OF INNOVATION

Mr. Hatem Farah, deeply moved by the profound admiration the late Sheikh Zayed held for the palm tree, embarked on a mission to uncover innovative methods to recycle waste from palm fronds. With a strong knowledge and passion for wood, and drawing inspiration from nature's ability to rejuvenate, Mr. Farah envisioned the creation of engineered wooden panels made from discarded palm leaves. This vision marked the beginning of a journey that would evolve into a ground breaking initiative.

2011: LAYING THE GROUNDWORK

In 2011, DesertBoard® was officially registered, marking the beginning of an ambitious journey. The team launched extensive research and development efforts aimed at revolutionizing green construction materials. Over the following years, despite numerous challenges, their determination only grew stronger. Viewing each setback as a learning opportunity, they were guided by the principles of innovation and adaptation.

DECEMBER 14, 2021: TURNING THE TIDE

On this significant day, DesertBoard® inaugurated its manufacturing facility in the UAE and successfully produced the world's first palm-based engineered wooden board—PSB® (Palm Strand Board). This milestone was more than just a manufacturing achievement; it symbolized perseverance, innovation, and a bold vision for eco-friendly production—utilizing sustainable sourcing, low emissions, and resource-efficient processes.

2023: GREEN INNOVATION AT COP28

In 2023, the UAE positioned itself as a leader in sustainable innovation by introducing PSB®, a %100 sustainable engineered wooden board made from palm frond raw material, during COP28. This introduction underscored the nation's dedication to advancing circular economy solutions and demonstrated how sustainable materials can drive positive change across global industries.

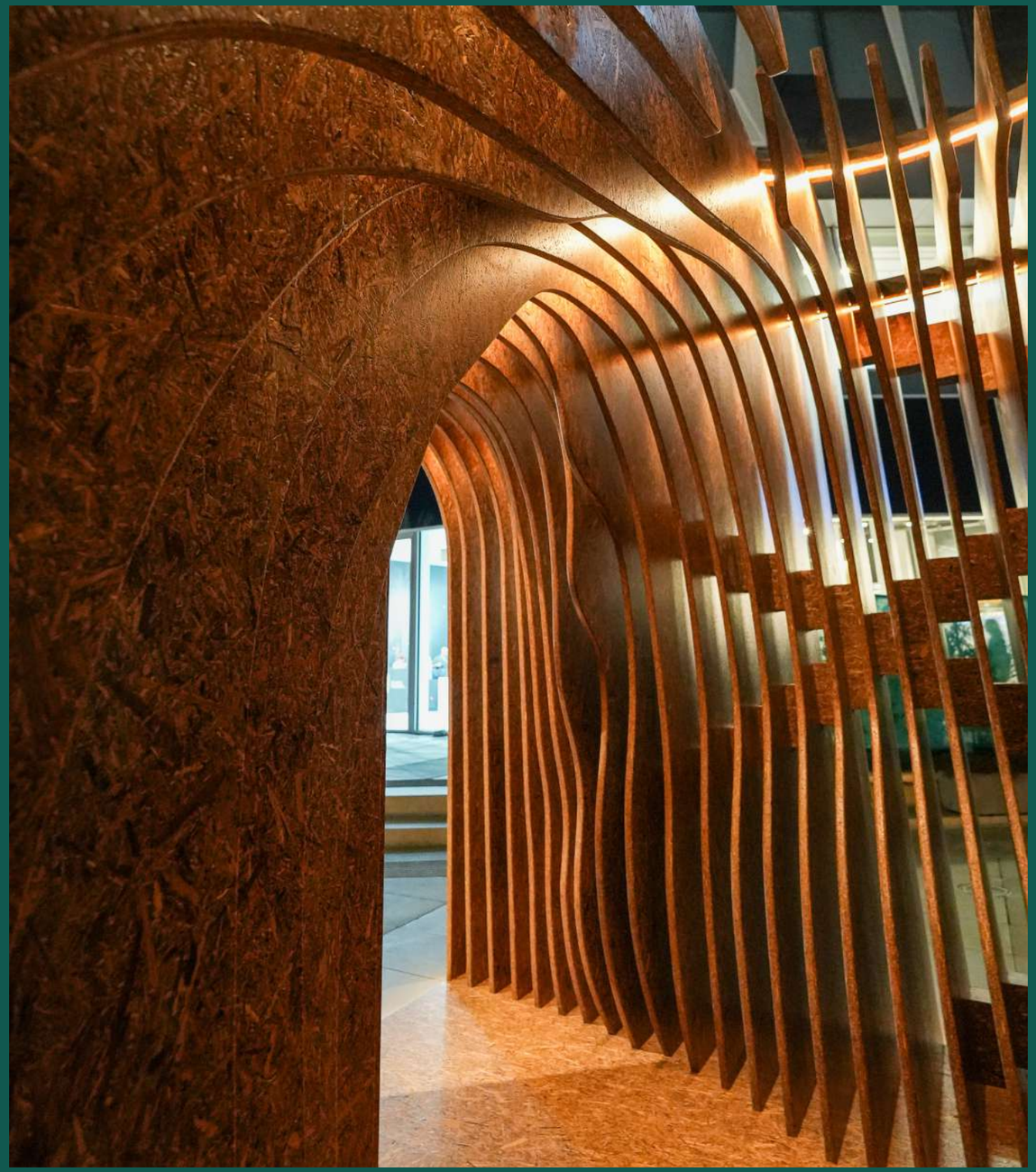
2025: GLOBAL AND LOCAL RECOGNITION

DesertBoard's PSB® has earned recognition both globally and locally for its sustainable design . It proudly secured the prestigious iF Design Awards across four categories (Global), Innovation Champion of the Year (UAE), the CSR Commitment Award (UAE), the Big See Architecture Award (Europe), KEZAD Group's Appreciation Award (UAE) and an honorary award from the Hamdan Bin Mohammed Heritage Center (UAE). Notably, projects utilizing PSB® boards, such as On Weaving, have been celebrated with the AlMusalla Prize (KSA) and featured prominently at major international exhibitions including the Venice Biennale, Bukhara, and Uzbekistan.

OUR VISION AND FUTURE

Palm Strand Board (PSB®) symbolizes more than just innovation; it represents a vision for a sustainable future. From a simple beginning, Desert Board's factory now sets global standards, promoting environmentally-friendly solutions. As the world shifts towards sustainability, PSB® aims to redefine green construction standards. Each board embodies both functionality and a sustainable vision. Reflecting on this journey, founder Mr. Hatem Farah added:

"I often express that life is a journey, as you walk through a tunnel, a door opens before you, and if you are perceptive, you take notice of that door"



DesertBoard.

Beyond Net Zero – the carbon sink board that will reduce the carbon footprint of your built environment.

THE REGION'S MOST SUSTAINABLE BUILDING MATERIAL

DesertBoard.

ADDRESS

Al Talah Board Manufacturing Company Ltd.
KEZAD, Abu Dhabi, UAE
P.O. Box: 41543

PHONE & FAX

Tel.: +971 2 246 7042
Fax: +971 2 671 7933

ONLINE

Email: info@desertboard.ae
Website: www.desertboard.ae

@desertboard

@desertboard

Desert Board