WORCA Board

Table of contents

About WORCA

- **WORCA** in brief

WORCA Board

- **A**bout the product
- **W**hy **WORCA** Boards
- **R**educing Waste
- **P**roductivity Enhancement
- **WORCA** boards Vs Plywood

Case Studies

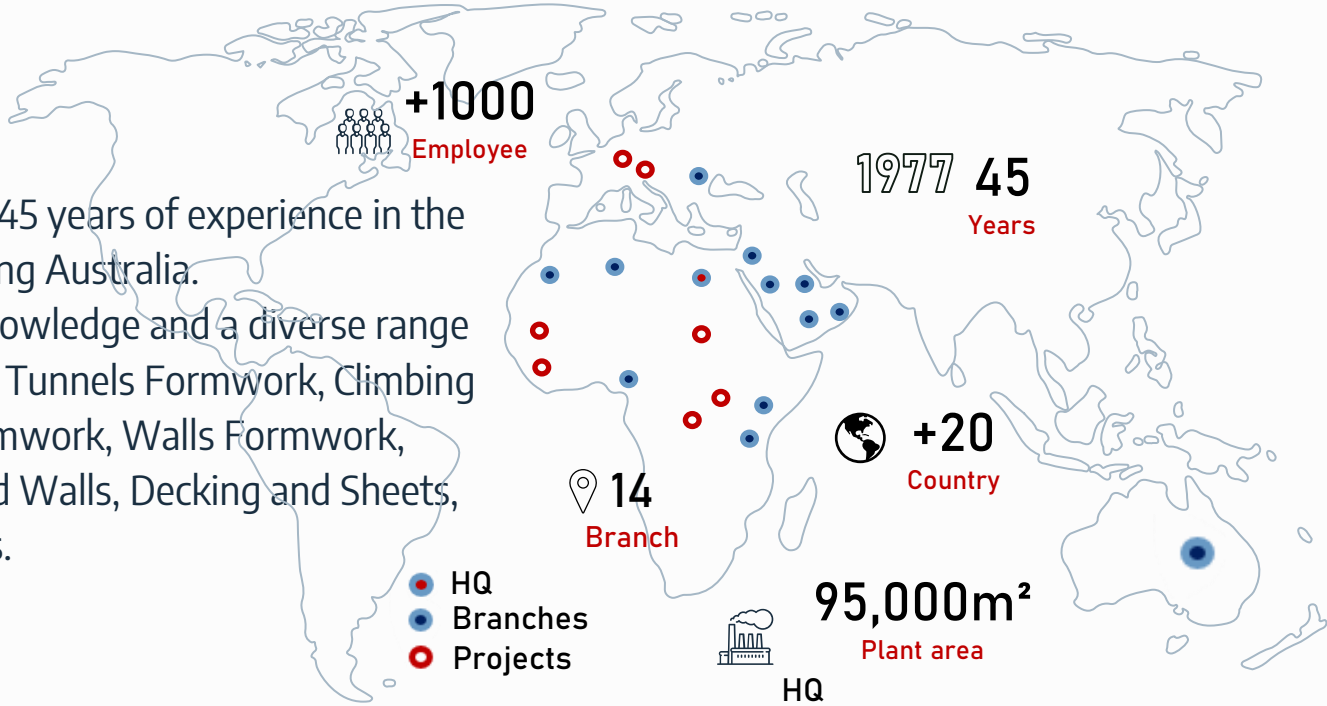
Test Reports (attached PDF)

- Mechanical
- Chemical

WORCA IN BRIEF

ABOUT WORCA

WORCA is a fresh brand with +45 years of experience in the Middle East & Africa. Now serving Australia.
We bring forth our wealth of knowledge and a diverse range of products, including Bridges & Tunnels Formwork, Climbing & Safety Systems, Columns Formwork, Walls Formwork, Slabs & Scaffolding, Single-Sided Walls, Decking and Sheets, as well as Tailor-Made Solutions.

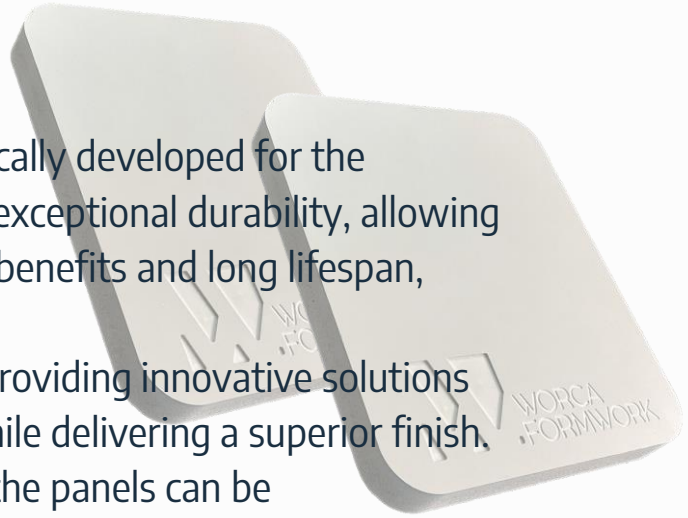


About WORCA Board

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

COMPOSITION



WORCA board is made from a unique polymer composite mix specifically developed for the Australian construction industry. It's ideal for construction due to its exceptional durability, allowing for more reuse compared to plywood. This, along with its numerous benefits and long lifespan, makes WORCA board the most cost-effective choice on the market.

WORCA board offers several advantages over traditional materials, providing innovative solutions for a wide range of requirements. It saves time, money, and effort while delivering a superior finish.

WORCA board provides panel thicknesses for every application and the panels can be supplied in almost any size and shape to meet requirements.

Why WORCA Board?

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

VALUE PROPOSITION

This innovative solution goes beyond plywood, offering superior durability at a competitive price point, making it a smart investment that delivers lasting value.

- Fire Retardant
- Easy to Install
- Water Resistant
- No Release Agent
- Durable
- Cost Effective
- Weather Resistant
- Circular Economy
- Insect Resistant
- Easy to Clean
- Easy to Maintenance
- Anti Bacterial

Reducing Waste

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

Reducing Deforestation

By producing composite polymer board instead of timber, WORCA is helping to reduce deforestation and its impact on climate change. This is a positive step towards a more sustainable future.

Storage

The boards are durable and resistant to impact, bending, moisture, and fire. They do not need to be stored under cover, unlike plywood, which needs to be protected from the surrounding environment. This makes them ideal for use in harsh environments or where long-term outdoor storage is required.

Reducing Waste

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

Recyclability “ZERO WASTE”

WORCA boards are designed to be recycled after they reach the end of their lifespan, creating a closed-loop system where old boards are used as raw materials to produce new ones.

Productivity Enhancement

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

Cut to Length “ZERO WASTE, LESS ACTIVITY”

In addition to saving time and labor cost and improve productivity, the cutting to length adding so much value to get only the needed dimensions of board which means less wastage.

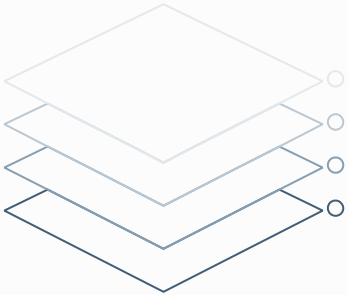
Durability, up to 3X

Three times of durability means more productivity and less resource consumption.

Productivity Enhancement

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD



Superior Concrete Finish

It means no need to concrete finish works, then more productivity and less labors.

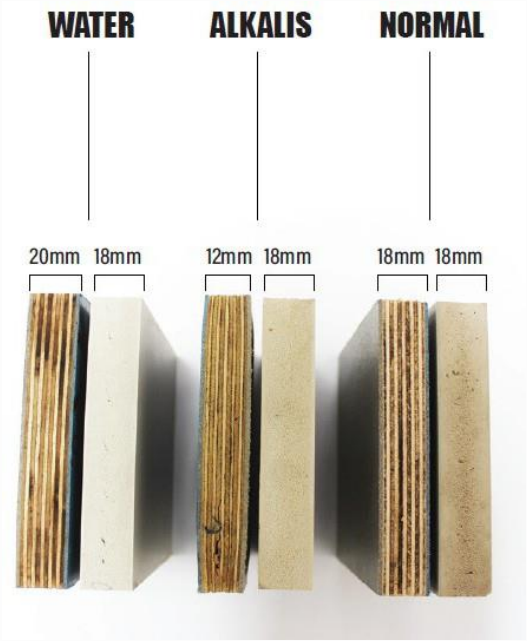
WORCA board Vs Plywood

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

CHEMICAL RESISTANCE TO ALKALIS AND ACIDIC SOLUTIONS

- Chemical resistance to alkalis and acidic solutions
- Up to 3X more usage than the plywood.



WORCA board Vs Plywood

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

- Up to 3X more usage than the plywood.
- Up to 2 times more productivity.
- Color coding.
- Cut to length.
- Less repair.

WORCA board Vs Plywood

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WORCA BOARD

Point of comparison	Marine Plywood	WORCA Board
Structure/ Components	High-quality timber composed of multiple layers of wood veneers bonded with (WBP) glue	Made from a special polymer composite mix developed by WORCA
Surface Quality	Fair	Glossy durable and consistent surface
Chemical & Weather Resistance		
Water Resistance	Poor	Perfect
UV Resistance	Poor	Fair
Concrete Alkalis Resistance	Poor	Fair
Mechanical Properties		
Inertia (I)	Depends on thickness	Depends on thickness
Flexural Modulus of elasticity (Mpa)	From 3000 to 14000 According to (AS/NZS 2269.1:2012)	≥ 1800 Constant According to (AS/NZS 2269.1:2012)
Thickness (mm)	9mm / 12mm / 15mm / 17mm / 18mm / 21mm	Can be Manufactured from 3mm to 28mm
Dimensions (m*m)	2.44 *1.22	Cut to Length with max width 1.22
Density (Kg/m3)	700	720
Static bending (KN) for 17mm	According to Manufacturer	1.17 (AS/NZS 2269.1:2012)

WORCA board Vs Plywood

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

Point of comparison	Marine Plywood	WORCA Board
Performance (Average Number of casts - Depends on Adherence of Site Usage)		
Pre-fabricated Panel system (wall, Column, Slab)	Up to 15	Up to 30
Site Assembled Panels	Up to 8	Up to 25
Table form slab formwork	Up to 7	Up to 25
Traditional slab formwork	Up to 5	Up to 20
Workability		
Stacking/Storage	Indoor on Flat Ground	Indoor & Outdoor on Flat Ground
Nail and screw fixation	Perfect	Perfect
Cutting	Perfect	Perfect
Maintenance	Hard	Easy

WORCA board Vs Plywood

The SMART replacement for plywood, developed for the Australian market.

WORCA BOARD

Point of comparison	Marine Plywood	WORCA Board
Features		
Fire Rate	Non-Fire Rated	Grade C2 (EN ISO 11925-2)
Concrete finish	According to Manufacturer	Class A (AS/NZS 2269.1:2012)
Recyclability	No	Yes
Insect proof	No	Yes
Putrefaction	Yes	No
Stripping	Must use formwork release agent	Easy stripping without formwork release agent, Just Using Water Jet to Clean from Concrete
Radial application	No	Available According to the Requested Radius

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

Bahrain, ElSallam and Gameat intersection bridge

Location: Bahrain - KSA

Formwork used: H20 and Soldier

Number of casts:

21 casts Vs 7 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

Bahrain Kampensk

Location: Bahrain

Formwork used: ECO Form panels

Number of casts:

37 casts Vs 15 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

Baheya Hospital

Location: Egypt

Formwork used: WORCA Beam and soldier

Number of casts:

26 casts Vs 7 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

Alexandria water tanks

Location: Egypt

Formwork used: ECO form panels

Number of casts:

47 casts Vs 15 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

Alexandria water tanks

Location: Egypt

Formwork used: WORCA curvy board and wood formwork.

Number of casts:

36 casts Vs 7 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

Civilization Bridge

Location: Egypt

Formwork used: H20 and soldier

Number of casts:

36 casts Vs 7 using plywood “based on historical data”

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

Marrasi Villas

Location: Egypt

Formwork used: WORCA board and timber decking

Number of casts:

53 casts Vs 12 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

New Sokhna Harbor

Location: Egypt

Formwork used: H20 & Soldier

Number of casts:

60 casts Vs 7 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

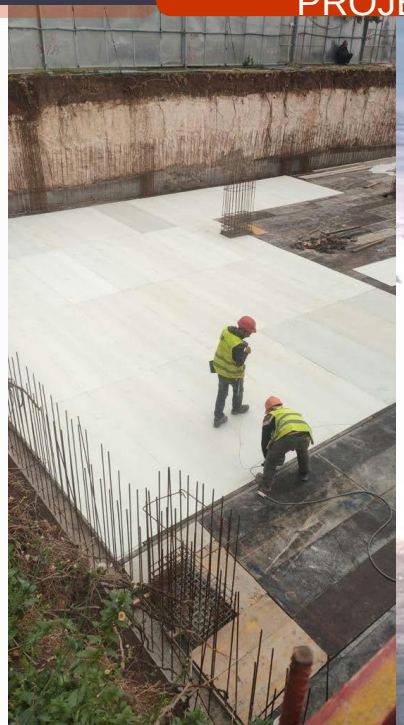
CD Building immobilier

Location: Morocco

Formwork used: H20 & Soldier

Number of casts:

25 casts Vs 7 using plywood “based on historical data”



Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

GIDNA PORT TANGER

Location: Morocco

Formwork used: TECH form panels

Number of casts:

25 casts Vs 7 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

JNHPP
Permanent bridge

Location: Tanzania

Formwork used: H20 and soldier

Number of casts:

25 casts Vs 7 using plywood "based on historical data"

Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

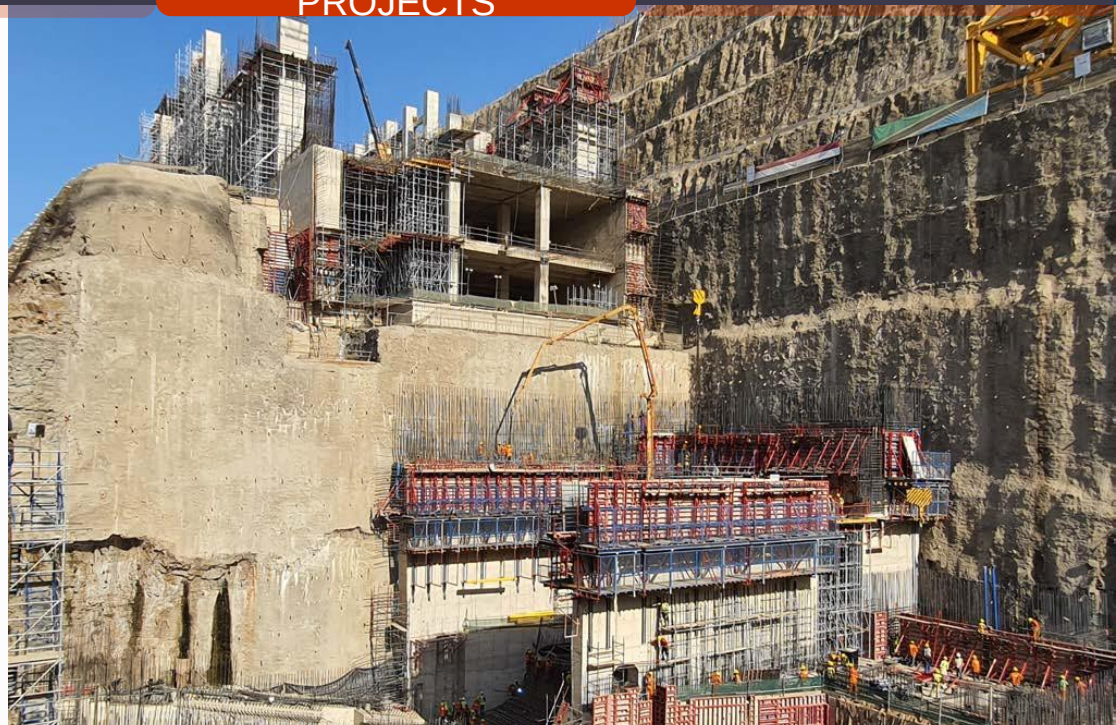
JNHPP Powerhouse

Location: Tanzania

Formwork used: Tech-form

Number of casts:

55 casts Vs 15 using plywood "based on historical data"



Case Studies

The SMART replacement for plywood, developed for the Australian market.

PROJECTS

UPGRADE OF AL KHAWANEEJ ROAD AND MUSHRIF PARK CORRIDOR

Location: UAE

Formwork used: WORCA Beam and soldier

Number of casts:

15 casts Vs 5 using plywood “based on historical data”

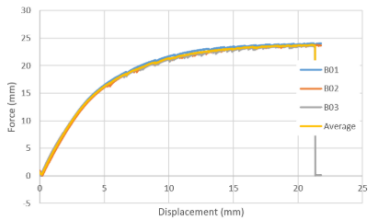
Mechanical

The SMART replacement for plywood, developed for the Australian market.

TESTS

Tensile Strength Testing (AS/NZS 2269.1:2012)

2.4 Test Data

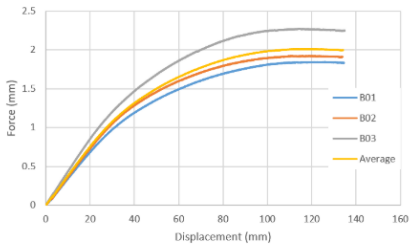


Specimens	Peak Force (kN)	Actuator Displacement at Peak Force (mm)
T1	24.06937	21.0172
T2	23.77324	21.3850
T3	23.63847	20.8937
Average	23.77457	21.0164

Report Title: Experimental tests for the mechanical and chemical characteristics of PVC
Prepared by: Smart Structures Laboratory
Thursday, June 01, 2023

Modulus of Elasticity (Flexural) Test (AS/NZS 2269.1:2012)

3.1 Test Data

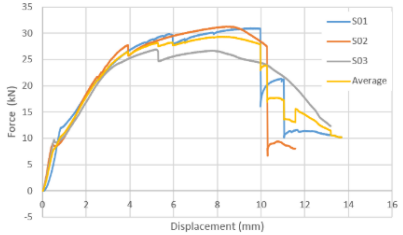


	Peak Force (kN)	The Average Displacement of the Actuator and String Potentiometers at Peak Force (mm)
B1	1.85	125.9
B2	1.92	116.0
B3	2.27	115.6
Average	2.01	113.4

Report Title: Experimental tests for the mechanical and chemical characteristics of PVC
Prepared by: Smart Structures Laboratory
Thursday, June 01, 2023

Panel shear strength (AS/NZS 2269.1:2012)

4.5 Test Data



	Peak Force (kN)	Actuator Displacement at Peak Force (mm)
S1	30.97	9.53
S2	31.28	8.58
S3	26.92	7.66
Average	29.34	8.14

Report Title: Experimental tests for the mechanical and chemical characteristics of PVC
Prepared by: Smart Structures Laboratory
Thursday, June 01, 2023

Chemical

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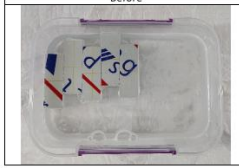
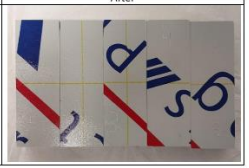
TESTS

Chemical Resistance Test (ASTM D 543)

5.3 Test Results:

The visual inspection of the test specimens shows they have not been affected by the 10% NaOH solution during the 24h period of the tests.

Before	After
	

5.4 Test Data

The dimensions of the test specimens after the test:

	Length (mm)	Width (mm)	Thickness (mm)	Weight (gr)
Nominal	76	25	18	
CH01	75.72	25.94	18.28	26.12
CH02	75.92	26.09	18.28	26.08
CH03	75.85	25.98	18.31	26.15
CH04	75.89	25.94	18.27	26.06
Ch05	75.89	25.95	18.28	26.15

5.5 Weight and Dimension Changes

	Length (%)	Width (%)	Thickness (%)	Weight (%)
CH01	0.013	0.812	0.832	0.678
CH02	0.039	1.014	0.910	0.684
CH03	0.079	0.814	1.087	0.519
CH04	0	0.593	0.727	0.540
Ch05	0	0.643	0.921	0.625

Thank You!

Level 2, 1 Southbank Boulevard,
Southbank, VIC, 3006, Australia
03 9982 4434
info@worca.com.au