tricoya®

www.tricoya.com

A NEW BREED OF MDF

An extremely durable and stable wood panel

Cover images:
OUTDOOR BBQ CABINETRY
Adelaide, South Australia
Courtesy of Benchmark Fitouts
TRICOYA FACADE
Chile
TRICOYA LANTERNS
New Zealand
DAVID TRUBRIDGE PHOTO BY:
gotyaphoto@icloud.com

IMAGINE HAVING AN MDF PANEL TRULY DURABLE AND STABLE ENOUGH FOR USE OUTSIDE. WITH AND WITHOUT COATINGS IT WOULD ENABLE SIMPLE MANUFACTURE AND USE IN APPLICATIONS NOT PREVIOUSLY CONTEMPLATED FOR MDF. IMAGINE TRICOYA®. A NEW BREED OF MDF.

tricoya®

CLIMBING WALL
The Netherlands

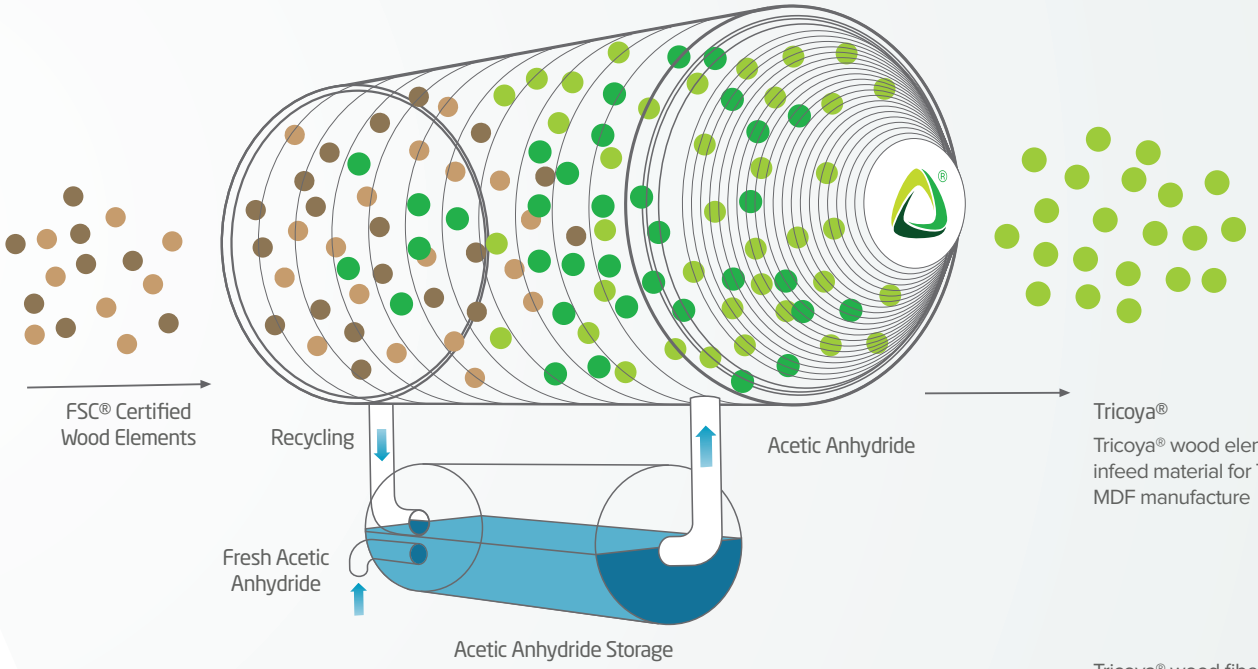
OUTSIDE KITCHEN
Germany
Courtesy of Enno Roggemann

ABOUT THE PANEL

Tricoya® is a completely new, high performance MDF panel product. It demonstrates outstanding durability and dimensional stability in the most extreme and challenging environments - both exterior as well as interior, wet and high moisture applications. The product uses proprietary acetylated wood technology and a modified MDF manufacturing process to create a wood panel product with outstanding durability and stability.

Tricoya® was developed by challenging the most fundamental reason for wood swelling: water absorption onto hygroscopic wood fibres due to the presence of hydroxyl groups. The hydroxyl groups (water loving sites) can bind or release water molecules causing wood to swell or shrink.

Acetylation is a revolutionary sustainable process which has been proven on Accoya® solid wood since 2007, and increases the number of naturally occurring hydrophobic acetyl groups in the wood cells using acetic anhydride. The process exchanges the hydroxyl groups (chemical formula: -OH) with acetyl groups (chemical formula: $-COCH_3$) preventing water absorption at these sites, and thus enhancing the dimensional stability and durability of the wood.



Tricoya® wood elements as infeed material for Tricoya® MDF manufacture

Tricoya® wood fibers are blended at the MDF mill with zero formaldehyde resin to produce a no added formaldehyde finished product.

Apart from creating exceptional dimensional stability, the process enables Tricoya® to achieve class 1 durability, leading to resistance to biological decay which exceeds spotted gum and western red cedar in Australian fungal decay testing. Termite resistance has also been proven to exceed spotted gum, western red cedar, merbau and PNG Rosewood in extended field trials against Mastotermis in Humpty Doo, Northern Territory.

Tricoya® offers a solution for specifiers and consumers in environments of wet, high humidity or fully weather exposed applications to deliver superior performance in a versatile large panel form.

Critical to practical and successful application, there is no requirement in the Tricoya® panel warranty to coat end cuts or drill holes which are exposed to moisture and weathering in use.

FACADE CLADDING,
London, UK

TRICOYA® PANEL BENEFITS

DURABLE

Longer lasting, perfect for outdoor use or wet (interior and exterior) environments

DESIGN FREEDOM

All the design, machining and assembly flexibility of medium density fiberboard

FUNGAL RESISTANCE

Effective barrier to fungal decay

50 YEAR WARRANTY

Peace of mind with a 50 year Tricoya® warranty above ground and 25 years in ground

LOWER MAINTENANCE COSTS

Extended periods between exterior coatings maintenance

DIMENSIONALLY STABLE

Swelling and shrinking dramatically reduced

IDEAL FOR COATING

Improved stability and durability enhances the service life of the coating. Damaged coating will not affect the panel warranty

NO ADDED FORMALDEHYDE

Tricoya® complies with CARB 93120 for Phase 2 and NAF requirements

INSECT BARRIER

Indigestible to a wide range of insects, including termites. Greatly reduced vulnerability

FSC
www.fsc.org
FSC® C012330
The mark of responsible forestry

PROPERTIES

Tricoya® creates a new class of wood based panel products with class 1 durability and exceptional dimensional stability, suitable for a wide range of exterior applications such as cabinetry, doors, cladding, façade paneling, trim, fascias, soffits, Tricoya® can be cut, machined and installed using techniques and equipment commonly used throughout the building industry and requires low maintenance thereafter. The flexibility of Tricoya® offers endless design opportunities so that it can be cut to size, machined CNC cut, painted, routed, wrapped without impacting its unique properties.

Moisture content
Tricoya® is supplied with a moisture content of between 3% - 5%. An indicative measurement of the moisture content should be made before installation. If a measurement shows a moisture content of 8% or more, this may indicate the presence of "free water" and the Tricoya® should be allowed to dry before processing, gluing or coating.

Reports and certificates
AFRC Australia performance testing indicates that Tricoya® achieves durability class 1 in H3 fungal decay testing and exceeded the performance of other timbers classified as DC1 in AS5604. AFRC also assessed performance of Tricoya® against Coptotermis and Mastotermis in Northern Territory and Tricoya proved more resistant than merbau, spotted gum and PNG rosewood.

Timber Products Inspection, Georgia USA have completed in-ground graveyard tests (AWPA E7) on uncoated Tricoya® for 32 months in the Ground at their Gainesville Florida Site. Tricoya® showed no degradation at the 32 month inspection period while initial decay and termite attack were evident in Burmese teak and both sapele and western red cedar were heavily attacked.

British Board of Agrément (BBA) assessment concludes that Tricoya® is suitable for internal and external non-structural applications (BBA Assessment number M2/49109).

Fire behavior
Tests, according to ASTM E84 (surface burning characteristics), have shown that Tricoya® performs in line with other solid wood species and MDF, and well within Class C. Class A flame spread rating can be obtained with exterior grade intumescent coating. For copies of any reports and/or certificates, please contact your sales representative or visit our website.

PROP TRICOYA TECHNICAL SPECIFICATION SHEET

				THICKNESS (MM)				
Property	Range	Test Method	Units	6	9	12	15	18
Density	+/-30		kg/m3	720	720	720	720	680
Internal Bond	Min	EN 319	N/mm^2	0.80	0.80	0.80	0.80	0.80
Modulus of Rupture	Min	EN 310	N/mm^2	30.0	30.0	25.0	20.0	20.0
Modulus of Elasticity	Min	EN 310	N/mm^2	3,000	3,000	2,500	2,500	2,500
Screw Holding Face	Min	EN 320	N	-	-	-	900	900
Screw Holding Edge	Min	EN 320	N	-	-	-	700	700
Free Formaldhyde	Max	EN 120	mg/100g	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Thickness Tolerance		EN 324-1	mm	+/-0.15	+/-0.15	+/-0.15	+/-0.15	+/-0.15
Thickness Swell (24hrs)	Max	EN 317	%	2.5	2.0	2.0	1.5	1.5
Thermal Resistance		R Value	m2 K/W	0.056	0.085	0.114	0.15	0.18
Dimensional Movement								
Length / Width		EN 318	%	+/- 0.1	+/- 0.1	+/- 0.1	+/- 0.1	+/- 0.1
Thickness		EN 318	%	+/- 1.0	+/- 1.0	+/- 1.0	+/- 1.0	+/- 1.0
After Boil Test								
Internal Bond	Min	EN 319	N/mm^2	0.65	0.65	0.65	0.65	0.65

The results as listed above are based on the minimum specification requirements for MEDITE®TRICOYA® EXTREME manufactured by Medite Europe DAC. All parameters are in compliance with EN 622 parts 1 & 5. As part of the Medite's ongoing product development programme, the right to modify these product specifications without notice is reserved. No formaldehyde is added to the acetylated softwood fibres during manufacture of MTX. Free formaldehyde is less than 1.0mg/100g using EN 120 test method, complying with the lower levels required by CARB phase 2.

FAÇADE TRICOYA®
Chile

PERFORMANCE COMES NATURALLY

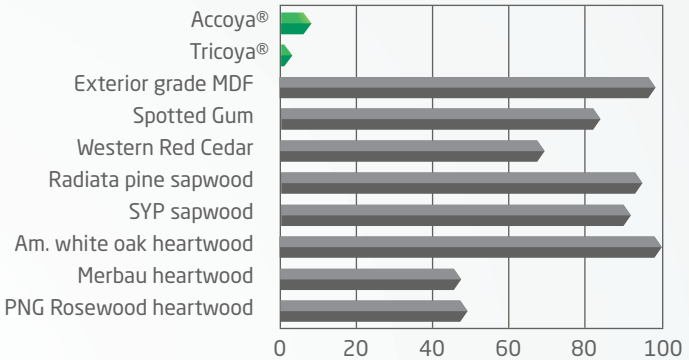
Many of the benefits observed in Accoya® solid acetylated wood, including enhanced dimensional stability, durability and fungal resistance, hold true for Tricoya®.

The functionality and versatility of wood-based composite panels give them universal appeal. Up until this point, the suitability of MDF panels for exterior and indoor constant wet use environments has been limited and over laid with practical limitations.

Tricoya® combines the versatility, ease of machining, ease of coating and large panel format with the performance heritage and credentials of Accoya®. Accoya® and Tricoya® have been in the European market since 2007 and 2011 respectively. Locally, in Australia and New Zealand, Accoya® and Tricoya® have been in the market and used continuously since 2010 and 2014 respectively. The products are living up to the promise for cabinet makers, shopfitters, manufacturers and specifiers alike.

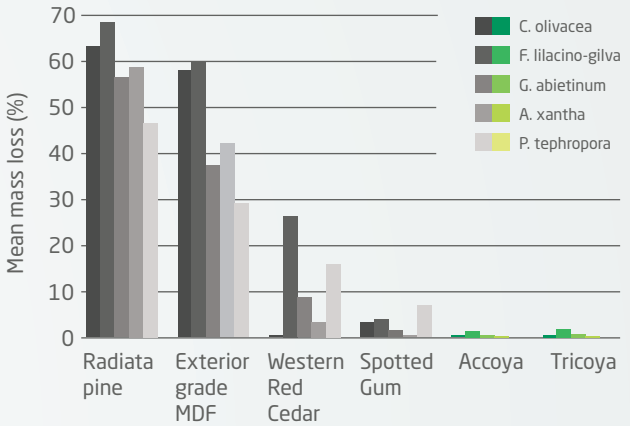
We encourage you to take a Tricoya® sample, cut it, drill it, soak it and bury it. The panel performs.

Hazard Class H3 Field Trial
Exposure To M. Darwiniensis Termites

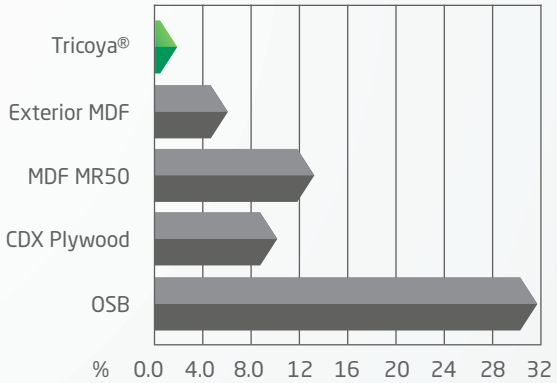


Mean mass loss (%) Mass loss (%)
- mean of 7 specimens

Laboratory Fungal Bioassay

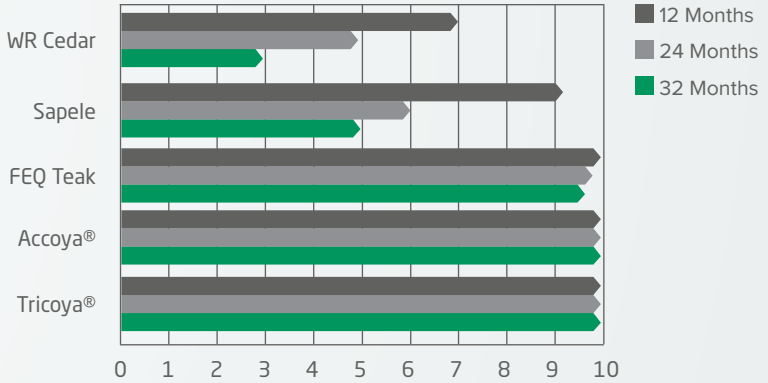


Thickness Swelling



Water soaked for 24 hours

Decay Resistance



0 to 10 rating, with 10 being the best E7 Stake trials, TPI test site, Gainesville Florida U.S.A. Uncoated.

TPI 3RD PARTY E7 TEST SITE
Gainesville Florida USA

OUTDOOR KITCHEN
Victoria, Australia -
Courtesy of Simon Weir Cabinets

APPLICATIONS

- Outdoor kitchens
- Window and door components
- Door skins
- Trim
- Façade cladding
- Fascia/soffit panels and other secondary exterior applications
- Wet interiors, including wall linings in swimming pools, bathrooms, changing rooms etc
- Signage
- Specialty furniture including lockers, cubicles, chairs & tables
- Play frames, tree houses & exterior composite furniture
- Sound barriers

THE FINISHED ARTICLE

Tricoya® can be cut, coated, sanded, glued, machined and fastened the same as any other high performing wood fiberboard – allowing users all the freedom associated with MDF. The Tricoya® difference is that this can now be done for the outside and with confidence.

Supply
Tricoya® is produced in the following standard panel sizes*

6mm 1220x2440
9mm 1220x2440
12mm 1220x2440
15mm 1220x2440
18mm 1220x2440

Other sizes may be produced upon request and typically associated with a minimum order quantity. Potential panel size is governed by the 2440mm press width and longitudinal options of 3660mm to 5490mm depending on container loading options.

Custom thicknesses between 5mm, and 18mm, can be produced for quantities of at least one container.

Machining and Finishing
Tricoya® may be cut, machined and used in exactly the same way as other wood fiberboards with no change in machinability. Tricoya® is delivered with a 120 grit sanded finish. It may be sanded with finer papers to achieve smoother surfaces. Water based paint systems may be used to decorate Tricoya®. Tricoya® may be laminated with melamine papers, high pressure laminates, wood veneers, foils and other materials. Exterior adhesives such as epoxy, polyurethane, phenol-resorcinol resin and EPI may be used as long as they meet exterior use requirements via ASTM D5751 Wet Use, or other equivalent test method.

All laminates used externally should be of exterior grade. For avoidance of doubt, laminate surfaces are not encompassed by the Tricoya® warranty and are subject to their own performance qualifications.

All mechanical fasteners that may come into contact with water, including screws, hinges, fixtures and fittings, should be manufactured from Stainless Steel ANSI type 30 or 316. Internal handles and other furniture that are used in dry conditions may be made from any usually acceptable material. Components used for furniture and other interior applications that are normally installed in dry conditions may utilze galvanized, coated and other metals with low corrosion resistance.

Corrosion testing on naval brass and higher quality aluminum products show that these metals are highly corrosion resistant in direct contact with Tricoya® and may also be considered.

There are many aluminum alloy types. By way of example the following aluminium grades performed well in internal testing: 3003, 6005, 6063, 6061, 5154, 5052, 3052 and 1100.

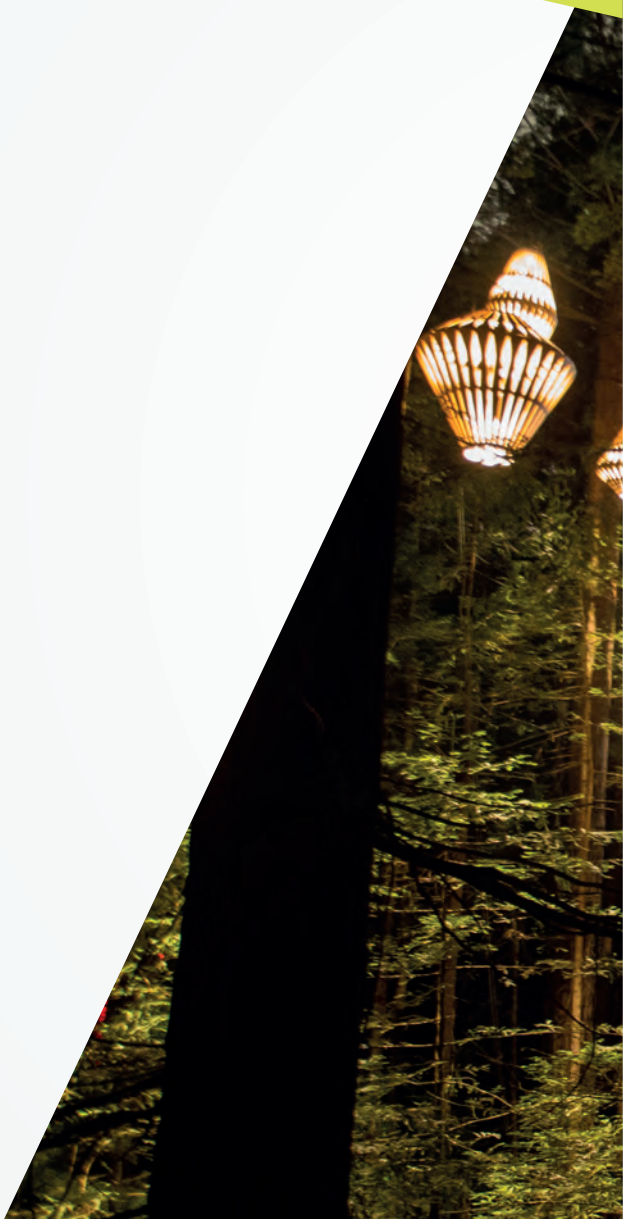
Fire Rating
Tricoya® is classified as meeting a Class C flame spread rating by the ASTM E84 method and Class A rated with an approved Class A rated exterior quality intumescent coating.

Insect Resistant
Tricoya® has termite resistance meeting UC4A ground contact requirements and performs better than hardwoods for example from western red cedar and Burmese teak.

See page 7 for full technical property information.

*Dimensions are close approximations based on conversion from metric.

ALFRESCO KITCHEN
ON THE RIVER



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TRICOYA TECHNOLOGIES

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