

**VC WOOD**

wood | panels | concepts

**EXTREME**

**MEDITE**®  Incoya

HIGH  
PERFORMANCE  
WOOD PANEL





## THE NEW GENERATION

Imagine a world of new and exciting possibilities for a wood based panel product, enabling its use in applications and environments that could not previously be contemplated.

Imagine the positive implication if the raw material for the panel was modified to give outstanding dimensional stability and durability using a non-toxic environmentally compatible process.

Imagine MEDITE® TRICOYA® EXTREME.

MEDITE TRICOYA EXTREME is a high performance, wood based panel product. It demonstrates outstanding durability and dimensional stability in the most extreme and challenging environments – exterior as well as interior, wet and high moisture, applications. The product uses proprietary acetylated wood technology and a modified fibreboard manufacturing process to create a wood panel with outstanding durability and stability.

MEDITE TRICOYA EXTREME has been jointly developed between MEDITE EUROPE and Tricoya Technologies and is made using a patented acetylation technology.

MEDITE EUROPE DAC is owned by Coillte, a fully integrated forest products company based in Ireland.

MEDITE has led the market in technical innovation, and MEDITE products are recognised as the benchmark for quality, consistency and performance.

# THE ACETYLATION PROCESS

MEDITE TRICOYA EXTREME 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. It is also believed that the digestion of wood by enzymes initiates at the free hydroxyl sites - which is one of the principal reasons that wood is prone to decay.

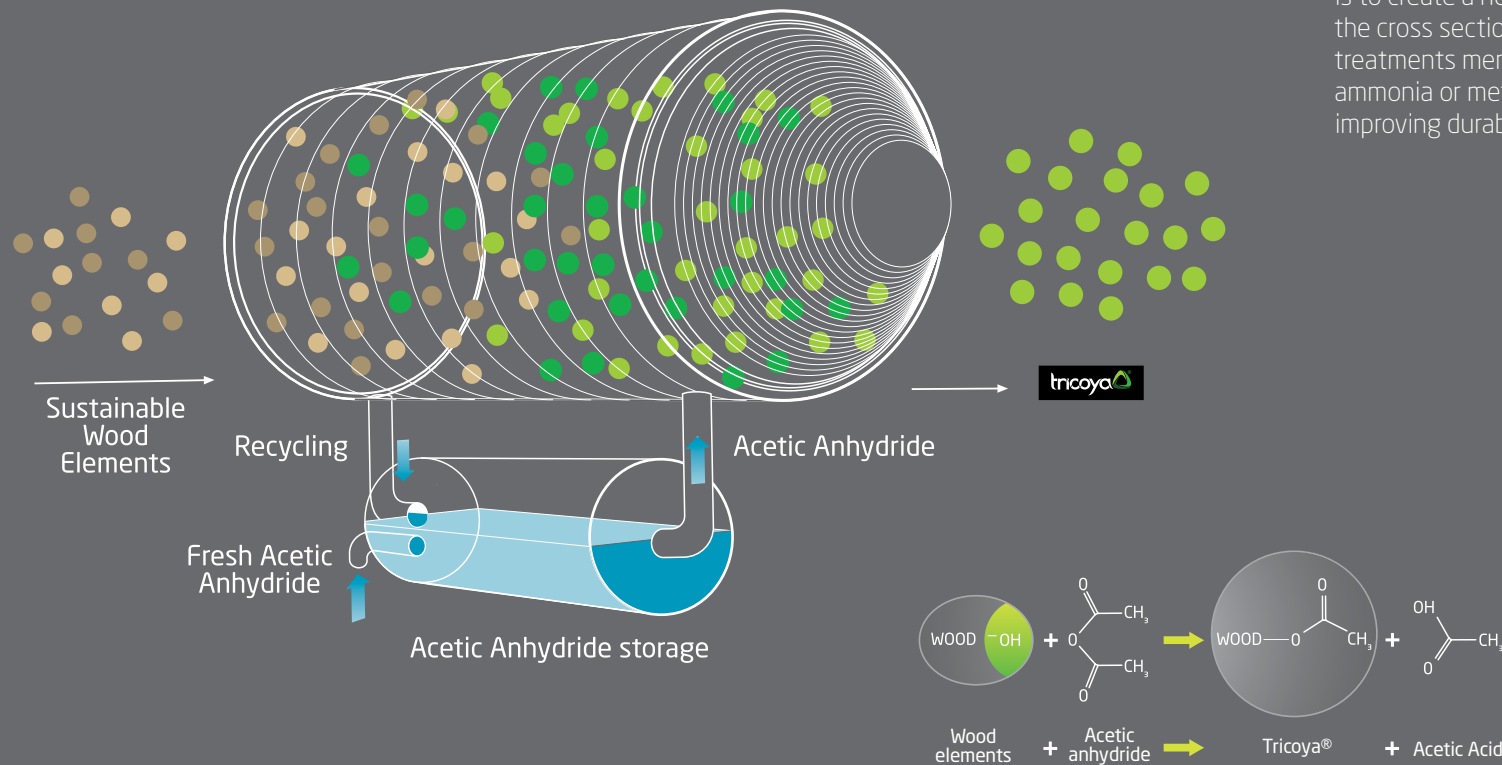
Accsys' proprietary technology used to produce Tricoya wood elements is based on wood acetylation, a process that has been studied by scientists around the world for more than 80 years.

Acetylation effectively changes the free hydroxyls (represented as OH in the chemical formula below) within the wood into acetyl groups. This is done by reacting the wood with acetic anhydride, which comes from acetic acid (known as vinegar when in its dilute form).

When the free hydroxyl group is transformed to an acetyl group, the ability of the wood to absorb water is greatly reduced, rendering the wood more dimensionally stable and, because it is no longer digestible, extremely durable.

Acetyl groups are naturally present in all wood species. The acetylation process therefore adds nothing to the wood that does not already naturally occur within it, resulting in an end product with no added environmental toxins.

The effect of altering the wood's chemical structure is to create a new product that is modified right through the cross section. By contrast, other wood preservative treatments merely insert chemicals (such as oils, ammonia or metal compounds) into the wood, improving durability but not dimensional stability.





## PERFORMANCE COMES NATURALLY

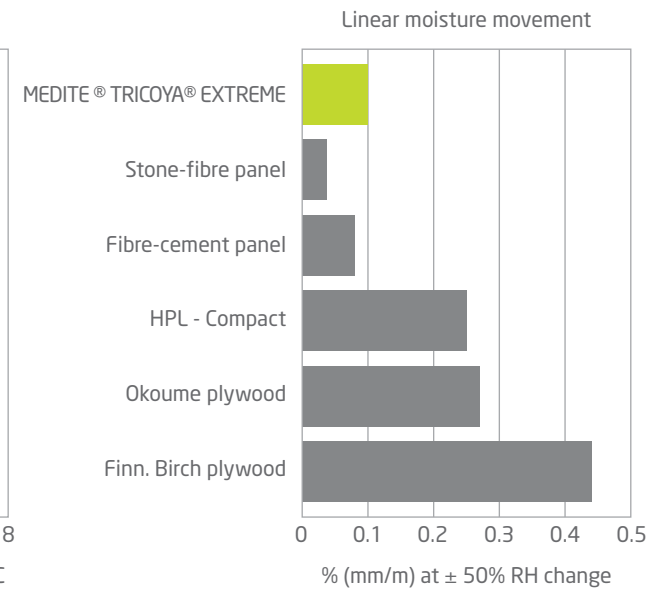
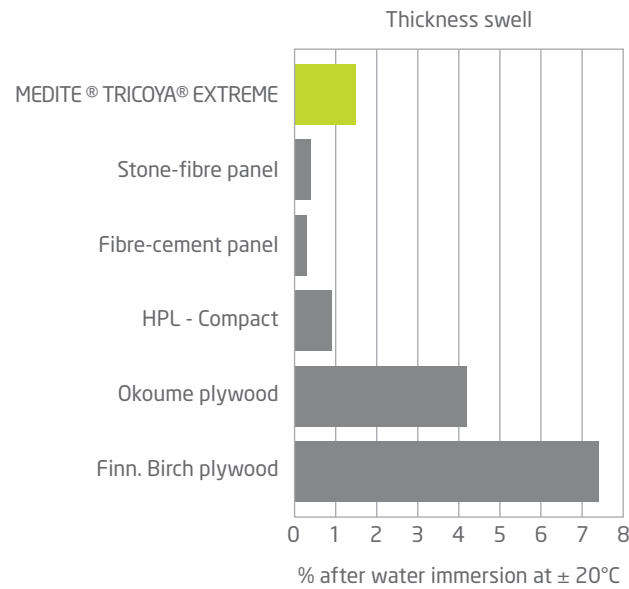
Many of the benefits observed in Accoya® solid acetylated wood, including enhanced dimensional stability, durability and fungal resistance hold true for MEDITE TRICOYA EXTREME.

The functionality and versatility of wood-based composite panels give them universal appeal. When properties such as high strength, light weight, good insulation, excellent machinability and ease in use are required, MEDITE MDF is the ideal choice for many applications.

Although timber and wood panels are widely used as building materials, they naturally have some shortcomings. Notably, dry wood is inclined to swell and shrink in response to changes in moisture in the atmosphere. Wood is also susceptible to degradation due to attack by microorganisms, like fungi, and is not therefore naturally durable.

These shortcomings have limited the use of solid wood and in some cases wood panels, in many markets and applications. Poor durability and dimensional stability will, for example, cause wood panels to crack and delaminate over time.

The good news is that MEDITE TRICOYA EXTREME has been independently tested by leading institutes around the world and has demonstrated superior dimensional stability and class 1 durability, even in changing weather conditions, meaning it may now be used in situations and applications where normal wood panels cannot.



Independent research concludes that MEDITE TRICOYA EXTREME carries a durability class of 1 (under EN350-2). This is a very high durability, equivalent to teak and more durable than oak. We work together with the following renowned independent research institutes: Building Research Establishment (BRE) from the United Kingdom, the Fraunhofer institute for Wood Research from Germany and SP Wood Technology from Sweden.

## DURABILITY TEST

MEDITE TRICOYA EXTREME excels in outdoor environments and testing has shown it does not crack or delaminate and remains stable in all dimensions.

### Freeze/thaw cycles:

- 2 to 3 hours freezing at -20°C
- 2 to 3 hours in water of +20°C

### Wet/dry cycles:

- 18 hours storage in water (> 5°C)
- 6 hours storage at 60°C / 20% RH



### Before 25 cycles

Photography of MEDITE TRICOYA EXTREME showing thickness of panel before 25 cycles



### After 25 cycles

Photography of MEDITE TRICOYA EXTREME showing thickness of panel after 25 cycles



## BUILT IN SUSTAINABILITY

MEDITE TRICOYA EXTREME is FSC® certified



The mark of responsible forestry

## KEY PRODUCT APPLICATIONS

- Façade cladding / siding
- Fascia and soffit panels and other secondary exterior applications
- Window components
- Door components and door skins
- Wet interiors, including wall linings in swimming pools, bathrooms, wet rooms and changing rooms
- Speciality furniture including lockers, cubicles, chairs and tables
- Play frames, exterior garden furniture, planters, fencing and fittings
- Signage



## THE FINISHED ARTICLE

MEDITE TRICOYA EXTREME can be cut, coated, coloured, sanded, glued, machined and fastened the same as any other high performing wood fibreboard – allowing users all the freedom normally associated with traditional MDF but in extreme applications.

### Moisture Content

MEDITE TRICOYA EXTREME moisture content should be below 10% before processing and coating applications.

### Coating

Conventional water-based paint coatings may be used to decorate the panel with a proven extended maintenance cycle. A number of coating manufacturers have warranties to suit MEDITE TRICOYA EXTREME (see web site for details).

### Laminating

A variety of overlays can be adhered to the product, using the appropriate adhesives.

### Gluing

MEDITE TRICOYA EXTREME is drier than standard wood panels and will absorb water in a different manner, this can affect the suitability and curing time of some adhesives. Suitable glues for MEDITE TRICOYA EXTREME are PU, Epoxy, PRF and EPI glues (please check with the resin supplier for the optimum curing times).

### Fixing

When installing MEDITE TRICOYA EXTREME always use stainless steel fasteners and fixings of at least A2 or A4 (EN 10088-1) or AISI type 304 / 316 quality.

### Supply

MEDITE TRICOYA EXTREME is produced in the following standard panel sizes.

6mm 1220 x 2440

9mm 1220 x 2440

12mm 1220 x 2440 / 3050

15mm 1220 x 2440 / 3050

18mm 1220 x 2440 / 3050

Other sizes may be produced upon request.

### Fire rating

MEDITE TRICOYA EXTREME is classified as Euroclass E within the Euro classification system.

## FEATURES & BENEFITS



### DURABLE

Longer lasting, perfect for external and internal wet environments



### 50 YEAR GUARANTEE

Peace of mind with a 25 year in-ground and 50 year above ground guarantee



### ENHANCED STABILITY

Swelling and shrinking dramatically reduced



### DESIGN FREEDOM

All the design, fixing and machining flexibility of MDF



### LOWER MAINTENANCE COST

Extended periods between exterior coatings maintenance



### PERFECT FOR COATING

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



### SUSTAINABLY SOURCED

FSC® certified. Wood used from sustainable sources



### RESISTANT TO FUNGAL DECAY

Effective barrier to fungal decay



### DESIRED SERVICE LIFE OF 60 YEARS

Independent testing by BRE shows an expected service life of 60 years for exterior use

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#### Disclaimer:

The information contained in this document is provided as guidance by MEDITE SMARTPLY. It is the responsibility of the customer and/or end-user of MEDITE TRICOYA EXTREME (MTX) to ensure that the final use of the panel is checked by the proper authorities on conformity with local circumstances, building codes, regulations and standards and checked by a licensed engineer.

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