



MEDITE SMARTPLY's MEDITE® TRICOYA® EXTREME Bringing revolutionary water-resistant properties to MDF

MEDITE SMARTPLY is a market leading manufacturer of sustainable timber construction boards. Its award-winning brands MEDITE MDF and SMARTPLY OSB are renowned for delivering the highest quality products, customer-led innovation and industry leading customer service.

The company's manufacturing sites in Clonmel (MEDITE) and Waterford (SMARTPLY) in Ireland feature the latest production technology to deliver straighter, flatter and more consistent boards than ever before, in a range of sizes and thicknesses unparalleled within the industry.

Constant progression and investment have allowed MEDITE SMARTPLY to enter new diverse markets and sectors - and make strides toward a new factory dedicated to the production of its most prestigious product, MEDITE® TRICOYA® EXTREME (MTX) - meaning that there is always a fresh pipeline of new products to address market demands.

As part of the Coillte Group, MEDITE SMARTPLY prides itself on its sustainable supply chain and manufacturing processes, meaning all its products are as environmentally conscious in their make up as they are in their application.

The Innovation

It's one MEDITE MDF product in particular, though, that has gained unmatched prestige for its revolutionary water-resistant properties.

MEDITE TRICOYA® EXTREME® durable MDF, otherwise known as MTX, is a ground-breaking construction material that retains its dimensional stability, even when in contact with water; for up to 50 years above ground and up to 25 years in-ground. This allows it to be used in applications once limited to products such as concrete, plastics or metals and offers a



more environmentally friendly solution, while maintaining all the design, fixing, and machining flexibility of medium density fibreboards.



How is it made?

MTX has been jointly developed between MEDITE EUROPE and Tricoya Technologies, made using patented acetylation technology.

The acetylation process has been studied by scientists around the world for more than 80 years. It enables wood products to challenge the most fundamental reason for wood swelling: water absorption. This is also one of the principal reasons that wood is prone to decay.

By treating the wood fibres with acetic acid (known as vinegar in its very dilute form) a wood product's ability to absorb water is greatly reduced, rendering it dimensionally stable, and because it is no longer digestible, extremely durable.

This process adds nothing to the wood that does not already naturally occur, resulting in a product with no added environmental toxins.

The effect of altering the wood's chemical structure in this way is to create a new product that is modified right through the cross section. By contrast, other wood preservative treatments merely insert chemicals into the wood, improving durability but not dimensional stability.

What does it bring to construction?

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 of use are required, MTX is the ideal solution for many applications. Furthermore, its FSC® certification brings additional peace of mind to those looking to design more sustainably.

Although timber and wood panels are widely used as building materials, they naturally have some shortcomings: swelling and shrinking in response to changes in the atmosphere, and susceptibility to fungal decay, being two main ones.

These limitations have restricted the use of both solid wood and wood panels in some markets and applications. MTX, though, has been independently tested by leading institutes and demonstrated class I durability under EN350-2 (an extremely high durability: equivalent to that of teak and even more durable than oak), even in changing weather conditions. This means it may be used where normal wood panels could never be previously, offering an alternative to plastics and other materials that come with significantly more production waste and pollution.

MEDITE SMARTPLY has worked with the Building Research Establishment (BRE) in the UK, the Fraunhofer Institute for Wood Research in Germany, and SP Wood Technology in Sweden to carry out this research.



MEDITE TRICOYA® EXTREME® in action

Over the years, this MDF panel, humble in appearance, has allowed widely varied projects to enjoy great success in uses encompassing: façade cladding and siding; fascia and soffit panels alongside other secondary exterior applications; window and door components and skins; wet interiors including wall linings for swimming pools, bathrooms and wet rooms; exterior storage, furniture, fencing and signage.

The fit out and outdoor furniture industries have benefitted greatly from MTX owing to its smooth machinability, as well as its resistance to water.

Seamless, opulent results were achieved with MTX by interior design and fit out contractors Infinitus Bespoke Interiors, for their recent renovation of a luxury London apartment. This project called for stylised wall panelling in nearly every room, including the bathrooms and bathing area, finished in high gloss plait for an almost glass-like finish, demanding a completely smooth surface.

Another vital example is demonstrated by the Coniston Mountain Rescue supply boxes nestled amongst the jagged peaks of the lake district. This is where MTX braves some of the most extreme weather, keeping emergency and lifesaving supplies safe for climbers and hikers, should they ever be in need.



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