Technical Data

Ecodek® Composite Decking System

Product Description:
Ecodek® composite decking is a mix of wood flour (approximately 55%) and polyethylene with the addition of certain additives to improve physical and processing properties.
The polyethylene used in this product is a high quality, recycled material made up of mainly bottle, film and pipe materials. The wood flour is also a recovered material which is processed, filtered and dried before being compounded with the polyethylene.
The resulting product is 90-96% recycled and 100% recyclable.

Ecodek® has many useful properties when used as decking, these include:

- Low moisture absorption
- No rotting, splintering or splitting
- In built termite and UV resistance
- Excellent dimensional stability
- Anti-slip surface in the wet and dry (tested to HSE standards)
- No toxic materials to leach into the soil
- Easy as wood to work with

Application Data:
Ecodek® 25mm x 138mm profiles are well suited for use as decking, fencing, pool sides, marinas and other similar applications. They may also be used as a replacement for wood in many other areas where a non-load bearing support or structure is required. The other profiles in the range can be used for fencing, railings, cladding, garden edging and post & rail projects to name but a few.
Ecodek® profiles are best suited for outdoor applications where the product's inherent advantages over wood can be exploited as fully as possible.

Ecodek® Installation Instructions:
Use the same tools used for timber to fabricate and install Ecodek® decking products.
With the 25mm x 138mm deck boards, support frame joists should be spaced on centres of 405mm or less for residential decks, 350mm or less for commercial applications. When laying the timbers at 45 degrees to the support frame the joists should be spaced on centres of 300 mm or less. Boards should not hang over the rim joists by more than 50 mm.
(If using the 24mm x 97mm deckboard, joist centres should be 300mm max and 250mm if fitting diagonally)
When butting boards end to end, this must be done over a double width bearer to ensure both boards are sufficiently fastened down at least 20mm in from their edge.

For optimum water drainage and to allow for proper ventilation, a gap of 3mm to 6mm should be left between the boards and 3 mm at the ends of the boards. Failure to do so will promote the growth of mildew and prevent moisture evaporation, these gaps will also allow for material expansion in hot weather. All decks must be a minimum of 80 mm off the ground to allow for proper air circulation.

Both nails and screws may be used with Ecodek®. Stainless steel or coated screw type fasteners are recommended (we supply a specially designed composite deck screw available in a range of colours to match the decking). If using nails, they must be of the ring-shank variety. Galvanised nails and screws should be avoided, as these can leave black marks on the boards. (*N.B: Best practice is to use screws rather nails whenever possible.*)

Nail and screw heads should be flush with board surface. Consider pre-drilling the screw holes using a 3mm or 4mm bit – particularly in cold weather. If screws are driven beneath the surface of the deck, flatten the "mushroom" of composite material by striking it flat with a hammer. Do not use fasteners within 18 mm of the board edge. (The rule of thumb is to screw into the second groove in on each side of the deck board if using the grooved side.)
Pneumatic guns work well with Ecodek, (*lost head nails can be sunk below the decking surface if preferred*). Check with the pneumatic gun manufacturer or dealer on how to adjust the counter sink of the nailer to give the best results.

NB: If using the 38mm x 88mm sub-structure profile (i.e. as a joist), it must be noted that it needs more support than with a softwood equivalent. We recommend either laying the sub-structure profile directly on the surface to be built upon, or supporting it on posts but with a maximum span of 1 metre between post supports, secondly, there must never be more than 100mm overhang at the end of the sub-structure profile.

Ecodek® Care and Maintenance:
Because of the combination of natural fibres and recycled high density polyethylene in Ecodek® composite boards, you may experience slight colour variation between boards as you lay them, this variation will weather to a slightly lighter, but much more even hue during the first few months but may take much longer in shaded areas. After the initial fading cycle has completed (3-6 months generally) Ecodek® profiles will then continue to hold their colour with minimal fading.
Note: Fading is more noticeable on the lighter colours and if colour fade is an important factor for you, we advise choosing a darker colour such as Moroccan Brown, Dark Brown or Black for your deck.

"Slight colour variations are natural within any composite deck product. These variations are not a product defect and thus are not covered by the product guarantee."

Do not allow leaves and other debris to lie on the deck surface as this will cause staining and promote mildew growth. When using a barbecue or similar, it's recommended that a plastic sheet or other suitable material is placed around the area to protect the deck from oil/grease splashes.

Most heavy stains, dirt and mildew can be washed off using a common deck cleaner available from most hardware stores, builder's merchants, home stores and the like. Oil, grease and other stubborn stains may require the use of a de-greasing cleaner or may need light sanding to remove the stain. Generally, keeping the deck clean, free of debris and maintaining drainage and ventilation gaps should allow for the minimum of maintenance requirements.

Sizes & Colours:
Ecodek is currently available in seven standard colours, 5 shades of brown, 1 shade of grey and black. Other colours and lengths can be manufactured upon request. (See the profile range literature for a more comprehensive and detailed list.)

Profile sizes (actual):
- 25mm x 138mm reversible deck board in 2.44m, 3.66m and 4.88m lengths
- 28mm x 68mm shaped handrail profile in 3.15m lengths
- 36mm x 36mm octagonal spindle profile in 3.15m lengths
- 19mm x 100mm cladding board in 3.15m lengths
- 38mm x 88mm (sub-structure) heavy duty solid profile in various lengths
- 88mm x 88mm heavy duty profile in 1.83m lengths
- 24mm x 97mm solid decking profile – various lengths

Handling & Storage:
Ecodek is heavier and more flexible than wood and this needs to be considered when transporting boards. Boards should always be stored on a flat surface or on a close boarded, full length pallet with bearer centres of 900mm or less for up to 1350 kilos full pallet weight and 600mm centres or less up to a maximum of 2500 kilos full pallet weight.

Warranty Details:
Ecodek composite products come with a limited 25 year warranty against structural damage from termites, fungal decay, splitting and splintering. It must be noted however, that for this warranty to be upheld, the product must have been installed and maintained as per the installation instructions. Please contact Vannplastic Limited to receive your warranty certificate.

Ecodek® – Exclusive Waste Material Buy-Back Scheme:
Because Ecodek® products are manufactured from "clean" plastic products and untreated wood, we are able to fully recycle all waste, off-cuts, old stock or otherwise unused material returned to us in suitable condition. This is obviously of considerable environmental benefit, and because it will reduce our forward material costs, it also has financial benefits.
We will therefore offer customers a credit of £0.15 per kilo for returned product subject to the following conditions:

1. Material to be returned by the customer to Vannplastic Limited, Saltney, CH4 8RF or another site by mutual prior agreement.
2. All material must be in a clean, dry and uncontaminated condition to qualify.
3. All material must be fully segregated by individual colour.
4. This buy-back offer applies only to wood/plastic composite products manufactured by Vannplastic Ltd.
5. Advance notification of all returns to be made to the manufacturer at the above address.
6. In the event of any dispute regarding the condition or quantity of returned material, the decision of Vannplastic Ltd. will be final.

Trouble-shooting Guide:

Effect	Probable Cause	Action(s) Required
Colour variation after installation	This is to be expected prior to natural weathering	Once the material has been exposed to the elements for a few months, the colour should even out to a weathered-wood look.
Colour variation after weathering	Darker areas may be exposed to less weathering	In dry weather, wet the darker areas with water to accelerate the weathering effect. If the area suffers from constant shade, use a mixture of bleach and water applied using a spray to achieve the weathering required.
Water puddles	An un-even support structure, inadequate gapping or clogged gaps between boards	Drainage slots may need to be cut into in-adequately spaced boards. For clogged gaps, use a flat tool to remove the debris.
Ice or snow build up	Water puddles followed by below-freezing conditions	Use calcium chloride to melt ice and snow, rock salt is not recommended.
Oil/grease stains	Oil stains, barbecues, food etc.	Remove oil/grease stains with a household de-greasing product as soon as possible. If the stain has been allowed to set, lightly sand the area with a fine-grit paper.
Heavily soiled area	Foot traffic, airborne dust, pets etc.	Use a cleaner containing phosphoric acid.
Mould/mildew	Appears in areas where moisture lingers (eg, poorly drained or heavily shaded areas and under deck furniture)	Clean the surface with a conventional deck cleaner containing detergent and sodium hypochlorite.
Rust marks	Low quality fasteners, ferrous objects such as garden furniture	Use a cleaner containing phosphoric acid.

ecodek
Carefree Decking Systems

ECODEK® PHYSICAL PROPERTIES

Mechanical Property	Test Method	Value
Tensile Strength	BS2782: Part3, method 320C	11.3 Mpa 2.1% Elongation
Flexural Modulus	BS2782: Part3, method 335A	0.5 Gpa
Flexural Strength	BS2782: Part3, method 335A	20.5 Gpa
Impact	BS2782: Part3, method 359	7.5 KJ/m²
Water Absorption	ASTM D1037	0.6%
Coefficient of Expansion	Across length	0.08 mm/m/°C
Screw retention (composite decking screw)	Compared to Red Cedar	76% greater
Nail retention (5mm ring shank)	Compared to Red Cedar	18% greater
Specific Gravity		1.1 +/- 0.05
Grooved side slip potential to HSE guidelines (4S rubber test)	Perpendicular to groove (dry) Perpendicular to groove (wet)	Extremely low potential for slip (SRV=68) Low potential for slip (SRV=40)
Smooth side slip potential to HSE guidelines (4S rubber test)	Perpendicular to board (dry) Perpendicular to board (wet)	Low potential for slip (SRV=50) Moderate potential for slip (SRV=25)