



GLASS FIBER REINFORCED NATURAL RESIN DECKING

SPECIFICATIONS

ARCHITECTURAL DECKING

This comfortable and contemporary terrace/deck system embellishes and enhances any space with its functional properties and sense of luxury. Esthec Terrace (hereinafter “Esthec”) offers unprecedented freedom in color and texture, which allows the terrace to be integrated into an overall design scheme. Esthec is supplied in three plank widths, and offers the owner and architect technical and aesthetic advantages. Esthec can be used for terraces, balconies, roof top decks, docks and cladding.

Esthec is made of a liquid base, using thermoset process. It is then reinforced with a glass fiber base making it a prefabricated and easy to use material. The Esthec liquid consists of 25 ingredients including resins, natural fibers, minerals and color pigments; 25% of which are recycled materials. Esthec supports the trend to limit the use of scarce natural resources.

PROPERTIES

Esthec is available in 72,5mm (Small), 100mm (Regular), and 175mm (X-Large) wide planks. Customers have their choice of five standard and four special colors. Custom colors can even be created for special projects.

Esthec is highly wear resistant due to its viscous elastic properties. It is a strong, durable, splinter free material that feels comfortable on bare feet. Esthec provides excellent slip resistance, even when wet, making it an ideal material for use with water features.

The glass fiber reinforced plank system provides a 600 kilogram point pressure factor, meaning that warping or splitting of the plank is not a concern. Unlike most of the competition today, including WPCs and most wood, Esthec will not face these issues.

APPEARANCE

Esthec is unvarnished and the majority of the color options are offered with three color shades, imparting a lively effect on the deck once installed. The planks are imparted with a brushed texture by sanding the material during production.

ADVANTAGES

- Low & easy maintenance
- Extremely durable (long life)
- Eco-friendly product (no wood)
- Thermoset process provides added strength and durability (no pvc)
- Creative freedom (choice of color / color pigments)
- Non-slip
- Stable production with no risk on interruption of supply chain; Dutch quality & political stability
- Absence of legal issues (ref. teak)
- Designed and made 100% in house
- Special contours and shapes can be produced to design specifications.
- Stable pricing

DESIGN

Integrated solar glow technology or fiber optics can be added, for both aesthetic upgrades and/or additional safety measures.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Glass fiber reinforced natural resin decking.

1.2 REFERENCES

Property	Method	Typical result	Units
Action on cigarette heat	DIN 51 961	0	mm
Anti-slip properties	DIN 51 097	pass 30°	° angle
	DIN EN 13451	pass 30°	° angle
Coefficient of friction (dry)	NTA 7909; 2003NL	Pass >0,7	-
Coefficient of friction (wet)	NTA 7909; 2003NL	Pass >0,8	-
Solar Reflectance	SRI (ASTM E1980)	Values available	
Critical Radiant Flux	ASTM E 648	Class I : min 0.45	watts/cm ²
Critical Heat Flux	AS/ISO 9239.1-2003	6.3	kW/m ²
Discolouration after UV-light		Yes - darkening	-
Freeze thaw stability	Bolidt Test 2012	Pass	-
Gloss	NEN-EN-ISO 2813	<5	GU - 60 ⁰
Hardness of Surface	DIN 53 505	40 - 50	Shore D
Heat conductivity	DIN 52 612-1	0.2	W/mK
Linear coefficient of thermal expansion	DIN 53 752	8 - 10 * 10 ⁻⁶	K ⁻¹
Operational temperatures	Bolidt Test 2021	-30 / +70	°C
Resistance to surface wear	ASTM D-4060-2010	<130	mm ³
Skid resistance	BS EN 13036	>115	-
Standard length	DIN 50 988-2	3.000	mm ± 1mm
Standard height	DIN 50 988-2	21	mm ± 0,1mm
Standard width	DIN 50 988-2	72,5; 100; 175	mm ± 0,1mm
Strength flexural axial Static load span 500 mm at break	Bolidt Test 3120	72,5: 5.500N @ 23	mm ± 1mm
		100: 5.500N @ 23	mm ± 1mm
		175: 4.700N @ 23	mm ± 1mm
Strength flexural transversal Static load span 100 mm at break	Bolidt Test 3110	72,5: 2.400N @ 2	mm ± 1mm
		100: 1.300N @ 4	mm ± 1mm
		175: 2.200N @ 10,5	mm ± 1mm
Strength compression axial	Bolidt Test 3140	72,5: 6.600N @ 2,5	mm ± 1mm
		100: 5.300N @ 3	mm ± 1mm
		175: 14.550N @ 7	mm ± 1mm
System height	DIN 50 988-2	24,0	mm ± 0,1mm
Water absorption top layer	NEN-EN 13706	<0,2	% weight
Weight system	DIN 50 988-2	72,5: 1,32	± 0,25 kg/m ¹
		100: 1,62	± 0,25 kg/m ¹
		175: 2,98	± 0,25 kg/m ¹
System distance between profiles		2,5 or 5,0	mm ± 0,1mm



1.3 SUBMITTALS

- A. Product Data: Indicate sizes, profiles, surface style, and performance characteristics.
- B. Samples: For each product specified, one sample, minimum size 150 mm long, representing actual product, color, and finish.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Handling:
 - 1. Never drop ESTHEC materials when unloading.
 - 2. Store on a flat surface and cover with non-translucent material.
 - 3. When carrying ESTHEC planks, carry on edge for better support.

1.5 WARRANTY

- A. Warranty: Limited Warranty against warping, splintering, swelling, cracking, fading in sunlight or be susceptible to termites or other insects for a period of 10 years for residential applications and 5 years for commercial applications, beginning from date of purchase based on the terms of the Warranty.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Contract Documents are based on products by: ESTHEC B.V.
- B. Substitutions: Not permitted.

2.2 APPLICATIONS/SCOPE

- A. Supply & install ESTHEC – Glass fiber reinforced member with top layer of a natural resin based product per the manufacturers details.
- B. Material Description: Esthec is made of a liquid base, using thermoset process. This is reinforced with a glass fiber base with the following physical properties:
 - 1. Plank Size:
 - a. ESTHEC TERRACE DECKING PLANKS, SMALL: 3000mm(L) x 21mm(H) x 72.5mm(W)
 - b. ESTHEC TERRACE DECKING PLANKS, REGULAR: 3000mm(L) x 21mm(H) x 100mm(W)
 - c. ESTHEC TERRACE DECKING PLANKS, X-LARGE: 3000mm(L) x 21mm(H) x 175mm(W)
 - 2. Color:
 - a. ESTHEC TERRACE STANDARD – “MOOD” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture - Brushed
 - b. ESTHEC TERRACE STANDARD – “MYSTERY” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture – Brushed
 - c. ESTHEC TERRACE STANDARD – “DELICATE” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture – Brushed



- d. ESTHEC TERRACE STANDARD – “AROMA” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture - Brushed

- e. ESTHEC TERRACE STANDARD – “EMOTION” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture – Brushed

- f. ESTHEC TERRACE SPECIAL – “ESSENCE” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture - Brushed

- g. ESTHEC TERRACE SPECIAL – “FASCINATE” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture - Brushed

- h. ESTHEC TERRACE SPECIAL – “ILLUMINATE” blend of 3 shades.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture - Brushed

- i. ESTHEC TERRACE SPECIAL – “BLANC DE BLANCS” in 1 solid color.
 - 1. Edges are Smooth for blind fastening with concealed ESTHEC Clip A, C or Hurricane Clip D or E for Cyclonic Areas
 - 2. Surface texture – Brushed

2.3 ACCESSORIES

A. Fasteners:

- 1. Concealed Fasteners: Clips A (2,5mm or 5,00mm), C (2,5mm or 5,00mm), D (2,5mm), E (2,5mm) F or G.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Cut using a high performance diamond blade, drill, and router using carbide tipped blades.
- B. Pre-drill holes located no closer than 40 mm from ends of plank.
- C. Do not use ESTHEC material for structural applications.
- D. Use a dust mask and protective eye wear.

3.2 FINISHING & CLEANING

- A. Handover cleaning should be performed by the installer.
- B. Regular cleaning should be performed per the cleaning video available at www.esthec.com
- C. Nano sealer advised on commercial & hospitality projects.