





Hybrid Wood System



Composite wood boards - Double layer technology

GEOLAM

The inventor of wood composite is 45 years of expertise

- 1975 Composite wood invented in Japan.
- **1982 First international patent**: The world discovers composite wood as the product is commercialized.
- **1992 Foam technology is developed**: lighter and stronger, it outclasses solid composite boards.
- **2002 Co-extrusion** or how to take advantage of distinct materials' characteristics.
- **2008 Hybrid wood**: Hybrid wood products are developed. These exclusive premium boards out-perform all composites developed to date.
- **2020 2nd Generation**: After more than a decade of success with hybrid woods, wood-resin blends and extrusion techniques are optimized in line with ever-evolving standards.









THE ALTERNATIVE

Geolam's Wood Hybrid System (WHS) façades are more sustainable than tropical hardwood or composite wood façades.

Architects often specify wood when designing façades, as well as other architectural features such as latticework, blinds, trellises, awnings, shelters or pergolas. Designers appreciate the advantages of exotic wood for both open and closed structures, both for its aesthetics as well as its functionality (coziness, sun protection, insulation).

The Geolam Premium wood hybrid system (WHS) profiles combine wood composite with aluminum. WHS profiles offer an eco-friendly alternative to exotic wood architectural components.

Geolam Premium hybrid profiles offer significant advantages compared to exotic woods: they are maintenance free and respect the environment. In addition, the Geolam wood hybrid system (WHS) is superior to the wood plastic composite (WPC): the boards are more durable, more sustainable and can be easily integrated in harmonious ways in all type of façades.

Geolam offers wood lovers the opportunity to live in perfect harmony with nature.



PREMIUM

Breeding excellence, from design to installation.

Geolam is the world's premium brand of wood-plastic composite (WPC). This comes about by embracing premium raw materials, premium technologies and premium manufacturing processes. Geolam has lead the world in innovation of wood - plastic composites and holds a large number of patents for both products and processes.

Geolam WPC were developed by engineers applying the highest standards for users who insisted upon the most stringent demands. This perspective has led to many innovative and unique solutions.

And what makes Geolam's premium standard so special, is the extraordinary natural look and technical superiority that has won the hearts of both architects and designers in evoking a sense of exclusiveness and serenity and helping to achieve their design objectives.





GEOLAM PREMIUN

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LONGLASTING

Exceptional features set the benchmark for wood façades and the creation of indoor and outdoor spaces.

A façade built with Geolam Premium hybrid profiles exhibits the exceptional aesthetic qualities of natural wood, but it does not have its fragility. Unlike the hardwood that bleeds tannin, changes colour, warps and generates splinters, the WHS Geolam profiles are durable, dimensionally stable,

remain perfectly straight and can be installed even under the most extreme climatic conditions. Geolam boards do not bleed tannins nor splinter. They are well adapted for indoor applications as well due to their fire resistance.

	to wood	to other WPCs	to lacquered aluminum
ESTHETIC	 No cracking, no splintering, no warping. No greying, no fading. Does not reject tannin. 	 Aesthetic, natural texture. Bendable. Versatility of uses. Customized lengths and radius. 	Natural look and feel.
MAINTENANCE	 Maintenance free. No finishing required. Can be cleaned with water. No rotting, no mould or insect-damage. 	 Durable product makes for a safe investment. Easily installed. No PVC, no formaldehyde. 	 Ready to use. No additional stain, painting or other finishing required. Repairs of dents made possible through addition of material. Can be ripped, sanded or corrected on site, if necessary without dismantling the profile from façade.
PERFORMANCE	Sustainable and durable.Low fire reaction.Endures extreme climates.	Low fire reaction.Lightweight.High mechanical strength.Dimensional stability.	 Best thermal insulation. Best phonic insulation. Best wind and vibration resistance.





Style outlets shopping mall Cladding, louvre, street furniture

Barcelona, Spain

2016

Type: Qualita 020C, Careo 7015 & 7035 🔷 🔷



Colour: Rosewood





QUALITY

Geolam's success is based on over 250 WPC and WHS patents and quality certificates.



JIS A5741: a strict environmental standard

Since our Geolam WPC products are made from recycled materials and are themselves recyclable, they comply with the extremely strict JIS A 5741 standard awarded by Japan's national laboratory that classifies recycled composite woods.

This certification guarantees that the product is free from toxic substances. It assesses all the components used, their quality and their performance, as well as the safety and environmental friendliness of the composite wood products.

The classification of our Geolam WPC products:

R90 Made from a minimum of 90 %

recycled material

W50 50 % wood

PP Type of plastic: polypropylene

40 40 % plasticEX-II For outdoor use

Eco Mark: a valuable label





This award is granted exclusively to products that display a true respect for the planet, guaranteeing amongst other things, absolutely no danger to human health whether installed inside or outside. The entire range of Geolam composite products contains no chlorine, CFC's, PVC's, formaldehyde glues or solvents.

Other tests

Colour stability, ultra-violet testing and weather ageing tests	 Norme JIS-K1571-2010: Delta E de 2.53 after 5 000 hours of exposure Norme JIS A 1415: Delta E de 2.1 after 5 000 hours of exposure Norme DIN EN ISO 11341: Delta E de 1.9 after 1 000 hours of exposure (differential method) Norme DIN EN ISO 16474-2: Delta E de 2.4 after 1 000 hours of exposure
Resistance to sulfur dioxide	Norme DIN EN ISO 3231: no change in appearance after 24 cycles
Salt resistance	Norme DIN EN ISO 9227 NSS: no change after 240 hours
Brinell hardness	 Norme JIS Z 21010-1994: 26.8 in the middle of the cells and 52.3 above the cells separation
	 Hardness superior to that of Teak (24.5) according to the same referential
Resistance to Abrasion	Norme JAS Flooring A: loss of 0.068 g for 1kg charge and 500 rotations
	 Hybrid Woods (WHS) outclass Composites (WPC)
Carbon footprint	■ 1.54 kg - CO2 per kg of WPC
	 9.005 kg – CO2 per kg of WHS (Soleo 6008)

LOW CARBON FOOTPRINT

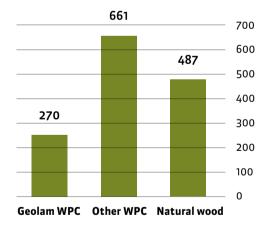
Geolam's premium hybrid boards – an ecologically responsible approach.

The issue of durability and of reduced carbon footprint is becoming increasingly important in the construction sector. An ecological building contributes to human health, respects the planet, and increases building value.

The Japanese Wood Plastic Industry Committee completed these tests in February 2008. They showed that the manufacturing of Geolam composite woods has a smaller ecologic footprint than do tropical woods and all other composite woods. Thanks to the exclusive use of recycled softwoods and of recycled polypropylene, the technology used allows for the reduction of CO2 during the production by 53.6 % compared to conventional products.

In addition, because Geolam is manufactured with recycled materials, our products themselves are 100% recyclable, a perfect example of ecological stewardship.

Life cycle CO2 emissions in kg











SECURITY

Responding to fire resistance to the highest standards

Code requirements regarding fire ratings are becoming increasingly stringent. Consistent with Geolam's four decade history of product innovation, we are continuing to improve our technologies, products and processes to ensure that our

profiles meet these increased demands. Our development process includes working with certified, third-party laboratories in Europe and the US to create increasingly fire-resistant products to be installed in all types of façades.

Important fire control certificates for Geolam's Wood Hybrid Systems

Fire rating of Geolam wood/hybrid boards – available upon request

Classifications:

Europe Euroclasses (EN 13823+A1):

B-s3, d0, C-s3, d0 or D-s2, d0

USA & Surface burning characteristics
Middle East (ASTM E 84) Class A & Class 1

France (NF P92-507): M0 to M2

Germany (DIN 4102-1): B2 classification



Kindai University, Academic Theater 1

Osaka, Iapan

2016

Type: **Vertigo 5052** 🔷

Colour: **Teak**





ADAPTABLE

The alliance of natural features and contemporary aesthetics.

Geolam Premium WPC overrides the first WPC generation. Japanese engineering art has succeeded in developing a novel wood composite material that while keeping the same stability specifications - looks, feels and smells like solid wood, can be worked like solid wood, has a minimal ecological footprint and is easy to install.

Next to the established horizontal application for decking installations certain Premium WPC and WHS profiles can also be used for façade cladding and as a building material for furniture and other wood-like

applications. The solid wood-like character means boards that can be worked with tools and machines used for wood. Geolam is the first brand to provide boards that can be used for all outdoor applications: decks, ceilings, walls, façades, furniture, architectural features.



INNOVATIVE

Zero maintenance, zero toxicity, withstands extreme weather and resists fire.

The art of a commercially viable and ecological production without any toxic content lies in Geolam's highly sophisticated methods of sorting and preparing the raw materials, achieving zero moisture content in all wood fibres. No other manufacturer has achieved this. In addition, the even blending of wood

with polypropylene before the extrusion process further enhances the quality of our products. Geolam boards do not require any subsequent treatment contrary to other products on the market, it is not necessary to paint, varnish, stain or oil.





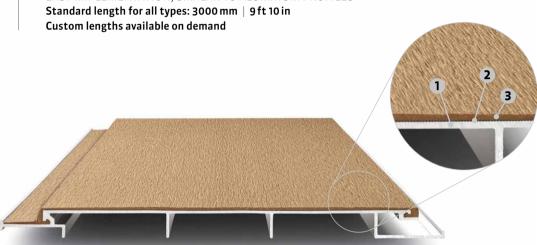


High-tech

WHS HYBRID TECHNOLOGY

Leading edge, a flair for engineering.

EASY IMPLEMENTATION, SIMILAR TO ALUMINUM PROFILES



As the first and only provider, Geolam offered its Wood Hybrid Systems (WHS) for façades, decks and roofs to the global marketplace in 2012. These WHS profiles are the result of an innovative hybrid technology, which enables heterogeneous materials to be successfully extruded together under heat.

Three layers of different materials undergo our patented triple extrusion process. Light, stable aluminum makes up the core. The connecting intermediate layer is made of a copolymer resin. The protective layer, lends the profiles the characteristics of tropical wood. This innovative combination of materials gives our profiles exceptionally superior features. They are three times lighter, four times more stable and eight times more rigid than WPC profiles. In addition, one single Geolam WHS profile can be bent to different radii and in different directions. Wood, on the other hand, has to be bent in the direction of the fibre only.

1. RECYCLED ALUMINUM (6063T5)

As the core of the material, aluminum gives lightness and stability. The light metal allows safe and grid-free mounting options, which significantly expands the span between 2 points of attachment.

2. COPOLYMER RESIN

In the triple extrusion process, the intermediate layer of copolymer resin inseparably merges the aluminum core with the outer layer. This resin is very strong and so firmly connected to the two materials that the hybrid profiles can be bent into different radii (smallest radius: 400 mm or 16 in).

3. OUTER SKIN

The outer layer in WPC is available in many colours, but especially in different finishes, too. The base colour does not change over time, even without maintenance. The dimensional stability of this hybrid material is remarkable, even when exposed to extreme temperatures and weather conditions. Even when exposed to humidity, its dimensional stability outclasses all types of composite wood.





SOLEO RANGE

Louvres, façade cladding, sun shields, screens, bannisters, balustrades and handrails.

Thickness	Width	Weight		Feature	
15 mm 5⁄8 in	100 mm 4 in	1.00 kg/lm 0.67 lb/ft		2 screw channels	
22 mm ⁷ / ₈ in	145 mm 5³/₄ in	2.00 kg/lm 1.34 lb/ft			
25 mm 1 in	45 mm 1³/₄ in	0.60 kg/lm 0.40 lb/ft			
28 mm 1½ in	126 mm 5 in	1.75 kg/lm 1.16 lb/ft		2 screw channels	7 [
30 mm 1 ¹ / ₄ in	40 mm 15/8 in	0.74 kg/lm 0.50 lb/ft		2 screw channels	
30 mm 1 ¹ / ₄ in	50 mm 2 in	0.77 kg/lm 0.52 lb/ft		2 screw channels	c 3
30 mm 1 ¹ / ₄ in	50 mm 2 in	0.89 kg/lm 0.60 lb/ft			
30 mm 1 ¹ / ₄ in	50 mm 2 in	0.98 kg/lm 0.66 lb/ft			
30 mm 1 ¹ / ₄ in	50 mm 2 in	0.77 kg/lm 0.52 lb/ft		2 extra thick sides for direct screwing	
30 mm 1 ¹ / ₄ in	50 mm 2 in	0.85 kg/lm 0.57 lb/ft		2 extra thick sides for direct screwing	
30 mm 1 ¹ / ₄ in	60 mm 2³/ ₈ in	1.00 kg/lm 0.67 lb/ft		2 screw channels	
30 mm 1 ¹ / ₄ in	80 mm 3½ in	1.20 kg/lm 0.80 lb/ft		2 screw channels	
30 mm 1 ¹ / ₄ in	100 mm 4 in	1.40 kg/lm 0.94 lb/ft		1 extra thick side for direct screwing	
30 mm 1 ¹ / ₄ in	120 mm 4³/₄ in	2.00 kg/lm 1.34 lb/ft			
30 mm 1 ¹ / ₄ in	145 mm 5³/₄ in	2.06 kg/lm 1.38 lb/ft		Also usable as decking	
30 mm 1 ¹ / ₄ in	145 mm 5 ³ / ₄ in	2.06 kg/lm 1.38 lb/ft			
35 mm 1³/ ₈ in	200 mm 7 ⁷ / ₈ in	3.30 kg/lm 2.22 lb/ft		2 screw channels Grooved or sanded surface	
38 mm 1½ in	70 mm 2³/₄ in	1.25 kg/lm 0.85 lb/ft			
40 mm 1 ⁵ / ₈ in	60 mm 2³/ ₈ in	1.05 kg/lm 0.71 lb/ft		1 extra thick side for direct screwing	
40 mm 1 ⁵ / ₈ in	70 mm 2 ³ / ₄ in	1.12 kg/lm 0.75 lb/ft		1 extra thick side for direct screwing	
	15 mm 5/8 in 22 mm 7/8 in 25 mm 1 in 28 mm 1 1/8 in 30 mm 1 1/4 in 30 mm	15 mm	15 mm	15 mm	15 mm



SOLEO RANGE

Louvres, façade cladding, sun shields, screens, bannisters, balustrades and handrails.

Soleo	Thickness	Width	Weight		Feature	
6017	43 mm 1 ⁵ / ₈ in	93 mm 35% in	1.60 kg/lm 1.08 lb/ft		1 extra thick side for direct screwing	
6040	50 mm 2 in	150 mm 5 ⁷ / ₈ in	2.40 kg/lm 1.61 lb/ft			
6060	50 mm 2 in	200 mm 7 ⁷ / ₈ in	3.93 kg/lm 2.64 lb/ft			7
6014	51 mm 2 in	126 mm 5 in	2.25 kg/lm 1.51 lb/ft			
6010	53 mm 2½ in	128 mm 5⅓ in	2.30 kg/lm 1.55 lb/ft			
6034	53 mm 2½ in	105 mm 4½ in	1.94 kg/lm 1.30 lb/ft	=	2 screw channels	
6048	60 mm 2³/ ₈ in	80 mm 3½ in	1.43 kg/lm 0.96 lb/ft		1 extra thick side for direct screwing	
6065	80 mm 3 ¹ / ₈ in	300 mm 11³/₄ in	10.00 kg/lm 6.72 lb/ft			
6050	100 mm 4 in	150 mm 6 in	4.75 kg/lm 2.69 lb/ft			
6070	100 mm 4 in	300 mm 11³¼ in	9.81 kg/lm 6.59 lb/ft			



PLANEO RANGE

Deck, Louvres, soffit, balustrades.



Planeo	Thickness	Width	Weight	Feature	
4010	30 mm 1 ¹ / ₄ in	145 mm 5³/₄ in	1.95 kg/lm 1.31 lb/ft	Fixing grooves	5 3
4023	30 mm 1 ¹ / ₄ in	290 mm 11³⁄ ₈ in	4.2 kg/lm 1.34 lb/ft		
4024	30 mm 1 ¹ / ₄ in	435 mm 17½ in	6.3 kg/m 4.03 lb/ft		
4048	50 mm 2 in	300 mm 11 ³ / ₄ in	4.80 kg/lm 2.23 lb/ft		
4044	87 mm 3¾ in	174 mm 6 ⁷ / ₈ in	4.52 kg/lm 3.04 lb/ft	•=	
4061	100 mm 4 in	300 mm 11³¼ in	9.5 kg/m 6.38 lb/ft		
4062	100 mm 4 in	450 mm 17³/₄ in	14.25 kg/m 9.58 lb/ft		
4046	110 mm 4 ¹ / ₄ in	350 mm 13³¼ in	9.90 kg/lm 6.65 lb/ft	Fixing grooves	



VERTIGO RANGE

Façade cladding & siding.



Vertigo	Thickness	Width	Weight		Feature			
5005	7 mm ¹ / ₄ in	100 mm 4 in	0.57 kg/lm 0.38 lb/ft		To be clipped		 	*
5011	13 mm ½ in	130 mm 5⅓ in	0.77 kg/lm 0.52 lb/ft	×				
5010	13 mm ½ in	185 mm 7 ¹ / ₄ in	1.19 kg/lm 0.80 lb/ft	×		-	1 1	
5054	20 mm ³/4 in	170 mm 6³/₄ in	1.40 kg/lm 0.94 lb/ft		To be clipped			1
5013	25 mm 1 in	205 mm 8½ in	2.51 kg/lm 1.69 lb/ft					
5052	120 mm 4 ³ / ₄ in	230 mm 9 in				<u> </u>		Ţ

DIAMEO RANGE

Louvres, façade cladding, sun shields, screens, bannisters and balustrades.





CAREO RANGE

Louvres, façade cladding, sun shields, screens, bannisters and balustrades, posts.



Careo Thickness Width Weight Feature 7015 45 mm 13/4 in 0.70 kg/lm 0.47 lb/ft ■■■ 7031 45 mm 13/4 in 0.82 kg/lm 0.47 lb/ft □ 7011 53 mm 21/8 in 53 mm 21/8 in 0.84 lb/ft 7035 87 mm 33/8 in 2.28 kg/lm 1.53 lb/ft □ 7014 88 mm 33/8 in 2.80 kg/lm 1.88 lb/ft □ 4 screw channels					
7013 13/4 in 13/4 in 0.47 lb/ft 7031 45 mm 45 mm 0.82 kg/lm 0.55 lb/ft 7011 53 mm 53 mm 1.25 kg/lm 0.84 lb/ft 7013 87 mm 87 mm 2.28 kg/lm 1.53 lb/ft 7034 88 mm 88 mm 2.80 kg/lm 4 screw channels	Feature	Weight	Width	Thickness	Careo
7031 13/4 in 13/4 in 0.55 lb/ft 7011 53 mm 53 mm 1.25 kg/lm 0.84 lb/ft 7035 87 mm 87 mm 2.28 kg/lm 33/8 in 3.53 lb/ft 7036 88 mm 88 mm 2.80 kg/lm 4 screw channels					7015
7011 2½ in 2½ in 0.84 lb/ft 7035 87 mm 87 mm 2.28 kg/lm 1.53 lb/ft 7014 88 mm 88 mm 2.80 kg/lm 4 screw channels					7031
3 ³ / ₈ in 3 ³ / ₈ in 1.53 lb/ft 7014 88 mm 88 mm 2.80 kg/lm		_			7 011
		_		-	7035
	4 screw channels				7014
7016 120 mm 120 mm 4.00 kg/lm 2.69 lb/ft					7016

RONDO RANGE

Louvres, façade cladding, sun shields, screens, bannisters, balustrades and handrails, posts.



Rondo	Diametre	Weight	Feature	
3002	50 mm 2 in	0.95 kg/lm 0.64 lb/ft	2 screw channels	
3003	56 mm 2 ¹ / ₄ in	1.07 kg/lm 0.72 lb/ft		
3004	63 mm 2½ in	2.46 kg/lm 1.65 lb/ft	4 screw channels. Guides for adding a square stiffener	
3006	70 x 110 mm 2 ³ / ₄ in x 4 ¹ / ₄ in	1.72 kg/lm 1.16 lb/ft	2 screw channels. Guides for adding a stiffener	

Please enquire, other profiles and accessories are available on request



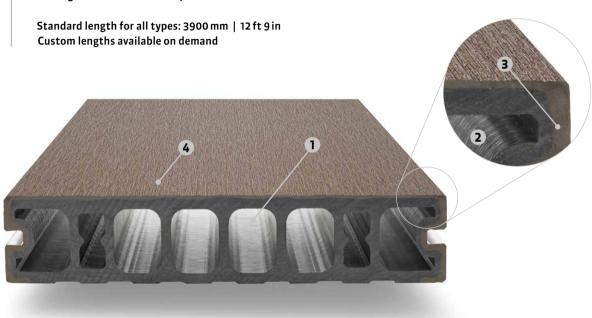




Perfection

CO-EXTRUDED DOUBLE LAYER TECHNOLOGY

A pioneering spirit, and over 45 years of experience.



First generation products were heavy, but in 1992 a revolutionary production method developed by Japanese engineers, led to the manufacture of the world 's first hollow cell profiles and their typical honeycomb structure. Hollow cell boards are lighter, more efficient and absorb much less humidity than solid decking products. Their cross sections can be adjusted to permit substantially larger spacing between joists in the substructure, enabling fast installation in all type of construction projects. With a reinforced blade stability, an in between supports axis of 60cm for the structure and the low core humidity absorption, this profile represents the pinacle of technology in its domain while keeping an economic, fast but high quality installation, compared to first generation co-extruded profiles.

1. HOLLOW CELL TECHNOLOGY

Hollow cell profiles allow implementation at reduced costs due to increase of profiles stability and strength.

2. HIGH-QUALITY EXTRUSION

Polished surfaces are synonymous with high extrusion quality.

3. CO-EXTRUSION

Combining the core and the external layer: the material is homogeneous, which makes it more resistant and more stable.

4. MULTIPLE PURPOSE EXTERIOR LAYER

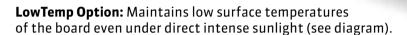
This WPC layer guarantees an antistatic surface. A thermal shield can be added on demand to lower the surface's temperature when exposed to the sun.





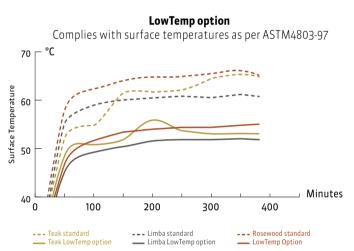
QUALITA PROFILE HIGH PERFORMANCE

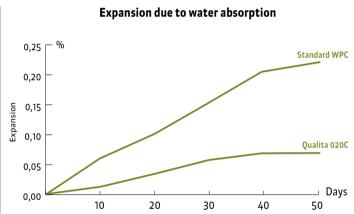
A co-extruded board, with anti-static properties and a low co-efficient of expansion designed for public spaces.



Qualita	Width	Thickness	Weight	Feature	
020C	145 mm 5³/₄ in	30 mm 1¼ in	3.30 kg/lm 2.22 lb/ft	1 side sanded, usable on one side only. Designed specifically for very humid environment. Anti-static and optional low surface	Di00001G

temperature processing.





Terrasses and façades

Our Universal fastener, Cliplam®, enhances the value of all of our installations. It is hidden to provide a cleaner surface appearance and adds to the safety and security of each installation by virtue of its perfect fit and hold with our boards.

The Universal clip contains a core of hardened galvanized steel covered with recycled polycarbonate. The Universal clip contains a core of hardened galvanized steel covered with recycled polycarbonate.





End and starting clip



COLOURS

Just like tropical hardwood.



Walnut

ACCESSORIES

Wood hybrid system

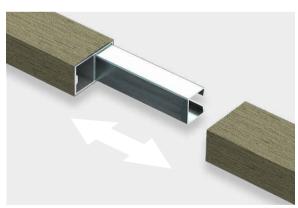
END CAPS

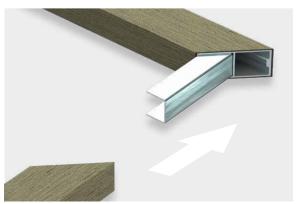
These patented resinous or wood plastic composite end caps cover the end of the profiles, while at the same time allowing moisture to escape. They provide an attractive finish to any installation.



CORNER AND STRAIGHT CONNECTORS

These cleverly designed splices are inserted into the interior of the hybrid profiles. They allow for the assembly of profiles by ensuring proper alignment or to create a perfectly finished 90° angle.





THERMO-LACQUERED FINISHING PROFILES

Combining pure aesthetics and functional excellence in the finishing touches for Vertigo 5010 and Vertigo 5011

9320 Jamb hollow joint

9324 Junction

9321 Jamb hollow seal to clip

9322 Outside corner

9323 Incoming corner

9325





SERVICES

Geolam provides technical consulting to support planners in the design, presentation and tendering process.

DURING THE PRESENTATION

- Sales pitch
- Photos of installations
- Samples: boards, colours
- Calculation help
- Certificates: Environmental certificate, quality certificate, ISO certificate, fire rating certificate.

DURING THE DESIGN PHASE

- Advice in selecting the right products
- Site visits
- Review of drawings / CAD data
- Technical support

DURING THE INSTALLATION PHASE

- Just in time delivery
- Distribution of information among project stakeholders
- Installation guides
- Technical advice at each phase of the installation, installation engineering.
- Monitoring and control of job sites
- Technical assistance
- Advice in upkeep & minimize on-site loss and damage

NON-DEPRECIABLE WARRANTY

- Boards, 10 years
- Fasteners, 25 years









More work on our website



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