

LAMILUX COMPOSITES HYGIENIC ANTIBAC WALL PANELS

RESTAURANTS • HOSPITALITY • RETAIL FOOD PROCESSING • HEALTHCARE • EDUCATION



Customized Intelligence

LAMILUX PROMISES **QUALITY AND INNOVATION**

LAMILUX is the leading international producer of fibre-reinforced composites and one of Europe's top daylight system manufacturers. As a medium-sized family enterprise, we are particularly proud of our capacity for technological innovation, our flexibility and our excellent working relationship with our customers. At LAMILUX, customised intelligence - "Serving the customer is our mission" means: giving our best every day to bring the greatest benefits to our customers. For us, quality isn't just a promise, it's reality in action.



The LAMILUX CI Philosophy

Customer value is the reason for our existence and is the focus of our activities. This requires harmony, identity and a balance between customer value and company strategy.

These guiding principles for our company's actions and our day-to-day relationship with our customers are described in LAMILUX's company philosophy:

Customised intelligence - serving the customer is our mission:

This requires outstanding performance and leadership in all areas relevant to customers, in particular in the role of:

- Quality leader optimal benefit for customers
- Leader in innovation at the cutting edge of technology • Leader in service - fast, uncomplicated, reliable and friendly
- Leader in expertise optimal sales and technical consultation · Leader in solving problems - individual, custom-made solutions



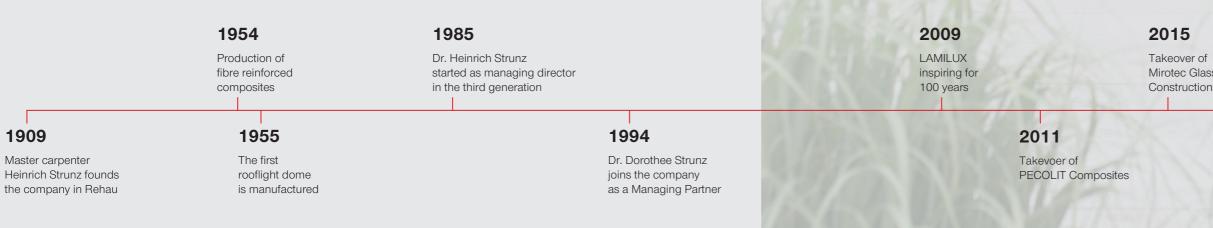
LAMILUX – A BUSINESS WITH TRADITION

"For over 100 years, the driving force behind LAMILUX has been the joy we feel in inspiring our customers with innovative, sophisticated products and creative solutions and helping them to achieve success in their own businesses. Each day in our company consists of tailoring our technological developments and services to meet the needs and requirements of our customers: **You** are the core of our entrepreneurial approach in our company philosophy."

Dr. Heinrich Strunz, third-generation Managing Director of the LAMILUX Heinrich Strunz Group







Mirotec Glass & Metal Constructions

2019

Alexander and Johanna Strunz join the management board

2018

Takevoer of roda Gruppe

RECOGNITION FOR OUTSTANDING PERFORMANCE ACROSS ALL COMPANY DIVISIONS

In recent years, LAMILUX has received multiple prizes and awards for innovations and strategies across its divisions. Whether awarded by an internationally-renowned business consultancy, an industry association or a well-established regional newspaper publisher, every prize awarded by an independent body can usually be traced back to singular achievements which are, and continue to be, of great relevance for the successful development of the LAMILUX Group.



Top Supplier 2021

Construction Top 50 2020 German Design Awards 2021 Architects' Darling Award 2020 German Design Award 2020 **Rexx Recruiting Award 2020**



Architects' Darling 2021



Digital Champions Award 2021



reddot winner 2021

Red Dot Award 2021





German Innovation Award 2021

AXIA Best Managed Company 2021

and many more

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FRP AS A LIGHT, ROBUST AND VERSATILE MATERIAL

Glass-fibre reinforced plastics (FRP or FRP) are made of rein- LAMILUX Composites are ground-breaking construction materials forcing materials (glass-fibre mats, fabrics, scrims, multiaxial in expanding industries like energy-efficient mobility, safe haulage of scrims, roving, etc.) impregnated with various resins (unsaturated foodstuffs, hygienic foodstuff preparation and aesthetic-functional polyester resins, vinyl ester resins, epoxy resins, etc.) and construction. chemical additives. They are considered the most modern of their kind worldwide.

Reinforced fibers

Whether it involves a low weight with high resistance, non-porous and easy-to-clean surfaces or good thermal insulation values and low thermal expansion - LAMILUX Composites combine numerous beneficial material properties into individually tailored glass or carbon fibre reinforced plastics.

Plastic-Matrix

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WHAT IS FRP AND WHAT **PROPERTIES DOES IT HAVE?**

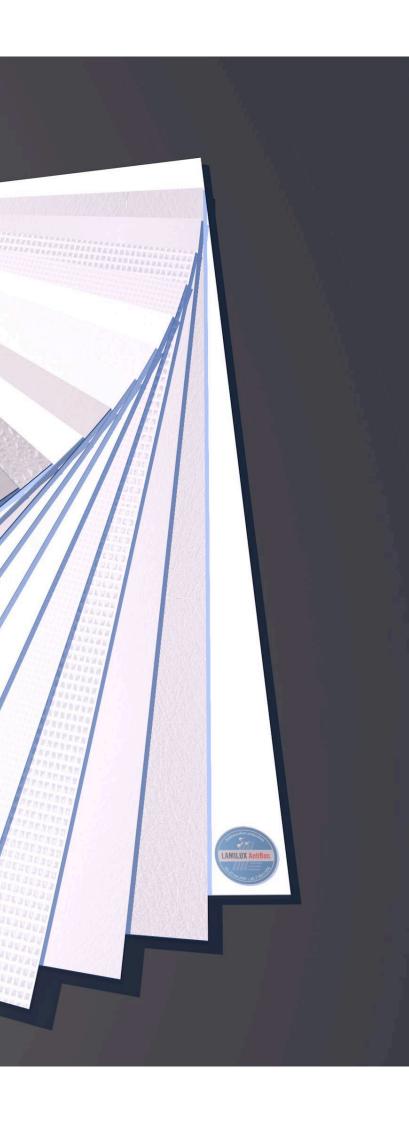
Glass-fibre reinforced plastic (FRP or FRP) is an extremely versatile material that can be used in numerous applications. LAMILUX creates the material in a state-of-the-art continuous lamination process.

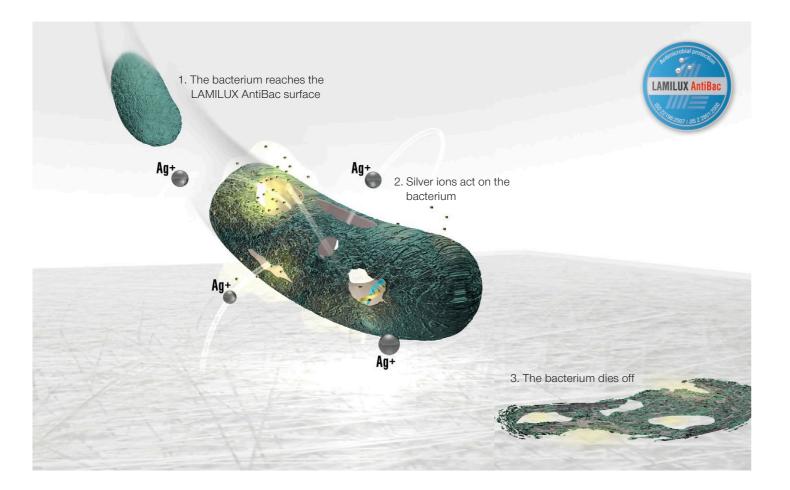
LAMILUX FIBRE - REINFORCED COMPOSITES FOR ALL AREAS OF APPLICATION

Advantages at a glance Thickness: 0.3 - 5.0 mm Width up to 3.20 m Sheets up to 12 m Roll length up to 300 m Glass and fiber reinforced composites

Colours: all colours possi

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LAMILUX ANTIBAC – MAXIMUM **HYGIENE FOR STERILE SURFACES**

threat in hospitals, they can become a deadly risk for patients. Hospitals are therefore facing the permanent challenge of mitigating or even preventing the occurrence of hazardous hospital germs through targeted preventive and acute measures.



With multi resistant bacteria posing an increasingly serious Effective even against multi resistant germs, LAMILUX AntiBac serves as a solution to tackle this challenge. To achieve self disinfecting surfaces. LAMILUX AntiBac utilizes the antibacterial effect of silver embedded in the surface. LAMILUX AntiBac is available for all LAMILUX products with gelcoat so that an easy to clean surface is improved with antibacterial function.

> But also in food industry, there are numerous fields of application for this high tech material. Regular cleaning cycles ensure hygiene and safety when handling and processing food. With its antibacterial function, LAMILUX AntiBac creates additional safety for the time in between the cleaning cycles. This can be advantageous especially in surroundings where food is handled continuously, such as food processing, kitchens, or in food retail.

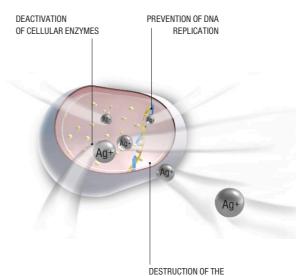
LAMILUX AntiBac safe and sterile surface

- optional for additional safety
- available for gelcoated products
- can be combined with LAMILUX Super, LAMILUX Embossed, LAMILUX HG 4000

TRIPLE EFFECT AGAINST PATHOGENS

Triple effect on bacteria:

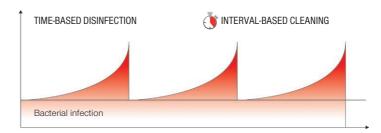
- Destruction of metabolism due to deactivation of cellular enzymes
- Destruction of the cell membrane
- Prevention of DNA replication



CELL MEMBRANE

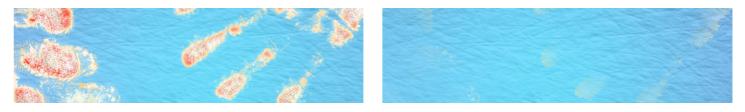
ADDED SAFETY

With its permanent effect, LAMILUX AntiBac helps to compensate What disinfection means here is reducing germs by a factor of at least for natural fluctuations in cleaning and disinfection at every point 10⁵; in other words, fewer than 10 of 1,000,000 replicable germs survive. of the wall and ceiling surfaces. This creates a redundant system of maximum hygienic safety.



Starting from the time of disinfection, bacteria reproduction again However, time period-based disinfection through LAMILUX AntiBac increases exponentially. Often, a critical level is already reached here, immediately suppresses the propagation of bacteria. Uninterrupted before the population growth is stopped by the next cleaning action. disinfection of the surface occurs 24 hours a day, 7 days a week, 365 days a year.

Without LAMILUX Antibac



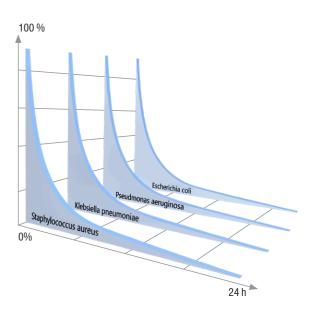
Cleaning and disinfection are not always equally effective at all The LAMILUX AntiBac nano silver surface offers continuous locations. disinfection at any point of the surface, even in hard to reach areas.

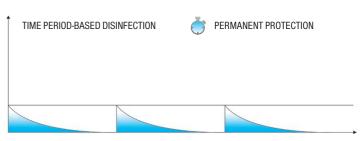
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Effectiveness as per DIN EN ISO 22196 and JIS Z 2801 based on four representative bacteria

More than 99.9% of all bacteria are killed within 24 hours.





With LAMILUX Antibac

LAMILUX WALL AND CEILING PANELS – CERTIFIED SAFETY AND UNCOMPROMISED QUALITY

WIDE RANGE OF FLAME-RETARDANT AND FREE OF HALOGENS

High indoor air quality with low VOC emissions

LAMILUX wall and ceiling panels are certified to have low emissions of volatile organic compounds (VOCs) according to SCS Indoor Advantage Gold Seal.

SCS Global Services (SCS) has been providing global leadership in third-party quality, environmental and sustainability verification, certification, auditing, testing, and standards development for three decades. Indoor Advantage Gold certification assures that building material products support a healthy indoor environment by meeting strict indoor air quality (IAQ) chemical emission limits for volatile organic compounds (VOCs).

Besides the internationally renowned SCS Indoor Advantage Gold Seal, LAMILUX Composites further comply with the VOC schemes of AgBB as well as Émissions dans l'air Intérieur of which are both well-established in Europe.









The LAMILUX FireShield[®] product family includes solutions for a wide range of flame-retardant requirements in construction as well as for transport by land, sea and air. Thanks to different reinforcements and different resin systems, LAMILUX FireShield[®] can be configured to meet flame retardant requirements and a wide range of requirements in terms of mechanics, appearance, hygiene and functionality.

DIN EN 13501-1		BS 476, pt
A1/A2 B FireShield® 600 B-s1, d0 FireShield® 630 B-s2, d0 FireShield® 670 B-s2, d0 FireShield® 505 EMB B-s2,d0 C FireShield® 630 C-s2, d0 D FireShield® 610 D-s2, d0 E	Class 0 Class 1 Class 2 Class 3	FireShield [®] FireShield [®] FireShield [®]

TEST CERTIFICATES & APPROVALS

Not all composites are alike – fibre-reinforced composites must provide maximum benefit for industry in terms of material applications while meeting all quality parameters. Robustness, appearance, durability and consistently uniform physical and mechanical properties: LAMILUX is a leader in quality, innovation and problem-solving in its sector since decades.

LAMILUX is the world's first manufacturer of fibre-reinforced composites to have voluntarily submitted its laboratory and testing facilities to inspection by TÜV Süd Deutschland and to have successfully obtained certification. The voluntary inspection by TÜV Süd Deutschland implicates compliance with stringent quality requirements. Our in-house Research and Development Department uses ultramodern laboratory equipment and simulation environments to guide our composites through all stages in their development, production and life cycles. Comprehensive material tests and analyses form the basis to perform a reliable check on the properties of LAMILUX composites and ensure their resistance and long service life. We are not satisfied until we are able to reliably deliver uncompromising, flawless quality.

- Water vapour diffusion according to DIN 53122 part 2
- Scratch resistance according to EN 15186
- TÜV Süd certified quality
- Reach
- ISO 9001



HACCP HYGIENE STANDARD AND FOOD SAFETY

LAMILUX wall and ceiling panels are certified as suitable for use in food and beverage facilities that operate in accordance with a HACCP based Food Safety Programme. Tested by HACCP International, the wall and ceiling panels were found to be applicable in the Splash or Spill Zone (SSZ).

HACCP International is in the business of food safety certification, undertaking commercial food safety work, assessing and analysing food safety matters and offering independent advice, evaluation and analysis on products and services for use in the food and beverage industry. Their certification confirms the ability of equipment, materials and services to support the integrity and safety of food as demanded by industry expectations.

Beyond a large variety of wall and ceiling panels for SSZ at choice, LAMILUX Composites feature options for direct food contact and for indirect (unintentional) and intentional food contact.

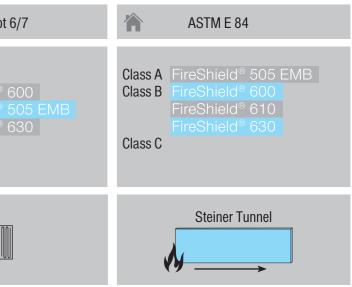
For Food Safety Lamilux has certified tests of special materials in special environments. Must be checked on a case-by-case basis.



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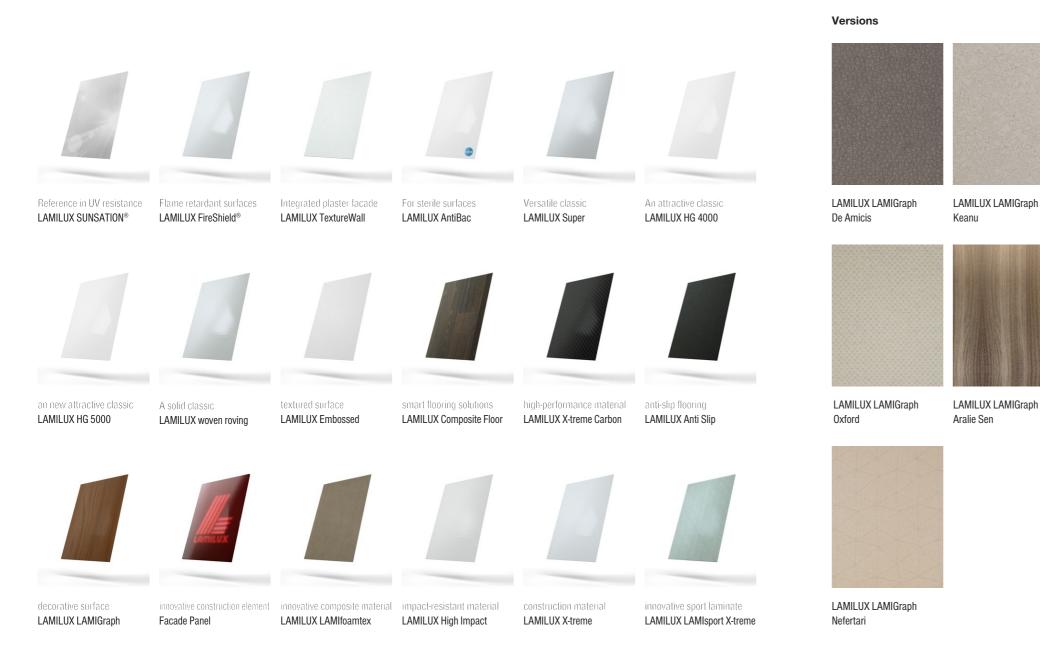
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REACH



OUR PRODUCTS WITH SMOOTH AND EMBOSSED SURFACE

OUR PRODUCTS FINISHED WITH DECORATIVE SURFACE



LAMILUX LAMIGraph is available

- in thicknesses between 1.0 and 3.0 mm
- in widths up to 2.15 m, depending on the décor layer
- in sheets or coils
- with other thicknesses, dimensions or décors, on request
- with different treatments on the back surface (smooth, sanded, soft sanded), on request



LAMILUX LAMIGraph Metropolis

LAMILUX LAMIGraph

LAMILUX LAMIGraph

Crossstone

Lennox



LAMILUX LAMIGraph Minogue



LAMILUX LAMIGraph Karlsbad



LAMILUX LAMIGraph Mendip Ash



LAMILUX LAMIGraph Canvas



LAMILUX LAMIGraph Tajet Oxford

Specific product advantages

- high strength
- numerous décor options available
- less sensitive to moisture than plywood
- no formation of mould
- no butt joints, in contrast to wooden décor panels

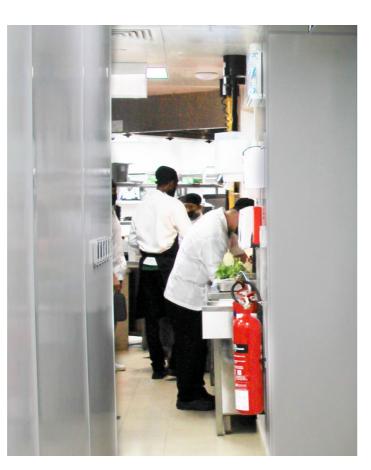
LAMILUX ANTIBAC – THE CHOICE FOR HYGIENIC AND DURABLE SURFACES IN RESTAURANTS & KITCHENS

Kitchens • Self-Service Beverage Stations • Store Rooms Bar Areas • Dining Rooms • Restrooms

LAMILUX FRP is the preferred material In all types of international restaurants and cafes (chained and none chained). LAMILUX FRP replaces the traditional building materials such as ceramic tiles, stainless steel, PVC, and mineral fiber ceilings. LAMILUX FRP is certified as suitable for use in kitchens that operates in accordance with a HACCP based Food safety Program.

LAMILUX AntiBac scores highly here thanks to its non-porous, easyclean, and residue-free surface, which retains its antibacterial effect even under the toughest conditions. LAMILUX FRP offers the best hygienic environment with the highest durability. The ROI is very high due to the low cost of maintenance. In remodeling, Lamilux FRP can be fixed directly on the existing ceramic tiles in kitchens or on existing sandwich panels.







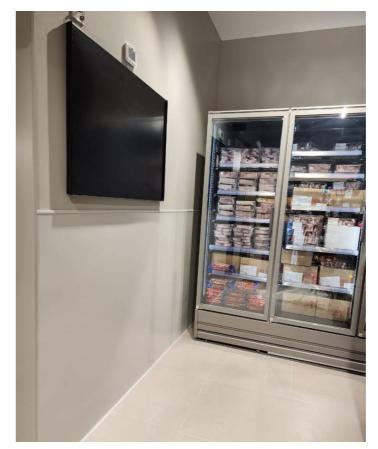




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LAMILUX FRP -AN UNSURPASSED HYGIENIC, HIGH-IMPACT AND DURABLE SOLUTION RELIABLY **PERFORMING IN FUNCTION** AND SAFETY FOR RETAIL (MALLS/SUPERMARKETS)

BOH Corridors • Restroom Corridors • Loading Bays Service Hallways • Customer Service Counters Trolley Area • Kitchens • Fishery • Butchery • Bakeries Delis • Store Rooms • Columns

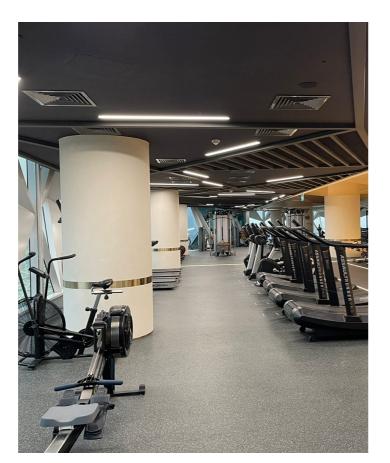
Perfect solution for Malls and Supermarkets, no matter if front or back of the house, due to high impact resistance and strong durability along with hygienic performance, low cost of maintenance, easy-to-clean, and speed of installation. LAMILUX FRP panels are ideal for areas with high traffic of people or trolleys.

LAMILUX High Impact FRP combines outstanding impact resistance and strength with very low weight and an attractive surface which is easy to clean. The combination of a high reinforcement fiber content and a sophisticated special resin makes LAMILUX High Impact FRP ideal for overcoming the maintenance requirements of high-traffic areas.



LAMILUX FRP – THE CHOICE FOR HYGIENIC AND DURABLE SURFACES IN THE BACK OF HOUSE WITH DECORATIVE SURFACE OPTIONS FOR THE FRONT OF HOUSE TO COMBINE DURABILITY AND STYLE IN HOSPITALITY (HOTELS/RESORTS)

Commercial Kitchens • Cafes • Store Rooms Food Service Areas • Service Hallways • Loading Bays Laundry Rooms • Locker Rooms • Uniform Rooms Gym • Dining Area • FOH Corridors • Lobbies



LAMILUX FRP is certified as suitable for use in food and beverages areas in Hotel & Resorts facilities that operates in accordance with a HACCP based Food safety Program.

LAMILUX FRP is premium solution for Hotel & Resorts, no matter if front or back of the house, due to high impact resistance and strong durability along with hygienic performance, low cost of maintenance, easy-to-clean, and speed of installation. LAMILUX FRP panels are ideal for areas with high traffic of people or trolleys.

LAMILUX FRP panels are the premium alternative product to traditional building materials and traditional FRP. Being an enhancement with higher durability and hygiene, Antibac performance is better than any other FR, and much more than ceramic, PVC, paint, Stainless Steel, and checker plate.









HOSPITALITY (HOTELS/RESORTS)









LAMILUX ANTIBAC – MAXIMUM HYGIENE FOR STERILE SURFACES IN FOOD PROCESSING PLANTS

Food Processing • Central Kitchens • Catering Cold Rooms • Warehousing • Dry Storage Meat & Poultry Preparation • Fruits & Vegetable Preparation • Packaging • Crates & Trolleys Washing Food Dispatch • Incubation Room

In the food industry, it is particularly important to guarantee the perfect protection of our food. Particular sensitivity is required in the production and storage of fresh and frozen goods in refrigerated warehouses, refrigerated displays or freezer display cases. LAMILUX has developed an innovative composite material for use in the food industry where strict hygiene standards must be complied with and sterility is of the utmost importance. LAMILUX FRP create a smooth and easy-to-clean surface, ensure extremely hygienic walls and create resistance to moisture and chemical influences.

LAMILUX FRP is certified as suitable for use in food and beverages facilities that operates in accordance with a HACCP based Food safety Program. HACCP International is in the business of food safety certification, undertaking commercial food safety work, assessing and analyzing food safety matters and offering independent advise, evaluation analysis on products and services for use in the food and beverages industry. Their certification confirms the ability of equipment, materials and services to support the integrity and safety of food as demanded by industry expectations.

In remodeling, Lamilux FRP can be fixed directly on the existing sandwich panels. The ROI is very high due to the low cost of maintenance.

LAMILUX ANTIBAC -**MAXIMUM HYGIENE FOR** STERILE SURFACES FOR HEALTHCARE

Cleanrooms • Pharmaceuticals • Labs • Hospitals Emergency rooms • Doctor offices • Hospital rooms Clinics • Waiting rooms • Cafeterias • Restrooms Laundry Rooms

LAMILUX FRP is a premium hygienic, anti-bacterial product and hence it is widely used within the global healthcare sector for both front of house and back of house areas.

Innovative LAMILUX AntiBac surfaces help prevent the spread of infections and germs in medical areas and save lives. In addition to naturally beneficial germs, there are numerous pathogenic germs that can have devastating consequences for the patient in the wrong place, e.g. in a wound.

Healthcare are therefore faced with the permanent challenge of containing or even preventing the occurrence of dangerous hospital germs through targeted hygienic preventive and acute measures. Over the largest areas of a hospital in particular, the walls and ceilings, LAMILUX AntiBac can ensure effective and permanent protection against pathogens and interrupt the chain of spread.



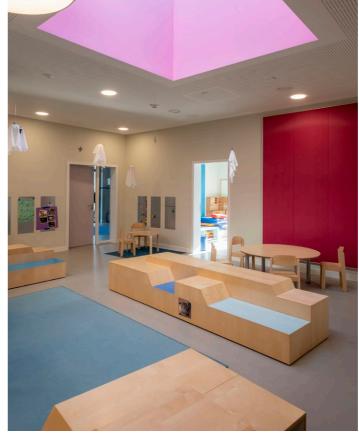
















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LAMILUX FRP – CERTIFIED SAFE AND HIGH-QUALITY STANDARD BUILDING MATERIALS FOR EDUCATION FACILITIES

Classrooms • Labs • Hallways • Locker Rooms Stadiums • Cafeterias • Canteens

In any educational facility, safety is always a primary concern of management.

To achieve a hygienic and safe environment for students and staff, LAMILUX Composites developed an FRP wall cladding material that upholds protection and safety with maximum benefit for the schools and universities in terms of material applications while meeting all quality standards.LAMILUX FRP is certified to have low emissions of volatile organic compounds (VOCs) according to SCS Indoor Advantage Gold Seal. Indoor Advantage Gold certification assures that building material products support a healthy indoor environment by meeting strict indoor air quality (IAQ) chemical emission limits for volatile organic compounds (VOCs). Besides the internationally renowned SCS Indoor Advantage Gold Seal, Lamilux FRP further comply with the VOC schemes of AgBB as well as Emissions dans l'air Interieur of which are both well-established in Europe.



