ELYCOLD®
ELYPLAN®

FIBERGLASS REINFORCED ***LAMINATES***

Brianza Plastica

FIBERGLASS LAMINATES IN ROLLS AND SHEETS SINCE 1962

ELYCOLD®

Grp rolls and sheets produced by discontinuous lamination

ELYPLAN®

Grp rolls and sheets produced by continuous lamination

For over 60 years, Brianza Plastica has been a leading European Company in the production of fiberglass laminates used in the most varied fields: from construction to agriculture, from transportation to special applications.

High durability

Lightness

Hail resistance

Strong corrosion resistance

Waterproofing

Cost saving

Quick installation

Scratching resistance

Easy repairability

Low thermal expansion coefficient

Impact strength

UV resistance

Thanks to the important know-how acquired through the years and frequent requests for high quality laminates for commercial and recreational vehicles, in 2006 Brianza Plastica inaugurated a discontinuous cold lamination process for the production of **Elycold**, in the new production site of Rovigo.

In 2009, thanks to the acquisition of a new complex in Ostellato, Brianza Plastica expanded its production capacity. The success of this new facility led the Company to invest further in the development of products for the temperature controlled transport sector.

In 2008, at its headquarters in Carate Brianza, the Company started the production of **Elyplan**, a high quality laminate manufactured by using a continuous hot lamination process.

This continuous product offers still today a good quality/price ratio, which makes Elyplan the best alternative to discontinuous cold lamination products.

Brianza USA Corporation was established in January 2014 in Elkhart, Indiana (USA). Equipped with a warehouse and distribution centre, the site serves today manufacturers of recreational vehicles (campers and caravans) and motor vehicles (trucks and buses) throughout the entire US.

In summer 2016, a third production site for discontinuous laminates was established in Rovigo, together with a new continuous plant in Carate Brianza. These investments increased the production capacity of 40%, making Brianza Plastica ready to face all the challenges of the coming years.

At the beginning of 2019, the new chemical laboratory was inaugurated, almost tripling the previous surface area and significantly improving the equipment used to carry out most of the chemical-physical tests, on both raw materials and finished products.

Nowadays, Brianza Plastica supplies fiberglass laminates produced from cold and hot lamination plants which are able to satisfy all market requirements. With its four production sites dedicated to fiberglass laminates, the Group is in a position to offer a comprehensive service to the sector for the next few years.

Carate Brianza (Milan) - Italy - Headquarters

Elkhart (Indiana) - USA

Ostellato (Ferrara) - Italy

San Martino di Venezze (Rovigo) - Italy - Site 1

San Martino di Venezze (Rovigo) - Italy - Site 2

ENVIRONMENTAL SUSTAINABILITY

A PRODUCTION FRIENDLY TO PEOPLE AND THE ENVIRONMENT

ECO DESIGN

The reduction of CO_2 emissions into the atmosphere, the sustainable use of natural resources and the recycling of waste have now become standard practices for all production sectors.
Based on its long years of know-how and innovative spirit, Brianza Plastica has always paid particular attention not only to the impact of its production processes on the environment, but above all on the extreme importance of analysing the entire life cycle of its products, from design to end-of-life management. Thus, **in 2020, the Company introduced the UNI EN ISO 14006 guidelines on Eco Design.**

ECO FRIENDLY PRODUCTION

Brianza Plastica has always stood out for its focus on safety, environment and people, operating in full compliance with the current laws on environmental hygiene. With this in mind, the Company has equipped its production sites with **powerful suction systems** that purify the internal habitat by conveying the solvents, generated during the production process, to highly advanced abatement systems. These latest generation systems are extremely innovative, due to the process of concentration of the solvents and their destruction, and are self-powered, thanks to the **recovery of the heat generated by the combustion of the solvent**. The heat recovered from the combustion is partly reused to power the actual plant and partly to generate hot water for heating.

VALORISATION OF PRODUCTION WASTE AND RESIDUES

In 2020, the Company entered into a partnership with a major waste management facility aimed at **“ennobling” the end-of-life of its waste and production residues** in fiberglass, a composite and thermosetting material that historically has few sustainable recycling solutions.
Thanks to this collaboration, **almost all of the waste coming from the production processes is now destined for use in cement and steelworks in the form of RDF (refuse derived fuel)**, which exploits the energy properties of the waste and allows recovering all of the combustion ashes within the same production cycle. This decreases the use of fossil fuels and energy from non-renewable sources and thus helps to reduce CO_2 emissions into the environment. This partnership is part of a series of projects that the Company has undertaken, aimed at introducing a circular economy model that can be more sustainable for the world of fiberglass laminates production.

NEW RESEARCH & DEVELOPMENT LABORATORY

Brianza Plastica has officially opened its new laboratory for research & development and production control activities.

The new laboratory is three times bigger than the previous one and benefits from a significant increase in technical staff. It has also been expanded by additional equipment, to carry out most of the chemical-physical tests on the raw materials and on the finished products. The new facility is equipped with the most advanced instruments to support the production processes of composite laminates.

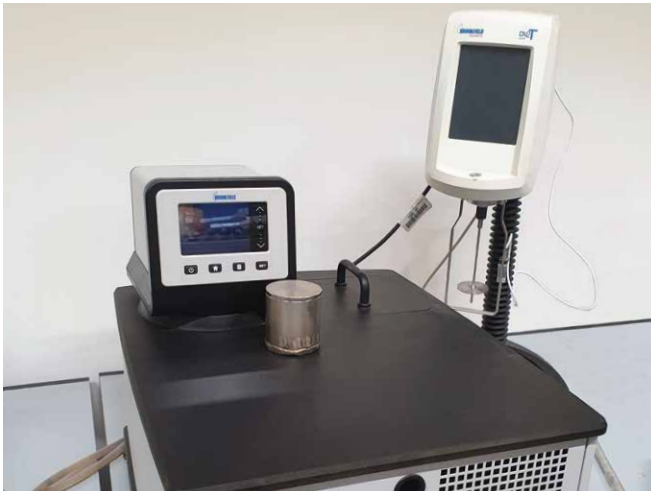
The laboratory is divided into 4 areas:

- **offices** for R&D staff;
- **instrumental laboratory:** equipped with the most modern analysis equipment, such as FTIR, DSC, dynamometer, Xenotest, fire testing apparatus, viscometer, optical microscope, etc. Sophisticated instrumental tests and analyses are performed in this laboratory, including characterization of the finished products;
- **chemical laboratory:** fully equipped, it carries out product formulation activities by simulating the production processes, as well as chemical analyses on both incoming raw materials and finished products;
- **preparation area of samples and fire tests:** the samples are prepared for the various controls and the fire reaction tests are performed on the products.

In order to produce higher-quality and more sophisticated products, Brianza Plastica has invested heavily in creating one of the most advanced research & development laboratory in the sector, providing further impetus and support for the production and subsequent marketing of its products.

Dynamometer


Xenotest


Viscometer


Optical microscope

MAIN FIELDS OF APPLICATION

RECREATIONAL VEHICLES

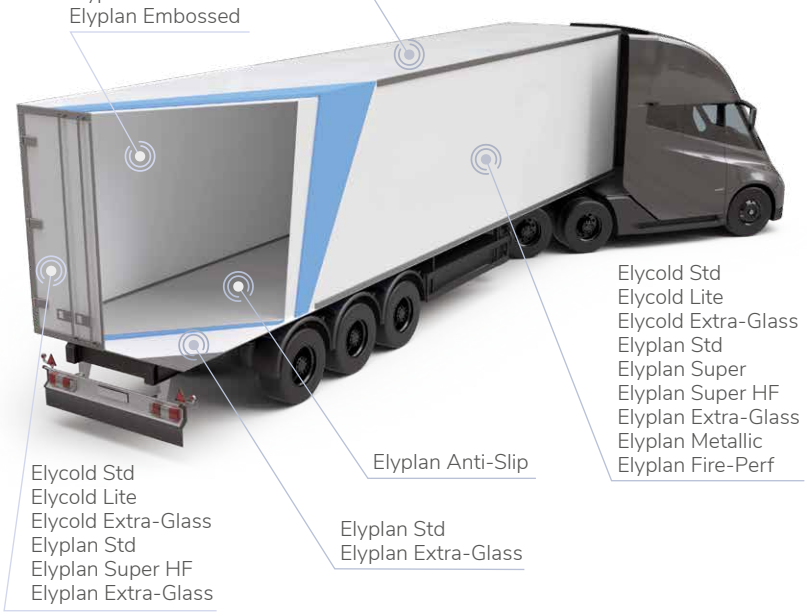
Outstanding quality, lightness, aesthetic appeal and variety of finishes allow the fiberglass panels to be used widely in the field of recreational vehicles (campers and caravans).

PUBLIC TRANSPORT

High strength, reliability, rigidity and ability to be produced in any RAL colour guarantee the wide use of fiberglass laminates in buses and coaches for public transport.

COMMERCIAL VEHICLES

Excellent resistance and dimensional stability, combined with lightness and easy workability, make fiberglass laminates the ideal material for constructing walls of industrial, commercial and temperature-controlled vehicles.



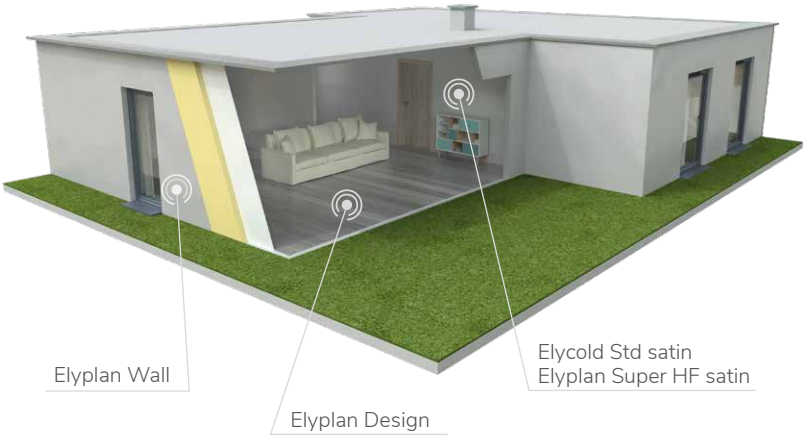
TANK CONTAINER VEHICLES

Extreme flexibility, lightness, resistance to chemicals and yellowing make Elycold & Elyplan fiberglass laminates an excellent choice for covering tanks of any size.

OTHER APPLICATIONS FOR FIBERGLASS LAMINATES

WALLS FOR PREFABRICATED HOUSES

Lightness, dimensional stability and low thermal conductivity, together with resistance to UV rays, chemical agents and weathering and the possibility of being painted or supplied in special colours, make the Elycold & Elyplan fiberglass laminates ideal for constructing doors and walls for prefabricated houses.



OTHER APPLICATIONS

Elycold & Elyplan fiberglass laminates are also suitable for food contact, so they can be used to construct trucks for food vendors and walls of cold rooms of various sizes. They are ideal to realize advertising signs and panels; in any case, whenever a lightweight, easily washable and highly resistant surface is required.

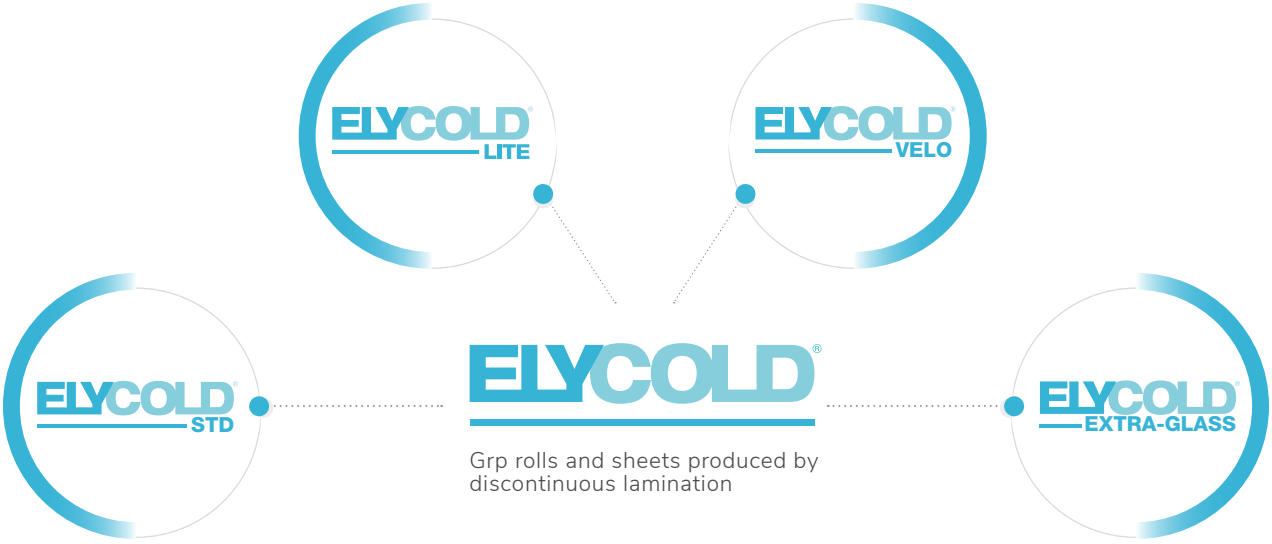
NO BAC: THE ANTIBACTERIAL TECHNOLOGY

Photo courtesy @Toutenkamion

The NO BAC technology, based on silver, is permanently integrated on the surface of the laminate and allows **eliminating almost all traces of bacteria** present on the surface, **preventing their subsequent colonisation** and providing an additional level of protection in any environment.

The **NO BAC version** is available on Elyplan & Elycold grp laminates with external gelcoat finish.

ELYCOLD & ELYPLAN FAMILIES ARE GROWING



ELYCOLD®

Rolls and sheets with or without gelcoat produced by discontinuous lamination

Produced in discontinuous

Elycold is the high quality fiberglass laminate by Brianza Plastica, produced discontinuously using advanced machinery, crowing the sixty years experience in this sector.

Elycold is a combination of polyester resin (orthophthalic and isophthalic) and glass fibre; over the years, this composite material has replaced aluminium in the production of refrigeration panels for commercial vehicles, campers, caravans and motorhomes, providing manufacturers with **excellent long-term properties** and UV protection.

PRODUCT DIMENSIONS

ROLLS / SHEETS

- **THICKNESS:**
  from 1 to 3.6 mm
- **DIMENSION:**
  max. width 3400 mm
  length 60 m

Properties

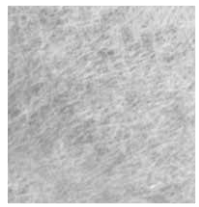
Low shrinkage resins provide a high resistance to UV-light and ensure:

- a perfect overlay of the underlying fiberglass;
- a longtime surface durability;
- a low level of yellowing, recorded by ageing tests performed with UV – CON and Xenotest;
- a total impermeability of the panel.

ELYCOLD GLASS COMPOSITION

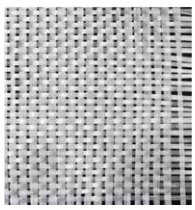
Chopped strand mat

Particular MAT composed of chopped fibers. The MAT gives all the physical characteristics to the laminate, ensuring a perfect smooth surface on the outer side. The use of different weights of MAT gives the possibility to satisfy all the market requirements.



Tissue

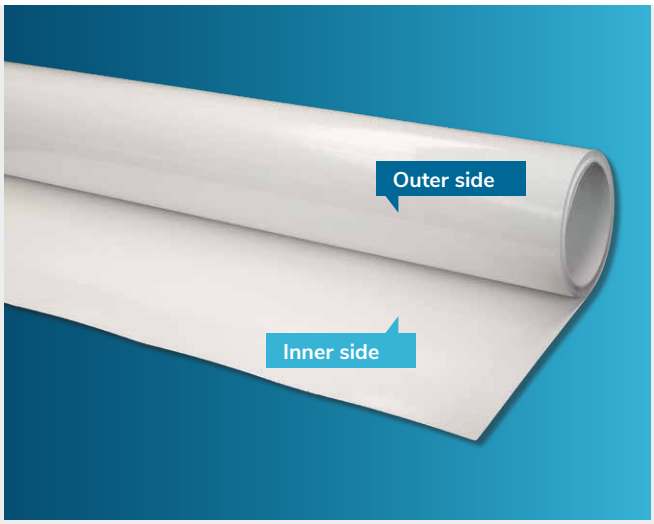
Thin layer of fiberglass to increase the aesthetic quality of the material. Available for Elycold Velo only.



Woven roving

Layer of woven fiberglass used to increase the strength of the laminate. Brianza Plastica mainly uses two different types of woven roving:

- 300 g/m^2: suggested for applications requiring good strength properties;
- 500 g/m^2: suggested for applications requiring high strength properties.



Outer side finishing

- **Gelcoat protection** - 100% isophthalic resin, UV-resistant, available in glossy or satin surface.
- **Film protection** - To avoid possible damages during handling and transport.
- **Colours** - Different colours found in the RAL code or NCS or customized colours on request.

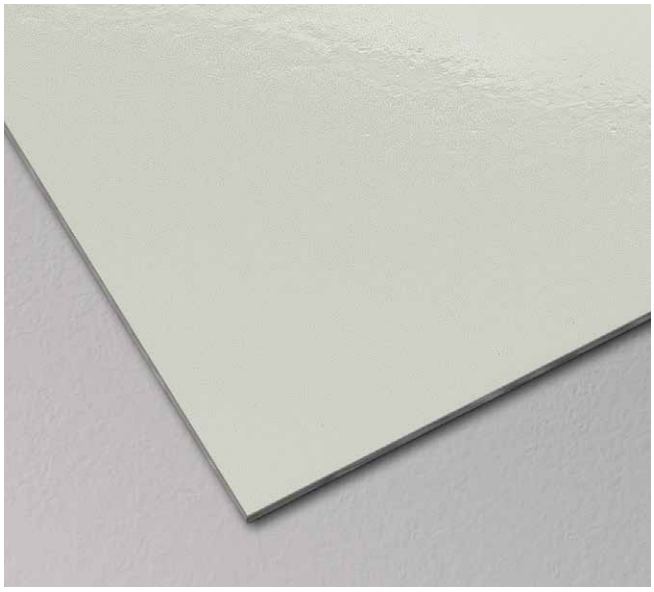
THE FINISHING

Interior finishing

- **Film grooved** - A particular dust free sanded surface which improves the bonding performances.
- **Mechanically sanded** - Mechanical sanding, to provide a good bonding surface.
- **Rough** - The fiberglass is visible on the surface: this solution is suitable for those who use resins for the bonding.
- **Smooth** - No treatment, for those who don't require particular properties.

See page 22 for bonding suggestions.

ELYCOLD STD



Elycold Std laminates have the polymerization process at ambient temperature. The result is perfect flatness, which is an indispensable feature for the production of very high quality panels, with very good aesthetics.

The excellent dimensional stability of Elycold Std laminates is guaranteed by the use of fiberglass CHOPPED STRAND MAT, which can be combined with WOVEN ROVING reinforcement, to further improve the mechanical features of the laminate.

NO BAC AVAILABLE

ELYCOLD LITE

Lightness

Elycold Lite represents the ideal solution for those who need a thicker laminate with good rigidity and low specific weight, while retaining all aesthetic details and values. The use of resins and specific **microspheres** allows increased thickness, without adding weight, decreasing the density of the laminate and providing greater rigidity, contributing to the flatness of the panel and to conceal the underlying structures.
It is particularly suitable for the production of ultra-light vans, large recreational vehicles and prestigious equestrian vehicles.

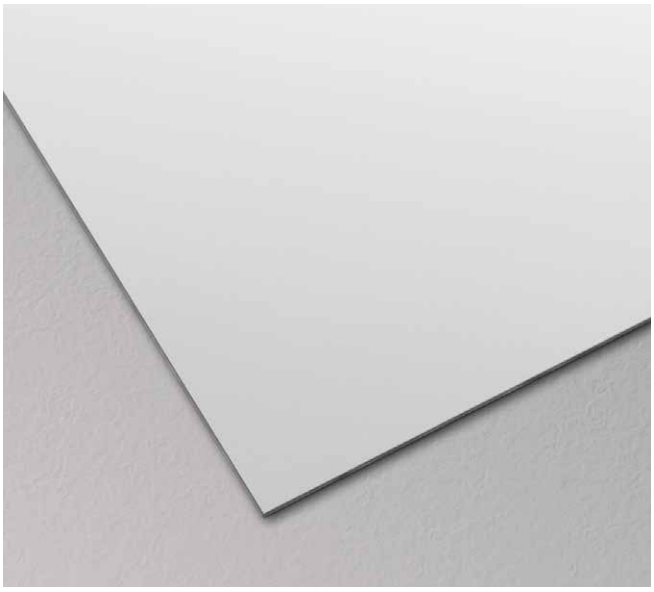
Elycold Lite maintains unaltered the performances of Brianza Plastica's laminates, such as:

- gelcoat resistant to UV rays and to chemical agents;
- availability in different colours;
- mechanical performances suitable for different uses.

Elycold Lite is available in sheets and 60m-long rolls and in different thicknesses, from 1.6 mm.

NO BAC AVAILABLE

ELYCOLD VELO



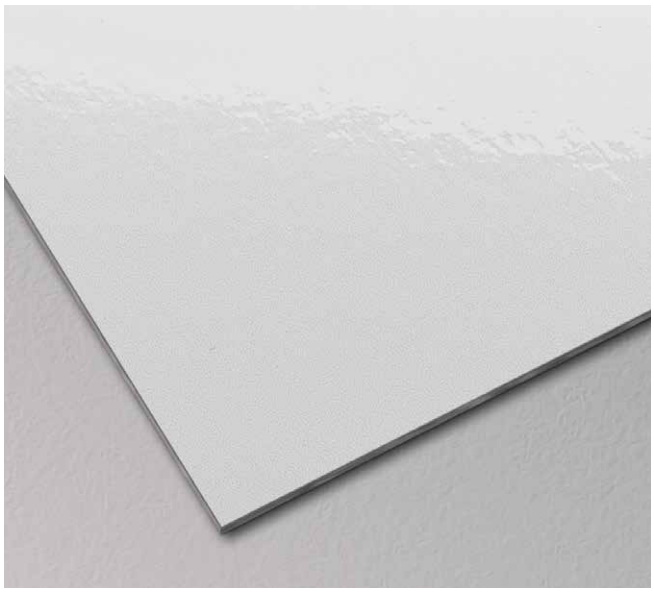
The new Elycold Velo range is realized with UV-stabilized orthophtalic polyester resin, reinforced with fiberglass; available both in rolls and sheets, the Elycold Velo grp laminates resist to chemical agents, are waterproofing and easy to clean.

Elycold Velo fiberglass laminates are supplied **without gelcoat** and are available in different thicknesses, from 0.9 to 1.4 mm; they use only MAT and TISSUE, in order to provide better aesthetic performance.

The entire range is particularly suitable for recreational vehicles, both in interior roofs and walls, or where a gelcoat protected material is not necessary.

ELYCOLD EXTRA-GLASS

Impact strength



Elycold Extra-Glass are rolls and sheets with gelcoat and with increased mechanical performances. This new product is the result of synergies between different chemical and technical departments, aimed at meeting the ever-increasing market demands for more effective materials.

Elycold Extra-Glass is designed to bring together very special characteristics in a single product, such as lightness, given by low specific weight, and high mechanical strength, coming from the high percentage of glass content.
Elycold Extra-Glass is suitable for vehicles that require high impact resistance, weight saving and high aesthetics.

NO BAC AVAILABLE

ELYPLAN®

Rolls and sheets with or without gelcoat produced by continuous lamination

Produced in continuous

Elyplan is manufactured on state-of-the-art machines, a crowning achievement in Brianza Plastica's over 60 years experience in the fiberglass laminates sector. The flexibility of the systems allows customers to choose the laminate best suited to their needs, for every application in temperature-controlled transport services, vans, restoration of walls, coolers and special applications. Basically, it is ideal for applications that require washable surfaces, smooth or rough, with high resistance to corrosive elements present in the environment.

The main advantage of continuous production is that it allows achieving the **highest possible polymerisation** of the composite material, coming from the use of technologies that best maximize this value. The result is a **perfectly flat product, with very tight dimensional tolerances** that guarantees excellent quality at competitive prices.

PRODUCT DIMENSIONS

ROLLS / SHEETS

- **THICKNESS:**
  from 0.8 to 3 mm
- **DIMENSION:**
  max. width 3200 mm
  length on request

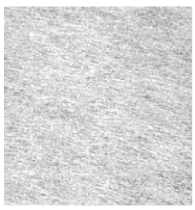
Properties

The high quality of Elyplan is ensured through the use of the finest raw materials and a gelcoat made from highly elastic isophthalic resins, assuring high resistance to yellowing, impermeability to water vapor and condensations.

ELYPLAN GLASS COMPOSITION

Roving

Fiberglass cut to a length of 5 cm, evenly distributed in the laminate.

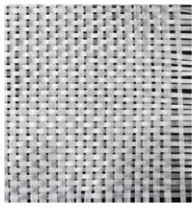


Chopped strand mat

Particular MAT composed of chopped fibers. The MAT gives all the physical characteristics to the laminate, ensuring a perfect smooth surface on the outer side.

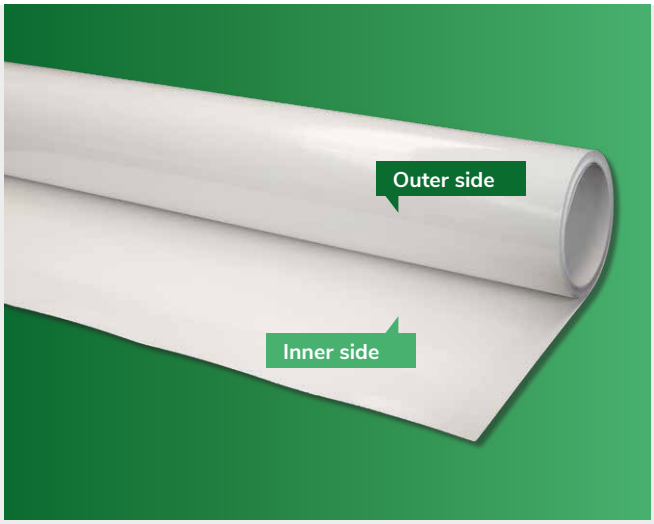
Tissue

Thin layer of fiberglass to increase the aesthetic quality of the material.



Woven roving

45°- 90° or woven biaxial fabric, used to increase the mechanical properties and strength of the laminate.



Outer side finishing

- **Gelcoat protection** - 100% isophthalic resin, UV-resistant, available in glossy or satin version.
- **Film protection** - To avoid possible damages during handling and transport.
- **Colours** - Different colours found in the RAL code or NCS or customized colours on request.

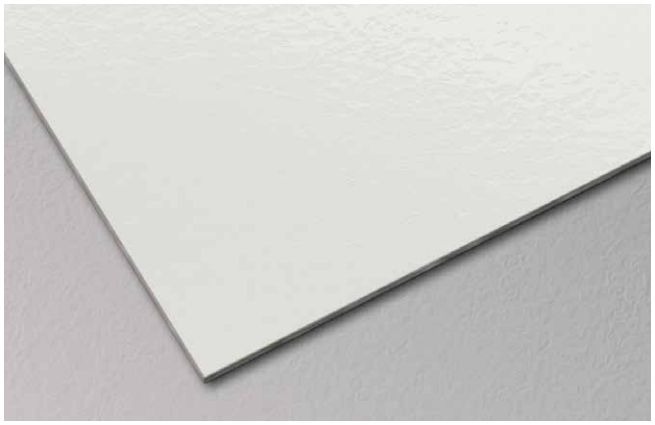
THE FINISHING

Interior finishing

- **Corona treatment** - This treatment consists of a high voltage, high frequency but low current wave that increases the surface energy and wetting out of the surface. The result is a smooth surface, perfect for the bonding with polyurethane mono/bi-component glues.
- **Mechanically sanded** - Mechanical sanding, to provide a good bonding surface.
- **Smooth** - No treatment, for those who don't require particular properties.

See page 22 for bonding suggestions.

ELYPLAN® STD

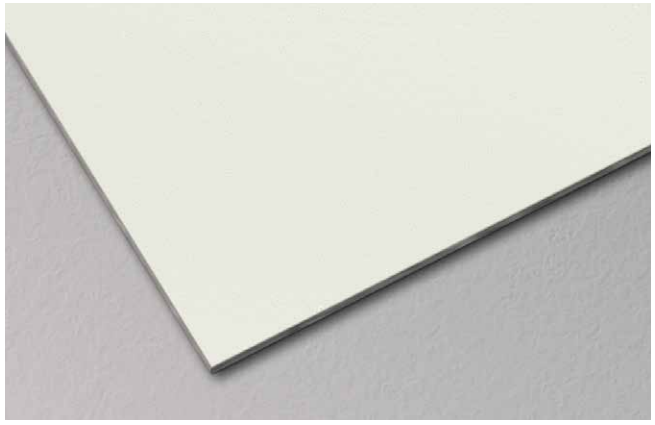


Elyplan Std uses ROVING glass as primary reinforcement of the composite laminate.

It is generally used for applications where the aesthetic performance is not as important as the quality/price ratio. It can be made with or without gelcoat protection and with WOVEN ROVING reinforcement, in order to increase its mechanical performance.

NO BAC AVAILABLE

ELYPLAN® SUPER

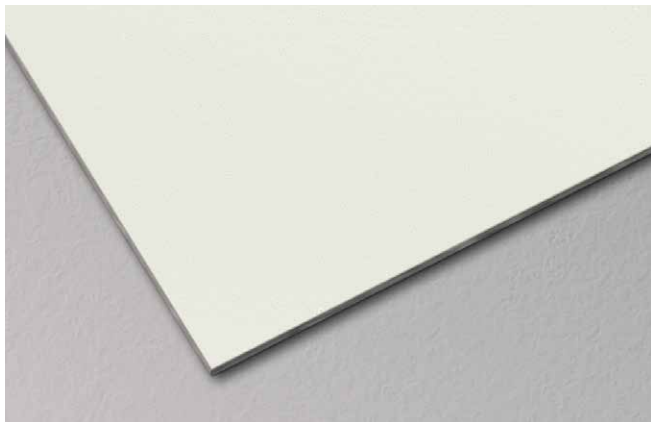


Elyplan Super uses MAT and ROVING for better aesthetic performance.

It is an excellent compromise between high quality aesthetics and competitive price tag. It can be made with or without gelcoat protection and with WOVEN ROVING reinforcement, in order to increase its mechanical performance. Elyplan Super is an extremely versatile product, suitable for a wide range of applications, both indoor and outdoor.

NO BAC AVAILABLE

ELYPLAN® SUPER HF



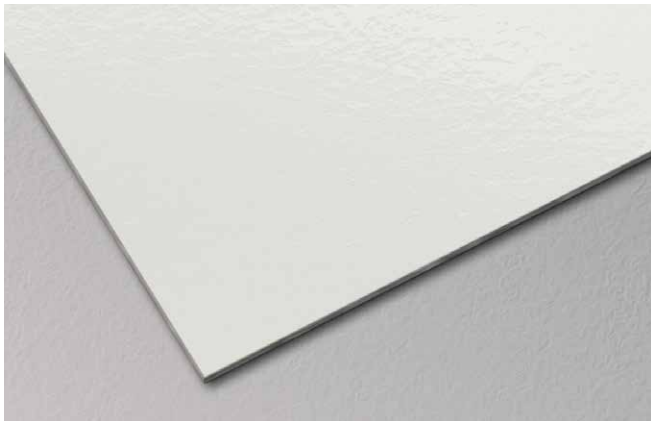
Elyplan Super HF is the product with the best surface finish.

It combines high aesthetic appeal with a highly competitive price, compared to other similar products made via discontinuous lamination.
It can be produced with or without gelcoat protection and with WOVEN ROVING reinforcement, in order to increase its mechanical performances.

NO BAC AVAILABLE

ELYPLAN® FIRE-PERF

Fire performance



The wide fibreglass laminates Elyplan Fire-Perf range, developed to meet specific requirements, complies with various European and international fire safety standards. These products are ideal for the construction industry, electric vehicles, prefabricated buildings, unit load devices, and land and sea transport.

Elyplan FP400 is the thinnest and lightest laminate currently on the market, with a thickness of just 0.8 mm, certified with a fire reaction class of B-s1,d0.

EN 13501-1			
CLASS	THICKNESS	BP CODE	VALUE
B	0.8 mm	Elyplan FP400	B-s1,d0
B	2.0 mm	Elyplan FP220	B-s1,d0
C	2.0 mm	Elyplan FP210	C-s2,d0
D	1.5 mm	Elyplan FP230	D-s2,d0

UN-ECE R118		
CLASS	THICKNESS	BP CODE
7, 8	1.2 mm	Elyplan FP300
6, 7, 8	2.0 mm	Elyplan FP100
6	> 1.1 mm	Elyplan FP100
6, 7, 8	2.0 mm	Elyplan FP110

BS 476-7		
CLASS	THICKNESS	BP CODE
1	2.0 mm	Elyplan FP220
2	2.0 mm	Elyplan FP230
3	1.5 mm	Elyplan EG

NOTE: Tests on our materials are carried out exclusively on the laminate, without any back support.

ELYPLAN® WALL

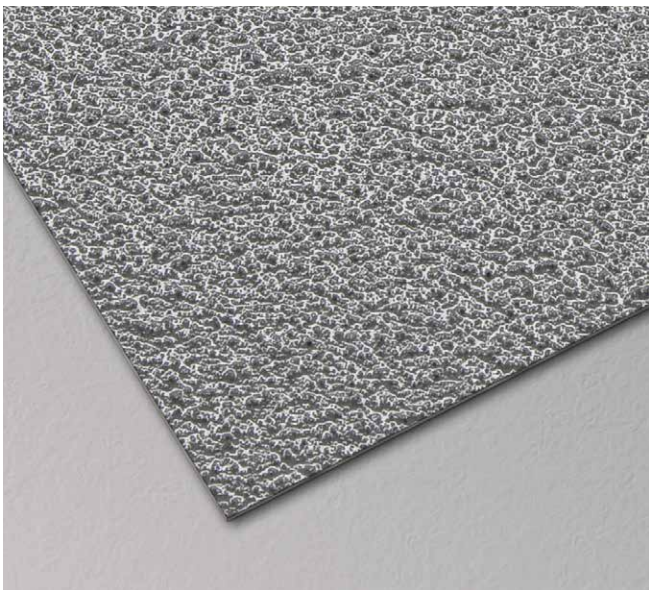
Thanks to its high-resistant plaster looking, the new Elyplan Wall range, rolls and sheets produced by continuous lamination, is ideal for external walls of prefabricated houses and fences.

The product combines high mechanical properties with an appealing aesthetic finish.

Elyplan Wall is made with premium UV-protected resins with outstanding weathering performances.

ELYPLAN ANTI-SLIP

Antislip



The Elyplan Anti-Slip range, rolls and sheets produced by continuous lamination, is ideal for floors to prevent slipping of vehicle loads.

The product is available in two different finishes:

- 'XT' coarse grained;
- 'MEDIUM' medium grained.

Both products ensure an excellent value of slip resistance, due to the addition of a special mineral granulate (R13 class tested according to DIN 51130:2014-02). Both products have passed the abrasion resistance test according to D4060-ISO 9352, ensuring a long life cycle.

Elyplan Anti-Slip is available in different thicknesses, on request with or without WOVEN ROVING. Standard colour grey; other colours on request.

ELYPLAN® EXTRA-GLASS

Impact strength

Elyplan Extra-Glass is designed to bring together very special characteristics in a single product, such as lightness, given by low specific weight, and high mechanical strength, coming from the high percentage of glass content.
Elyplan Extra-Glass is suitable for vehicles that require high impact resistance, weight saving and high aesthetics.
Available in rolls and sheets.
Available in version FP R118.
Available in version 48% bus roofs approved.

NO BAC AVAILABLE

ELYPLAN® EXTRA-GLASS Biaxial

Elyplan Extra-Glass Biaxial is the high end product in terms of mechanical strength and impact resistance. Due to the usage of biaxial-non-crimp fabrics, the glass fiber reinforcement can be placed exactly in the direction where it is needed for the application.

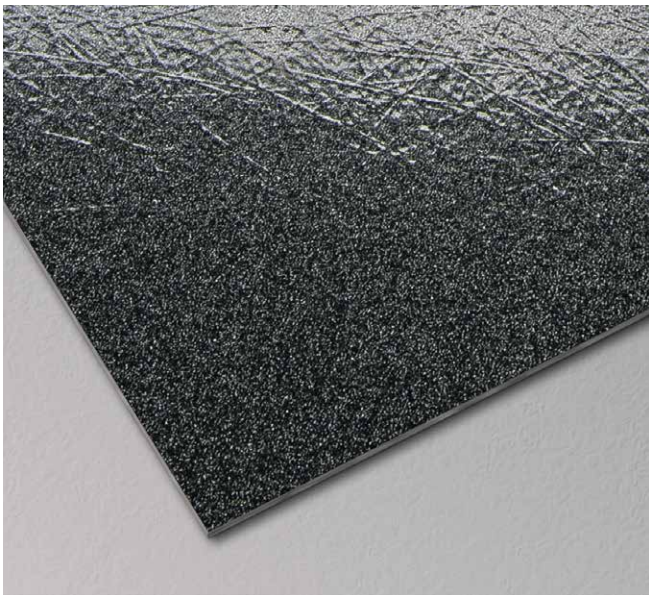
The high and well-balanced glass content lead to a very low thermal expansion, reduction of thickness and ultimately weight.
It is the best product for reaching the next level of engineering of sandwich panels and other applications.

NO BAC AVAILABLE

ELYPLAN® BICOLOR

Available in the whole range of Elyplan family, Elyplan Bicolor is thought and created to combine two different colours on the same laminate, for aesthetic needs or functional requirements, like light transmission in commercial vehicles roofs.

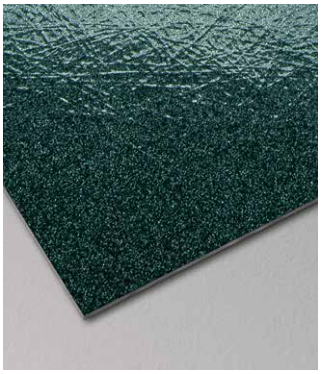
ELYPLAN® METALLIC

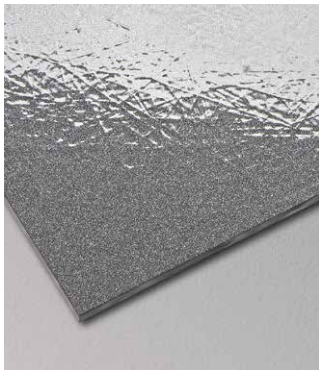


Elyplan rolls and sheets in metallic colours produced with continuous hot laminating process are available in the Std, Super or Super HF version.

READY TO USE: the product ensures excellent aesthetic quality, which means coating or painting can be avoided.

It comes in a wide range of colours, upon evaluation with our sales team. Available in various thicknesses, with optional MAT.





ELYPLAN® DESIGN

Natural look

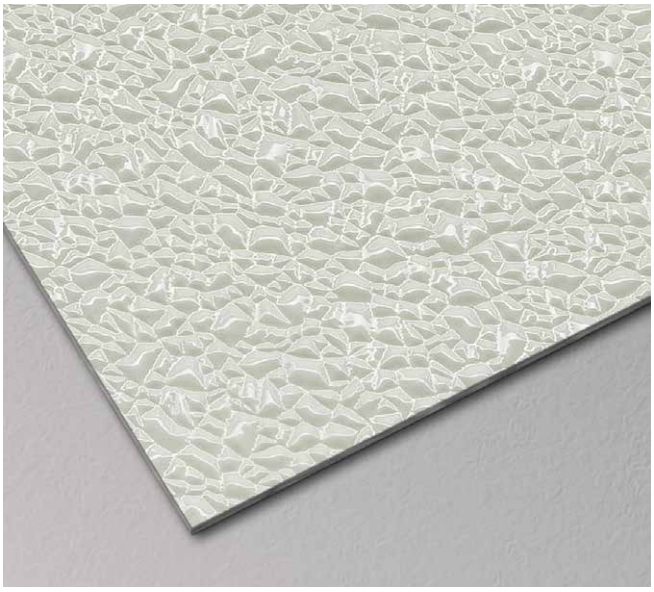
The new Elyplan Design collection wants to revolutionize the aesthetics of grp laminates.

This innovative composite product provides a direct bond between the decorative PVC layer and the fiberglass reinforcement: this means that the additional weight of the adhesive coatings is not necessary. This solution, together with its optimal resistance and the absence of odor, makes Elyplan Design ideal for new concept floors.

Elyplan Design is characterized by the bonding to Elyplan fiberglass laminate of PVC, directly on the production line.

Elyplan Design is characterized by the total absence of odor, thanks to the innovative “styrene free” resin used in the product. Elyplan Design ensures a quick installation and time saving. It is ideal for interior application.

ELYPLAN® EMBOSSED



Elyplan Embossed is well-known and appreciated for its particular finish. It has a different design from the other laminates, therefore it can be used in numerous applications, such as cold rooms and building applications and in medical environments, where its easy washable surface is much appreciated.

Elyplan Embossed is supplied with or without gelcoat and has the same technical characteristics of Elyplan Std. It is suitable for refrigerated trucks too.

INTERNAL SURFACE

Brianza Plastica offers 5 solutions for different bonding methods

The combinations on the side are just a suggestion: we recommend to make trials before the final use.

INTERNAL SURFACE	TYPE OF LAMINATE	BONDING WITH RESINS	BONDING WITH GLUE
SMOOTH	Elyplan - Elycold	NO	YES
ROUGH	Elycold	YES	NO
CORONA TREATMENT	Elyplan	NO	YES
MECHANICALLY SANDED	Elyplan - Elycold	YES	YES
FILM GROOVED	Elycold	NO	YES

GENERAL CHARACTERISTICS

Resins

Brianza Plastica uses the best available resins on the market. The use of ortophthalic resins for the core and isophthalic resin for the gelcoat, helps the laminate to be more flexible and resistant.

Packaging

The Elycold rolls are suitably housed in steel cradles, or wood and sintered polystyrene cradles.

The Elyplan rolls are not only transported on pallets, but also travel freely on wooden supports provided directly within the transport vehicle.

The Elycold & Elyplan sheets are transported on custom-made pallets duly built with continuous wooden surface, in order to protect them in the best possible way. The pallet is closed with fixing straps and cardboard.

Identification and traceability

To guarantee product identification and traceability, a suitable serialised identification tag (barcode) is affixed to each pallet and individually to each roll.

Polystyrene and wood cradle

Steel cradle (to return)

Made-to-measure standard pallet with continuous wooden surface

CTL 135/EN REV. 15 10.25

ELYCOLD®

Grp rolls and sheets produced
by discontinuous lamination

ELYPLAN®

Grp rolls and sheets produced
by continuous lamination

Brianza Plastica

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IQNET RECOGNIZED CERTIFICATION
ISO 9001:2015
CERTIFIED QUALITY
MANAGEMENT SYSTEM

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Certificate nr 106
O.U. Carate Brianza