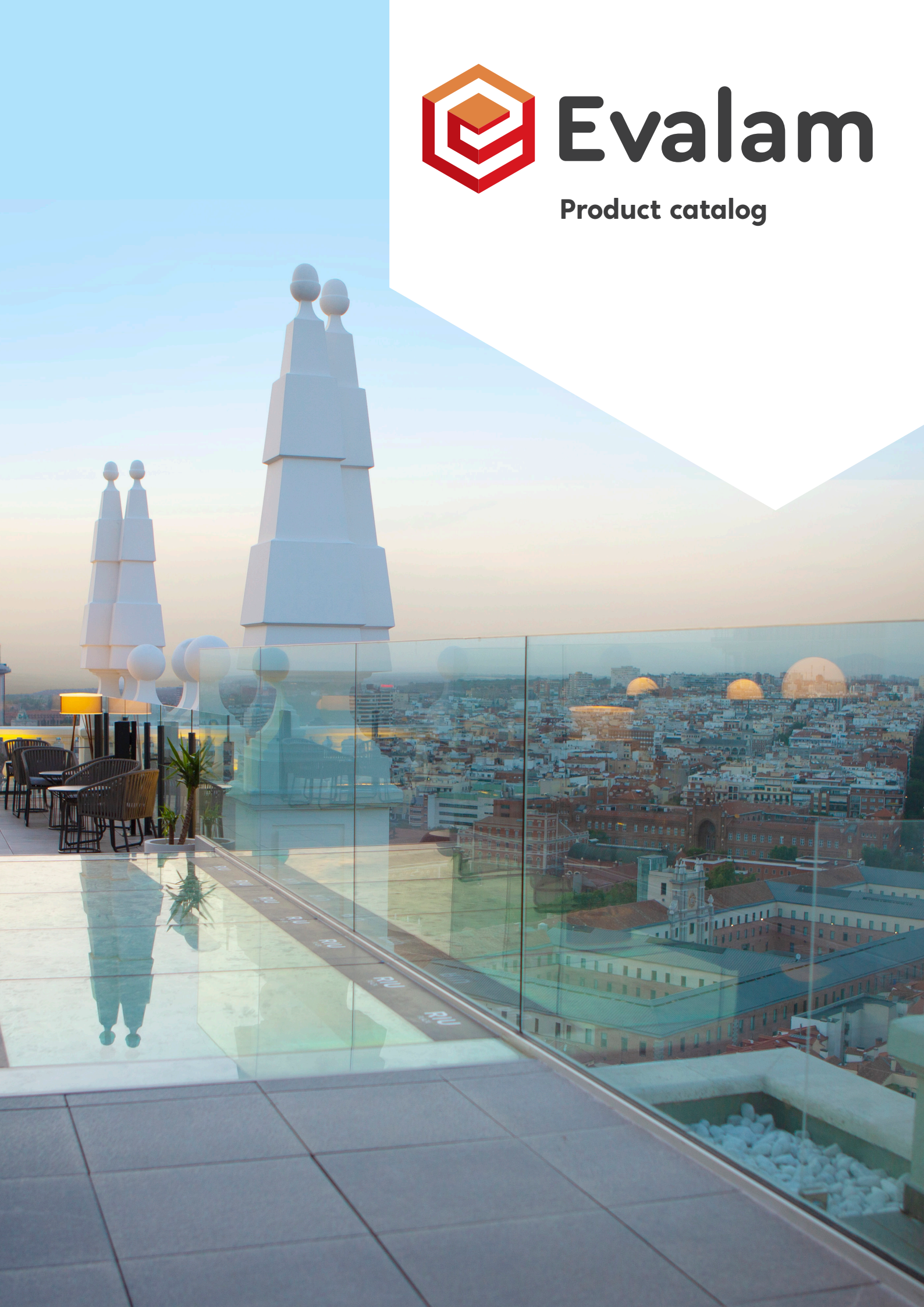




# Evalam

Product catalog



# Index

4

## Company

Pujol Group  
Evalam

6

## Services

Technical department  
Evalam Academy  
Laboratories  
Architectural Technical  
Department

10

## Evalam solutions

12

## Transparent Series

Evalam Visual  
Evalam N-Fluent  
Evalam 80/120

18

## Color series

20

## Other Products

AB-AR  
Tech Insertions  
Insertions  
Pet Digital Printing

26

## Consumables

Vacuum system with  
silicone bags  
Single use vacuum system  
Teflon mesh  
Accessories  
Tools

28

## Laboratory equipment

Impactor  
Humidity test  
Electric heater for high  
temperature testing  
UV Sensor  
Peeling





## The guarantee and the quality of Pujol Group

EVALAM is part PUJOL GROUP, the constant increase of the Group since 1911 is the result of a clearly compromised philosophy with the innovation and quality.

PUJOL GROUP is specialized in the development of machinery & consumables for EVA laminated glasses. The Group comprises three oven manufacturers, manufacturers of EVA for architectural use and other consumables, all part of the Group's 360-degree strategy.

Our human team is made up of 70 highly trained professionals each specialized in their respective fields and at the service of more than 3,000 customers distributed around the world in more than 100 countries that have accompanied us in our growth and international expansion



## We are manufacturers of the international reference EVA for architectural use

For the last 15 years, Evalam has designed and presented to the market solutions for its use in homes and buildings. This has made us the international reference company EVA for architectural use.

We are committed to designing products that help improve the performance of glass in facades, allowing adaptation to the requirements of end users in terms of comfort, protection, and service life.

Evalam has been the chosen solution to be installed in a multitude of reference projects around the world. We can find its application in hotels, homes, leisure centers, educational centers or means of transport, and either for use indoors or outdoors.



# Services & guarantees

Choosing EVALAM products means accessing a product with excellent qualities, benefiting from unique advantages in the market and means accessing the widest range of services on the market. This is possible thanks to our eagerness to invest in permanent improvement that allows us to always be one step ahead.

## Controlled quality

At Evalam we employ exhaustive quality control systems to ensure and control the quality of our products throughout the manufacturing process – start to finish – using the most advanced technology.

This quality control system has earned us ISO 9001 certification.



## Own laboratories

Our two own laboratories are equipped with the latest machinery that allows us to guarantee both the quality of our products and to verify compliance with the regulations in the laminated product.

In our Evalam product quality laboratory, we analyze our products through demanding tests to verify that all the products we develop and all the batches we manufacture reach the level of excellence required and expected by our customers.

Our testing laboratory has been designed to carry out the necessary testing of Evalam laminated glass to ensure it complies with current regulations and our quality standards.

The testing laboratory and the laboratory engineers are at the service of our clients, to check the quality and carry out tests of their laminated products through humidity tests, temperature tests, radiation tests, peeling tests, pendulum impact resistance, ball drop resistance, UV filtering or silicone compatibility

## Architectural Technical Department.

We are committed to designing products that help improve the performance of glass, allowing it to adapt to the requirements of end users in terms of comfort, protection, and useful life. It is for this reason and to give our customers differentiated added value that we have our architecture department, which currently offers support at the structural calculation level in the appropriate dimensioning of the glass depending on the data provided by the client, for this we also have the most advanced computer tools.



## Direct Factory Warranty

Evalam is a company that belongs to the Pujol Group. Being part of this group brings a series of benefits, such as having guaranteed quality and being backed by more than 110 years of experience in the sector. Our products are made in Europe. Evalam designs and produces in Galicia (Spain), which means greater peace of mind for our customers because the products pass stringent quality controls.

## Evalam Academy

Knowledge is at the heart of our growth and that's why we also provide training for our customers on the lamination process.

Training courses are given at our plant, but can be offered at our customers' facilities as well.



## The Evalam courses helps customers to:

- 1 Improve lamination processes by reducing manufacturing waste.
- 2 Depth knowledge about product innovations.
- 3 Stay one step ahead and set their company apart from the rest.
- 4 Build on prior knowledge and increase employee specialization.
- 5 Expand their business with new opportunities.
- 6 Answer their questions about the product range.

# 8 Reasons to choose



Evalam belongs to the Pujol Group, the only global holding company specializing in the development of laminated glass with EVA. It is made up of three manufacturing companies that allow a 360o global strategy, providing reliability to the process and the product supplied to our customers.



# Evalam Solutions

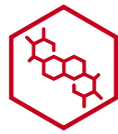
## Benefits of EVALAM products

Offering the best products does not mean applying the advances of others, or simply following the trends of the sector. For Evalam it means committing to research and the creation of technologies based on our designs, for that we offer unique and innovative solutions.



### Transparency

All our products are characterized by having the best transparency for each of the different segments that are destined.



### Crosslink

Our products have a high percentage of crosslink, which provides greater durability and stability than any thermoplastic.



### Resistance to moisture

Our products have been developed to have a strong resistance to moisture. This avoids the dreaded delaminations that are generated when the glass is installed with an open edge in weather conditions or in unfavorable environments.



### UV filtering

EVALAM products have UV filtering at low and high waves, they reduce the aggression of the effects that ultraviolet rays have on the degradation and loss of color of furniture, wooden floors, fabric, plastics and bodies that are behind the glasses



### High temperature adhesion

Adhesion of the product to the laminated glass, which ensures that in normal environmental conditions the physical, the chemical & the mechanical properties will not suffer alteration.



### Acoustic isolation

Designed to provide a plus of comfort and harmful stress situations derived from the acoustic pressure that the human being supports.



### Thermal shock

Our products are tested to withstand wide ranges of temperature difference, which prevents negative consequences on laminated glass.



### Protection of people & property

Laminated glass provides a plus of safety for people and goods. Evalam products have been subjected to pendulum and ball drop tests.



### Adhesión

It provides resistance and is suitable for glass that supports stress or mechanical fatigue, such as doors, stairs or exterior facades.



### Fire Reaction

Fire safety in buildings for public use and private use.



### Extra hardness

The increased rigidity of the product has been developed to help lamination professionals. A greater the hardness of the product, means less fluidity of the material and therefore less time spent cleaning edges.



### Special measures

Our factory is ready to produce rolls with special widths on demand.



### 2,60 meters wide

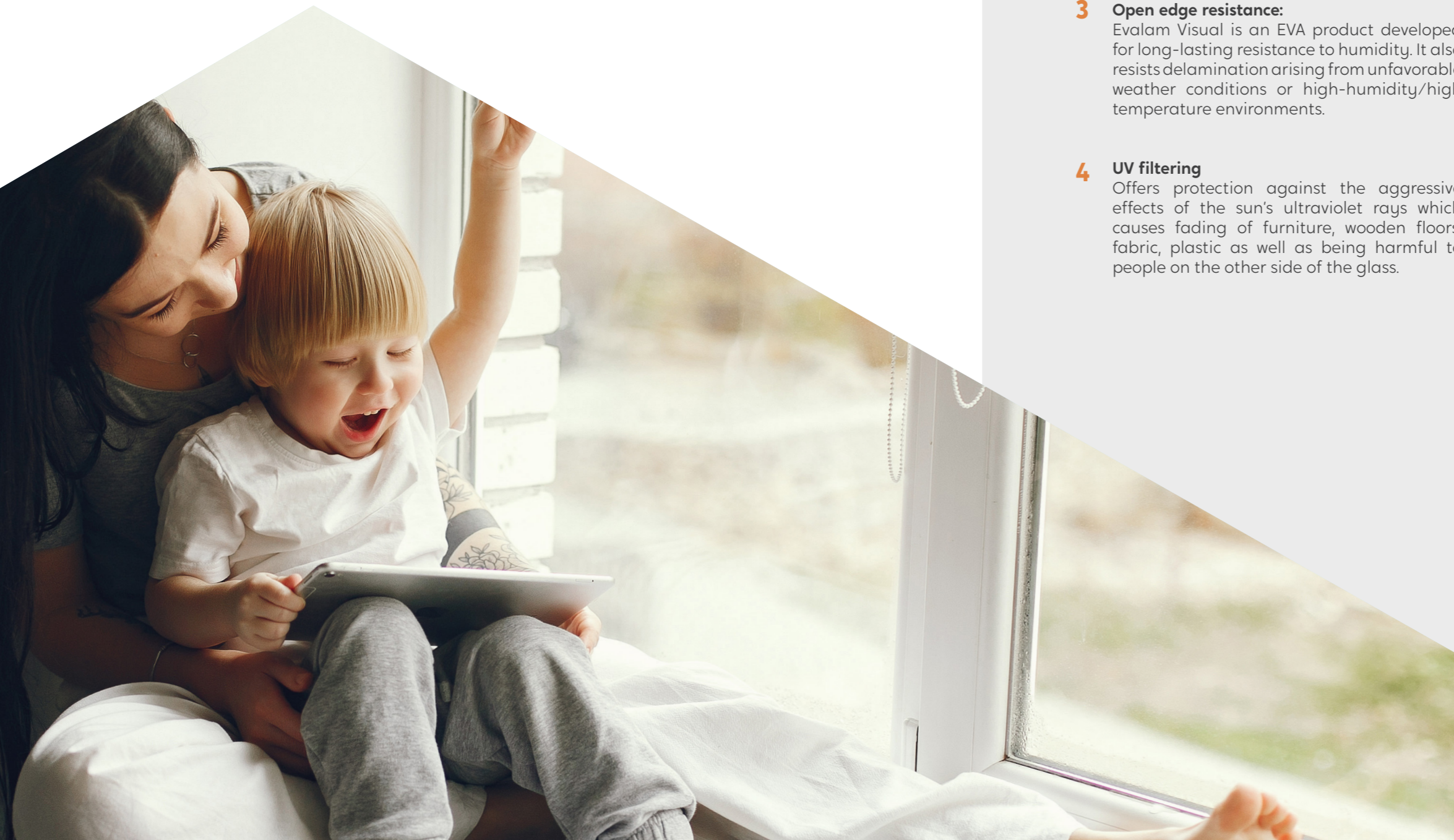
Thanks to this feature, production costs are saved due to product losses and it allows access to large-format projects.

# Evalam Visual

## The best transparency

Evalam Visual is an EVA film developed for lamination experts looking for a product with high added value. Its excellent and incomparable transparency, high adhesive strength, superb acoustic insulation performance, and a crosslinking index like no other on the market make it the perfect product.

These characteristics make Evalam Visual the ideal lamination solution for areas where optics and durability are essential requirements.



## Main features

- 1 Transparency:**  
Unbeatable transparency and optimum durability. Suited for use with extra clear glass for balustrades, curved glass, greenhouses, canopies, or stairs. In addition, Evalam Visual is an EVA product suitable for all applications requiring a high interlayer thickness but which still require maximum transparency and the final optical properties offered by laminated glass.
- 2 87% crosslinking index:**  
Ensures that glass laminated with Evalam EVA will have a durability and stability that is far superior to any other thermoplastic material.
- 3 Open edge resistance:**  
Evalam Visual is an EVA product developed for long-lasting resistance to humidity. It also resists delamination arising from unfavorable weather conditions or high-humidity/high temperature environments.
- 4 UV filtering**  
Offers protection against the aggressive effects of the sun's ultraviolet rays which causes fading of furniture, wooden floors, fabric, plastic as well as being harmful to people on the other side of the glass.
- 5 Adhesive strength:**  
Adhesive strength is greater than 140 N/cm, ensuring that, under normal environmental conditions, the physical, chemical, and mechanical properties of the glass will not be altered.
- 6 Acoustic insulation:**  
High noise reduction, a quality not offered by other standard thermoplastics. This feature of Evalam Visual provides greater comfort, minimizing those stressful situations associated to noisy environments
- 7 Protection for people and property**  
Evalam Visual is an EVA product that meets European and American standards and others applicable worldwide. This EVA product protects people and property behind the laminated glass composition. Our testing processes take into account all the areas covered by the standard for pendulum impact testing to ensure that people are protected. We also conduct ball drop tests to assess glass behavior in forced entry and impact situation.
- 8 Lateral and vertical load resistance:**  
Evalam Visual has earned the maximum shear modulus classification, making it the perfect interlayer to ensure stability and withstand wind and snow loads on façades and canopies.
- 9 Fire resistant:**  
We've obtained certification for Evalam Visual's resistance to fire and high temperatures.

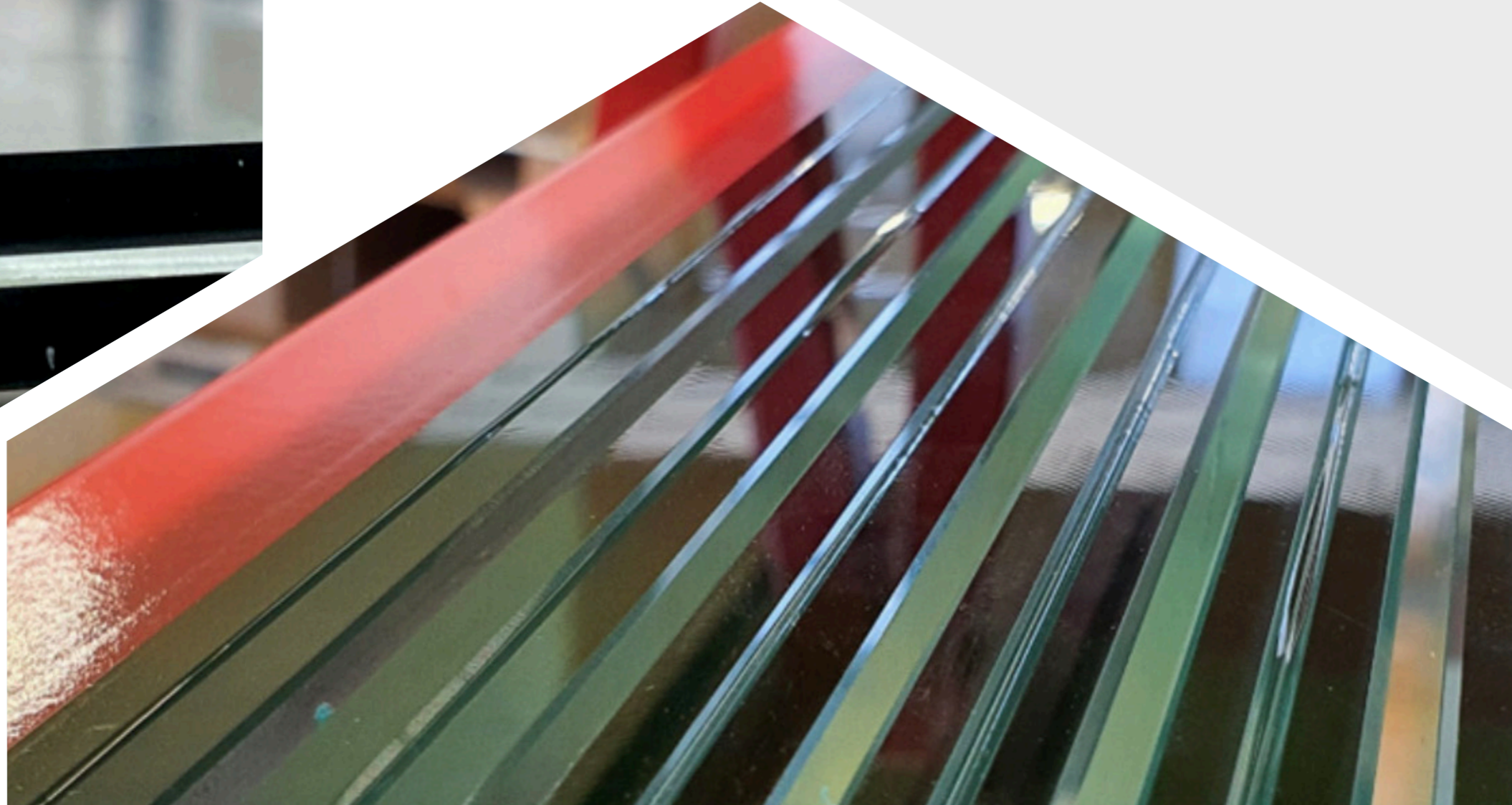
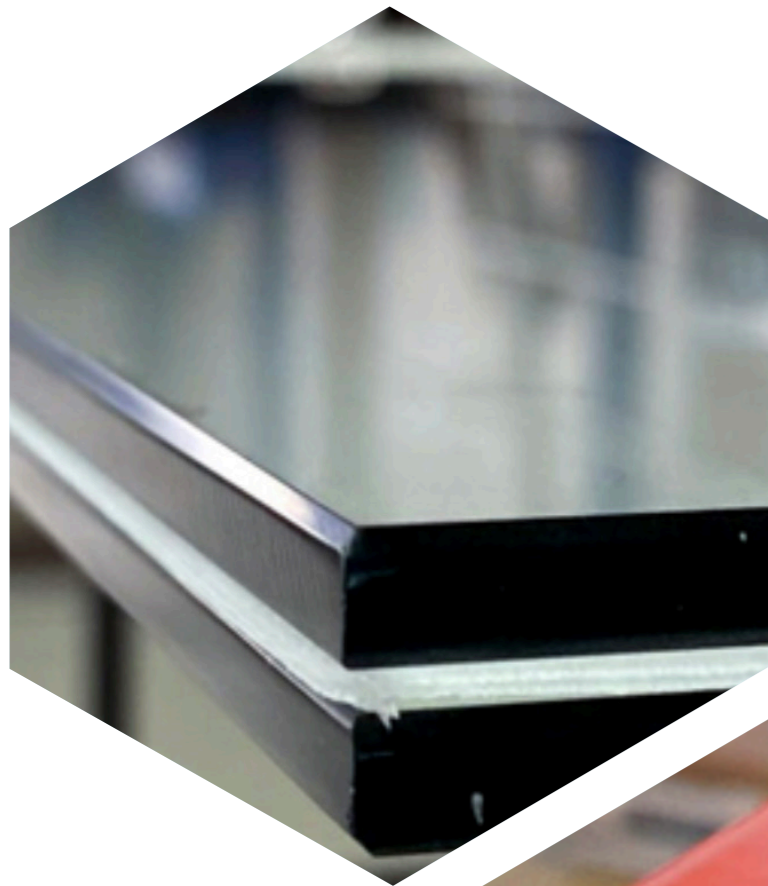
# Evalam N-Fluent

## Perfect finishings and minimal edge cleaning

Evalam N-Fluent is an EVA product designed to minimize the overall costs of the post-lamination process.

Its innovative formula prevents product fluidity and saves time and costs in edge cleaning.

This in turn translates into direct benefits for the processor.



### Main features

#### 1 Reduced edge cleaning:

Its unique and innovative formula adds greater rigidity, lowering the fluidity of the product. This characteristic lessens the fluid effect of the EVA over glass edges and also reduces its nominal thickness.

#### 2 UV Filtering:

Offers protection against the aggressive effects of the sun's ultraviolet rays which causes fading of furniture, wooden floors, fabric, plastic as well as being harmful to people on the other side of the glass.

#### 3 Crosslinking greater than 85%

Ensures that glass laminated with Evalam EVA will have a durability and stability that is far superior to any other thermoplastic material.

#### 4 Greater impact resistance:

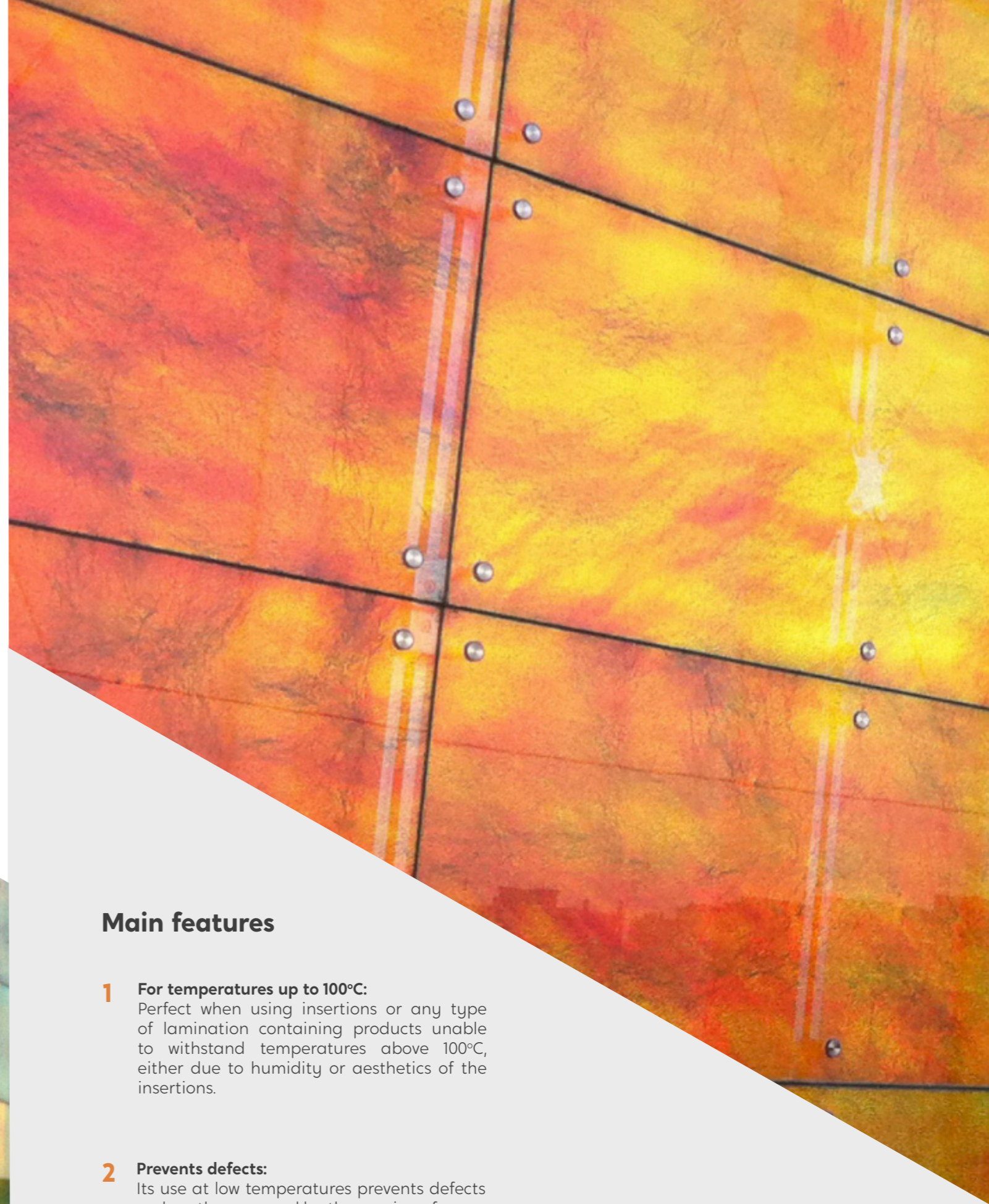
This material features added rigidity to make a safer glass that protects the people and possessions located behind the laminated glass composition.



# Evalam 80/120

## The ideal solution for insertions

The Evalam 80/120 range has been developed for laminations requiring working temperatures not exceeding 100°C, such as decorative elements which use organic products. Evalam 80/120 preserves the decorative effect of the insertions impeding the fading of color or texture owing to high temperatures, also ensuring its adhesive and safety properties at lower processing temperature.



### Main features

- 1 For temperatures up to 100°C:**  
Perfect when using insertions or any type of lamination containing products unable to withstand temperatures above 100°C, either due to humidity or aesthetics of the insertions.
- 2 Prevents defects:**  
Its use at low temperatures prevents defects such as those caused by the gassing of organic paints, alterations in the color of certain papers or waves in low-micron PET.

# Color

## Durability and color uniformity

Evalam Color is an EVA product developed for temperatures in the 120°C range without causing changes in color near the edges, ensuring greater durability of the color over time. This EVA product offers superior quality, setting itself apart from other colored thermoplastic materials processed at only 80°C which prioritise color uniformity over material durability.

Thanks to Evalam Color and the technology used in the laminating ovens of Hornos Industriales Pujol both objectives are achieved: durability and uniform color.

Evalam is the first company of the sector to offer a range of 5 colors that meet European 12543-4:2011 standards for outdoor installation. Evalam comes in the following colors: white, super white, matte, acid white, and black.

Nine base colors are also available: fuchsia, red, violet, yellow, orange, blue, dark green, green and grey: by mixing these nine colors more than 300 shades can be achieved.



## Main features

- 1 Withstands temperatures of 120°C:**  
Better uniformity and has no loss of tone at the ends.
- 2 Longer duration:**  
Greater resistance and color maintenance compared to other manufacturers in the market..
- 3 Colors certified for exterior use:**  
Four shades of white and one black shade, which carry European certification for outdoor use.
- 4 More than 300 different shades:**  
Different combinations of the 14 basic colors in the Evalam Color range allow for a large chromatic assortment.

# AB-AR

## Developed for multiple security solutions

AB-AR is a structural interlayer developed by EVALAM with high-performance mechanical resistance that provides post-breakage passive safety when tempered glass is used. AB-AR is highly efficient above 50°C, which makes it the perfect solution in areas where these temperatures are commonly seen for the greater part of the year.

AB-AR is a technical solution that offers compositions that are 50% lighter than glass-only solutions, obtaining the same resistance in applications that require extra security, especially in public spaces or with high linear loads. These qualities make AB-AR the ideal solution for structures of all kinds, whether for use in glass facades, structural windbreaks, walkable floors, stairs, ceilings, railings, as well as anti-vandal security.

## Main features

- 1 Good post-breakage Behavior**  
Even though both sheets of glass are tempered, the composition does not lose its rigidity when broken
- 2 Resistance to impact in crowded areas**  
Breakage of one or more components does not affect the laminated glass structure, protecting people who happen to be in the vicinity. AB-AR's unique characteristics ensure that the glass remains stable against impact caused by a crowd, even after breakage
- 3 Lighter**  
It is a technical solution that weighs 50% less than glass-only compositions with the same strength.
- 4 Extra safety**  
Is the ideal solution for structural solutions of all kinds: glass façades, structural windbreaks, stairs, ceilings or balustrades, as well as anti-vandal security.
- 5 UV filtering**  
By combining AB-AR and Evalam in lamination, the composition provides UV filtering and protects the people and objects behind it.
- 6 Improved behavior at temperatures above 50°C**  
Ionomers lose their characteristic strength and rigidity properties when this threshold is exceeded. ABAR does not.
- 7 Does not require climate-controlled conditions for its maintenance**  
The only product with structural performance classified as Family-2 and with post-breakage stability without the need for special climate control in storage.
- 8 No expiration**  
AB-AR does not lose product qualities over time. This means that it can be stored without fear that the passage of time will affect its yields

# Insertions

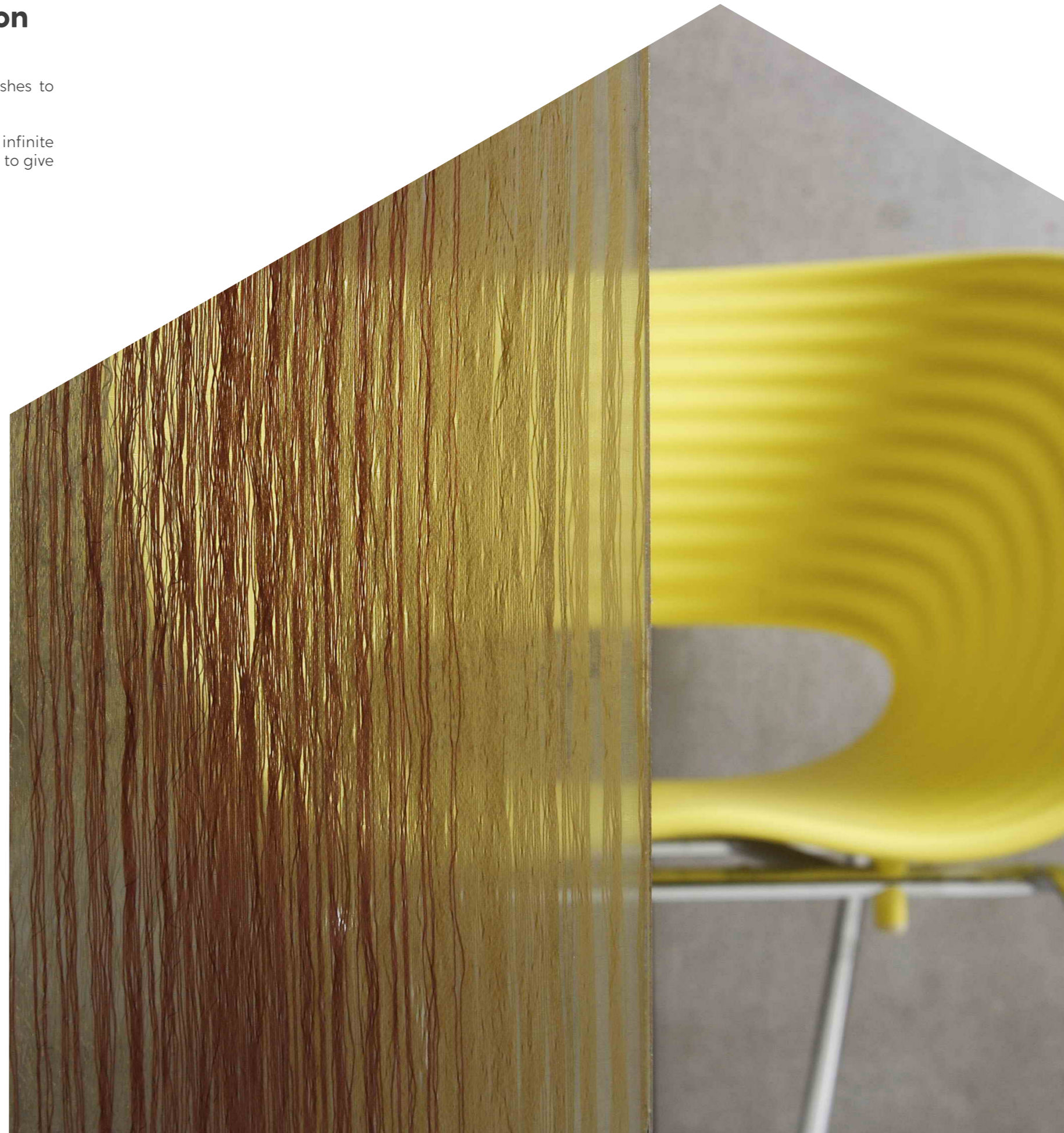
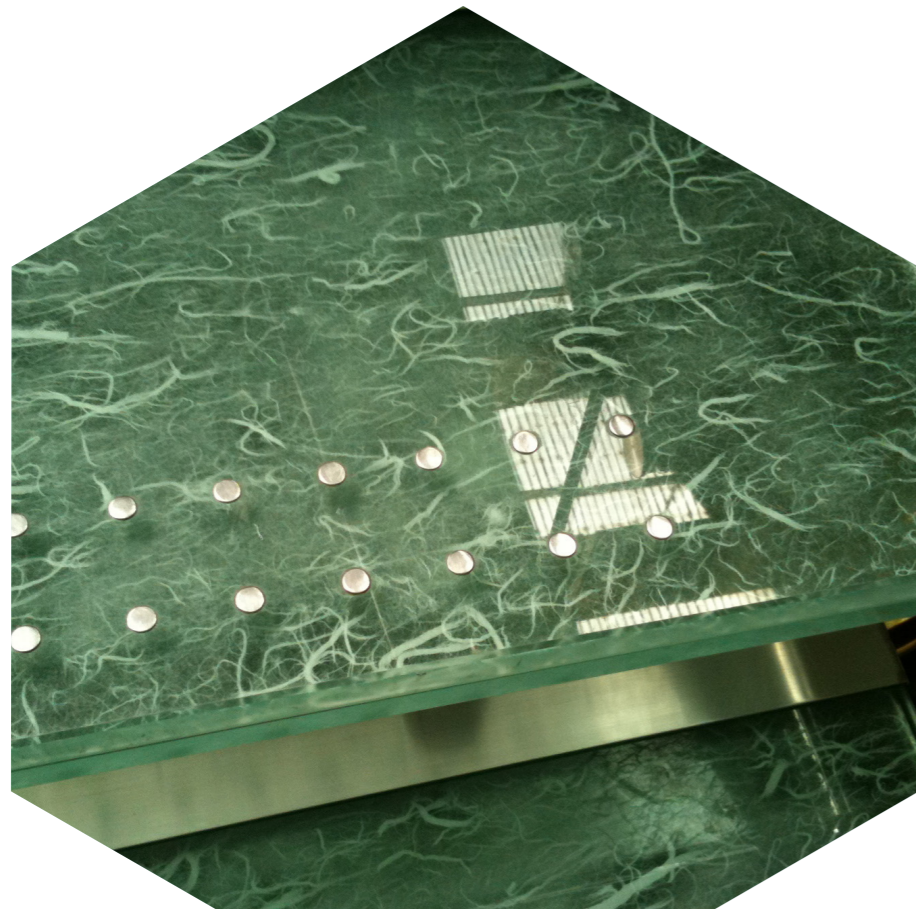
## Imagination and creative expression

The wide assortment of Evalam insertions ranges from fabric finishes to metallic mesh.

There is an extensive range of encapsulation options allowing infinite possibilities for architects, designers, and decorators; a powerful tool to give free rein to one's imagination and creativity.

## Main features

- 1 A wide range of finishes and textures**  
Can be adapted to any decorative style imaginable.
- 2 Perfect finishes**  
When combined with Evalam 80/120, and low-temperature processing, defects in resulting compositions are prevented. These are the defects arising from the gassing of organic paints or defects associated to changes in color that appear in certain papers or waves in low-micron PET.





# Pet Digital Printing

Evalam offers a PET film for use with high resolution digital printing subsequently laminated in combination with a wide range of bases: **transparent, white, translucent.**

PET is available in different sizes to meet a wide variety of customer needs

## Main features

- 1 Available in different sizes and thicknesses.
- 2 Available in transparent, opaque white or translucent PET.
- 3 High resolution images can be printed on it for custom designs



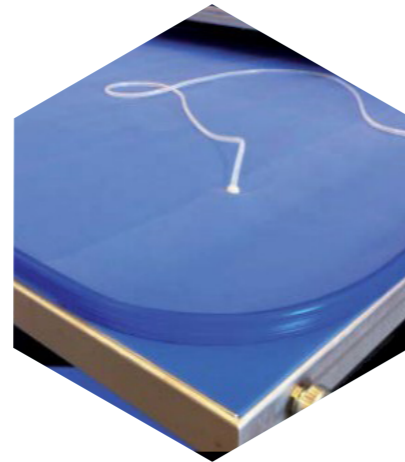
# Consumables

To be used in conjunction with the range of machines offered by Hornos Industriales Pujol, Evalam offers an extensive assortment of consumables to help you achieve the best results in laminated glass:

## Vacuum system with silicone bags

### Vacuum system with silicone closure

Silicone bag that withstands laminating temperatures. Its main function is to contain the sheets of glass during lamination; it features an omega ( $\Omega$ ) shaped closure to ensure a quick, simple and effective closure of the vacuum bag.



### Single use vacuum system

Complete and reliable single-use vacuum bag system. This system is made up of different components:

- **Single use vacuum system:** This is a double-sided sealing tape that tolerates temperatures up to 205°C and is used for sealing single-use vacuum bags.

- **Filter fabric**

- **Valve for single use bag:** Self-piercing valve for use with connections to single-use vacuum bag.



## Teflon mesh

Teflon blanket made up of grids that allow air to flow freely outside the vacuum bag. Teflon's non-stick properties mean that any EVA spills during the laminating process are very easy to clean.



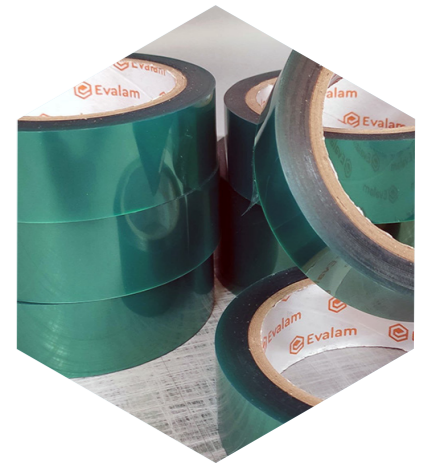
## Accessories

- **Adhesive tape:** Especially designed to withstand temperatures up to 180°C. These are used during baking to hold two or more pieces of glass together and/or to seal the edges of the glass and prevent excess EVA spilling during the lamination process and spattering the inside the vacuum bag.

- **Neutralizer:** Liquid solution, available in one-liter containers for optimum glass cleaning..

- **Silicone:** Transparent silicone for vacuum bag repair

- **EVA bars:** EVA sealing bars that are fully compatible with all EVA products developed by Evalam.



## Tools

- **Thermocutter and replacement blades:** Designed for easy and effortless cutting. Operates at precise temperatures according to the material to be cut. Cuts and seals edges with EVA with minimal smoke and no burnt edges

- **Polishing machine:** Get a perfect finish on edges and surfaces of laminated glass easily, rapidly, and conveniently. Cleans glass to a perfect and precise finish after the use of the thermocutter to remove excess EVA. With the rubber disc, excess EVA is eliminated from laminated glass, without scratches or abrasions on the glass surface.



# Laboratory equipment

We offer a complete range of devices and machinery so that glass processing companies can carry out their own tests on laminated compositions.

## Impactor

This device is used for measuring impact resistance according to the Spanish building code UNE-EN 12600: 2003 "Glass for buildings. Pendulum impact testing. Impact testing method and classification for flat glass".



## Humidity test

Humidity with condensation testing device in accordance with section 6 of the UNE-EN ISO 12543-4: 2011 Standard "Glass for buildings. Laminated glass and laminated safety glass. Part 4: Durability testing methods".»



## Electric heater for high temperature testing

This high-temperature testing device used in accordance with Section 5, Procedure A of the Spanish building code UNE-EN ISO 12543-4: 2011 "Glass for buildings. Laminated glass and laminated safety glass. Part 4: Durability testing methods".



## UV Sensor

This device is capable of measuring and displaying the rejection value of UV, IR and Visible Light Transmission. It is a self-contained and self-calibrating light source that does not require manual adjustment. To operate, just plug it into the power supply, turn on the switch and place the solar protection film in the opening. The resulting performance data will appear on the screen.



## Peeling

This machine is designed to obtain rapid and reliable data on traction, compression, bending, and fatigue in EVA or PVB laminated glass.







"Our ambition is to get the best solution for each need, there is no limit in glass creation"

Jorge Pujol  
CEO Pujol Group



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