RESMAN GLASS PVC ALUMINUM

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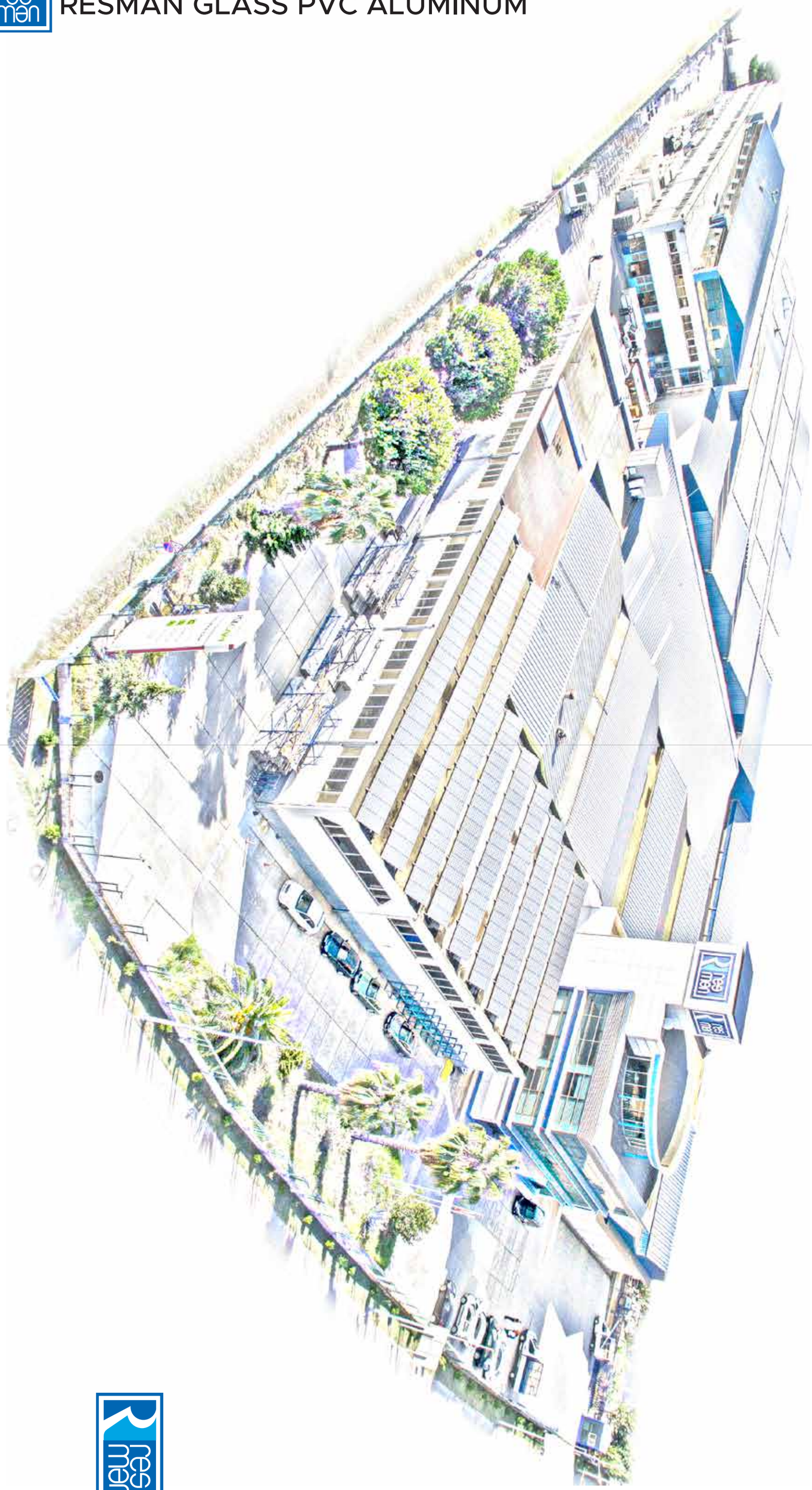


HISTORY OF RESMAN

1957

OSMAN HAŞIL AND RESUL TÜFEKÇİ
STARTED A PARTNERSHIP UNDER THE NAME OF RESMAN

1968

RESMAN'S ENTRY INTO THE GLASS INDUSTRY

1992

THE OPENING OF THE FACTORY IN SAMSUN ORGANIZED INDUSTRY

1992

COMMISSIONING OF THE JUMBO INSULATED GLASS UNIT CUTTING LINE
AND THE INSULATED GLASS UNIT PRODUCTION LINE

1995

ESTABLISHMENT OF GLASS PROCESSING FACILITY

2003

BEGINNING OF ALUMINUM JOINERY PRODUCTION

2005

BEGINNING OF PVC DOOR AND WINDOW SYSTEMS PRODUCTION

2010

COMMISSIONING OF THE TEMPER PRODUCTION LINE

2015

INDUSTRY 4.0 INVESTMENT
COMMISSIONING OF THE AUTOMATIC PRODUCTION LINE

2016

OPENING OF RESMAN ISTANBUL EXPORT OFFICE

2021

COMMISSIONING OF THE LAMINATION PRODUCTION LINES

A History Dating Back To 1957, Over 65 Years of Experience

Since 1957,
Always on the Pursuit of Perfection

With the commercial adventure that starts in Samsun 1957, we have been in production since 1992 in our 21.000 m2 facility in which we are able to process all kinds of flat glass.

Since the time we set our first IGU line and Jumbo cutting machine up, we have continuously increased our quality and capacity of developing technology. We have combined our experience with the trust we have gained.

We have not limited our investment to glass production only. As they both are complementary in the application of glass for indoors and outdoors; while we had started aluminum facade and door-window production in 2003, we started PVC profile and door-window production in 2004. Thus, we have become a solution partner that can meet the whole needs of a project under a single roof.

After having started production of windows and facade, we started to work on the projects by analysing the aluminum material for facade and develop solutions the right glass selection.

We make static, thermal breakage risk, wind load and performance calculations for projects. We offer the right types of glass solutions for projects' requirements, we supply samples and mock up support requested for projects.

With our fast supply, product and service variety, after-sales support and our collaboration with our solution in various regions of the World as well as many living areas we touch in the domestic market.

We added our automation line, which is sole in Turkey and has the capability of tempering on airbag starting from 2mm, among the new investments we make in tandem with developing technology and depending technology on the increasing needs of the projects which we offer solutions.

In order to provide to our customers more efficiently, we have merged our powerful and flexible logistics service and glass stock, which is shapped according to customer demands, under Resman Flat Glass Company as from 2005.

In the same period, we aimed to strengthen our export policy by opening our office in Istanbul, a regional hub for architecture and engineering. We started to work on a projects basis by meeting the whole needs of the projects according to demand in the overseas market where we already exist with product sales.

Today, Resman touches on different architectures of different cultures at many points in almost all continents abroad, in addition to the success, it has achieved with its years of experience and accumulated business partners in the country.

ARCHITECTURAL GLASS AS BASIS

WHY WE CALL AS FLOAT GLASS?

80% of a mixture which consists from 60% quartz sand 20% soda - sulfate and 20% lime - dolomite, and 20% recycled glass are melted in the furnace at 1600°. Then, the float glass is formed by floating this melted glass over a tin pool in a line that is gradually reduced to room temperature. Plate glasses are formed by making cuts of 6 m and below perpendicular to the continuously flowing glass on this pool. The standard jumbo plate size is 6 m x 3.21 m.

WHY THE GLASS IS GREEN?
HOW IS ULTRA CLEAR GLASS CREATED?

Iron oxide, which is naturally found in the raw material of clear glass, gives the clear glass a slightly greenish color when someone looks from the edges. Ultra clear glass is obtained with raw materials with low iron content or with special chemicals.

ANOTHER BASIC GLASS COMES FROM THE PRODUCTION PROCESS: COLORED GLASS.

Colored glass is obtained as a result of the flotation process with the coloring agents added while the glass mixture is being prepared. This is why we call these glasses as tinted.

GLASS TYPES

CLEAR FLOAT GLASS

Secondary processes such as edge processing, bending, tempering, partial tempering, lamination, coating, double glazing, and mirroring are applied to Clear Float Glass. After these processes, clear flat glasses can be used as safety and security glass, heat control glass, solar control glass, noise control glass, heat and solar control glass and decoration glass.

ULTRA CLEAR - LOW IRON

Ultra Clear Glass has a %91 light transmittance that other glasses cannot reach. Thanks to its transparency, it makes feel like there is no glass and shows the objects displayed behind it in their real colors and brightness. Ultra Clear Float Glass with high light transmittance and clarity, is used in shop windows, exhibition units in museums, atrium and stair railings, door windows, partition walls, furniture glasses, and solar panels.

NOISE CONTROL GLASS

Acoustic Laminated

Acoustic laminated glass is specially developed to provide effective sound insulation in high-noise environments.
Thanks to PVB, acoustic laminated glass dampens sound vibrations, so less sound pass to the opposite side. With Acoustic Laminated Glass, the noise can be reduced to a normal calm level.

DECORATIVE GLASS

Tinted – Enamel Painted – Opaque

Decorative glasses reveal the elegance of living spaces. With different color alternatives, they offer designers and users a wide range of options to create aesthetic and stylish spaces. In all buildings that require solar control, mainly in non-residential buildings with curtain walls; are used in windows, parapets, in front of walls, skylights, and glass balconies.

In addition, with frit prints solutions, made with enamel paint, can be offered for different requirements such as **Bird Safety**

SAFETY GLASS

Laminated - Ultra Clear Laminated

It is produced by joining two or more glass plates under heat and pressure with the help of special binder Polyvinyl Butyral (PVB) layers. It minimizes the danger because when glass break, PVB keeps the glass pieces and they do not pour out. It provides life and property security against external attacks. Ultra Clear Laminated Glass is the type of safety glassproduced with low iron float glass. Laminated Opaque Glass ensures your privacy and security without depriving you of daylight. Colors of goods and fabrics in residences and workplace showcases fade over time due to ultraviolet (UV) rays. Laminated Glass blocks the passage of UV rays by 97-99%.

WHAT IS COATED GLASS, HOW IT IS MADE?

Low-E (Low Emission) coatings are metallic particles applied to flat glass in mul tiple optically transparent layers. These layers are made of the purest materials such as silver titanium and zinc. Flat glass is washed with special deionized water and goes through high-pressure drying. After the necessary pressure balances are made, it enters the process called magnetic spraying.

Low-E glass forms part of an insulated glass unit in which two or more glasses are used together for maximum thermal performance.

Low-E Coatings are a single layer for passive solar control, a double layer for mid-range performance, and a triple layer for strong climate glazing. The spray method for Low-E coatings places the silver coating on the top surface of the glass.

These coatings are thinner than 110 thousandths of the thickness of human hair.

WHAT ARE THE ADVANTAGES AND USAGE AREAS?

It provides solar control and heat insulation together. It reduces fuel and air conditioning costs. It prevents the passage of ultraviolet (UV) rays by 91%, which is the cause of fading of the colors of furniture and fabrics. Compared to ordinary insulated glass unit , the expenditure for insulating glass which is made with Solar Low-E Glass returns in 1-2 years with more savings in heating and cooling costs.

Containing multiple performance product groups, Solar Low-E Glass offers solutions for different needs. It offers comfortable living spaces to users with its heat and solar control feature.

COATED GLASS - INSULATED GLASS

COATED GLASS TERMINOLOGY

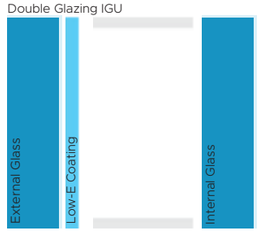
Coated glasses are selected and evaluated according to Daylight Values and Solar Energy Values according to EN 410 standards, Thermal Transmittance Coefficient, and Sound Insulation Values according to EN 673 standards.

The **U value** is the amount of heat passing from 1 m^2 per unit of time. The purpose of thermal insulation applications is to reduce the U value as much as possible.

Daylight Transmittance, which is another important value, is defined as the percentage of the total light that is accepted to come at 90° right angles to the glass surface, absorbed by the glass or its combinations. If this value is high, the transition of light entering will be high too.

Solar control effectiveness on glasses; is found by assuming that the sun's rays come with an inclination of 30°; It is measured by **Solar Energy** Total Transmittance. The lower this value, which expresses the percentage of total solar energy that affects the interior, is understood to be a good solar control glass at that rate.

Reference Values as Example;
Sisecam Solar Low-E 70/37
Double Glazing IGU



External Glass : 6 mm Sisecam Temperable Solar Low-E Glass Neutral 70/37
Spacer : 16 mm Aluminium Stick, %90 Argon
Internal Glass : 6 mm Sisecam Clear Float Glass

Daylight Values	
Transmittence	%69
Reflectance Outdoor	%13
Reflectance Indoor	%13
Color Rendering Index (RA)	93
Thermal Conductivity	
U Value W/(m^2K)	1,0
Acoustic Insulation	
Rw (C, Ctr)	34 dB

Solar Energy Values	
Solar Factor - G Value	%37
Direct Transmittance	%34
Reflectance Outdoor	%35
Absorption	%31
Shading Coefficiency	0,42
UV Transmittance	%16

INSULATED GLASS UNITS

TWO OR MORE LAYERS GLASS UNITS

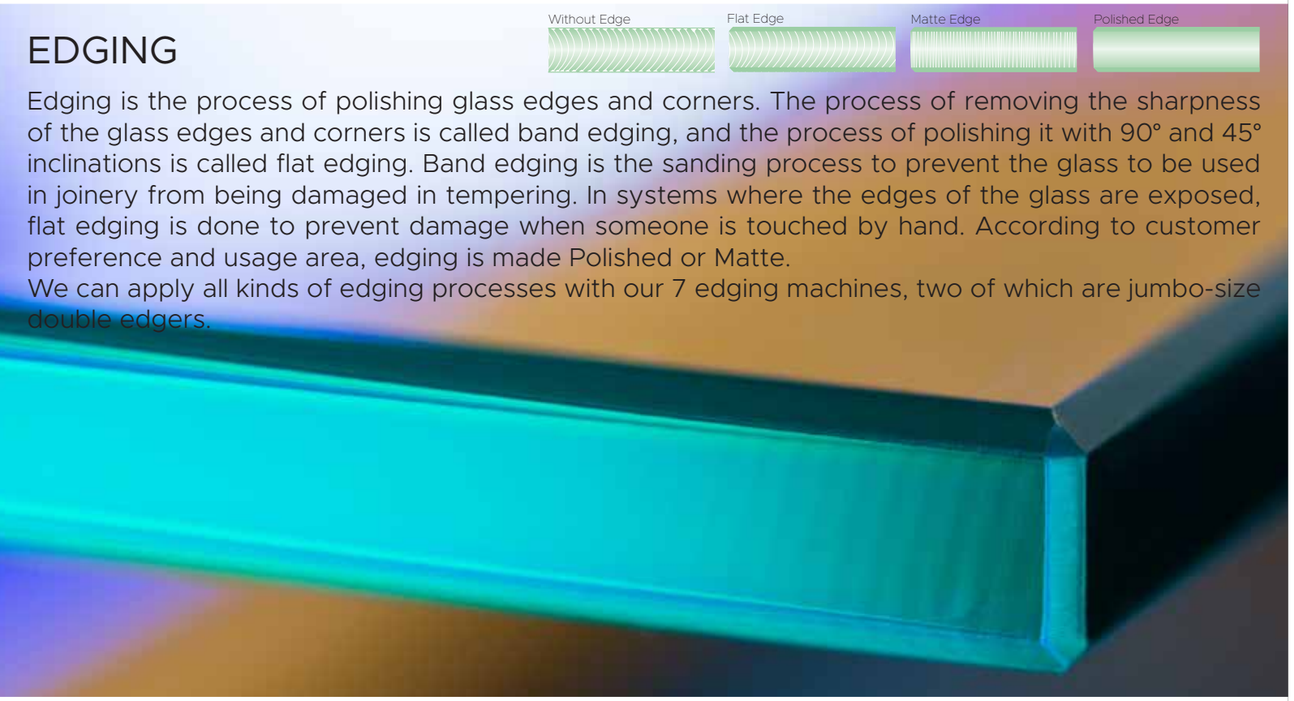
Each IGU consists of two or more clear or Low-E coated glasses. Between the glasses, sticks are placed in different structures such as multi-layered aluminum, warmedge, which hold all the parts together, and which provide different thermal values. A layer of butyl is pulled around the sticks, acting as a seal keeping moisture out. A secondary silicone or polyurethane gasket provides structural integrity. In addition, small balls, which we call dehumidifiers, are filled into the laths.

If the gas is Argon, used between the two glasses in Low-E coated insulated unit glass, the U Value, which we call the Heat Transmittance Coefficient, can reach a value of up to 1.0 W/m2K. This value is 2.4-2.7 without Low-E coating.

U-value can be achieved up to 0.6 in a triple glass with Low-E coating.

EDGING

Edging is the process of polishing glass edges and corners. The process of removing the sharpness of the glass edges and corners is called band edging, and the process of polishing it with 90° and 45° inclinations is called flat edging. Band edging is the sanding process to prevent the glass to be used in joinery from being damaged in tempering. In systems where the edges of the glass are exposed, flat edging is done to prevent damage when someone is touched by hand. According to customer preference and usage area, edging is made Polished or Matte.
We can apply all kinds of edging processes with our 7 edging machines, two of which are jumbo-size double edgers.



TEMPERING

Tempered glass can be produced from almost any glass such as float or flat structured decorative -opaque glass. The glass is subjected to a thermal process called 'pre-tensioning'. Before this process, necessary processes such as edge arrangements of the glass, drilling, and edge cutting should be done. Because in the tempering process, the glass plates are heated at 650 degrees and quickly cooled and then shocked. This shocking creates a long-lasting tension structure in the glass. Any mechanical intervention to this tension structure will burst the glass.

The tempering process gives glass three properties: 4 to 5 times more flexibility comparing to non-tempered glass, resistance to temperature changes, and less risky because of break into blunt-edged and adjacent pieces when glass expose an excessive impact. Partially tempered glass are not included in safety glasses. The manufacturing process is like tempered glass, but the cooling process is slower.

The most important handicap in the tempering process is the fluctuations that occur on the glass after tempering. Glass moves on rollers in the tempering furnace. These fluctuations are roller marks on the glasses.

As Resman, we make completely wave-free production with our air tempering machine in our production line, which allows us to produce untouched with Industry 4.0 technology, located in our machine park. With this machine, we can temper glass from 2.3 mm to 8 mm thick on a plane where the glass moves at an angle of 15° with compressed air, not on rollers.

GLASS PROCESSING

CNC MACHINING

CNC machining is the processing of the edge or surface of the glass with a computer-aided machine according to the desired pattern or shape in accordance with the project.

We offer different solutions in this field with our 2 CNC machines.

HEAT SOAK

It is the process of testing the amount of Nickel Sulfite in the tempered glass to reduce the risk of breakage. The tempered glass is kept in the Heat Soak oven at 260° for 6 hours. In this process, if Nickel Sulfite particles are present, the phase change process accelerates, and the glass gets break. If the glass passes the test and does not break, the Nickel Sulfite particle is either absent or small enough to not pose a risk.

We can also perform this test within our structure in accordance with EN 14179 standards.

LAMINATION

It is the combining process of two or more glass plates under heat and pressure with colored or colorless special binder Polyvinyl Butyral (PVB) layers. First of all, the glasses are subjected to a pre-combining process at 200°C. The glass that becomes translucent is transferred to the autoclave on the glass band and it is made transparent by keeping it under 10 bar pressure and 130° temperature for about 8 hours.

The safety feature of laminated glass is based on the strongest adhesion of the PVB intermediate coating to the adjacent glass surfaces. Impact or other forces breaks normal glasses, the perfect adhesion of the PVB coating to the glass in laminated glass prevents the glass from scattering and spreading against impacts, keeps the pieces together.

If tempered glass is used in the lamination process, the laminated glass becomes much more strong.

PVB used in lamination is applied as 0.38 mm and its multiples like 0,76 – 1,14 – 1,52.

Our 2 laminated lines enable us to respond to the laminated glass needs of our solution partners in this field, even at high dimensions.

ICON 84

ICON 84 is the optimal windows and door system for challenging climate conditions that is combining strength, insulation, energy efficiency, and aesthetics with thermal comfort.

The system ICON 84 is proposal for advanced insulated casements, thanks to the special design using polyamide thermal break and special insulator to achieve high performance values in terms of Uf.

System Visible Width	Fixed Vent	50 - 66 mm 42 - 63 mm
System Thickness	Fixed Vent	84 mm 93 mm
Glazing Thickness		30 - 60 mm

ICON 70

ICON 70 is an innovative high performance windows and door system that is combining strength, safety, sustainability and aesthetic design.

The system ICON 70 is proposal for advanced insulated casements, which meets the high standards of all advanced markets and incorporates a modern design that's intended for realizations of exterior architectural building elements requiring thermal and acoustic insulation.

System Visible Width	Fixed Vent	50 - 66 mm 42 - 63 mm
System Thickness	Fixed Vent	70 mm 79 mm
Glazing Thickness		16 - 60 mm

ALUMINIUM DOOR WINDOW SYSTEMS

BASIC 60

BASIC 60 system is designed to give architects an integrated window and door system, allowing flexibility of design whilst providing good thermal and acoustic insulation.

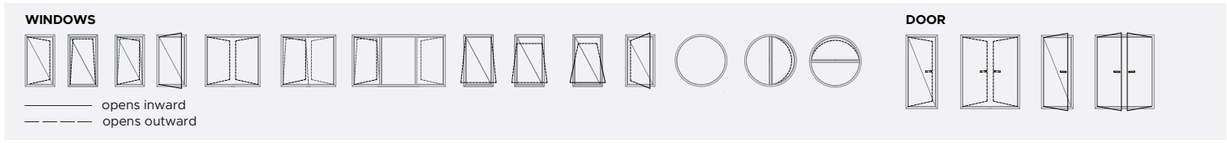
BASIC 60 brings you chance to reduce initial investment cost within thermal insulated systems. Also provides all kinds of inward and outward opening types. The range of combinations available allows the system to respond to the needs of the building.

System Visible Width	Fixed Vent	50-66 mm 42-63 mm
System Thickness	Fixed Vent	60 mm 69 mm
Glazing Thickness		6-50 mm

PRIME WINDOW

Prime window system Is designed for aesthetic and architectural at special project with less profile appearance and more field view. Is a hidden sash system in which all visible widths from the outside can be made as 55 mm.
With the system, which provides superior thermal insulation and energy conservation according to difficult climatic conditions and differences temperature of many geographical regions in the world, it enables to reach optimum performance values.

System Visible Width	Fixed Vent	55 mm 45 mm
System Thickness	Fixed Vent	92 mm 114 mm
Glazing Thickness		24 - 58 mm



ALUMINIUM SLIDING SYSTEMS

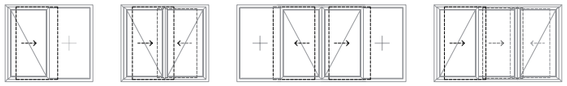
UNIQUE SLIDE

With a low-threshold Frame profile of only 21.5 mm height, users are provided with the opportunity to move on the ground easily.

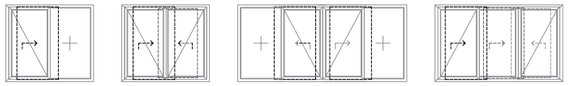
The system allows the use of glass up to 46mm in the frame and 40mm in width on the sash. The system, which can be collected with a 90-degree cut, provides a minimum profile view with only 25 mm frame profile, and is also one of the successful Lift & Slide systems in the market. The system, which provides maximum panoramic view, allows multi-point locking.

System Depth		140 mm
System Visible Width	Fixed Vent	25 mm 98 mm
Glazing Thickness		10 - 40 mm

INLINE SLIDINGS



LIFT & SLIDE SLIDINGS



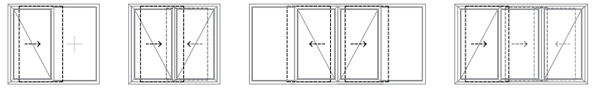
SMART SLIDE

This system is a fusion between a sliding system and a window system, combining efficiency and aesthetics at the same time. Providing the advantage of area saving specialty of a sliding system and high-performance features of a window.

The outstanding values on air permeability, high water tightness and resistance to wind load, makes this Smart Slide, the ideal system to be used in high-rise buildings.

System Depth		155 mm
System Visible Width	Fixed Vent	80 mm 105 mm
Glazing Thickness		18 - 52 mm

INLINE SLIDING



NOVA SLIDE

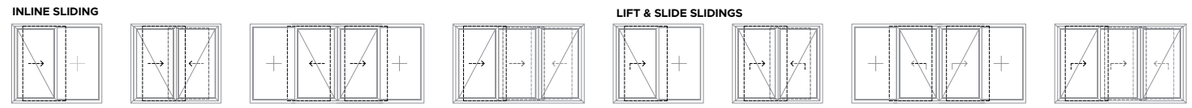
NOVA SLIDE system is a complete solution for projects that combines sliding and side opening sash options. Its polished and modern design makes it the ideal option for projects requiring wide spans for enhanced daylight, outstanding performance and maximum ease of use.

NOVA SLIDE system allows energy savings thanks to the thermal performance features.

System Depth		108 mm
System Visible Width	Fixed Vent	43 mm 125 mm
Glazing Thickness		20-28 mm

INLINE SLIDING

LIFT & SLIDE SLIDINGS



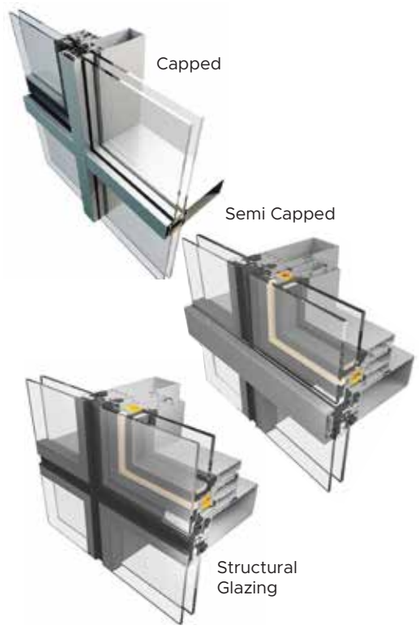
ALUMINUM FACADE - SKYLIGHT SYSTEMS

FS 50

FS 50 is highly engineered to meet the demands of contemporary building construction and architecture.

FS 50 offers a high degree of flexibility and allows maximum transparency with attractive design options for facades areas. With regard to the energy saving feature, FS50 has Guaranteed performance quality in terms of air permeability, water tightness and wind pressure as well as the Uw.

System Visible Width	50 mm
Mullion Depth Profile Depth	18-240 mm
Transom Depth Profile Depth	23-245 mm
Glazing Thickness	6-42 mm

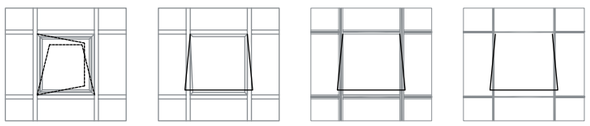


FS 60

FS 60, a curtain wall system with higher seismic performance that provides high flexibility and strength to distinctive buildings and meets the requirements of modern building construction and architecture. FS60 providing a whole package façade solution for project's demands.

FS 60 offers a high degree of flexibility allows attractive design options for facades. With regard to the structural performance, this system ensures high performance values in terms of air permeability, water tightness and wind pressure as well as the Uf.

System Visible Width	60 mm
Mullion Depth Profile Depth	60-175 mm
Transom Depth Profile Depth	65-180 mm
Glazing Thickness	6-42 mm



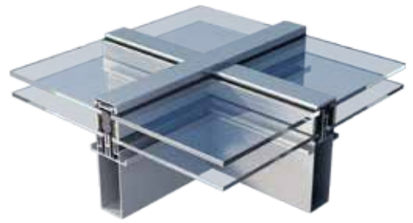
opens outward
opens inward

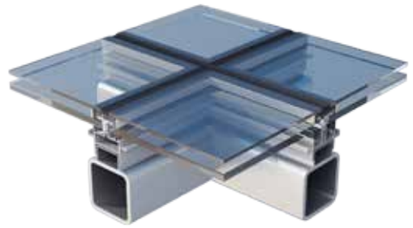
SKY 52 - 90

Our Skylight solutions are of two types: SKY 52 – SKY 90. Skylight system is designed for ceiling mounting, provides access to maximum daylight and can also be used as ventilation covers.

The skylight system consists of condensation channels that provide snow or water drainage and supporting aluminum profiles applied to the steel substructure for strength.

This system is designed to enable complex architectural projects to be implemented due to the availability of steel connections. According to architectural demands, this system can be chosen as silicone, semi-capped or capped.





System Visible Width	52 mm
Glazing Thickness	6-42 mm

System Visible Width	90 mm
Glazing Thickness	6-42 mm

GLASS SYSTEMS

REVOLVING DOOR
KTV ATRIUM

The KTV ATRIUM revolving door systems are ideal for installation in entrance areas where effective environment control and elegant aesthetics are desired.

Three -or four- wing design | All-glass design | Manual operation | Positioning system (option) | Servomatic drive system (option) | Additional night shields (option)

SLIDING REVOLVING DOOR
KTC 2

The KTC- 2 two-wing revolving door offers plenty of scope for architectural creativity while also raising accessibility and convenience to a new level. Thanks to the variability of its design and a broad selection of surface finishes, it will turn the entrance of any building into a prestigious entrée.

Spacious entrance | Suitable for the needs of the disabled | Integrated automatic ST FLEX sliding door | Integrated night shield | Optional showcases provide advertising space | Suitable for application as escape route door | EN 16005 safety standard

SLIDING DOOR
ES200, ES200 EASY, ES75

ES 200 is a modular sliding door mechanism with various rail size options. Additional modules and options simplify settings for automatic sliding doors. The product has been tested according to DIN 18650 / EN 16005 to ensure a high level of safety.

ES 200 Easy can be advantageously used in automatic sliding doors with lower leaf weight.

The ES 75 product is a sliding door mechanism with a simple application that can be applied in almost any area.

AUTOMATED SLIDING DOOR
ST MANET

ST MANET combines high-quality stainless steel fittings with frameless glass door panels to create sparkling and disabled-friendly entry solutions for building interiors.

High-quality single-point fixing in stainless steel | No door profile used for maximum transparency | Outstanding interior design | Suitable for door systems with and without edge lights and top panels

SLIDING FOLDING GLASS WALLS
HSW EASY, HSW-R

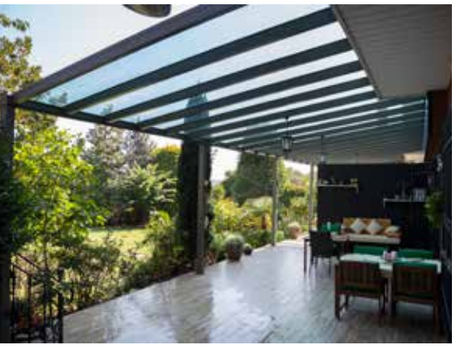
HSW EASY Safe sliding glass wall system provides high level of permeability and security throughout its use. In this tempered reinforced glass system, it creates a holistic and transparent surface without the lateral frame system on the panels.

The HSW-R glazed wall system is particularly suitable for applications that may be subject to higher wind loads, such as shop windows or external shop entrances. These frames are made of aluminum and surround the glass from all sides. Lateral rubber tips and brush seals on the top and bottom provide additional protection in bad weather.

PIVOT WING OPENING MECHANISM
PORTEO

PORTEO is a small-sized, silent automatic wing opening mechanism suitable for use in interior doors. PORTEO can significantly reduce the power required to open the door in Power-Assist mode; so that the door can be opened easily by hand. In addition, the door can be opened with a button, hand sensor (Magic Switch) or remote control. These features make life more comfortable and hygienic for everyone, every day. The PORTEO is easily adaptable to most doors and provides a significant gain in comfort and quality of life for people with special needs who are blocked by doors.

AUTOMATIC CLOSING SYSTEMS



CANOPY
ONEGA

Glass or polycarbonate is used in the ceiling of the Onega veranda system. Maximum transparency obtained with the use of glass on the ceiling, Easy to install with patented accessory designs.
If desired, it can be turned into a winter garden by closing it with side glass doors. It has a structure that can adapt to all kinds of natural conditions by using static strong profiles.

BIOMETRIC PERGOLA
TILIA

Tilia offers you constant well-being in changing weather conditions, even in the most inconspicuous conditions. With minimal energy consumption. The secret lies in the lid with adjustable louvers: when slightly opened, they rotate to create a pleasant gentle breeze and block out direct sunlight. When closed, they provide protection from rain as rainwater flows into built-in downpipes.

BIOMETRIC PERGOLA
NERO

Nero is a retractable roof pergola system used to add freshness to your spaces in terraces, gardens, cafes, restaurants, hotels and all commercial areas. The operating performance of the system was increased by using a specially designed patented
10-wheel trolley for the opening and closing of the fabric on the ceiling, and a blackout 3-layer vinyl fabric was used on the roof of the system.

GUILLOTINE WINDOWS
NICE GUILLOTINE

Nice Guillotine is a vertical opening window system suitable for closing a building opening especially when space saving is required.

The Nice Guillotine window is a vertically sliding, remotely controllable motion system that promises to give you a unique view of the horizon. This series aims to maximize the dimensions and spans of modern architectural structures.

SLIDING FOLDING DOOR
SF 60-T

Heavy door wings that can be collected to the right and left on the system can be applied over 3 m high.

Door wings, which can be made with 3, 4 and 6 wings, can be folded inwards or outwards if desired.

The system allows the use of glass up to 28 mm wide.

OUTBOARD LOUVER

It is a louver system that can be installed on existing doors and windows later. Louver boxes are of two types as optional oval and square. Stylish appearance, one hundred percent security can be preferred. The difference that distinguishes the outboard louver from other products is the kindness of the louver frame and its adaptability to every window.
It can be easily applied in newly constructed buildings as well as in finished buildings. Manual, push-button, remote control and group control systems are available.

MONOBLOCK - DETAIL LOUVER

Monoblock louver systems are a louver system that does not disturb the architectural aesthetics on the exterior, and is designed to be mounted on the interior together with the joinery by deducting the box share. With its insulated, highly aesthetic and modern appearance, which can be mounted on windows of all brands in all kinds of new constructions and renovations, it easily adapts to all kinds of projects as well as your security needs.

GLASS RAILING

Glass railing are a railing system that provides a decorative appearance and at the same time provides a decorative appearance to the edges of the houses or business centers to prevent falling from the terraces, balconies and joinery fronts.
Tempered laminated glass is used in such glass systems.

SPIDER RAILING

Glass railing can be processed from the wall edges with the spider system and different applications can be made.

The general purpose of using the Spider system is to improve the view and further expand the area.

GLASS ALUMINUM RAILING

In general, glass handrails are used in places where security is required, for both security and decorative purposes. On the long-length railing, glass balustrades made of aluminum material provide more robust, durable, and quite stylish and decorative.

ALUMINUM RAILING

It is an application system made by using aluminum profiles to ensure the security and aesthetics of the balconies, stairs and terrace areas of the buildings. Aluminum railing is much more advantageous in terms of both cost and aesthetic appearance compared to other applications, as well as reducing the load of the building as it is a light material.

BALCONY SYSTEMS

FOLDING GLASS BALCONY

Folding glass balcony systems are the most modern way to create an aesthetic and convenient balcony in your home. It is a system that can best respond to the differences created by the seasons, due to the ability of the glasses to be folded to the same point. In this way, it is ensured to benefit from the spaces as if they were never closed by keeping them open in good weather conditions.

SLIDING GLASS BALCONY

In sliding systems, the windows slide to the side and do not need folding. Therefore, it is easier to use than foldable systems. This system, which has a practical use, can be installed on any balcony. It adds a different atmosphere to the areas where it is used and also provides great benefits in terms of security.

PVC SYSTEMS

SAFIR

Manufactured with a width of 70 mm, Safir delivers a heat and sound insulation with a 5-cubicle profile structure and the use of double or triple glazing of up to 39 m. Ensures a visual integrity in the internal spaces with the options of a drip-sash and self-sill frame profile designed for the system and also meets the different architectural requests with the options of inward-outward opening, threshold/non-threshold doors.

Profile Width	70 mm
Number of Cubicles	5
Glazing Thickness	4, 10, 20, 24, 26, 30, 36, 39 mm

DORADO 76

In addition to an elegant and insulated structure, New Dorado 76 Window and Door Systems has a futuristic style of design. With a frame-leaf structure with a successive and hard edges, it fully fits the modern façades. Employs special design profiles that offer a high level of resistance to the wind load in multi-storey buildings.

Profile Width	76 mm
Number of Cubicles	5
Glazing Thickness	24, 30, 36, 44, 52 mm

REVOTECH

The Revotech series employs special design profiles that offer a high level of resistance to the wind load in multi-storey buildings. Ensures a visual integrity in the internal spaces with the options of a drip-sash and self-sill frame profile designed for the system and also meets the different architectural requests with the options of inward-outward opening, threshold/non-threshold doors.

Profile Width	84 mm
Number of Cubicles	7
Glazing Thickness	24, 30, 36, 44, 52 mm

LOTUS

Designed as a first in Turkey and special for Winsa, the Lotus Axial Sliding System offers the options of double-axis frame with a width of 122 mm, single-axis frame with a width of 113 mm and, self-sill frame. Offers the optimum insulation value out of the sliding systems. Delivers a heat and sound insulation with the use of double or triple-glazing of up to 28 mm.

Frame Profile Width	122 mm
Sash Profile Width	45 mm
Number of Frame Cubicles	4
Glazing Thickness	4, 5, 20, 24, 28 mm

COMFORT SLIDE

The Comfort Slide PVC Sliding Door and Window System has been designed based on the professional experience and knowledge gained at an international level with a different point of view than the standard sliding systems intended to deliver a wider living space, ease of use and stronger sealing capacity.

Frame Profile Width	149 mm
Sash Profile Width	76 mm
Number of Frame Cubicles	5
Glazing Thickness	24, 30, 36, 44, 52 mm

PANAROMA HS 76

The Panorama HS 76 System perfectly meets the requests for lower thresholds with an aluminum threshold profile of 20 mm in height. With the wide glazing spaces it offers, it allows for a panoramic look in the areas where it is installed. It is possible to install 2-, 3-, and 4-sash applications in the Panorama HS 76 System.

Frame Profile Width	175 mm
Sash Profile Width	76 mm
Number of Frame Cubicles	4
Glazing Thickness	4, 12, 20, 24, 30, 38, 44 mm

MACHINES AND CAPACITIES

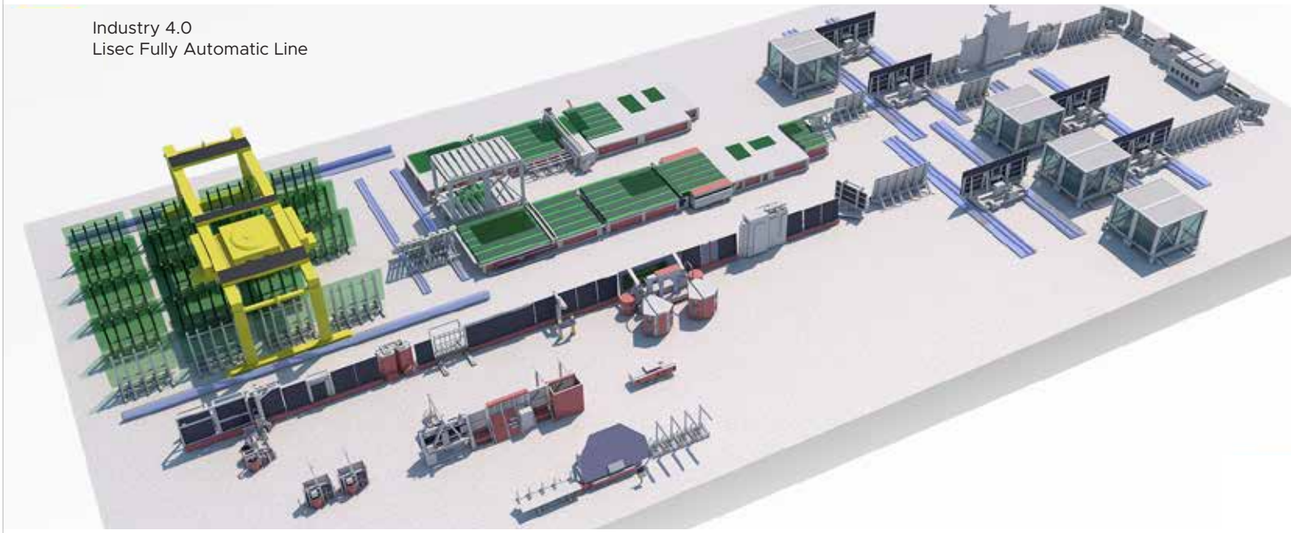
GLASS PRODUCTION

Process	Machines	Max. Dimensions	Min. Dimensions	Thickness	Properties	Standart
Cutting	Lisec (Float glass)	6000 x 3210	-	4-19 mm		TS EN 572, TS EN 1096
	Lisec (Float glass, automatic line)	6000 x 3210	-	2,3 - 19 mm		TS EN 572, TS EN 1096
	Lisec (Laminated glass, automatic line)	6000 x 3210	-	2,3 - 12 mm		TS EN 572, TS EN 1096
	Lisec (Machine size)	3210 x 2500	-	4 - 19 mm		TS EN 572, TS EN 1096
Drilling	De-Ka	- (radius 160mm)	-	4 - 19 mm		
Edging	Lisec	5000 x 2500	-	4 - 19 mm	seaming only	
	Lisec	3500 x 2000	-	4 - 19 mm	seaming only	
	Bavelloni	2600 x 1600	-	4 - 25 mm	matt grinded, polished grinded	
	Bavelloni	6000 x 3210		4 - 25 mm	matt grinded, polished grinded	
	Bavelloni	5000 x 2500	100 x 80	4 - 12 mm	matt grinded, polished grinded	
Bevelling	Bavelloni	3210 x 2500	75 x 75	4 - 25 mm		
CNC	Bavelloni	3300 x 1700	-	3 - 19 mm	matt grinded, polished grinded	
Screen Printing	Comms	3000 x 1500	-	-	Type of colour; waterased inorganik paint without heavy metal (RoHS compliant)	

Tempering	Machines	Max. Dimensions	Min. Dimensions	Thickness	Properties	Standart
Heat-Strengthened	Glaston	6000 x 3300	350 x 100	5 - 19 mm	70 MPa	TS EN 1863
	Lisec	5000 x 1600	500 x 180	2 - 8 mm	70 MPa	TS EN 1863
Fully Tempered	Glaston	6000 x 3300	350 x 100	5 - 19 mm	120 MPa	TS EN 12150
	Lisec	5000 x 1600	500 x 180	2 - 8 mm	120 MPa	TS EN 12150

IGU Production	Machines	Max. Dimensions	Min. Dimensions	Thickness	Properties	Standart
Insulating Glass	Lisec-1	3500 x 2500	350 x 180		stepped units available	TS EN 1279
	Best	5000 x 2500	350 x 180		stepped units available	TS EN 1279
	Lisec (Automatic line)	3500 x 2000	350 x 180	2,3 - 19 mm		TS EN 1279

Lamination	Machines	Max. Dimensions	Min. Dimensions	Thickness	Properties	Standart
Preliminary Laminating	LWDY	6000 x 3300	450 x 450	6 - 80 mm		TS EN ISO 12543, EN 14449
Autoclave	Akarmak	7500 x 2600	-	-		TS EN ISO 12543, EN 14449



Industry 4.0
Lisec Fully Automatic Line

PVC - ALUMINUM PRODUCTION

Cutting	Machines	Max. Dimensions	Min. Dimensions	PVC/ALU	Notes
Double Mitre Saw	Elumatec	4500 mm	370 mm	PVC	capability for 45º and 90º
Single Head Mitre Saw	Elumatec	-	-	PVC	0º to 90º
Double Mitre Saw	Elumatec	6000 mm	350 mm	ALU	capability for 45º and 90º
Double Mitre Saw	Elumatec	6000 mm	520 mm	ALU	capability for 45º and 90º
Single Head Mitre Saw	Yilmaz	-	-	ALU	0º to 90º
Automatic Saw	Elumatec	250 mm/pc	5 mm/pc	ALU	Cutting range 150 x 110 mm
Glazing Bead Saw	Elumatec	-	-	PVC	
Reinforcement Cutting Machine	Ostas	-	-	PVC	

Pre-Processing	Machines	Max. Dimensions	Min. Dimensions	PVC / ALU	Notes
Water Slot Router	Elumatec	-	-	PVC	
1-Spindle Copy Router	Elumatec	-	-	PVC	
1-Spindle Copy Router	Elumatec	-	-	ALU	
End Milling Machine	Elumatec	-	-	PVC	
CNC Profile Machining Centre	Elumatec	7300 mm	550 mm	ALU	
CNC Machining Centre for Panels	Alu Ranger	4200 mm	1600 mm	ALU	
Notching Saw	Elumatec	-	-	ALU	Max. cutting height of 210 mm
Reinforcement Screwdriver	Elumatec	-	-	PVC	

Welding	Machines	Max. Dimensions	Min. Dimensions	PVC / ALU	Notes
Four Head Welding Machine	Stürtz	3300 x 2600 mm	320 x 320 mm	PVC	
Corner Cleaning Machine	Stürtz	-	-	PVC	
Single Head Welding Machine	Elumatec	-	-	PVC	

Assembly	Machines	Max. Dimensions	Min. Dimensions	PVC / ALU	Notes
Assembly Table	Elumatec	-	-	PVC	
Corner Crimping Machine	Itaca	-	-	ALU	
Corner Crimping Machine	Elumatec	-	-	ALU	

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