



ISOCLIMA

YOUR INNOVATIVE TRANSPARENT SOLUTIONS



Automotive

Marine

Military

Railway

Aerospace

Architectural

Security

- **2020**
Arriving of new products VisionPlus and FirePlus
- **2019**
PC coating and special applications on Automotive and Aerospace
- **2017**
Aerospace development with transparent helicopter application
- **2013**
Development of Iposcope products
- **2005**
Manufacture of “CromaLite” glazings with SPD technology
- **2002**
Acquisition of the manufacturing plant Lipik Glas in Croatia
- **2001**
Manufacture of “PrivaLite” glazings with laminated liquid crystal film manufacture of glazing for the marine market (curved laminated glazings chemically strengthened)
- **2000**
Installation of a “magnetron sputtering” system for the deposit of thin metal layers
- **1997**
Acquisition of a manufacturing plant in Mexicali and foundation of ISOCLIMA
- **1996**
Manufacture of glazings for High-speed trains
- **1995**
Manufacture of composite glazings (PC or methacrylate) for the racing car market
- **1994**
Installation of a chemical strengthening plant – the largest in Europe
- **1988**
Manufacture of products for the aerospace market
- **1984**
Purchasing of a furnace for the thermal tempering process, enabling the curvature of large glazings (2.2x4m)
- **1981**
Manufacture of windows with polished and un-sealed edges
- **1979**
Registered license to manufacture glass with polycarbonate
- **1977**
Year of **ISOCLIMA**'s foundation
Production of double-glazing windows



The Company

The World leader in the market of high-performance glass, thanks to the technologies applied and developed over time, **ISOCLIMA** is committed to the constant pursuit of perfection, quality, and a product developed for the personal safety and protection of its customers on Land, Air and by Sea.

ISOCLIMA finds solutions based on the customer's needs aiming for longterm results. Always ready to accept new challenges and to invest in R&D, **ISOCLIMA** represents the point of reference as the leader in the markets in which it operates.

Our History

Isoclima was established in 1977, in Este, in the province of Padua in Italy's Northeast, its core business to deliver glass solutions for the building industry.

With ambition and innovation running through our DNA, we soon became a market leader in the insulating glass market, and launched into the research and development of new advanced hi-tech glazing solutions that stood out for their excellent ballistic resistance.

In our 40-plus years in the business, we have developed a series of products that have proved to be market game-changers, such as Omniarmor, Omnilite, Isolite, and many more. Advanced, certified solutions, adopted by some of the world's top companies, such as Apple, Mercedes, Audi, Azimut-Benetti, San Lorenzo, Bmw, Iveco IDV, Ferrari, Ferretti, McLaren, Leonardo, Airbus, and by the most decorated Police and Defence Forces.

The Isoclima Group

Isoclima, originally part of the Finind Group (alias Finanziaria Industriale), expanded in the mid-90s with the takeover of other major glass industries in Italy and abroad, such as Isoclima de Mexico S.A. de C.V. in Mexico and, in early 2000, Lipik Glas d.o.o. in Croatia.

Since 2017, the whole multinational group has become part of the Stirling Square Capital Partners' portfolio of businesses.

Today, the name Isoclima stands out for the expertise gained over the years, for the high quality of its products, and for its co-engineering, earning it the enviable position of supplier to the world's most prestigious motor groups (FCA, Daimler, Mercedes, BMW, VW-Audi), and major players from industries across the board.

With the extensive range on offer, Isoclima products are valued by many different industries, especially given the increasing demand for hi-tech products that meet the highest standards of quality and safety.

One of the distinctive qualities we are known for is our ability to meet demands of all kinds, and offer custom products that can be tailored to individual customer requirements in terms of mechanical and ballistic strength, solar protection, and energy control.

MARINE

Enhanced aesthetics, and advanced technology, as well as complex forms, all while increasing comfort levels, are now viewed as a pre-requisite in the ship and boat building industry.

Amongst **ISOCLIMA**'s many contributions have been the introduction of the concept of structurally bonded glass in the marine sector, a long-established process in the automotive industry.

The combination of chemical strengthening, increased dimensional bending capabilities, and the use of solar control glass have created a clear functional and aesthetic improvement, in particular offering designers the possibility of giving the boat curved and sinuous lines with maximum continuity, even over the entire glass surface.

An in-depth knowledge of structural pressure resistant glass configurations, as well as an understanding of the issues related to bonding glass to dynamic structures, has established **ISOCLIMA** as a market leader in the marine Glazing industry, as a producer of the largest curved glass windows in the world.



Courtesy of San Lorenzo - San Lorenzo SD 96



Courtesy of San Lorenzo - Attila 64 Steel

Over and above these parameters, developments into the compatibility of the different materials used, the optical and energy characteristics of glass products, as well as the different techniques used for processing and toughening glass, has established a range of advanced proposals and proven integrated processes providing the industry with numerous design and engineering solutions.

*Employing staff with decades of experience **Isoclima** is able to provide a fully co-ordinated service to the Yachting and Boat building industry, beginning with the 3D scanning process, Co-Design activity, through to the installation and customer focused on call after sales service.*

Know-how

● Thermal Strengthening

During the thermal strengthening process the residual stress level is obtained via transitory thermal gradients that are determined in the stage of rapid cooling from temperatures above the glass transition temperature.

● Tempra chimica

Chemical strengthening of glass is carried out via an ion exchange process below the glass transition temperature.

The replacement of the alkaline ions present in the glass composition with other alkaline ions of greater volume, allows to obtain a residual stress system which, when the glass is subjected to external loads, limits the growth of the surface cracks already present on the glass, thus increasing its mechanical strength. Isoclima's ion exchange plants are able to operate with different types of alkaline ions, allowing high flexibility for different glass chemical compositions.

Isoclima's systems allow implementation of the process on large curved surfaces.

● Magnetron sputtering

The process of magnetron sputtering consists in the generation and confinement of argon gas plasma through an electric field.

The process deposits thin conducting or semiconducting layers on the glass panels and covers large size curved surfaces, achieving enhanced performance in terms of light transmission and electrical resistivity.

● Technologies for solar protection

Isoclima, always attentive to issues related to the thermal comfort of environments and green technologies, proposes different technological approaches to the topic of solar control.

The technological possibilities are based on solutions integrating solar protection elements into the constructive combinations of laminated glass. The result of efficient solar protection is obtained using the lamination technologies of heterogeneous elements such as plastic interlayers with selective filters and technologies for processing glass sheets with highly selective multilayer coating.

● VisionPlus®

Innovative translucency, taking decorative glass to the next level. Different outside lighting (mainly daylight) and inside lighting conditions are deftly exploited by VisionPlus to give the ultimate in translucency. VisionPlus takes the structural properties of glass and employs them in conjunction with ContraVision® technology to produce a functional fusion, creating a one-way effect depending on the lighting levels in the different environments. The precise use of skilfully applied latest generation ceramic printing means the resulting glass produces different reflection and transmission responses, creating the one-way effect. In addition to the one-way effect, VisionPlus allows for colour combinations - which are sure to appeal to designers - allowing glazing elements to blend in with the adjacent structures. Whilst historically the glass surfaces represented a weak point for overheating of the internal environments, thanks to VisionPlus technology, it is possible to reduce radiation and undesirable reflections.

● Emigard®

Isoclima's response to electromagnetic protection needs. The result of cutting-edge technology, Emigard® is the ideal solution for shielding electromagnetic waves emitted by electronic devices, insulating the vehicle and data being transmitted and making both secure. Emigard® is a multi-layered product made up of laminated glass or a glass and polycarbonate composite, incorporating a special shielding system that can consist of a wire mesh or a clear, conductive nanocoating, or a combination of the two. The solution featuring the nanocoating ensures great clarity and sufficient electromagnetic shielding to protect sensitive data and to protect people from harmful radiation. Emigard®, like all the other products conceived in Isoclima's R&D centre, is a certified panel that comes with the peace of mind of recognized standards. Its key markets are the marine, aerospace, and military sectors, and all industries that call for a system that can protect data as well as people's health, at the same time delivering perfect clarity.

● FirePlus®

Fire protection with all the style of luxury superyachts. The issue of fire resistance for superyacht structures has become a focal point with the use of these vessels now extending to passenger charters. The new regulatory framework has meant the requirements for transparencies now also extend to fire resistance, which was traditionally the prerogative of cruise liners, ferries and merchant ships. Isoclima has seized on this new demand from one of its target markets by designing solutions that meet the need to have a product that blends seamlessly with the yacht's style, minimizing the design impacts resulting from the fire resistance function. FirePlus® is not just a fire-resistant glazing, it's a transparency that pairs structural requirements with flush outer surface design and enviable flexibility to fit in with its architectural setting. The use of fireproof glazing with latest generation inorganic gels caters to A0-rated through to A60-rated protection requirements. FirePlus® allows for use on both flat and curved geometries, while the inorganic nature of its components gives the product its significant stability under different in-service conditions.

● Cromalite®

Cromalite® is a laminated product that incorporates an electrochromic film based on SPD technology (Suspended Particles Device), designed to control solar radiation and vary its tint in a matter of seconds. The system works based on an electric field capable of orienting the suspended particles inside the film. In addition to boosting sun protection significantly, it also provides excellent visibility and, at the same time, is perfect for creating privacy. By allowing light transmission to be reduced by anything from 55% to 1%, Cromalite® solutions can be applied in the automotive, marine, aerospace and architectural industries.

● Isolite®

Isolite® incorporates a PDLC film (polymer dispersed liquid crystals) and has been developed to create welcoming, light-filled interiors that can quickly be converted to private, confidential spaces. When switched off, the Isolite® panel goes opaque, making it impossible to see in or out. Ongoing research into developing a panel that can deliver unrivalled levels of clarity, UV resistance, and electrical safety, while maintaining optical qualities, has been rewarded with the creation of Isolite®, the best solution for switching from clear to a state of translucency practically instantaneously at the touch of a switch. These excellent properties make Isolite® suitable for use in numerous industries - from automotive to marine - but, above all, in architecture and interior design solutions, such as partitions in offices and commercial buildings.

● Transparent glazing deadlights

Isoclima has interpreted the need to maintain transparency even in the presence of requirements of the flag and surveillance authorities, offering the market transparent deadlight solutions applicable to hulled or submerged glazing. The solution is achieved by integrating specially designed structural glazing in the construction of portholes or hull windows both with frame and structural adhesive.

● Balaustrades

The requirements relating to the use of glass for balustrades and railings in the naval sector require an adequate structural design able to combine the need for weight containment and thicknesses reduction with the safety features required by the application. Isoclima has developed construction solutions of laminated glass that efficiently respond to quasi-static and dynamic load situations with different constraint configurations.



Courtesy of San Lorenzo
SX 112



Courtesy of Azimut Yachts
Azimut Magellano 25METRI



Courtesy of San Lorenzo
Attila 64 Steel



Courtesy of CRN
CRM 136 M/Y Latona 50M



Courtesy of Riva
Riva 88 Folgore



Courtesy of Azimut Yachts
Azimut 78



Courtesy of Benetti
Benetti Oasis 40M



Courtesy of Custom Line
Custom Line Navetta 30

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