



Innovating Transparencies for the Rail World





The Company



As the **world leader** in high-performance transparent solutions, Isoclima sets the benchmark for **safety, innovation, and sustainability**.

With decades of expertise and a relentless pursuit of excellence, we craft solutions that prioritize **protection and performance** across Land, Air, and Sea. Guided by a commitment to **R&D** and tailored customer solutions, Isoclima continues to lead the way in industries demanding the highest quality standards.



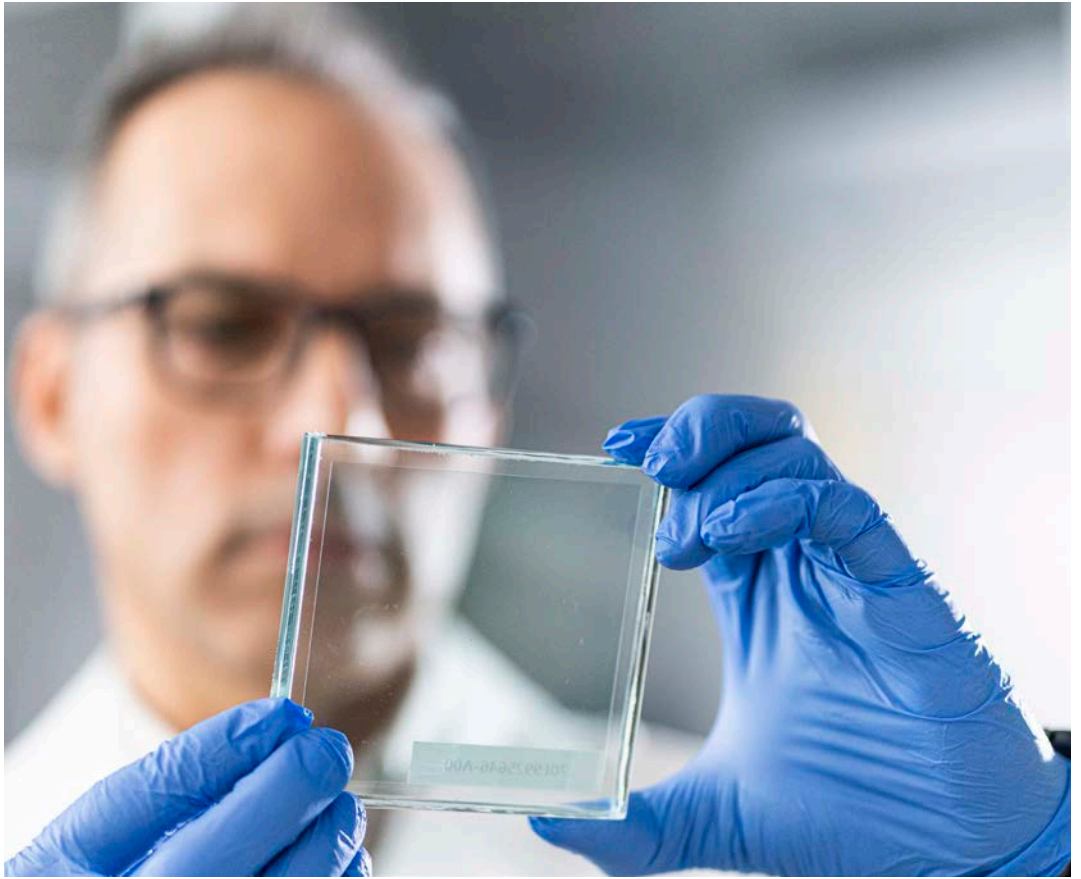
What Sets Us Apart

Isoclima's reputation is built on a foundation of trust, precision, and innovation. Our **co-engineering processes** allow us to partner with the world's top automotive brands, including Stellantis, Mercedes-Benz, BMW, and VW-Audi Group.



— Isoclima glass processing

These collaborations highlight our ability to deliver tailored solutions that balance **resistance**, **protection**, and **optical excellence**. This adaptability and focus on customization ensure our solutions meet the most complex requirements across diverse industries.



Our History of Innovation

Founded in 1977, Isoclima began as a specialist in architectural glass but quickly evolved into a pioneer of **ballistic-performance transparent solutions**.

By innovating technologies such as **No-Spall bullet-resistant glazing**, we introduced thinner, lighter solutions without compromising safety. Over time, strategic acquisitions—including Lipik Glas in Croatia, Isoclima de Mexico in Mexico, and Dlubak Specialty Glass and Global Security Glazing in the USA—have positioned us as a global leader in transparent technologies.



Rail

On the Fast Track to Excellence

Isoclima channels its hallmark **innovation, safety, and precision** into tailored solutions for the rail industry. From **windscreens** and **passenger windows** to **interior glass** and customized transparencies, we provide cutting-edge glazing solutions for high-speed trains, underground systems, and trams.

Innovation Right on Time

Isoclima is a trusted supplier for rail glazing solutions globally, meeting the rigorous demands of **high-speed rail** and **urban transport**. Our solutions comply with key standards, including **EN 15152, NF F 15-818, UIC 651, and GM/RT 2456**, ensuring exceptional reliability and safety.





Advanced Know-How



Anti-IR Coating

Our proprietary **Anti-IR coating** delivers superior comfort and energy efficiency by selectively filtering solar radiation, offering enhanced thermal management for rail vehicles



Solar Protection Technologies

We integrate advanced **solar protection elements**, such as multilayer coatings and selective filters, into laminated glass. These technologies reduce UV and infrared radiation, promoting energy savings and passenger comfort.



Chemical Strengthening

This surface treatment enhances the glass's durability by creating compressive tension, improving resistance to impact and wear while maintaining optical clarity.



Magnetron Sputtering & CVD Coatings

These advanced coatings enable superior **light transmission**, **electrical conductivity**, and **solar control**, allowing for the integration of **transparent heating systems** with high specific power.



Thermal & Heat Strengthening

Our thermal and heat strengthening processes optimize the balance of residual stresses, ensuring durability and maintaining integrity in demanding rail applications.



Integrated Heating Systems

We embed **invisible wire systems** or **transparent conductive coatings** to provide effective **de-icing** and **defrosting** solutions, ensuring optimal performance in extreme climates.



Acoustic Insulation

By carefully designing the glazing cross-section, we reduce sound transmission across critical frequencies, delivering superior acoustic insulation for rail environments.





Innovative Products

— IsoLite®

IsoLite uses **PDLC (Polymer Dispersed Liquid Crystal)** technology to transform transparency. With instantaneous transitions between opaque and clear states, it offers unrivaled **privacy** and **light control**, making it perfect for **interior partitions** and **high-performance glazing**.

— CromaLite®

CromaLite incorporates **SPD (Suspended Particle Device)** technology to dynamically control light transmission. By varying tint levels through an electrical field, it enhances privacy, sun protection, and visibility, making it ideal for **automotive, rail, and architectural applications**.



Our Commitment to Sustainability

At Isoclima, **sustainability** is at the core of everything we do. Through continuous innovation, we reduce the environmental impact of our solutions while maintaining exceptional performance. Key sustainability initiatives include:

- **Solar radiation control systems** to filter UV and infrared rays, reducing energy consumption and emissions.
- **Weight and thickness reduction** to minimize material use and improve energy efficiency during operation.
- Ongoing efforts to align with **ESG (Environmental, Social, Governance)** principles, ensuring our products contribute to a more sustainable future.

These initiatives not only protect the planet but also enhance **end-user comfort**, delivering practical benefits like reduced interior heat and lower energy costs for air conditioning.





Unified Expertise Across Sectors

Isoclima's unparalleled expertise spans a wide array of industries—**Leisure (Supercars)**, **Security (Civilian Armored Vehicles and Military)**, and **Sustainability (Rail and New Mobility)**. Unified by our focus on **complex, customized transparent solutions**, we provide a unique combination of innovation, cross-sector knowledge, and superior craftsmanship.

This holistic approach positions Isoclima as the trusted partner for industries where **security, performance, and aesthetics** are non-negotiable.



www.isoclimagroup.com

