



Flexible manufacturing strategies shaped by **RCN SOLUTIONS**

Innovation, customisation and automation define RCN's approach to modern glass processing. From bending and chemical tempering to advanced lamination and IoT integration, RCN delivers flexible, energy-efficient systems designed for jumbo formats, thin glass applications and high-performance safety requirements across global markets.

The glass market is constantly evolving. From containers to safety glass, façades to highly specialised applications, the industry increasingly depends not only upon advanced machinery but on production solutions built around larger, automated and highly efficient systems capable of processing jumbo-size glass and beyond.

This demand is driven by applications that enhance building energy efficiency and reduce consumption, such as double glazing incorporating a third thin glass pane to lighten assemblies. Jumbo formats require accurate handling, cutting





and drilling, but above all systems that preserve glass integrity through tempering and lamination while minimizing waste. RCN Solutions addresses these requirements through three dedicated machine lines: bending kilns for prestigious projects, chemical tempering systems to increase resistance, and lami-

nation solutions to ensure end-product safety. Available in automatic, semi-automatic or manual configurations, RCN machines are engineered for high output quality, energy savings, waste reduction and improved handling. Their durability is underscored by sustained demand in the second-hand market.

BENDING

Demand for curved glass has risen significantly in recent years, particularly for luxury boats, the rail industry and other high-profile applications requiring precise and flawless curves. The ECO SPECIAL line operates through differentiated temperature distribution and control within a

single chamber. For higher production volumes, the ROTARY system - featuring two self-excluding axes and four controlled working positions - manages loading, pre-heating at 500°C, bending at 650°C, forced cooling and unloading. The Rotary configuration enables the production of curved glass every two hours. More recently, RCN introduced the FLOATING line, based upon two or more bending trolleys and a heating top that moves horizontally from one trolley to another. By alternately covering the trolleys during heating and bending cycles, the system



optimises workflow and efficiency.

TEMPERING

Chemical tempering is playing an increasingly central role in safety glass and specialised projects, including applications involving glass thinner than 0.5 mm. Manufacturers are focusing more upon thin glass solutions designed to lighten installations without compromising strength.

Chemically tempered glass offers higher mechanical resistance compared to glass subjected to other treatments. It can be processed after tempering and maintains excellent flatness without optical distortion. Unlike thermal tempering, the chemical process involves no rapid quenching and eliminates roll-wave distortion, delivering a uniform stress profile.

The process relies upon ion exchange between the glass surface and potassium salts, creating a consistent compression layer. Although the cycle time is approximately 16 hours -reducible to four hours

with specific glass types- the system maintains controlled running costs. Once the tank is filled with potassium salts, it requires only periodic topping up when indicated by the machine. After the salts have melted, energy consumption stabilises at around 15 percent of installed power.

The CT line, available in various sizes and configura-

tions, meets diverse chemical tempering requirements, with customisation integrated into its design.

LAMINATION

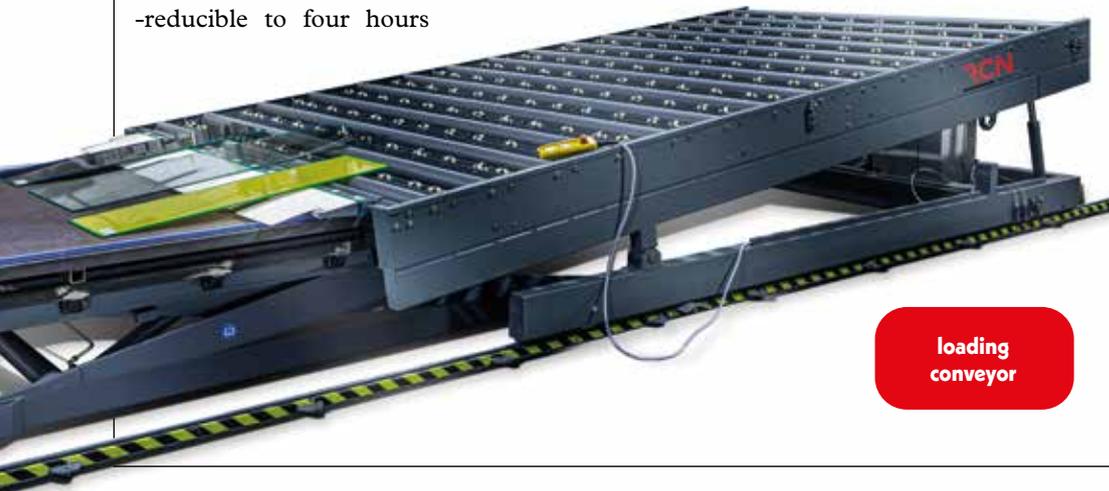
Effective lamination requires uniform heat distribution, flatness under heavy loads and energy efficiency. RCN's construction avoids aluminium components to ensure structural stability and maintain consistent flat-

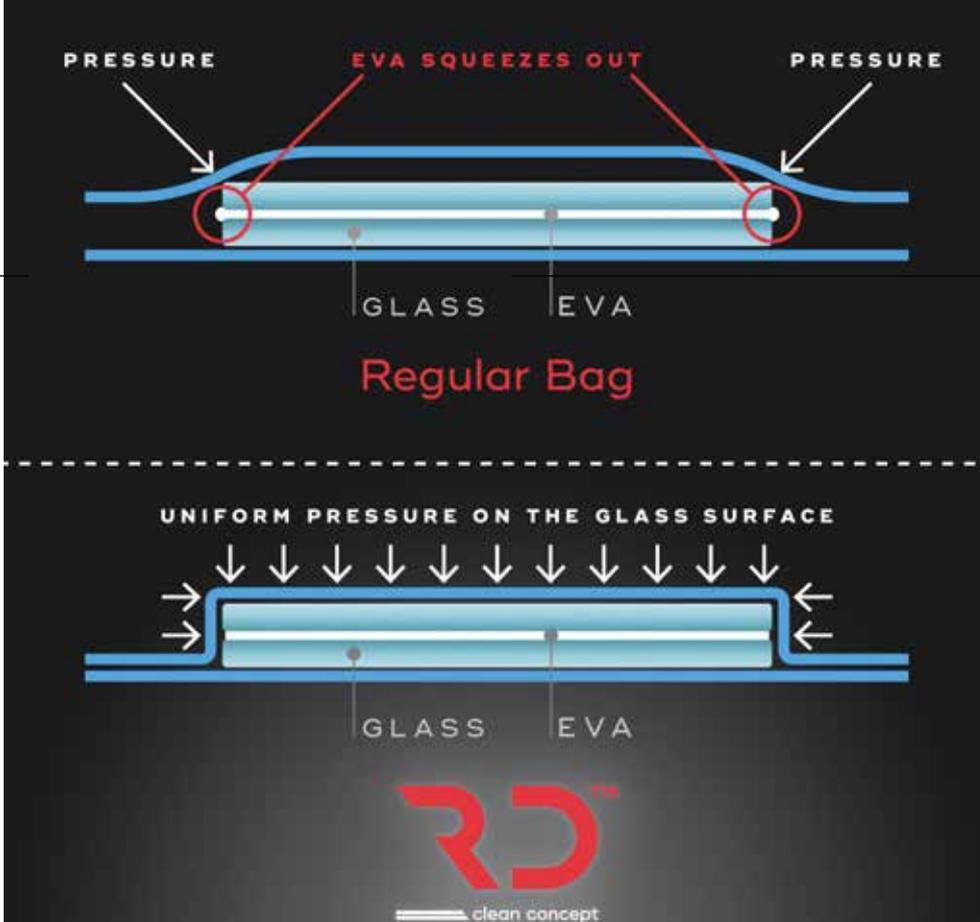
ness of laminated shelves. The company's LIA - Laminating Integrated Automation system reduces operator intervention and streamlines handling processes. High-quality laminated glass also depends upon high-quality interlayers. RCN combines its machinery with REVA BF interlayer material, produced using fresh raw materials for each batch rather than recycled EVA, ensuring consistent product performance.

Additional equipment includes loading conveyors that release glass assemblies directly into the bag prior to lamination.

In 2022, RCN Solutions introduced RD CLEAN CONCEPT, a patented laminating bag designed to produce clean edges after lamination. Developed and manufactured by RCN, this solution reduces or eliminates excess interlayer material at the glass edges, removing the need for manual trimming with sharp tools and improving workplace safety.

The bag's two modules, with variable elasticity, ensure improved flatness compared to traditional systems that apply greater pressure at the edges, potentially causing surface distortion or thickness reduction near the perimeter. RD CLEAN CONCEPT has been adopted by companies worldwide seeking consistent, high-quality lamination results.





IOT AND INTEGRATION

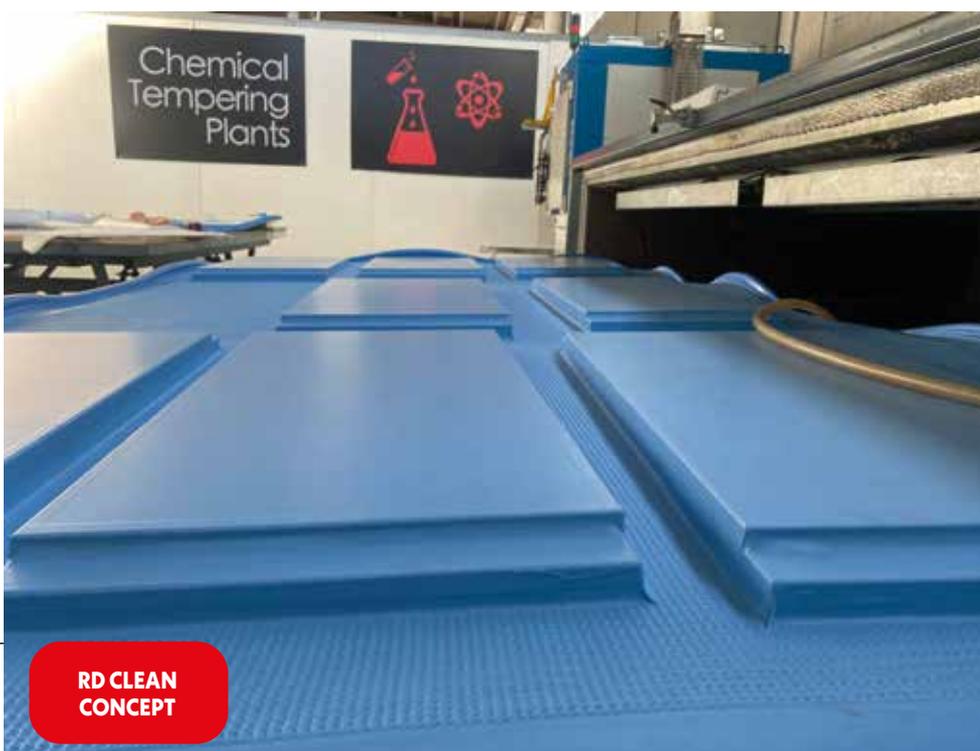
The industry has entered the era of the Internet of Things (IoT), where interconnected systems enhance industrial automation, energy efficiency, waste reduction and process control within a human-centric framework.

For many glaziers, this tran-

sition presents challenges in terms of time and resources. RCN responds with an optional IoT communication package that integrates its machines with existing equipment and management software, or with proprietary RCN software customised to client requirements. Hardware configurations can also be structured according to the number of machines managed.

These operational and management packages provide structured data communication and support future production planning. Designed and produced in Italy, the automation systems are tailored to specific technical requirements.

Flexibility remains central to RCN's approach. In the past two years, the majority of machines produced have been customised. Remote control functionality, together with the RCN Easy App, enables production monitoring and recipe adjustments at any time. Each solution is designed to deliver measurable organisational and operational benefits.



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