

# SATINAL SOUS

## MULTI-BRAND ITALIAN COMPANY

Satinal SpA is an Italian company founded in 2001 and it has a multi-brand architecture which encompasses a range of product brands that serve all the professionals of the glass industry worldwide.

## TK | GLASS PROCESSING OVENS

Design and construction of machineries for glass processing (laminating, tempering, chemical tempering and HST)





## Lamijet | Lamijet convection | Breva

Ovens with infrared/convection/conduction heating system for laminating EVA - PVB - SentryGlas without autoclave.

#### HST

### CT

Ovens for the treatment of glass chemical tempering. The process is done at temperatures that do not cause optical deformation.





#### TK | Product range

Glass Heating Soaking ovens used to test and record glass tempering quality in the post tempered glass for nickel sulphide inclusions in compliance to EN 14179.



#### Easy | Star | Master Temper

Oscillating tempering ovens for small - medium and Low-E glass.



Laminating oven with infrared heating system. Available with one or two indipendent chambers and one or two working surfaces per chamber.

#### **FEATURE**

- Possibility of laminating EVA SentryGlas
- Heaters' supports with ceramic insulators
- Heaters placed above and below the working surface
- Vacuum circuits with high efficient and high capacity oil pumps (one for each working plane) for maximum process efficiency
- Available in various sizes and with one or more processing chambers
- Possibility to adjust the vacuum based on the type of materials.

#### **MODELS:** 01 | 02 | 02-2C | 04 | 04-2C

#### Laminating ovens



## LAMIJET CONVECTION

Multi-level laminating oven with convection heating system. It can be combined with HST (Heat Soak Test).

#### **FEATURE**

- Possibility of laminating EVA PVB SentryGlas without autoclave
- High flow rate hot air circulation heating system
- Rapid cooling system with fresh air circulation
- Maximum temperature uniformity with thermocouple control
- Vacuum circuit with highly efficient oil pumps
- Possibility to adjust the vacuum based on the type of materials

#### Laminating ovens



## BREVA

Laminating oven without autoclave and conduction heating system.

#### **FEATURE**

- Possibility of laminating EVA PVB SentryGlas with laminating cycles in less than an hour
- Electric conduction heating system and fast curing
- Maximum temperature uniformity and flexibility
- Temperature control over multiple independent zones
- Temperature regulation with thermocouple connected to a digital microprocessor
- Position photo-cell for automatic glass loading and unloading
- Fast cooling

#### Laminating ovens



## СТ

By the chemical tempering it is possible to temper glass with thickness minimum 0,5 mm and also glass with particular geometric shape, maintaining a high optical quality.

#### **FEATURE**

- Electrical heating
- Touch screen operator's panel programmable
- Salts melting tank in thick stainless steel
- Energy lack security system UPS
- Pre-heating hood
- Electromechanical glass lifting system
- Maximum temperature 500°C

#### Chemical tempering ovens



## **EASY TEMPER**

The oscillating Easy temper ovens are designed for the flat tempering of small-sized glass with dimensions from 20x30mm up to 80×100 mm.

#### **FEATURE**

- Highly productive
- Extremely reliable
- Low power consumption
- Easy setting of the processing parameters

#### Tempering ovens



## **STAR TEMPER**

The Star Temper oven is designed to satisfy the requirements of small and medium sized glass companies while maintaining high production levels and granting maximum simplicity of the setting of the working parameters.

#### **FEATURE**

- Radiant or combined convection and radiation heating systems.
- Very low power consumption
- Compact size

#### Tempering ovens



## **MASTER TEMPER**

Oscillating tempering furnace based on a high pressure blowing system. The special TK convection system allows to temper any LOW-E glass available on the market.

#### **FEATURE**

- Convection by hot air directly inside the heating chamber Pre-heating chamber with full convection system
- Ceramic rollers handling by double belts
- Every single zone is equipped with its thermocouple
- For each zone it is possible to set the set-point, the PID parameters, the alarms and the power percentage
- The plant is equipped with an energy-saving control the "energy save" system - which allows to optimize the power absorption, during the heating phase.

#### Tempering ovens



#### HST

Heat Soak Test (HST) oven represents the ideal means to comply with the safety rules concerning the use of tempered glasses.

#### **FEATURE**

• It prevents spontaneous breakage of tempered glass for excess Nickel Sulphur inclusions.

#### Heat Soaking ovens



## **Global support**

## TK PROVIDES ROUND THE CLOCK SUPPORT TO ALL OF CUSTOMERS





#### Design & Construction

all ovens are made to measure and assembled on site



## Testing

after installation, the furnace is started and a test cycle is carried out.

TK | Service





#### Technical support technicians provide remote or

on-site assistance

## **STRATO® | EVA INTERLAYERS**

Polymeric interlayers for glass lamination. Satinal Spa is the only manufacturer of EVA films with a 2.6-meter-wide line (102") at national and international level. All production is Made in Italy.





(e.g. PVB).

STRATO® | Feature

- Resistant to moisture. It can be used in external or internal application.
- Excellent adhesion to glass and inserts of different materials. No reduction or potentially a total loss of adhesion between the glass panes and the interlayer.
- Premium acoustic insulation properties. It greatly improves the sound reduction property of the laminated glass.
- Resistance to high temperatures, high humidity and UV damaging rays.
- Excellent optical properties and a low light reflection effect.

• Excellent thermomechanical properties which confer durability and stability beyond any thermoplastic interlayer



#### Open-edge installation



#### Interior design



#### Solar control



#### Acoustic insulation

STRATO® | Application

#### Architecture



#### Structural elements



## Plus

Smooth extra clear EVA film. Greater fluidity.

## Extra Chiaro

Stiff extra clear EVA film. Less edge leakage.

## Leggero

Light frosted EVA film. Light transmission 60%-65%.

## Satinato

Classic frosted effect. Light transmission 20%-25%.

## Latte

Milky white finishing. Light transmission 2%.

## Bianco

Pure white EVA film. Light transmission 0%

## Nero

Solid black EVA film. Light transmission 0%

### Fresco

Solar control technology. It eliminates NIR and UV energy allowing the highest visible light transmission.



## Always close to the customers

SATINAL MAKES ITS KNOW-HOW AVAILABLE TO ALL CUSTOMERS SUPPORTING THEM IN:



## Selecting

the best STRATO® EVA film suitable for the specific application



Setting the start-up parameters of the laminating cycle.

#### STRATO® | Technical assistance





### Testing

samples of laminated glass with STRATO® EVA film in the in-house Lab.

## SATINAL | CHEMICALS AND MACHINERY FOR GLASS FROSTING

Production of chemical compounds and machinery for hollow glass frosting.





# Manual etching machines (11 positions)

Suitable for small quantities of different items (bottles, containers, lamps etc.). The operator manually loads the items on a special plastic tray then the tray is hooked to a cart.

# Automatic etching machines (10/12/14 positions)

Suitable for small quantities of different items (bottles, containers, lamps etc.). The loading and unloading operations of the trays are totally automatic.



#### Satinal chemical compound

The raw materials for the production of chemicals are carefully selected, controlled and balanced to guarantee customers a high quality frosting finish on any glass surface.



## Satinal Spa | Erba, Italy customer@satinal.it

## Satinal USA Inc. | Miami, Usa sales@satinal.it

## Satinal do Brasil Ltda. | Pinheiros, Brasil brasil@satinal.it

satinalgroup.com