جيرسي للزجاج
Jersey Glass
Processing our Passion

Without **Glass**
The world ends
in a **wall**...

Excellence meets passion

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Introduction

Overview

Whether in Facades, curtain walls, balustrades, handrails, internal partitions, shower cubicles & other array of endless applications, the usage of glass is constantly increasing. Glass is a multifunctional material that apart from transparency, offers many properties that can be combined which makes it a widely used building material. At Jersey Glass, we process this multifunctional material with the state of the art machineries certified by the leading glass manufacturers globally thereby assuring you of the finest quality products coupled with a team of experts who can assist you achieve the set-forth performance requirements & provide you with a cost-effective solution. With over a decade of experience in catering to some of the niche projects across Qatar, Oman & Maldives, Jersey Glass desires to continue contributing positively & constructively to the ever increasing demands of the glass industry.

What we do

Glass is our passion & we process our passions with a variety of offerings such as cutting, lami-cutting, polishing, drilling, bevelling, plain & design sand-blasting, heat-strengthening, tempering, heat-soaking, lamination & insulated glazing. Currently catering to some of the most prestigious projects in MENA region, Jersey Glass intends to spread its wings to other regions in the near future and thereby keep challenging our limits to expand our boundaries and meet the ever-growing demands of the present day construction industry.

Certifications

Jersey Glass has worked along with some of the worlds leading float & coated glass manufacturers to set up the tempering furnace parameters, lamination pressing parameters & glazing parameters and currently are certified by the industries leading brands to process their float & coated glass products.


Excellence
Contribute
Team Work
Values
Satisfaction
Execute
Accuracy
Quality
Performance
Ethics
Empowerment
Compliance
Commitment
Passion
Attitude
Professional
Learn
Reliability
Dedication
Relationships

Vision, Mission and Promises

Vision

To build a sturdy customer base across the region that shall recognize us for the quality & service of our products & continue to be associated with us in our growth to become one of the supreme glass processors in the region.

Mission

To ABSORB the desires, REFLECT the ideas & TRANSMIT the thoughts to create a product with sustainability, finesse & caliber for all.

Jersey Glass Promises

- Offers a world class glass processing facility to cater to your projects.
- Has a team of experienced professions to handle your enquiries & concerns
- Shall provide attention to detail to ensure complete accuracy
- Shall provide you with prompt responses to your queries
- Shall do whatever it takes to adhere to delivery commitments
- Shall work in such a way so as to exceed customer expectations
- Shall provide the clients with prompt after sales service & support

Timeline

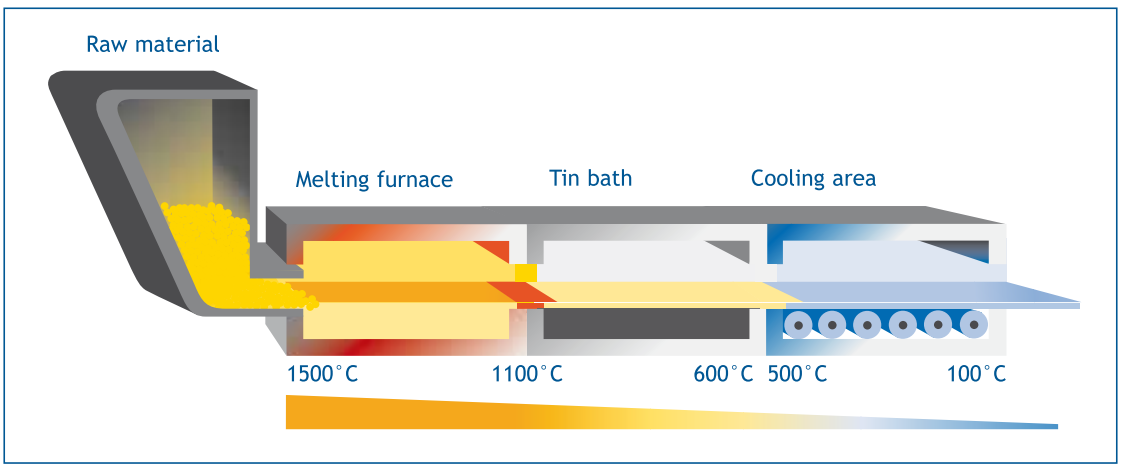
1999	Establishment of Al-Khamees Glass Factory (Currently Jersey Glass).
2007	Acquisition of Al-Khamees Glass Factory (Currently Jersey Glass) by Jersey Group.
2008	Quality glass processor catering primarily to retail segment.
2011	Commencement of refurbishment of facility to upgrade the machineries and facilities.
2013	Refurbished Facility commences operations under brand name 'Jersey Glass'
Present	Currently catering to niche projects in the MENA Region and growing from strength to strength.

Float Glass

Our Main Ingredient

What is Float Glass?

In the method of manufacturing glass, the molten glass spreads out evenly over the surface of a liquid tin bath. Due to the inherent surface tension of the liquid tin, and the fact that glass is only half as dense as tin, the molten glass does not sink into the tin bath, but rather floats on the surface, thereby evenly moulding itself to the surface shape of the liquid tin. This method creates absolute plane parallelism, which guarantees freedom from distortion and crystal clear transparency. Reducing the temperature in the tin bath from approx. 1000 °C to approx. 600 °C turns a viscous mass of molten glass into a solid glass sheet that can be lifted right off of the surface of the tin bath at the end of the floating process. The glass is then cooled down to room temperature using a very precise procedure in the roller cooling channel to ensure that no permanent stress remains in the glass. This operation is extremely important for problem free processing. The glass ribbon is still approx. 50 °C at the end of the 250 m long cooling line.



Schematic representation of Float Glass manufacturing process

Coatings on Float Glass

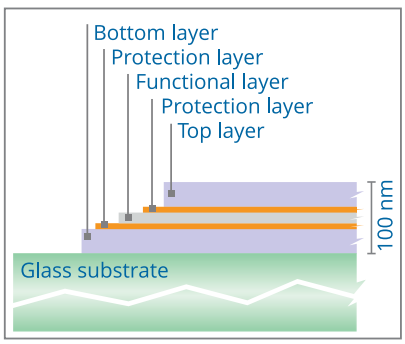
Industrial coatings for float glass are produced in huge quantities, primarily in 2 techniques. One is the chemical pyrolysis process, also called hardcoating; the second is a physical process called vacuum deposition process or magnetron-sputtering.

Depending on the coating used, materials in both methods create a neutral and coloured appearance, whereby the coloured effects are less obvious when viewing the glass head on and are easier to note when looking at reflections on the glass surface. These two technologies are base glass oriented and not to be mistaken for surface coating applied through spraying, rolling or imprinting processes.

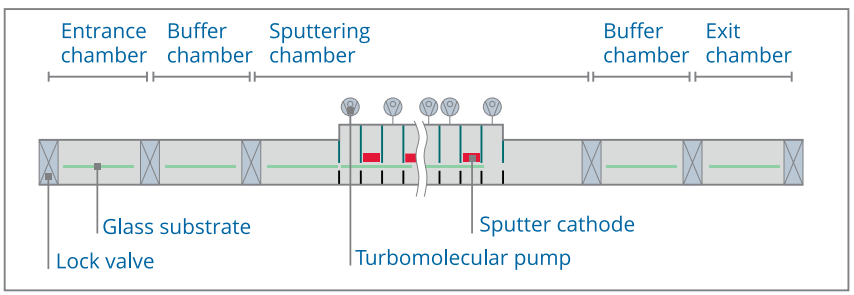
Magnetron process

The material (i.e. the target, which is a metal plate) that is going to be deposited on the glass surface is mounted on an electrode that has a high electrical potential. Electrode and target are electrically isolated from the wall of the vacuum chamber. The strong electrical field (fast electrons) ionize the sputter gas argon. The accelerated argon ions are able to break off material from the target by colliding with it, which then comes into contact with the glass, where it is deposited onto the surface.

Metals and alloys are sputtered with or without additional reactive gases (O2 or N2). Now it is possible to deposit metals, metal oxides and metal nitrides.



Layer srack of high performace coated glass



Cross-section of a magnetron coating line

Typical assembly of a Magnetron-Sputter-Coater

Bottom and top layer

- Influence reflectance, transmittance and colour of the coating
- Silicone nitride top layer gives a very high mechanical durability

Functional layer

E.g. silver, chromium

- Responsible for the reflection of long wave and short wave radiation
- Strong influence on U-value and Shading Coefficient/Solar Factor

Protection layer

- Protection of the functional layer against mechanical and chemical influences

Our Processes

Cutting

Jersey Glass features two speciality cutting lines from LiSEC which includes a mobile single - sided glass loading machine that enables handling of large size / split stock sheets and a mobile overhead crane with rotating section frame for auto pick-up of large size sheets.

A

Thickness range: 3mm - 12mm
Size range: 0.3 x 0.3 m / 3.3 x 6.0 m
Avg. capacity: 3600 Sq. m /day

B

Thickness range: 3mm - 19mm
Size range: 0.3 x 0.3 m / 3.3 x 6.0 m
Avg. capacity: 3600 Sq. m /day

C

Polishing & Bevelling

Thickness range: 4mm - 19mm
Length: upto 5.1 m
Avg. capacity: 400 Sq. m /day

D

Drilling

Thickness range: 4mm - 19mm
Hole dia: 6 mm - 120 mm
Avg. capacity: 400 holes /day

E

Sand Blasting

Thickness Range: 4mm - 50mm
Size range: 0.4 x 0.4 m / 2.1 x 3.1m
Avg. capacity: 200 Sq. m /day

Our Processes

Fully Automated Glass Cutting (A) *machine make: LiSEC, Austria.*

Fully automatic cutting table for float glass and special glass types using the cutting wheel technology. The table is also equipped with an edge deletion unit, which removes soft coatings from glass sheets. Straight edges can be simultaneously cut and edge deleted, which guarantees low cycle times while offering maximum quality. Standard shapes and also digitalized special shapes can be cut with ease.

Lami - Cutting (B) *machine make: LiSEC, Austria.*

Compact design machine with automatically adjusting stop bar for cutting laminated glass sheets. Stretching and separation of the PVB foil are carried out by suction cups operating from below. This technology guarantees that coatings are well protected against damage during cutting. For the cutting process, the laminated glass sheet is manually positioned against the self-adjusting stop bar.

Polishing & Bevelling (C) *machine make: Glaston Bavelloni, Italy.*

The Bavelloni GEMY V10 & B75 CN are variable angle straight line edging machines used to work flat edges with arrises and inclined edges from 0° to 45°. This machine has been designed and built using today's most innovative technological solutions. In particular, it features a (patented) sliding conveyor without ball bearings that provides with high performance.

Drilling (D) *machine make: Glaston Bavelloni, Italy.*

This double head Automatic Drilling machine version is with automatic lower drilling head and manual upper head with lever.

Sand Blasting (E) *machine make: Dynamiki, Greece.*

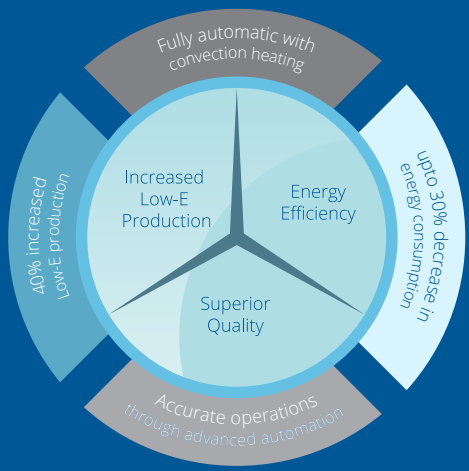
This Sand Blasting machine designed for sandblasting flat glass can offer plain and design patterns. It is a fully automatic machine, with one automatic gun and one manual gun. The machine is fully controlled by PLC and is equipped with inverters. The working height and speed of the robot is adjustable as well as the belt speed, through the PLC touch screen.

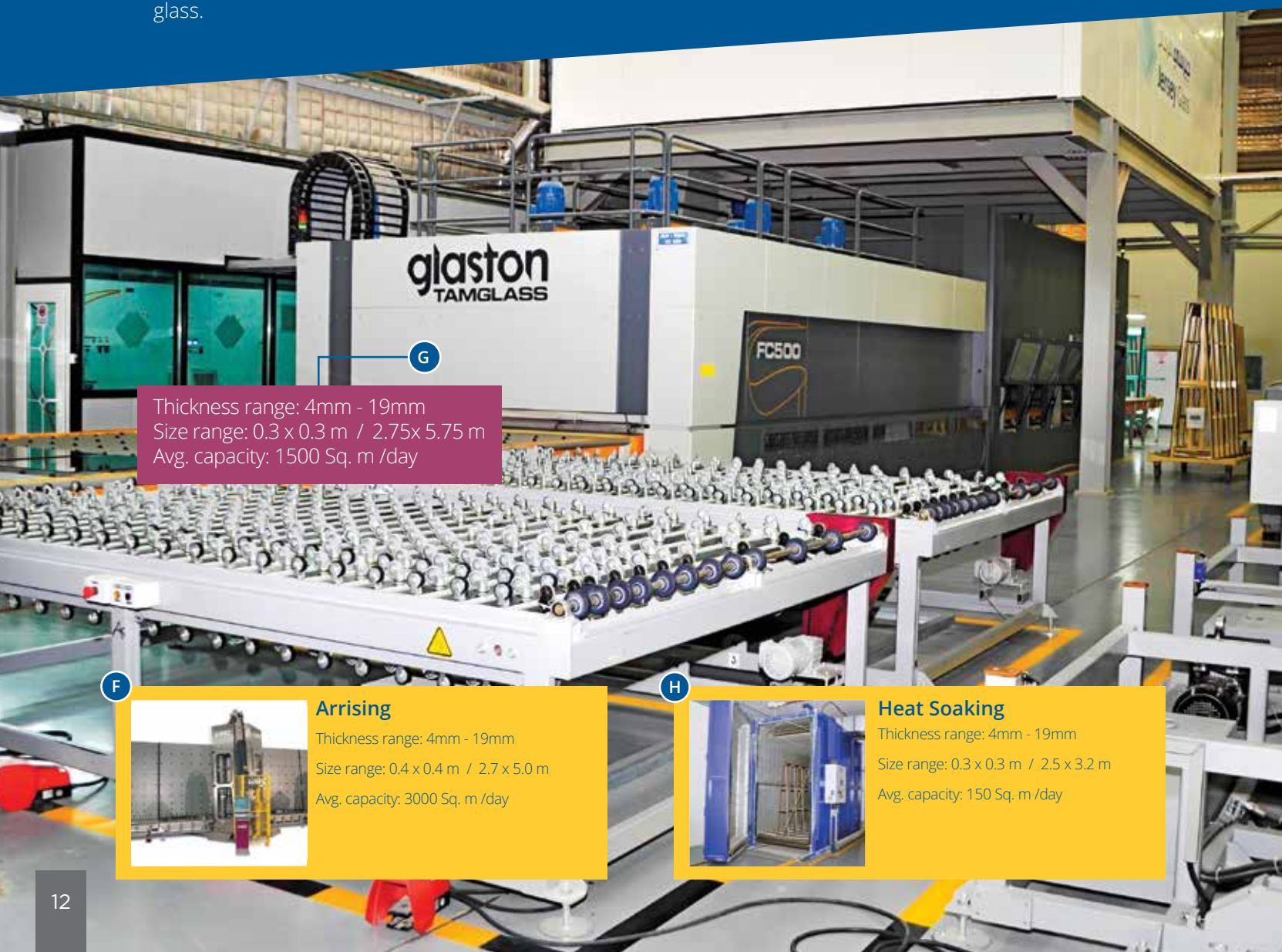
Our Processes

Tempered Glass

- Tempered glass is one of two kinds of safety glass regularly used in applications in which standard glass could pose a potential danger.
- Tempered glass is manufactured through a process of extreme heating and rapid cooling, making it harder than normal glass.
- The brittle nature of tempered glass causes it to shatter into small oval-shaped pebbles when broken.
- This eliminates the danger of sharp edges. Due to this property, along with its strength, tempered glass is often referred to as safety glass.

Highlights: FC 500





G

Thickness range: 4mm - 19mm
Size range: 0.3 x 0.3 m / 2.75x 5.75 m
Avg. capacity: 1500 Sq. m /day

F

Arrising

Thickness range: 4mm - 19mm

Size range: 0.4 x 0.4 m / 2.7 x 5.0 m

Avg. capacity: 3000 Sq. m /day

H

Heat Soaking

Thickness range: 4mm - 19mm

Size range: 0.3 x 0.3 m / 2.5 x 3.2 m

Avg. capacity: 150 Sq. m /day

Our Processes

Arrising (F)

machine make: LiSEC, Austria.

Vertical compact grinding machine for arrising of glass sheets on all four sides in a fully automatic cycle. Glass edges are grinded using diamond-equipped wet grinding belts that simultaneously process the front and rear side of a glass edge. The grinding machine moves on a vertical guide unit and can also rotate 360 degrees, allowing it to reach all four sides of a glass sheet. This grinding process achieves optimal and gentle planing of glass edges within the shortest cycle times and minimizes the quantity of required abrasive materials. The grinding belts automatically adjust to the respective sheet size and thickness. The width of the grinding edge is adjustable from 0.5 mm to 2 mm. The compact dimension is made possible since only one grinding unit processes all sides of a rectangular or shaped sheet.

Tempering & Heat Strengthening (G)

machine make: Glaston, Finland.

FC 500 was designed to meet todays evolving market trends. The rapid increase in demand for super Low-E glass, quality consciousness, together with the global energy efficiency boom were the major driving factors in the devolepment of FC500.

FC500 was developed in close cooperation with glass producers to respond to the most pressing needs in todays flat tempering industry.

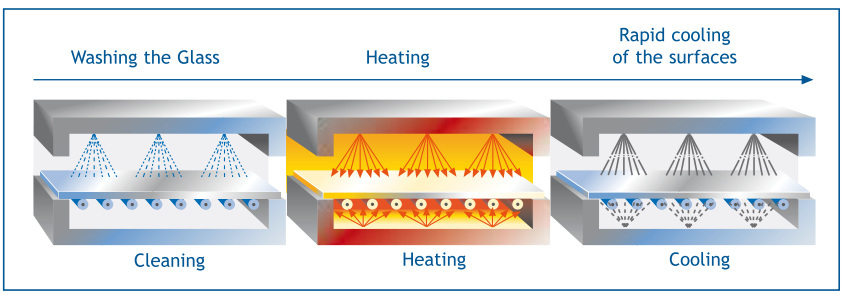
Heat Soaking (H)

machine make: Blokkiln, Netherland.

The heat soak test is done to reduce the risk of spontaneous breakages, due to Nickel sulphide inclusions. The heat soak test is a thermal cycle which contains a heating phase to 290°c, a holding phase of 2 hours and a cooling phase to ambient temperature. The total cycle time is approx. 8-10 hours.

What is Nickel sulphide (NiS) inclusion?

A NiS inclusion is a rare imperfection that can occur if nickel rich elements are present in the glass manufacturing process. These elements such as stainless steel can combine with sulphur to form NiS inclusions. When glass is heat treated to produce fully tempered glass, NiS inclusions change size from what is known as low temperature structure to a high temperature crystalline structure. When cooled quickly, the NiS particle is unable to change completely to its original form. Over time, NiS may slowly convert to its low temperature form but with an increase in volume of about 2-4% which can cause breakage of glass.



Schematic Representation of Heat Treatment

Our Processes

Laminated Glass

Lamination using
Colored PVB

Lamination using
Acoustic PVB

Laminated Glass

Laminated glass is two or more lites (pieces) of glass permanently bonded together with one or more plastic interlayers (PVB) using heat and pressure. The glass and interlayers can be a variety of colors and thicknesses designed to meet building code standards and requirements as necessary. Laminated glass can be broken, but the fragments will tend to adhere to the plastic layer and remain largely intact, reducing the risk of injury. Heatstrengthened and tempered glass can be incorporated into laminated glass units to further strengthen the impact resistance. Hurricane resistance, the need for bomb blast protection, sound attenuation and ballistic or forced-entry security concerns are all primary uses for laminated glass.

I

Thickness range: 6mm - 80mm
Size range: 0.4 x 0.6 m / 2.6x 5 m
Avg. capacity: 1200 Sq. m /day

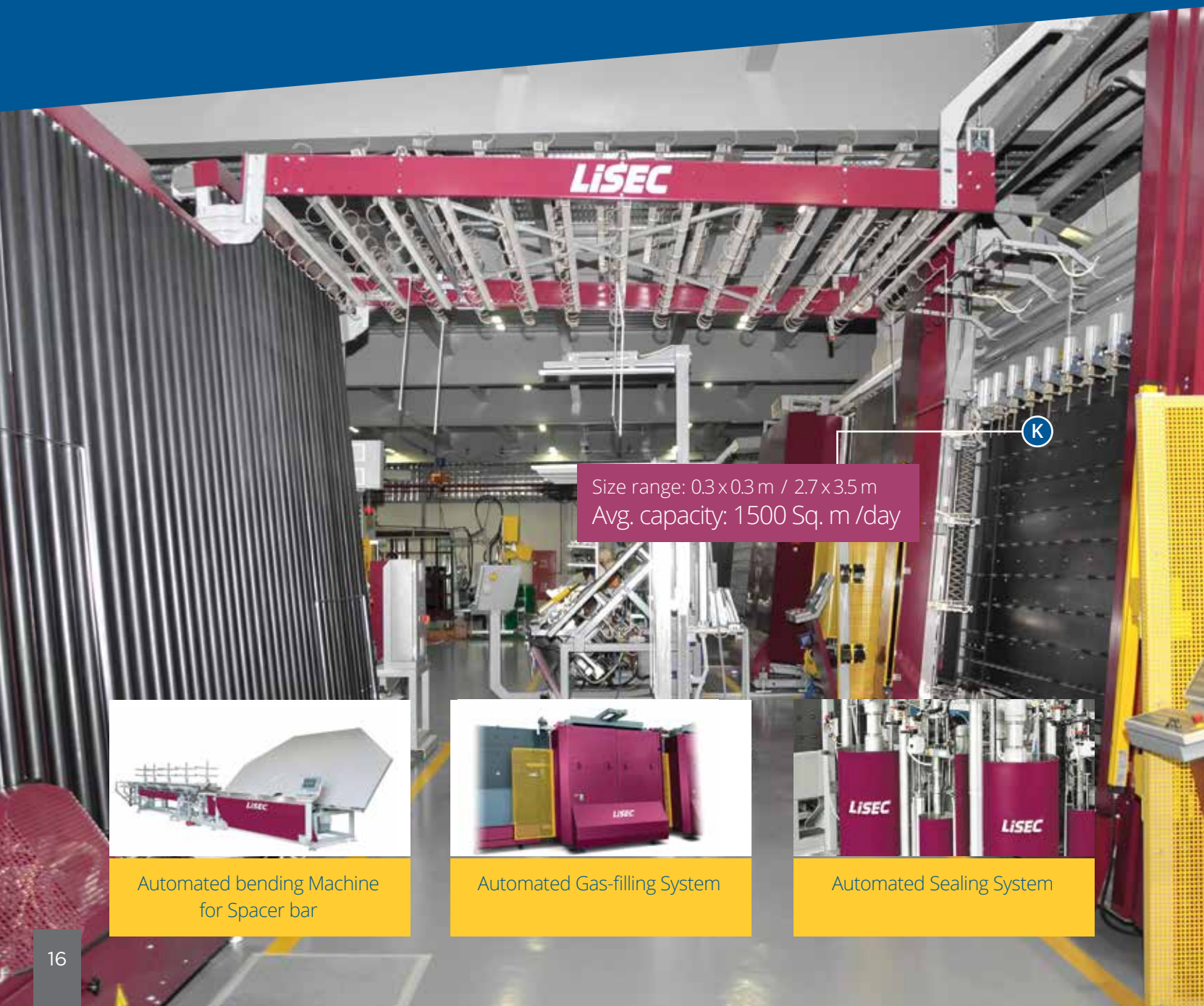
J

Auto Clave

Thickness range: 6.38mm - 80mm
Size range: 0.4 x 0.6 m / 2.6 x 5.0 m
Avg. capacity: 500Sq. m /day

Insulated Glass

Insulated Glass, often called double glazing, is a combination of two or more panes of glass spaced apart with a spacer bar and hermetically sealed with a primary and secondary sealant to form a single unit with one or more air spaces in between. Spacer bar is usually made of aluminium and filled with dessicant, it holds the unit together, provides thickness and mechanical resistance. Butyl is the most common primary sealant used with silicone or polysulfide as secondary sealants. Gap between glass lites in the IG unit can be filled with air, inert gas or vaccum. IG units improve the thermal performance, thus significantly reducing heating and air-conditioning costs.



Automated bending Machine for Spacer bar

Automated Gas-filling System

Automated Sealing System

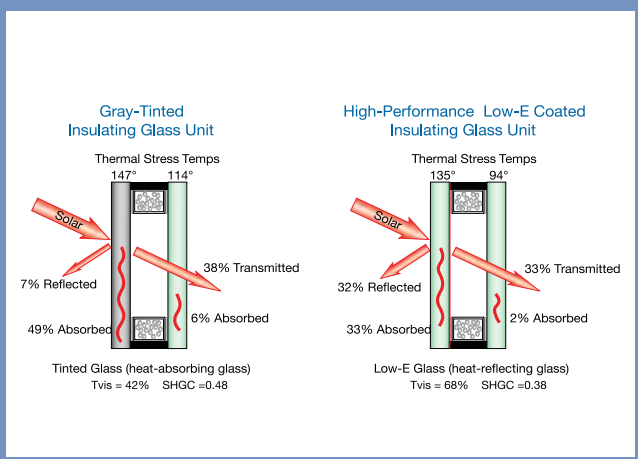
Insulated Glazing (K) *machine make: LiSEC, Austria.*

Jersey glass boasts of fully automated IG line and a semi automated IG line. The fully automated IG line comprises of the following features

1. Automated Bending Machine for spacer bar
2. Automated Dessicant filling system for bent spacer frames
3. Butyl extruder for precision butyl coating on both sides of spaces
4. Auto spacer mounting
5. Automated gas filling sysytem
6. High performance automated sealing system

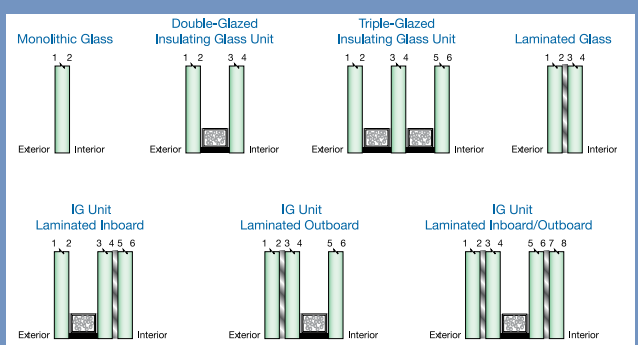
Tinted Glass (Heat-Absorbing) vs. Low-E Coated Glass

Low-E coatings reduce the amount of direct solar energy entering the building. Before the development of low-E coatings, architects relied on tinted (heat-absorbing glass) or reflective coatings to reduce solar energy transmission. Tinted glass almost always requires heat-treatment to reduce potential thermal stress and breakage and tends to reradiate the absorbed heat. Reflective coatings are effective at reducing heat gain but also reduce visible light transmission. Low-E coatings reflect solar energy away from the glazing, often without requiring heattreatment, and generally have lower visible light reflection.



Common Glass Configurations

The following images depict the most common glass configurations and identify the glass surfaces with numbers showing the glass surfaces counting from exterior to interior.



Specialty Products

High Performance Glass (Single/Double & Triple Silver Low-E Coated glass):

Glass is more than just something that you look through. Low-emissivity (low-E) coatings are microscopically thin metal layers that are deposited on the glass surface to help keep heat on the same side of the glass from which it originated. Depending on the climate, and whether it's for commercial or residential use, there are a number of different coatings to achieve specific results. The goal is to find the proper balance between capturing and reflecting solar heat. We at Jersey Glass are well equipped to understand your requirements and our expert team shall be able to help you decide what is best suitable for your application.

Extra-Clear/Ultra-Clear Glass (Low Iron Glass):

Standard clear glass is actually far from clear. Extra & Ultra-Clear glasses are manufactured using reduced iron content which reduces the greenish tint in clear glass that is most apparent when viewed from the edge. The green tint usually becomes more visible as the float glass gets thicker. The result of this change in iron content is a pure, sparkling & clear glass. These glasses are obvious choices for atriums, skylights, display cases, store-fronts etc. Jersey Glass is certified to Temper, Laminate & double glaze these type of glasses..

Anti-Reflective glass:

Anti-reflective glass offers crystal clear transparency, even with a significant difference in the amount of light in front of and behind the pane. It reduces reflections to just a fraction of those seen with conventional glass. whether it's a shop window which loses impact due to distracting reflections, a viewing platform which loses visual accuracy due to distracting glare, or a restaurant with a breathtaking view which becomes completely hidden as soon as the sun goes down, anti-reflective glass provides the perfect solution. Common applications range from museum vitrines, display cases, shop fronts, car showrooms, and restaurants, control towers, sporting facilities, zoos & aquariums. Anti-reflective coatings are offered on one or both surfaces of the glass substrate making it highly flexible for any application or purpose. Jersey Glass is certified to process anti-reflective glass.

Sandblasted Glass

Sandblasted glass is produced by spraying sand at high velocities over the surface of the glass. This gives the glass a translucent surface, which is usually rougher than that obtained by etching. During sandblasting, only the areas that are to remain transparent are masked for protection. The depth and degree of the translucency of the sand-blasted finishing vary with the force and type of sand used.The sandblasting technique is used to obscure visibility through glass, but the glass continues to still transmit light as it is diffused through the surface. Patterns and designs can be created using a mask which resists the abrasive force of the grit from the sandblaster. The mask can be hand cut or computer cut depending on the design.

Self Cleaning Glass

Self-cleaning glass is a specific type of glass with a surface which keeps itself free of dirt and grime through photocatalytic decomposition. A nanometer-scale coating of titanium dioxide on the outer surface of the glass introduces two mechanisms which give it the self-cleaning property. Self cleaning glass cleans itself in two stages. The first stage is called photo-catalysis in which the organic dirt is broken down and loosened by the action of natural daylight. Secondly, when it rains, instead of forming droplets, the water spreads evenly over the surface of the glass, forming a thin film and helping to wash any dirt away, preventing the formation of drying spots and streaks, and helping the glass to dry very quickly.

Switchable Glass

Switchable Glass is a product of cutting-edge technology that allows users to block either all light or just some by simply turning a knob or pressing a button. This type of light control could potentially save tremendously on heating, cooling and lighting costs. Switchable glass technology basically means controlling the transmission of light through glass by using electrical power. By applying a variable voltage to the glass, the amount of transmitted light can be controlled. Switching speed and the consistency of a tint change are among the most important attributes to potential users of switchable glass technology. switchable glass technologies include electrochromic, photochromic, thermochromic, suspended particle, micro-blind and liquid crystal devices.

Al Bayt Stadium
Curtain Wall — 15,352 Sqm.

Abraj Quartier:AQ 3,4,5,6
Windows, Curtain Wall — 43,508 Sqm.

Salwa Beach Resort
Windows & Doors — 20,619 Sqm.

Passport Office
Curtain Wall, Windows — 7,695 Sqm.

Union Residential Tower
Curtain Wall, Windows — 5,612 Sqm.

Al Majed Tower
Curtain Wall — 16,718 Sqm.

New College Of Pharmacy - QU
Curtain Wall — 7,474 Sqm.

Khalifa Stadium E
Curtain Wall

Kahramaa Tower
Curtain Wall

Energy Center & Office Building

5,918 Sqm.

Al Sadd Stadium

Curtain Wall, Handrails

7,937 Sqm.

11,833 Sqm.

Dusit Thani Hotel

Curtain Wall, Handrails

5,810 Sqm.

Ithaafushi Resort- Maldives

Windows

5,000 Sqm.

Hotel & Complex of Al Najadah-Souq
Windows, Curtain Wall — 5,713 Sqm.

IBIS & Adagio Hotel
Curtain Wall — 6,365 Sqm.

Noor Al Bayan Hotel
Curtain Wall — 1,605 Sqm.

Msheireb Office Building
Curtain Wall — 1,831 Sqm.

Hilton Garden Ho
Curtain Wall

Katara Childrens Mall
Curtain Wall- Spider Glazing — 2,487 Sqm.

Al Rawadah- Muscat
Curtain Wall — 2,500 Sqm.

tel

1,947 Sqm.

Almana Loft

Curtain Wall

1,630 Sqm.

Qatar University- Sports & Utility Complex

Curtain Wall

2,299 Sqm.

Seeliya Tower

Curtain Wall

2,315 Sqm.

Qatar Airways Building- Muscat

Curtain Wall

2,450 Sqm.

Bin Al Sheikh Tower
Curtain Wall

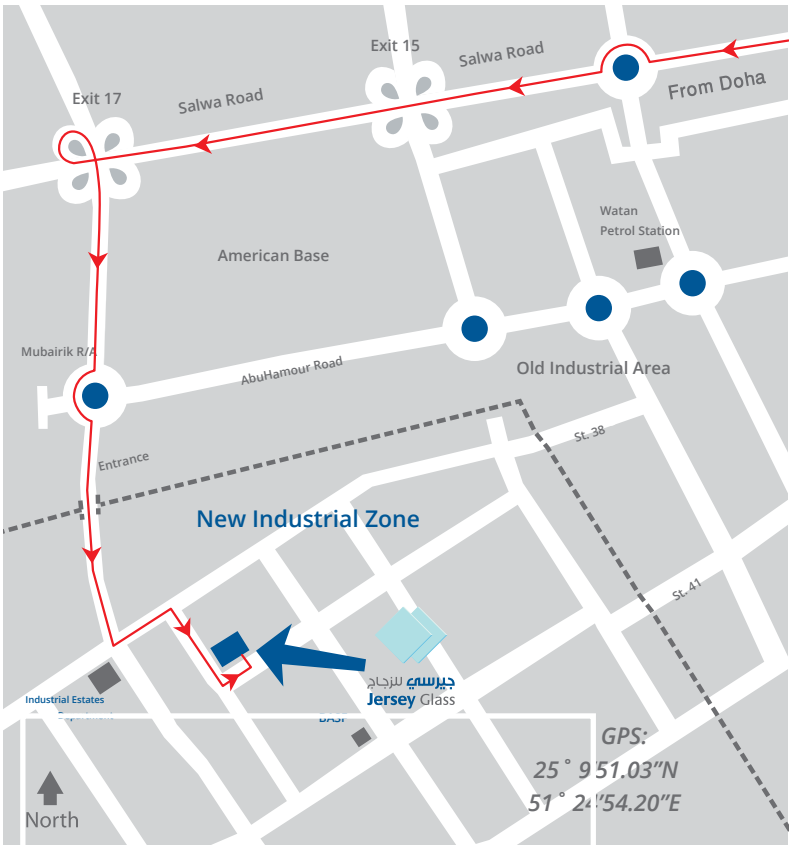
8,600 **Sqm.**

Umm Bab Tower

11, 500 **Sqm.**

Marina Tower

5,000 Sqm.



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