



GREEN GLASS INDUSTRIES

Pre-Qualification



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INTRODUCTION

INTRODUCTION

Green Glass Industries LLC is a high-tech architectural glass products processing factory committed to quality, service and innovation. By employing the latest state-of-the-art technology, the factory produces high performance insulating glass units, toughened safety glass and processed glass products. Established in 2011 to service the demands in the United Arab Emirates and GCC. **The factory has an annual production capacity of 540,000 m2 / year of Double Glass Products.**

Attention to detail is prevalent throughout the company from manufacturing with computerized and automated technology to ensuring that all products meet the requirements of accredited quality system. Innovation is the driving force of Green Glass Industries LLC.

In the short period since it was established, Green Glass Industries has already collaborated with some of the projects currently being develop in the UAE and GCC to meet all their architectural glass requirements. Our factory is located in Al Ghail Industrial Area, Ras Al Khaimah with 110,000 Sqft area.

Green Glass Industries LLC employs a highly trained staff and produces a range of flat glass units, spandrels panels, tempered laminated safety glass for balustrades, canopies, balconies, glass doors, shop fronts. Materials being used by factory are source both locally and internationally.

A complete glass processing service is now available that includes polished edges, beveling, drill holes, cutouts, sand blasting, lamination and other products.

Green Glass Industries LLC has invested in a modern fleet of various sized vehicles to ensure all customer requirements large or small are delivered safely and required.



COMPANY POLICY

COMPANY POLICY

It is the policy of Green Glass Industries to achieve its goals of continuous improvement and to provide goods and services that meet the customer's needs and expectations, which will realize complete customer satisfaction.

To achieve this prime objective it is the policy of the company and the management's commitment to quality to establish and maintain an effective and efficient quality assurance system that sets a structure for establishing and reviewing quality objectives. It is the intention of the Company that all employees shall actively participate in the development, evaluation and maintenance of the quality assurance system and objectives and that they will co-operate fully in compliance with the Quality Policy.

The Quality Assurance Administrator has the authority and responsibility to establish and maintain the necessary quality assurance program and quality objectives and has the organizational freedom to identify quality problems and to initiate, recommend or provide solutions to these problems.

The quality program set out in the Quality Manual has the full support of all the personnel who will adhere to its objectives. It is maintained, communicated and understood by all representatives of the company via its training program.



QUALITY POLICY

Quality Control Policy

It is the policy of Green Glass Industries to achieve its goals of continuous improvement and to provide goods and services that meet the customer's needs and expectations, which will realize complete customer satisfaction.

To achieve this prime objective it is the policy of the company and the management's commitment to quality to establish and maintain an effective and efficient quality assurance system that sets a structure for establishing and reviewing quality objectives. It is the intention of the Company that all employees shall actively participate in the development, evaluation and maintenance of the quality assurance system and objectives and that they will co-operate fully in compliance with the Quality Policy.

The Quality Assurance Administrator has the authority and responsibility to establish and maintain the necessary quality assurance program and quality objectives and has the organizational freedom to identify quality problems and to initiate, recommend or provide solutions to these problems.

The quality program set out in the Quality Manual has the full support of all the personnel who will adhere to its objectives. It is maintained, communicated and understood by all representatives of the company via its training program.

Our company operating with below standards:

Sl. No.	Process Type	ASTM Standard	EN Standard
01	IGU Standard	ASTM E 2190	EN 1279
02	FT Glass Standard	ASTM C-1048	EN 12150
03	Laminated Glass Standard	ASTM C-1172	EN 12600



MAJOR SUPPLIERS

Major Suppliers





LICENSES

INDUSTRIAL LICENCE رخصة صناعية

LICENCE NO	RAKIA281Z305070388	رقم الرخصة
TYPE	Non-Freezone	شركة محلية
LEGAL TYPE	Limited Liability Company - LLC	شركة ذات مسؤولية محدودة
LICENSEE	GREEN GLASS INDUSTRIES LLC	جرين جلاس انديستريز ش.ذ.م.م
OPERATING NAME	GREEN GLASS INDUSTRIES LLC	جرين جلاس انديستريز ش.ذ.م.م
ADDRESS	PLP190 Al Ghail Industrial Zone-NFZ RAK, United Arab Emirates	العنوان PLP190 منطقة الغيل الصناعية رأس الخيمة، الإمارات العربية المتحدة
ACTIVITY	Safety Glass Manufacturing Aluminum Rolling Double Glass Manufacturing Reflective and Insulant Glass Production	النشاط صناعة زجاج الأمان درفلة الألمنيوم صناعة الزجاج المزدوج صناعة الزجاج العاكس المطلي والعازل
MANAGER	Sajith Kariyad Kanhiradan	المدير ساجيث كارياد كانهيرادن
ISSUE DATE	22-05-2007	تاريخ الإصدار
EXPIRY DATE	21-05-2023	تاريخ الإنتهاء
REMARKS	Activity Changed on 04/30/2018 The Licensee must obtain the required approvals from the UAE Competent Government Authorities, as applicable	تم تغيير النشاط بتاريخ 04/30/2018 على المرخص له الحصول على كافة الموافقات اللازمة من الجهات الحكومية المختصة في دولة الإمارات العربية المتحدة حسب الإقتضاء ملاحظات



REGISTRAR OF COMPANIES سجل الشركات

This document is electronically issued by Ras Al Khaimah Economic Zone Authority. Document Reference no.: 682999-ixzP-Dumy-34725629
For verification purpose, please go to <http://rak.azcc.com/AUTH/> and enter the above document reference number.
صادرة عن هيئة مناطق رأس الخيمة الإلكترونية، وبخاصة لجميع القوانين والأنظمة واللوائح الخاصة بالهيئة
Issued by Ras Al Khaimah Economic Zone Authority and subject to all Laws, Regulations & Rules that belong to the authority.

هيئة مناطق رأس الخيمة الاقتصادية - Ras Al Khaimah Economic Zone

Active / فعالة	License Industrial - رخصة صناعية			Renew / تجديد
License No	27457	رقم الرخصة	Est. Date	2007-05-30
COC MemberShip No	27194-2007-H	رقم عضوية الغرفة	Local Registry No.	26234
Expiry Date	2023-06-23	تاريخ الانتهاء	Issue Date	2022-06-24
Business Name				الاسم الاقتصادي
GREEN GLASS INDUSTRIES LLC				جرين جلاس اندستريز ذ.م.م
Legal Form				الشكل القانوني
Limited Liability Company				شركة ذات المسؤولية المحدودة
نسبة الشراكة	Role/الصفة	Nationality/الجنسية	Name /الاسم	No/الرمز
0	مدير مسؤول Director Responsible	الهند India	ساجيث كارياد كانهي رادان SAJITH KARIYAD KANHI RADAN	327509
Business Activity			النشاط الاقتصادي	رقم / No
Glass Multiple-Walled Insulating Units Manufacturing			صناعة وحدات زجاجية عازلة ذات جدران متعدد	2310011
Smelting, Rolling, Traction, and Extracting Basic Non-Ferrous Metals			صهر ودرفلة وسحب وتنقية المعادن غير الحديدية الخام	2420001
Toughened or Laminated Flat Glass Manufacturing			صناعة الزجاج المسطح المقمش أو المنضد	2310012
Address & Contact Information				العنوان وبيانات الاتصال
Unit	مصنع - FACTORY	Zone نوع الوحدة	الجزيرة الحمراء - Aljazirah alhamra	المنطقة
Unit No	1	Street رقم الوحدة	الشارع العام GENERAL STREET	الشارع
P.O. Box		Landlord صندوق البريد	هيئة رأس الخيمة للاستثمار	مالك العقار
Mobile No	00971506634106	Landline No رقم المحمول		رقم الهاتف
Voucher Date.	2022-06-24	Voucher No.	86081	رقم الايصال



هيئة مناطق رأس الخيمة الاقتصادية - Ras Al Khaimah Economic Zone

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Expiry Date	2023-06-23	تاريخ الانتهاء	Issue Date	2022-06-24
تاريخ التأسيس				
رقم السجل التجاري				
تاريخ الاصدار				

نسبة الشراكة	Role/الصفة	Nationality/الجنسية	Name / الأسم	الرمز/ No
24.00	شريك Partner	الهند India	ناريان جوبيثان بيلاي سريهاران بيلاي NARAYAN GOPINATHAN PILLAI SREEDHARAN PILLAI	327510
25.00	شريك Partner	الهند India	ساجيث كارياد كانهيرادان SAJITH KARIYAD KANHI RADAN	327509
51.00	شريك Partner	الامارات العربية المتحدة United Arab Emirates	عائشه شهداد علي شهدادي AYESHA SHAHDAD ALI SHAHDADI	327508



شهادة تسجيل العضوية MemberShip Certificate



Membership No.	27194-2007-H	27194-2007-H	رقم العضوية
License No.	RAKIA28IZ305070388	RAKIA28IZ305070388	رقم الرخصة
License Type	Ras Al Khaimah Economic Zone	هيئة مناطق رأس الخيمة الاقتصادية	نوع الرخصة
Trade Name	GREEN GLASS INDUSTRIES LLC	جرين جلاس اندمتريز ش.ذ.م.م	الاسم التجاري
Legal Status	Limited Liability Company	شركة ذات مسئولية محدودة	الشكل القانوني
Activity	Safety Glass Manufacturing , Reflective and Insulant Glass Production , Double Glass Manufacturing , Aluminum Rolling	صناعة زجاج الأمان , صناعة الزجاج العاكس المعطلي والمعالج , صناعة الزجاج المزدوج , درلة الألمنيوم	نوع النشاط
Member Since	30-05-2007	30-05-2007	تاريخ الانسحاب
Issue Date	13-06-2022	13-06-2022	تاريخ الإصدار
Expiry Date	21-05-2023	21-05-2023	تاريخ الإنتهاء

Remarks

For online verification of this certificate, please visit this link

<https://www.rakchamber.ae/gateway.php#/app/membership/verify>

الملاحظات

للتأكد من صحة بيانات الشهادة يرجى زيارة الرابط التالي

RAK Chamber of commerce & industry
| الهاتف: (+971)72260000 | صندوق البريد 87 رأس الخيمة، الإمارات العربية المتحدة - P.O.Box 87 - Ras Al Khaimah, UAE
| البريد الإلكتروني: info@rakchamber.ae | الموقع الإلكتروني: Website: https://www.rakchamber.ae | الفاكس: (+971)7 2070292

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شهادة سلامة
الأنظمة الأمنية

التاريخ: 03/10/2021

المرجع: 42543 - 214049

اجتازت هذه المنشأة الشروط و المتطلبات لتطبيق القانون رقم 3 لسنة 2015 بشأن قانون الأنظمة التقنية لأمن المنشآت (حماية)

License Information

License No. :	RAKIA28IZ305070388	RAKIA28IZ305070388	بيانات الرخصة
Date of Issue :	03/10/2021	03/10/2021	رقم الرخصة :
Date of Expire :	03/10/2022	03/10/2022	تاريخ الإصدار :
			تاريخ الإنتهاء :

Company Information

Trade Name :	GREEN GLASS INDUSTRIES LLC	جرين جلاس انستريز ش.ذ.م.م	بيانات المنشأة
Address :	منطقة الغيل الصناعية , رأس الخيمة, الامارات, PLP190, العربية المتحدة		الإسم التجاري :
			عنوان :

License Detail

License Owner :		جرين جلاس انستريز ش.ذ.م.م	تفاصيل الرخصة
Nationality :	United Arab Emirates	الإمارات العربية المتحدة	صاحب الترخيص
P.O Box	0	صندوق بريدي	الجنسية :
Fax No. :		فكس :	هاتف
			Tel No. : 0506634106

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مدير عام هيئة الموارد العامة



تمت الطباعة من خلال الموقع الإلكتروني



رخصة صناعية
Industrial License



دليل المشاركة الصناعي
Sharjah Industrial Guide



تفاصيل الرخصة License Details

Issue Date	2011/06/21	تاريخ الإصدار	License No.	613757	رقم الرخصة
Expiry Date	2023/06/20	تاريخ الإنتهاء	Registration No.	82546	رقم السجل
Trade Name	AL ZIJAJ AL AKHDHAR.GLASS & ALUMINIUM IND L L C		الاسم التجاري الزجاج الاخضر لصناعة الزجاج والالمنيوم ل م م		
Legal status	Limited Liability Company		الشكل القانوني شركة ذات مسؤولية محدودة		

أطراف الرخصة License Members

الحصص	الصفة	رقم الهوية / الجواز	الجنسية	إسم المستثمر	رقم المستثمر
Shares	Type	ID/Passport No.	Nationality	Investor Name	Investor No.
%51	شريك	784197962920498	الإمارات	عائشة شهيد علي شهيداني	15621
%49	شريك	784197536426816	الهند	ساجيت كاربيد كاتشيرادان	103592

المدير كاتشيرادان ساجيت كاربيد كريشنان كاتشيرادان

أنشطة الرخصة تقطيع وتركيب الالمنيوم والزجاج

العنوان الشارع-صناعية رقم 15/الشارقة-شارع المنيحة-أرض مسورة ملك الشيخ محمد بن سالم بن سلطان القاسمي

رقم الهاتف المتحرك: 0506634106

صندوق البريد: 70525 الشارقة

البريد الإلكتروني: GREENGLS@EIM.AE



تاريخ الطباعة 2022/06/23

رقم المستخدم 42271

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والتوزيع المسموح.



CERTIFICATES

Date: 27-May-22

**Green Glass Industries LLC,
PO Box 34474, Al Ghail Industrial Area,
Ras Al Khaimah,
UAE**

It gives us great pleasure to acknowledge **Green Glass Industries LLC, UAE** has successfully met the certification requirements and qualify the status of **Guardian SunGuard® Select® Advantage Fabricator** for Heat Treatment in accordance with "EN12150 & EN 1863" and Insulated Glass Unit fabrication of the **SunGuard®** and **ClimaGuard®** coated glass products.

Guardian's certification process and program requirements have been designed to assess our customer's ability to consistently fabricate quality coated products. This certification is valid till **25-May-2023** and it confirms the processing capability of **Green Glass Industries LLC, UAE**. This letter may be submitted as required by architectural specifications as evidence of processor certification of **SunGuard®** and **ClimaGuard®** Products in accordance with Guardian's requirements.

It is the Sole responsibility of the processor to adequately inspect the coated glass before each step of fabrication and prior to installation. Failure to apply all professional standards, customary instructions and processing instructions will automatically void any warranty regarding Coated Products of Guardian. The processor has the full responsibility for the quality of the final product. By this certificate, GUARDIAN is not granting any warranty regarding the processor's continuing capability to adequately process GUARDIAN's products

Included **Annexure 1 – SunGuard®** and **ClimaGuard® Product Range** covered by this Certification "**GRAK-ADV-22-04**".

Congratulations on being named as a
Guardian SunGuard® Select® Advantage Fabricator!

Best Regards

Authorized Signatory



Field Certification Engineer, TAC-AME



Annexure 1

Product Category	SunGuard [®] Products Covered by Certification
SUPERNEUTRAL SN SERIES	SN 70, SN 66, SN 60, SN 50, SN 40, SN 30, SN Carbon 50
HIGH PERFORMANCE HP SERIES	Silver 35, Royal Blue 40, Neutral 40, Silver 40, Neutral Plus 50, Neutral 60 & Gold 31
DOUBLE SILVER DS SERIES	DS 30, DS 40, DS 50, DS Emerald Green, DS Steel Grey, DS Aquamarine T, DS Silver 28/20, DS Grey 30/22, DS Blue 25/22, DS Bronze 30/23
SOLAR SERIES	Neutral 14, Bronze 14T, Silver 20, Royal Blue 20, Silver Grey 32, Grey 33T, Neutral 34, Silver Grey 40, Light Blue 52 & Neutral 67
HD Colors	HD Blue, HD Bronze, HD Grey, HD Green
HD Plus	HD Plus Blue, HD Plus Blue-Green, HD Plus Bronze, HD Plus Grey, HD Plus Green
Product Category	ClimaGuard [®] Products Covered by Certification
CLIMAGUARD CG SERIES	Neutral 70, Shadow Grey T





**SELECT ADVANTAGE
CERTIFIED PROCESSOR**

CERTIFICATE

Guardian Zoujaj International Float Glass Co. L.L.C, Po Box 6297, Al Jazirah Al Hamra,
Ras Al Khaimah, UAE is pleased to confirm that the processor

Green Glass Industries LLC

PO Box 34474, Al Ghail Industrial Area
Ras Al Khaimah,
United Arab Emirates



GREEN GLASS INDUSTRIES

has demonstrated on 4/18/22 the capability to successfully
process and is certified to process the following Guardian glass
product

High Performance (HP), Double Silver (DS), ClimaGuard P2S, Sun T &
SuperNeutral (SN)

for thicknesses 4,5,6,8, and 10

In Terms of Mechanical Treatment, Heat Treatment and Insulated Glass. 

It is the sole responsibility of the processor to adequately inspect the glass before each step of fabrication and prior to installation. Failure to apply all professional standards, customary instructions and guidelines will automatically void any warranty. The processor has the full responsibility for the quality of the final product. By this certificate Guardian is not granting any warranty regarding the processor's continuing capability to adequately process Guardian's products.

Issued: 5/26/22



Guardian's representative:

Vimal Anand M



Expiration date: 5/25/23

Annex 1: Guardian_General PG_AME_0422

The product(s) indicated above is (are) sold subject to Guardian's standard terms and conditions of sale and any applicable written warranties. It is the responsibility of the purchaser to confirm that the products are suitable for their intended application. Please contact your local Guardian representative should you require any additional information as to handling and fabrication of the products and for the most current product information.



THIS IS TO CERTIFY THAT



GREEN GLASS INDUSTRIES

Green Glass Industries

has successfully concluded an assessment on coated glass processing techniques and manufacturing of insulating glass units, managed by the technical support department of Saint Gobain Glass

The processing facilities located on: Al Ghail Industrial Area, po box 34424, Ras Al Khaima , Ras Al Khaima, United Arab Emirates, were visited and assessed on: 18 October 2020

This certificate is valid until: 31 March 2023

In performing this certification, Saint-Gobain Glass does not assume to discharge any responsibility of the inspected company, which is the sole party responsible for the processing of its products in conformity with applicable laws, regulations, norms and the Guidelines for Use of Coated Glass of Saint-Gobain Glass.

Nicolas Mondy
General Manager Saint-Gobain Glass International



Validated products:

SGG COOL-LITE® Double Silver SKN series

SGG COOL-LITE® Single Silver KNT/KS /KBT series

SGG COOL-LITE® ST/ET Series

SGG DIAMANT (Extra Clear Glass)

SGG PLANITHERM® Series

SGG REFLECTASOL®

This is to certify that

GREEN GLASS INDUSTRIES LLC

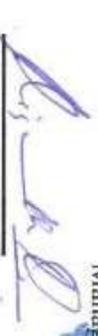
*have successfully demonstrated competence at every stage of handling & processing
of the following Emicool Post-Temperable glass product(s):*

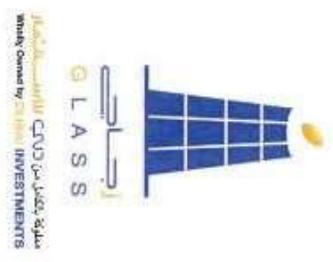
- Emicool ® E-lite Series
- Emicool ® Sun NN Series
- Emicool ® ST Series
- Emicool ® Plus NE Series

Reference : CP-01-GGI-2022
Date : Oct 24, 2022
Validity : 1 Year

Issued by: 
QA/QC Manager


Senior Sales & Marketing
Manager


Executive President



We are pleased to declare that company

Green Glass Industries LLC



GREEN GLASS INDUSTRIES

is able to process following products in terms of pre-processing and heat treatment

**Sunlux, iplus, Energy Light, Stopray Smart,
Stopray Vision, Stopray Ace, Stopray Titanium**



Hamza Al Naimat
Technical Support Manager

Yanbu, Saudi Arabia, October 2022

It is sole responsibility of the processor to adequately inspect heat treatable coated glass before each step of fabrication and prior installation. Failure to apply professional standards, customary and processing instructions available on www.agc-younglass.com and www.agc-obekamglass.com.sa will automatically void any warranty related to heat treatable coated glass of AGC Obekam. The processor has full responsibility for the final product.

Valid until October 2023



April 30, 2019

CERTIFICATE

To whom it may concerns,

Dear Sirs,

SHANGHAI YAOHUA PILKINGTON GLASS GROUP CO., LTD. (SYP in brief) is pleased to confirm that the company M/s Green Glass Industries is a qualified glass processor for SYP YBE post temperable products. Factory information listed below:

M/S GREEN GLASS INDUSTRIES LLC

Tel: 07-2588369

Fax: 07-2216151

P.B No. : 34424 I RAK - UAE

E-mail : greengls@eim.ae

If there is any question, please feel free to refer to us.

Thank you and best regards,

SHANGHAI YAOHUA PILKINGTON GLASS GROUP CO., LTD.

上海耀皮玻璃集团股份有限公司
SHANGHAI YAOHUA PILKINGTON GLASS GROUP CO., LTD.

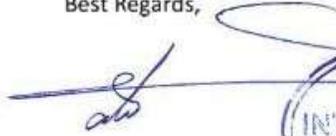
24 October 2022

To Whom It May Concern,

This letter is to confirm that **M/s: GREEN GLASS INDUSTRIES L.L.C – Ras Al Khaimah, UAE** is an **APPROVED PROCESSOR** for **6mm Pilkington Suncool 70/35 Pro T on Clear** glass product.

If you need any further information or assistance, please do not hesitate to contact us.

Best Regards,


Ali W. Hammoud
General Manager



Cc: Mr. Maurice L. Chebli, Managing Director – INTRACO UAE Ltd.

24 October 2022

To Whom It May Concern,

This letter is to confirm that **M/s: GREEN GLASS INDUSTRIES L.L.C – Ras Al Khaimah, UAE** is an **APPROVED PROCESSOR** for the following glass products.

6mm Glastrosch Silverstar Combi Blue 31/19 T on Clear
6mm Glastrosch Silverstar Combi Neutral 40/21 T on Clear
8mm Glastrosch Silverstar Combi Neutral 30/21 T on Clear

If you need any further information or assistance, please do not hesitate to contact us.

Best Regards,


Ali W. Hammoud
General Manager


Jebel Ali Free Zone Branch
P.O.Box:16595 Dubai - U.A.E.

Cc: Mr. Maurice L. Chebli, Managing Director – INTRACO UAE Ltd.

08 NOVEMBER 2022

To whom it may concern:

Subject: Confirmation Letter

This letter is to confirm that **GREEN GLASS INDUSTRIES LLC**, is a well-known and reputable glass processor in the Middle East.

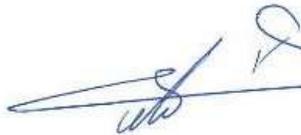
This company adheres to many international standards, and their capabilities for producing world-class products are a result of their state-of-the art tempering and double-glazing processing equipment, extensive knowledge, and procedures. **GREEN GLASS INDUSTRIES LLC** has experience in processing **Pilkington Suncool Glass**.

We, **Intraco UAE Limited**, the sole agent of Pilkington Russia in the Middle East – affirms our support for **GREEN GLASS INDUSTRIES LLC** and will provide all technical support related to the **PILKINGTON SUNCOOL RUSSIA** glass products delivered to them.

Should you require further information, please do not hesitate to contact us.

Best Regards,

For Intraco U.A.E. Limited



Ali W. Hammoud
General Manager



Cc: Mr. Maurice L. Chebli, Managing Director – INTRACO UAE Ltd.

08 NOVEMBER 2022

To whom it may concern:

Subject: Confirmation Letter

This letter is to confirm that **GREEN GLASS INDUSTRIES LLC**, is a well-known and reputable glass processor in the Middle East.

This company adheres to many international standards, and their capabilities for producing world-class products are a result of their state-of-the art tempering and double-glazing processing equipment, extensive knowledge, and procedures. **GREEN GLASS INDUSTRIES LLC** has experience in processing **Glastroesch Glass**.

We, **Intraco UAE Limited**, the sole agent of Glastroesch in the Middle East – affirms our support for **GREEN GLASS INDUSTRIES LLC** and will provide all technical support related to the **GLASTROESCH** glass products delivered to them.

Should you require further information, please do not hesitate to contact us.

Best Regards,

For Intraco U.A.E. Limited



Ali W. Hammoud
General Manager



Cc: Mr. Maurice L. Chebli, Managing Director – INTRACO UAE Ltd.



PILKINGTON NORTH AMERICA, INC.
811 Madison Avenue
Toledo, OH 43604-5684

Office: +1 419 247 3731
Fax: +1 419 247 3821

October 26, 2022

To Whom It May Concern:

This letter is to confirm that **GREEN GLASS INDUSTRIES – Ras Al Khaimah, UAE,** is an approved processor of Pilkington North America Inc. (PNA) products.

Should you have any questions, please do not hesitate to contact me at Jason.Weiss@NSG.com

Sincerely,

Jason A. Weiss
Director, Domestic and Export Sales
Architectural Glass SBU



Ref: ELIO/CRCC/SRH/2022/L-1

Date: 08-12-2022

TO WHOM IT MAY CONCERN

PROJECT : FAIRMOUNT DUBAI LINE SABAH HOTEL AT AL SUFOUH FIRST DUBAI UAE.
CLIENT : M/S REEVA REALITY FZ.LLC
CONSULTANT : AL ASRI ENGINEERING CONSULTANCY LLC
CONTRACTOR : CHINA RAILWAY 18th BUREAU GROUP LLC
FAÇADE : M/S ELIO ALUMINIUM FABRICATOR LLC

Dear Sir,

Please be informed that in above mentioned project M/s Green Glass Industries LLC – RAK.

Is approved glass processor for DGU Glass fabrication, tempering and processing activities for below mention glass specs and quantities.

GLASS SPECS : SAINT GOBAIN – MERINT

8mm Cool lite KS 130 II Clear FT + 16mm AS + 6mm Clear FT Glass.

Quantity : 30,000 m2.

This is for your information and record.

For, Elio Aluminium Fabricators LLC.

Mr. Aabed Pasha - Project Manager.





Ref: ELIO/CRCC/SRH/2022/L-2

Date: 09-12-2022

TO WHOM IT MAY CONCERN

PROJECT : BLOOM TOWERS RESIDENTIAL BUILDING G+4P+3 TOWERS AT DUBAI UAE.
CLIENT : BLOOM EMIRATES PROPERTIES LLC
CONSULTANT : AL KHAWAJAH ENGINEERING CONSULTANTS
CONTRACTOR : AL OROBA CONTRACTING CO LLC
FAÇADE : M/S ELIO ALUMINIUM FABRICATOR LLC

Dear Sir,

Please be informed that in above mentioned project M/s Green Glass Industries LLC – RAK.
Is approved glass processor for DGU Glass fabrication, tempering and processing activities for below
mention glass specs and quantities.

GLASS SPECS : SAINT GOBAIN – MERINT

8mm Cool lite KNT 125 FT + 16mm AS + 6mm Clear FT Glass.

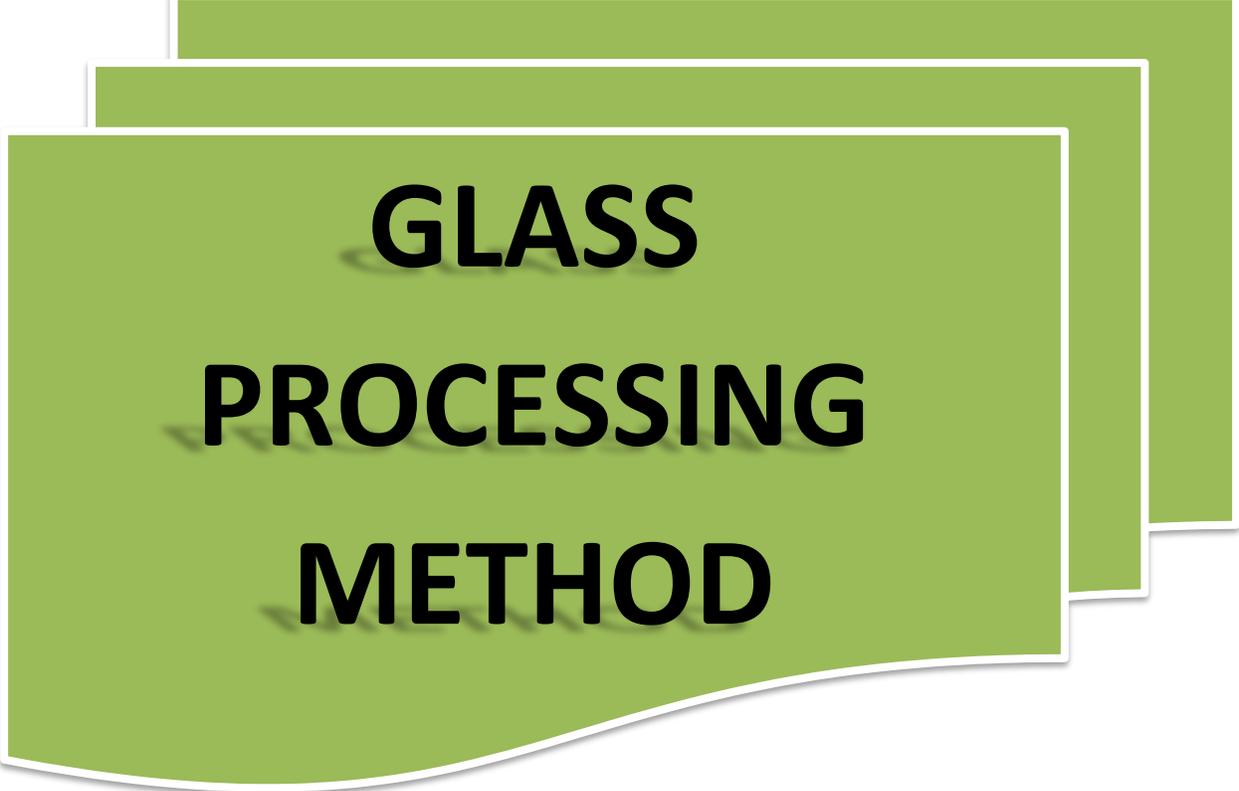
Quantity : 45,000 m2.

This is for your information and record.

For, Elio Aluminium Fabricators LLC.

Mr. Aabed Pasha - Project Manager.





**GLASS
PROCESSING
METHOD**

Glass Process

CUTTING

POLISHING

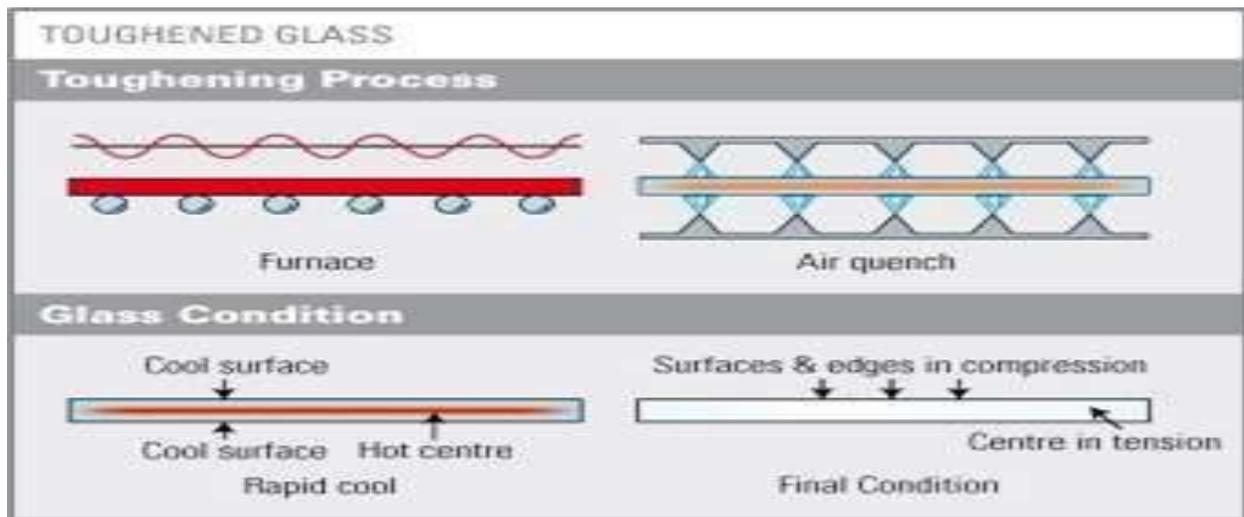
SANDBLASTING

TEMPERING

DOUBLE GLAZING

Heat Treatment Process

HEAT TREATMENT IS THE PROCESS OF IMPROVING THE GLASS STRENGTH BY HEATING THE GLASS AND THEN RAPID COOLING. THIS PROCESS PRODUCES HIGH COMPRESSIVE STRENGTH ON THE SURFACE WITH BALANCING TENSILE STRESS AT THE CENTER REGION OF THE GLASS. DUE TO THIS BALANCED STRESSES INDUCED IN THE GLASS THE STRENGTH IS IMPROVED IN THE GLASS WITH SAME THICKNESS OF THE ANNEALED GLASS.



Heat Treated Glasses are classified in to two types:

- A) HEAT STRENGTHENED GLASSES (HS)
- B) FULLY TEMPERED (FT) / TOUGHENED GLASSES

A) Heat Strengthened (HS)

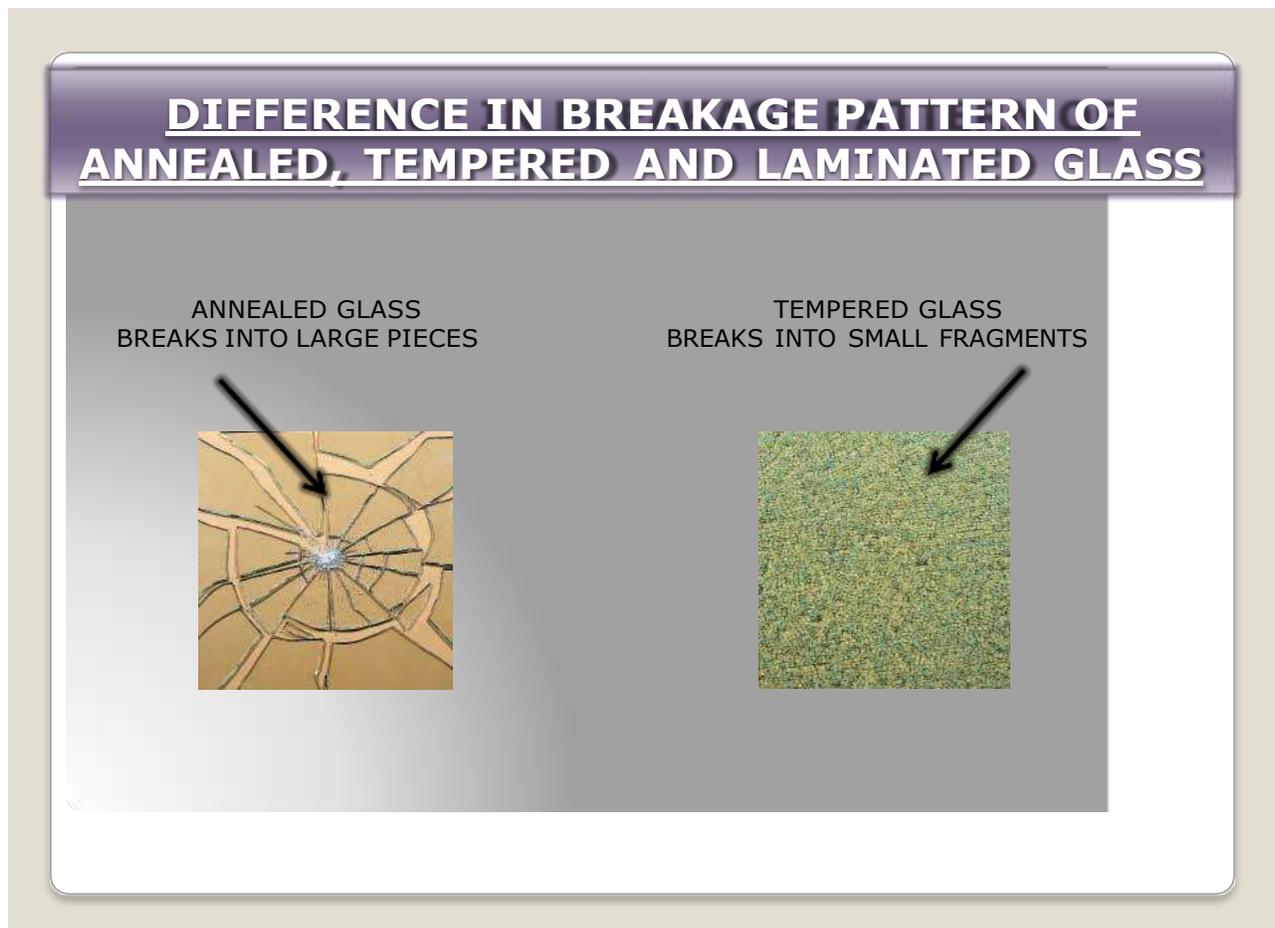
HS GLASSES ARE TWO TIMES STRONGER THAN THE ANNEALED GLASS OF SAME THICKNESS. HS GLASSES HAS GREATER RESISTANCE TO THERMAL STRESSES COMPARED TO ANNEALED GLASSES. THE BREAKAGE PATTERN IS SIMILAR TO THE ANNEALED GLASS WITH BREAKAGE EDGE TO EDGE IN LARGE PIECES. THE SURFACE COMPRESSIVE STRESS OF THE HS GLASS IS 25 N/MM² TO 50 N/MM²

THE MECHANICAL STRENGTH AND THE RESISTANCE TO THERMAL STRESS IS TWICE THAT OF THE ANNEALED GLASS. THE MAXIMUM OPERATING TEMPERATURE IS 150°C. THE OPTICAL DISTORTION IS LESS THAN THE TEMPERED GLASS.

B) Fully Tempered (FT) / Toughened Glass

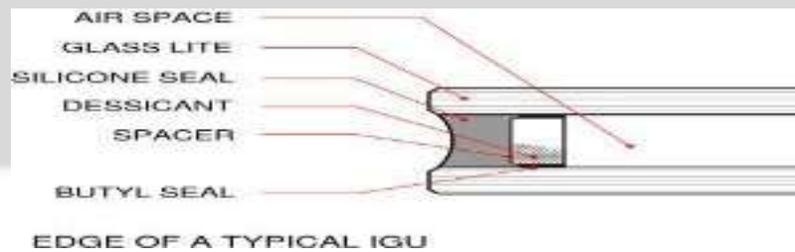
TEMPERED GLASS IS FOUR TO FIVE TIMES STRONGER THAN THE ANNEALED GLASS OF SAME THICKNESS. THESE GLASSES HAVE GREATER RESISTANCE TO THERMALLY INDUCED STRESSES COMPARED TO ANNEALED AND HEAT STRENGTHENED GLASS. THE BREAKAGE PATTERN IS INTO SMALL PIECES WHICH IS GENERALLY NON INJURIOUS. THE SURFACE COMPRESSIVE STRESS IS 80 N/MM² TO 150 N/MM²

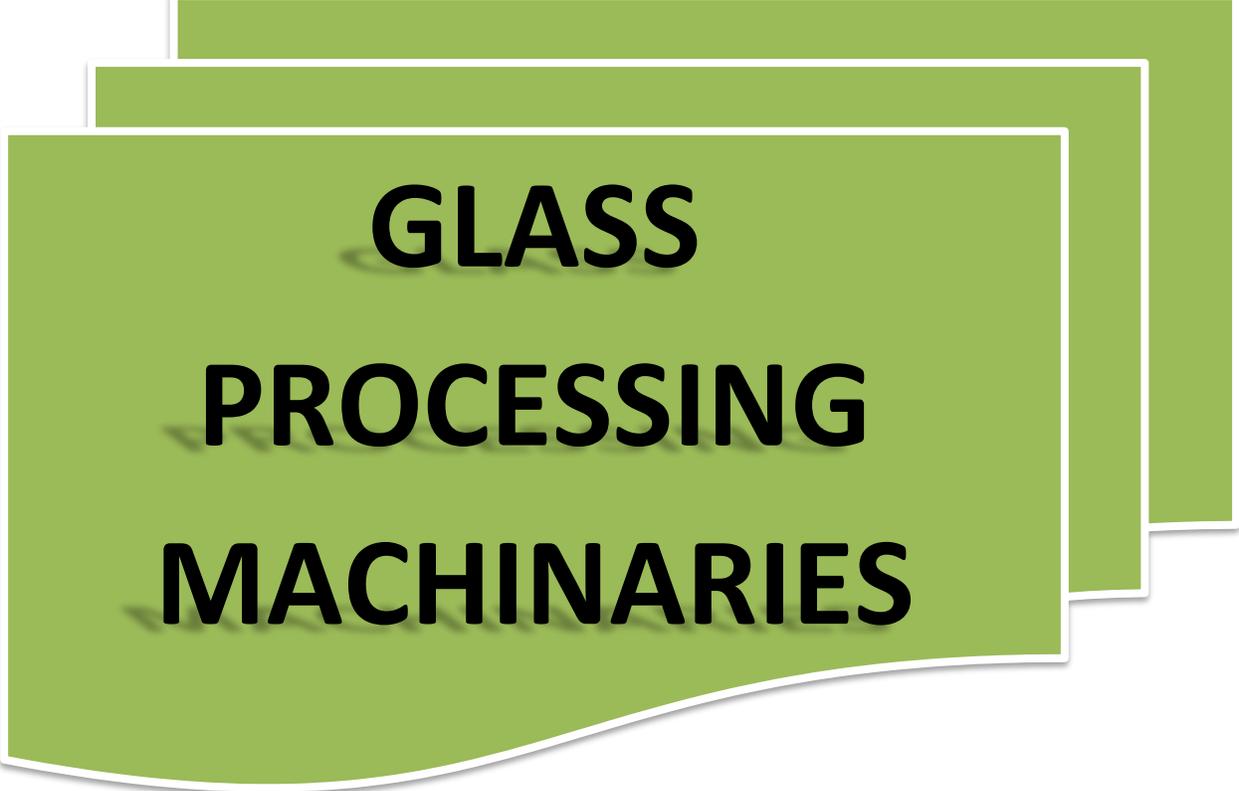
THE MECHANICAL STRENGTH IS 4 TO 5 TIMES GREATER THAN THE ANNEALED GLASS AND THE RESISTANCE TO THERMAL STRESS IS 6 TIMES GREATER THAN THAT OF ANNEALED GLASS. THE MAXIMUM OPERATING TEMPERATURE IS 300°C. THE OPTICAL DISTORTION WILL BE MORE THAN THE HEAT STRENGTHENED AND ANNEALED GLASS BUT WITHIN THE LIMITS AS PER ASTM C1048.



INSULATED / DOUBLE GLAZED UNITS

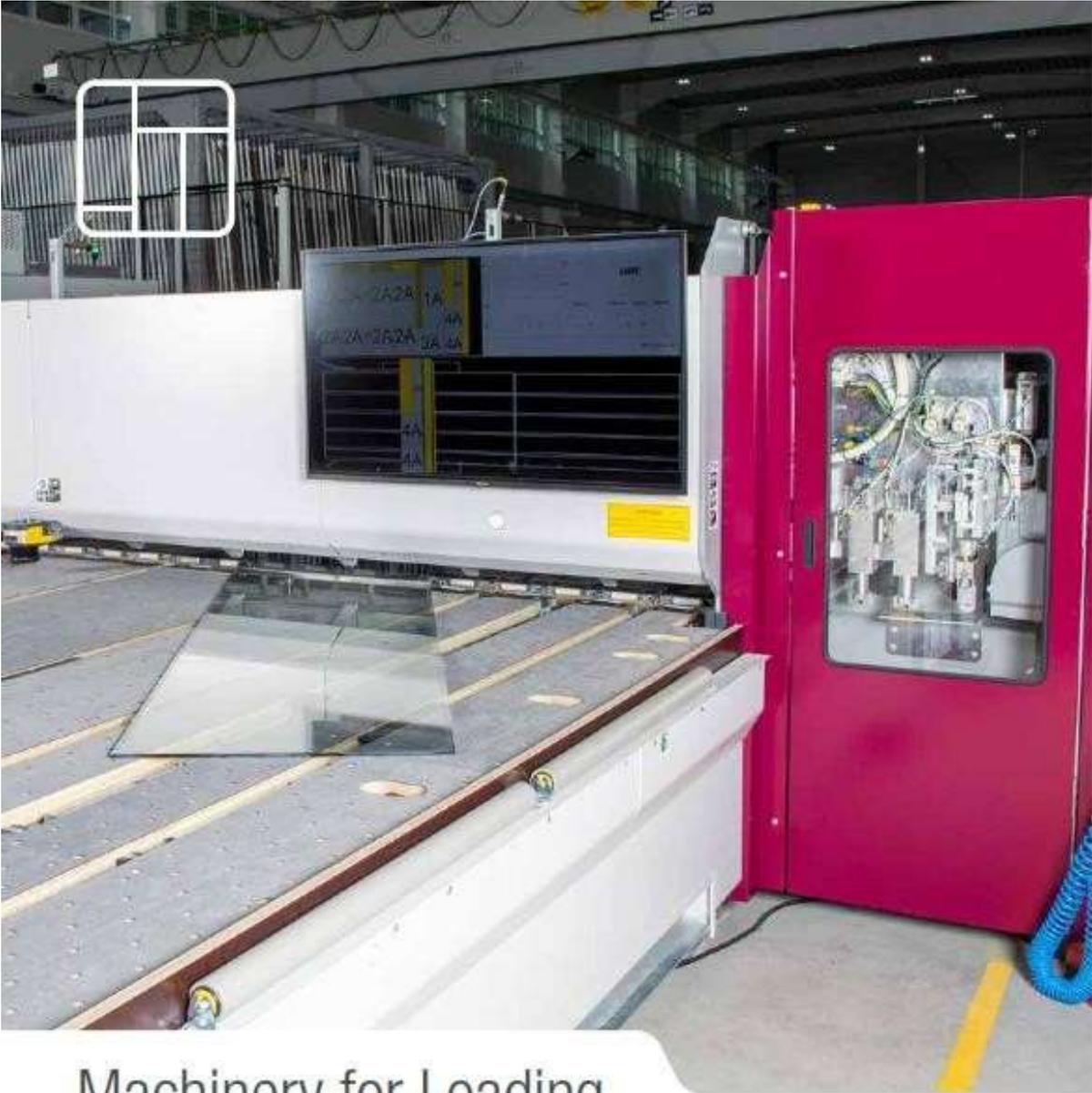
INSULATED GLASS UNITS CREATE A DEAD AIRSPACE BETWEEN TWO PANES OF GLASS, THUS SLOWING DOWN THE RATE OF HEAT EXCHANGE BETWEEN AMBIENT HOT AND COLD AIR MASSES. THE REDUCTION OF AMBIENT HEAT TRANSFER THROUGH THE GLAZING IN MODERN BUILDING DESIGNS IS OF VITAL IMPORTANCE IN MINIMIZING THE CAPITAL COST AND SUBSEQUENT OPERATING COST, OF HEATING OR COOLING EQUIPMENT. ROOM INTERIOR COMFORT LEVELS ARE ALSO SIGNIFICANTLY IMPROVED, SUMMER AND WINTER THROUGH THE USE OF INSULATED GLASS.





**GLASS
PROCESSING
MACHINARIES**

Fully Automated Cutting Machine



Machinery for Loading,
Glass Cutting & Logistics





LINES

We adapt the LISEC lines to meet production requirements. From transfer systems from the glass production, glass cutting, tempering and edge finishing into a complete line system, our engineers are happy to advise you in order to get the full efficiency of your production, various software solutions are available.



STAND-ALONE MACHINES

Ensure a smooth production with the LISEC stand-alone machines. We do not only support you in the field of insulating glass production, with the LISEC insulating glass machines, but also with machines for glass cutting or glass processing, sorting and logistics systems as well as tempering furnaces.

Float Glass Breakout Systems

Machines for Automatic Cutting and Breaking of Float Glass

The automatic float glass breakout systems consist of an automatic glass storage unit combined with a downstream float glass cutting table for Low-E edge deletion and for scoring the float glass sheets. Depending on the volume of production and the variety of products, it is possible to select between three different variants:

Example: Customer "Type A" would like to break X sub-plates and X edge sections automatically. With an automatic ARS edge deletion station and a TBX break-out station the operator can be supported to an optimum standard. Output increases.

Example: Customer "Type B" would like to break X and Y sub-plates as well as X and Y edge sections automatically. With an ARS edge deletion station, a TBX break-out station, a TDV rotary table and another TBR/TCY break-out station, it is only necessary to break Z sections manually. This system is already highly automated and achieves high output levels.

Example: Customer "Type C" would like to break X, Y and Z sub-plates as well as X, Y and Z edge sections automatically. With an ARS edge deletion station, a TBX break-out station, a TDV rotary table, a TBR/TCY break-out station and an SDV sheet turning unit, virtually unmanned and continuous production of float glass is possible at high levels of output.

With a well thought out system arrangement, the number of crates of broken glass pieces is reduced and this has a positive impact on system availability.

The optional automatic sheet disposal system maximises system availability.

Highlights

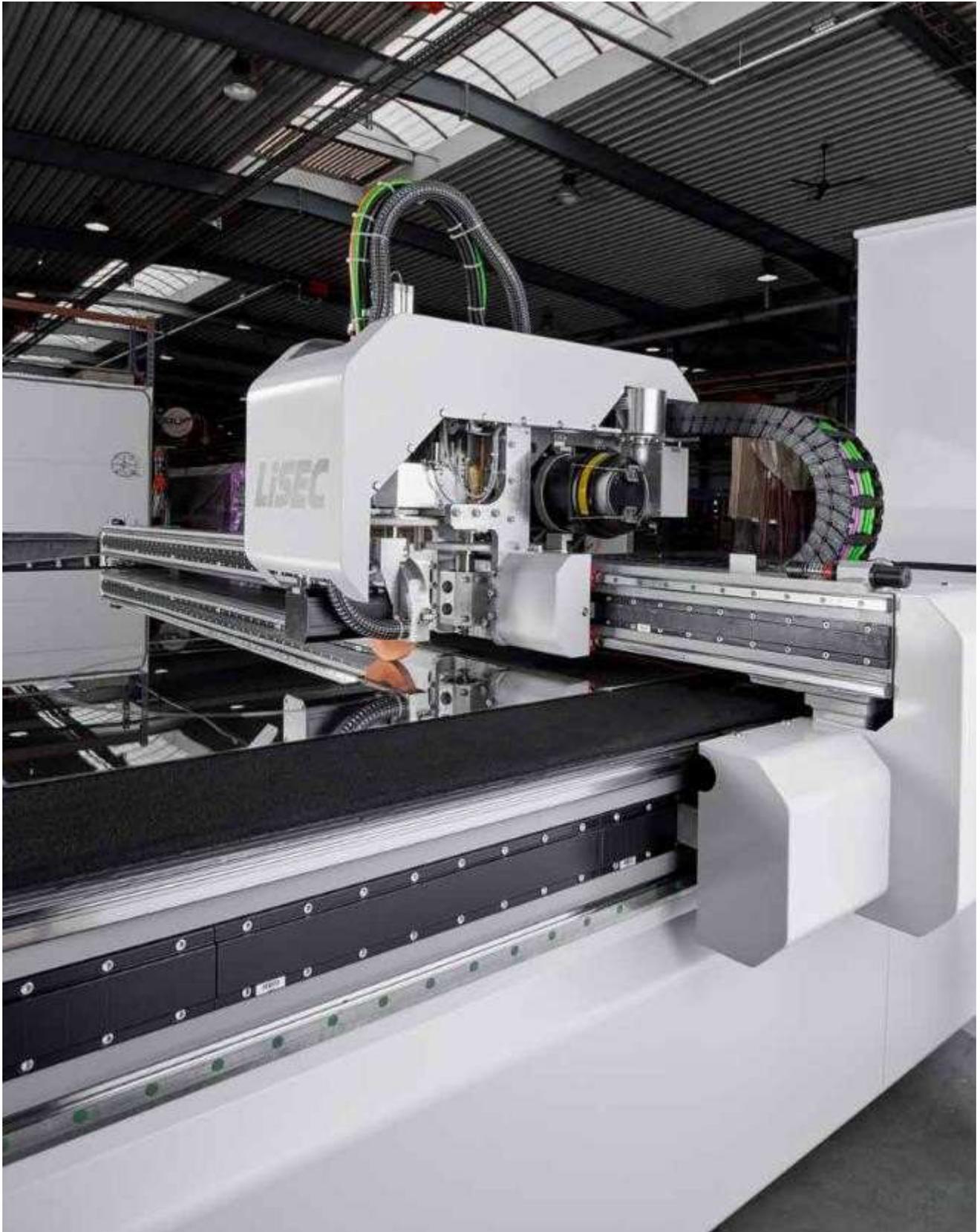
- Fully-automatic float break-out system
- Space-saving system concept Modulare
- Modular expansion option
- Smaller number of containers for broken glass pieces

Options

- 90° line variant depending on the building situation
- Y sub-plate tandem function is possible
automatische Float Scherbenabförderung
- Automatic conveyor belt removal of broken float glass pieces

Technical data	ARS / TCY	TBX / TBY (-XX/12)	TBX / TBY (-XX/19)	TBR
Maximum glass thickness	12 mm	12 mm	19 mm	19 mm
Automatic break-out	Randbrüche	Traversenbrüche	Traversenbrüche	Traversenbrüche, Randbrüche
Minimum size	350 x 350 mm	350 x 350 mm	350 x 350 mm	350 x 350 mm
Automatic disposal of broken glass pieces	✓	-	-	✓
Automatic removal of broken glass pieces	○	-	-	○

✓ standard, ○ optional, - not available



DSC-A

High-performance machine for cutting flat glass automatically

The new DSC-A from LiSEC is a horizontal cutting machine for the automatic cutting of float glass. The machine combines massive processing flexibility with optimum precision, a reliable process and optimum quality of glass cutting as well as the option of Low-E edge deletion.

Low-E edge deletion

The complexity of coating systems is rising in response to the increasing proportions of solar protection and thermal protection coatings in the insulating glass sector. The DSC-A constitutes an optimum basis for the rapid and efficient processing of single to triple layers of silver thermal protection or solar protection coatings as well as coating systems that use protective films (TPF or EasyPro). The proportion of complex coatings is rising continuously. With its redeveloped design of grinding head and bridge structure, the DSC-A is equipped to meet future challenges.

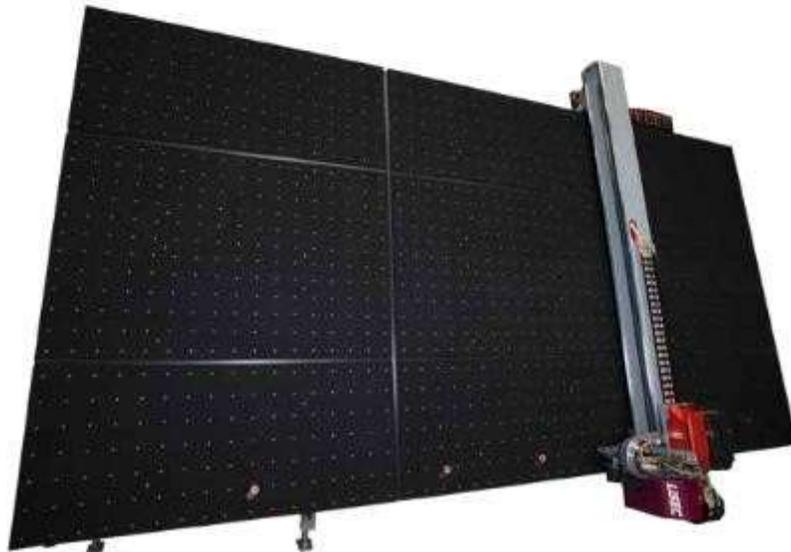
Float glass cutting

The glass-cutting table features LiSEC direct cutting technology and a gantry drive on the X-axis, assuring high precision of +/- 0.20 mm. Operation is simplified by automatic control of cutting pressure and grinding pressure. Operator interventions are reduced because, depending on the coating and thickness of the glass, different grinding and cutting pressure levels can be set automatically. Cutting oil and cutting wheel monitors analyse the consumption, display this preventively and draw attention to the pending need for a change of cutting wheel. Stock sheets of glass are sent in automatically on the conveyor belt and fully automated alignment is carried out by glass positioning aids.

Machine construction

The basic variant consists of a horizontal cutting table, equipped with conveyor belt, to combine this system with automatic loading systems.

The DSC-A T-variant has a tilt function to facilitate manual loading and unloading of sheets of glass. In addition, conveyor belts or breaker bars can be added for stand-alone operation.



Highlights

- Precise glass cuts and high edge strength with LiSEC direct cutting technology
- Low-E edge deletion speeds of up to 160 m/min
- Automatic suction device with Hepa filter unit
- Edge deletion of stepped sheets of glass, TPF & EasyPro glass
- 360° grinding in one cycle
- Automatic pressure control of grinding head and cutting head
- Display of cutting wheel wear and critical cutting oil level

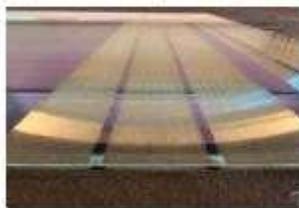
Options

- Edge deletion of Low-E glass (grinding wheel widths of 20 to 26 mm)
- Fully automatic tool-changer for cutting wheels
- Integrated device for cutting off remnant formats (RP-I)
- Multi-touch version of the control unit
- Tilting version of breaker bars or belts



Perfect edge quality irrespective of glass thickness

The use of this directly driven cutting technology in combination with the highly stable and precise cutting bridge means that the cutting quality is always perfect, even with thick float glass.



Top quality with Low-E edge deletion regardless of coating

With the aid of decades of experience in the area of edge deletion, the system can be used to process single to triple silver as well as coatings with special protection (Easypro or TPF) to an optimum standard and without any residue.



Simple and user-friendly

The system has been developed to ensure that the operator is always optimally supported by the machine, and such that operation is largely possible without glass-specific know-how. This increases the efficiency of the system and ensures consistent glass cutting quality.

Technical data

	DSC-A 37/33	DSC-A 60/33	DSC-A37/33 T	DSC-A60/33 T
Max. Glass thickness	2 - 19 mm			
Maximum size	3,700 x 3,300 mm	6,000 x 3,300 mm	3,700 x 3,300 mm	6,000 x 3,300 mm
Cutting speed X/Y axis	160 m/min			
Acceleration X/Y axis	6 m/s ²			
Glass cutting tolerance	± 0.2 mm			
Edge deletion	Optional			
Low-E edge deletion max. speed	160 m/min			
TPF / EasyPro max.	60 m/min*, 2 passes			
Edge deletion	Grinding wheel			

Highlights

- Precise glass cuts and high edge strength with LiSEC direct cutting technology
- Low-E edge deletion speeds of up to 160 m/min
- Automatic suction device with Hepa filter unit
- Edge deletion of stepped sheets of glass, TPF & EasyPro glass
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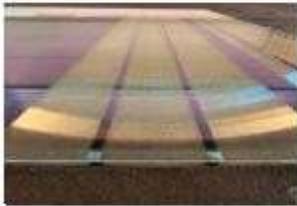
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Technical data

	DSC-A 37/33	DSC-A 60/33	DSC-A37/33-T	DSC-A60/33-T
Max. Glass thickness	2 - 19 mm			
Maximum size	3,700 x 3,300 mm	6,000 x 3,300 mm	3,700 x 3,300 mm	6,000 x 3,300 mm
Cutting speed X/Y axis	160 m/min			
Acceleration X/Y axis	6 m/s ²			
Glass cutting tolerance	± 0.2 mm			
Edge deletion	Optional			
Low-E edge deletion max. speed	160 m/min			
TPF / EasyPro max.	60 m/min*, 2 passes			
Edge deletion	Grinding wheel			

Highlights

- Precise glass cuts and high edge strength with LISEC direct cutting technology
- Low-E edge deletion speeds of up to 160 m/min
- Automatic suction device with Hepa filter unit
- Edge deletion of stepped sheets of glass, TPF & EasyPro glass
- 360° grinding in one cycle
- Automatic pressure control of grinding head and cutting head
- Display of cutting wheel wear and critical cutting oil level

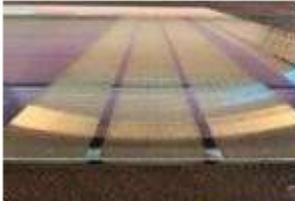
Options

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With the aid of decades of experience in the area of edge deletion, the system can be used to process single to triple silver as well as coatings with special protection (Easypro or TPF) to an optimum standard and without any residue.



Simple and user-friendly

The system has been developed to ensure that the operator is always optimally supported by the machine, and such that operation is largely possible without glass-specific know-how. This increases the efficiency of the system and ensures consistent glass cutting quality.

Technical data

	DSC-A 37/33	DSC-A 60/33	DSC-A37/33-T	DSC-A60/33-T
Max. Glass thickness	2 - 19 mm			
Maximum size	3,700 x 3,300 mm	6,000 x 3,300 mm	3,700 x 3,300 mm	6,000 x 3,300 mm
Cutting speed X/Y axis	160 m/min			
Acceleration X/Y axis	6 m/s²			
Glass cutting tolerance	±/ 0.2 mm			
Edge deletion	Optional			
Low-E edge deletion max. speed	160 m/min			
TPF / EasyPro max.	60 m/min*, 2 passes			
Edge deletion	Grinding wheel			

GFB

Machine for Automatic Flat Glass Cutting

The GFB cutting table was developed for processing coated and uncoated sheets of float and ornamental glass. This system provides the lowest glass cutting tolerances with a high degree of durability and reliability at the same time.

With the GFB you are perfectly prepared to meet all modern cutting requirements. The cutting table is equipped with an infinitely adjustable air cushion section and a non-slip and wear-resistant conveyor belt. Inbound transport and the alignment of unprocessed sheets of glass is performed either manually or automatically using the conveyor belt system. When processing coated sheets of glass, the coating is removed by a grinding wheel during the first pass. Then the cutting process starts automatically.

The quantity of cutting oil supplied is centrally controlled by the hollow shaft of the cutting wheel holder. To obtain optimum cutting quality, the program controls the maximum speeds and acceleration rates to suit the type of cut. Data transfer for straight and special shape cutting is effected centrally by the network or a USB interface. The GFB can be precisely matched to your needs by adding further optional functions.



Technical data

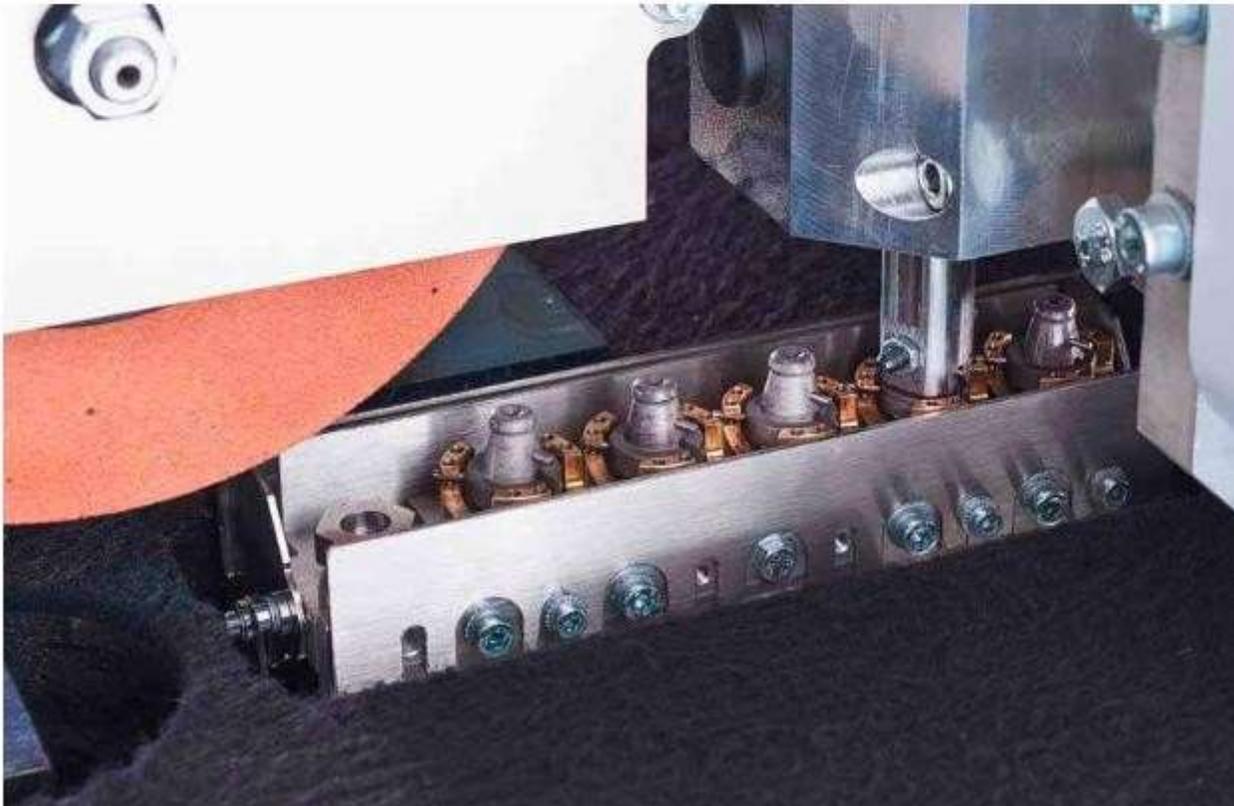
	GFB-37/26	GFB-37/33	GFB-61/33	GFB-61/36	GFB-73/33	GFB-90/33	GFB-120/33
Glass thickness	2 - 19 mm						
Maximum size	3,700 x 2,600 mm	3,700 x 3,300 mm	6,100 x 3,300 mm	6,100 x 3,600 mm	7,300 x 3,300 mm	9,000 x 3,300 mm	12,000 x 3,300 mm
Cutting speed X/Y axis	120 m/min						
Acceleration X/Y axis	4 m/s ² X-Achse, 6 m/s ² Y-Achse						
Glass cutting tolerance	± 0,2 mm						
Edge deletion	optional						
Low-E edge deletion max. speed	60 m / min						
TPF / EasyPro max.	25 m / min*, 2 passes						
Edge deletion	Grinding wheel						

Highlights

- Optimum cutting quality with minimal tolerances
- Edge deletion of Low-E glass
- Great reliability & durability of the system
- Processing of the raw glass sheet without mandatory trim cuts

Options

- Edge deletion of Low-E glass (grinding wheel widths of 20 to 26 mm)
- Version with augmented suction, specifically for TPF & EasyPro glass
- Fully automatic tool-changer for cutting wheels
- Setting up a suction bridge as the basis for a VB line combination
- Automatic positioning and printing of glass labels



ATH

Movable or Stationary Single- / Double-Sided Glass Loading Machine

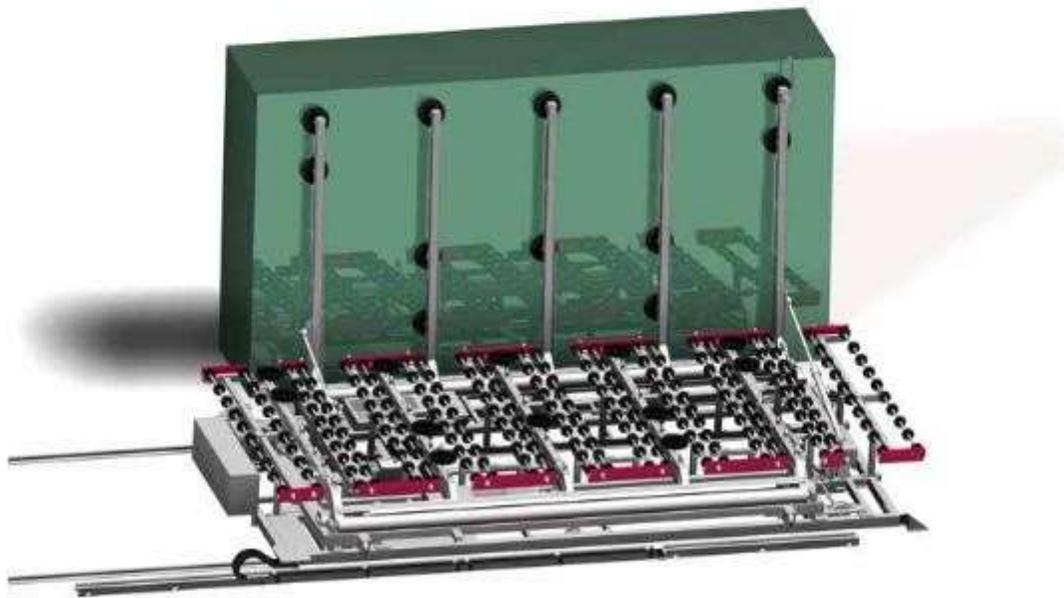
Glass sheets are automatically unloaded from storage racks positioned to one side of the machine, and tilted to the horizontal position for the cutting process. Both the tilt mechanism and the frame with vacuum suction cups are operated with an oil hydraulic system. The loading machine is also available in a mobile version with electronically controlled drive system, which is capable of unloading glass sheets from up to five different sections.

Highlights

- Fully automatic loading of cutting lines
- Loading from one side
- Handling of large and split stock sizes

Options

- Fast version with dual hydraulic system
- Double-Sided
- Movable design



Technical data

	ATH-37/26 (D)	ATH-37/33 (D)	ATH-60/38 (D)
Glass thickness	2 - 19 mm		
Minimum size	1,600 x 1,600 mm	1,600 x 1,600 mm	2,800 x 1,600 mm
Maximum size	3,700 x 2,600 mm	3,700 x 3,300 mm	6,900 x 3,300 mm
Travel path (glass rack sections)	1 - 8	1 - 8	1 - 8



AUTOMATIC HORIZONTAL SEAMING MACHINE

TENON

New vision of solution

Automatic Horizontal Seaming Machine TWM-F series



Thanks to considerable studies, experience in grinding, and market surveys, TENON has developed the Automatic Horizontal Seaming Machine TWM with cup grinding wheels. This design is in response to the needs and demands of the market which experiences difficulties with Vertical Seaming Machines that uses Diamond Belts or V-wheels



The Automatic Horizontal Seaming Machine is used to pre-treat the edges of glass for tempering by grinding all four sides along with corner dubbing. The TWM-F series has more excellent working speed from continued working flow without any time losses, the cycle time will be 10 -13 second/piece, more than 2 times higher productivity compare with our standard two head type TWM-B series. The TWM-F series automatically adjusts for different glass sizes and thicknesses, and can be connected directly in-line with a horizontal washing machine and feeding into a tempering furnace.

TENON

New vision of solution



belts, low processing efficiency of v-wheels, or intensive labor, But the TENON Automatic Horizontal Seaming Machine solves these problems. The TWM -F series has excellent efficiency, grinding quality, and longevity. Additionally, the TWM is the perfect solution for seaming Low-E glass thanks to a two-step glass grabbing technology that ensures the Low-E glass surface is not touched through the entire process.

Uptill now the market has had to deal with high operating costs caused by the expense of diamond

Structure: the machine structure is made of electrowelded steel section tubes, painted outside only with component epoxy paint.

All parts in contact with water are made of stainless steel or aluminum.

Parametric operator panel: It controls the automatic seaming process with a multilingual touch screen interface, fast and easy to understand and with a common approach with all other Horizontal washing machine; it controls the conveyor placed on the inlet side and outlet of the seaming machine, and the Inlet conveyor and outlet conveyor placed on the both side and all settings and parameters concerning the processing of the glass processing and the machine cycle.



Max glass thickness: the max. glass thickness is 12 mm. More than 12mm will be need prior discussion.

Check of thickness: no need any detect sensor for glass thickness. It will be carried out during the glass processing.

Low-E processing: The Low-E film should place upper side and push roller shall be pushing outside of Low-E surface for 5-8mm, the pushing distance can be controlled by touch screen.

Glass width detection: the width of the glass sheets is detected by a photo sensor installed on a forward pusher equipment. From the sensing data, the second processing step will fix width distance.

Max payload: 180 kg per linear meter.



TENON

New vision of solution

Seaming system: the processing is executed by four seaming heads equipped with diamond wheels each provided of a water cooling system.

Maintenance: the machine body is equipped two maintenance wing doors, front part and rear part, in order to allow the execution of checking, cleaning and maintenance operations.



Transport system: after the take of the glass plate, the glass position carried out by means of multi rolling rollers which were lifting up by pneumatic cylinder. During the transportation, the glass position will be adjusted by angled transportation roller.

Out let conveyer will synchronize with washing speed and seaming speed by servo motor.



Two transmission conveyer are available for the transport of glass plates both inlet conveyer and outlet conveyer. Two speed carried out both conveyer so that allows optimizing the processing time reducing the glass take time.

Tanks: the separate water tanks are made of stainless steel, and equipped simple filtering plate and water pump. The water used during the seaming process is collected in the center of water tank, and through plate filter go to water pump again.

This recirculation system allows removing the impurities and to reduce wastes of water.

Water Consumption: the consumption due to the evaporation and to the water residual on the output glass sheets is balanced by a delivery of water

controlled by an automatic refilling system.



Cleaning: the cleaning of the tanks and the removal of glass processing residuals shall be carried out every day at the end of the working shift, in order to grant the correct run of the seaming machine.

Seaming heads: the machine is equipped with four seaming heads.

Each head is equipped with 4 x 160(D) x15(W) diamond wheels.

Transmission: the wheel movement is carried out by a flat timing belt driven by a three phase motor running at 2800 rpm.

Features

TENON

New vision of solution

- Four head type
- High production capacity up to 40m/min.
- Perfect Low-E treatment without any touching point
- Accurate edging quality
- Real time control by touch screen
- Free working direction/can be connected to the washer.
- Can be connected with horizontal washing machine and tempering machine directly
- Automatic adjust glass size and glass thickness
- Self-diagnosis and alarm Function
- Increased working accuracy with 13 servo motor control

Option

- Corner cut equipment

Technical Data

Machine size

3000F	2,070mm(H)×4,859mm(W)×15,500mm(L)
2500F	2,070mm(H)×4,359mm(W)×8,900mm(L)
1800F	2,070mm(H)×3,659mm(W)×8,900mm(L)
Grinding thickness	0.5mm-2mm
Glass thickness	2.8mm-12mm
Minimal size	250mm x 400 mm

Maximal size

3000F	3.000 x 6.000 mm
2500F	2.500 x 3.300 mm
1800F	1.800 x 3.300 mm
Working speed	15-30m/min.
Power source	AC420V 3ph 50Hz
Total power	20kw
Air pressure	6kgf/cm ²

Control systems

PLC	BECKHOFF(GERMANY)
Touch screen	Schneider
Servo system	Delta(Taiwan) x 13
Relay	Omron
Power supply	LG
Motor	Tai zhou

TEMPERING FURNACE GLASTON FC 500

1. Glaston

1.1. General

Glaston is a global company developing glass processing technology for architectural, solar, appliance and automotive applications. Our portfolio ranges from pre-processing and safety glass machines to tools and services. We are dedicated to our customers' continued success and provide services for all glass processing needs with a lifecycle-long commitment in mind. For more information, please visit www.glaston.net.

Through vision, innovation and cooperation — we are changing the way the world sees glass.

1.2. Pre-Processing

Glaston's pre-processing product line provides glass processing technology and services for the architectural, furniture and domestic appliance and solar industries. During our over 65 years of operation, we have delivered more than 25,000 glass processing machines to more than 100 countries. Our wide product range includes tools, CNC machines and technologies for cutting, edging, beveling and drilling machines, available as stand-alone solutions as well as in integrated lines. The competitive edge of our glass processing machines is reliability of operations, flexible capacity, energy efficiency, and the high quality of the end product.

1.3. Heat Treatment

Glaston's heat treatment product line provides safety glass processing technology and services for the architectural, automotive, furniture and domestic appliance and solar industries. During our over 40 years of operation, we have delivered more than 2,600 safety glass machines to more than 70 countries. We provide technology for the flat glass tempering, glass bending & tempering, glass bending and flat glass laminating. The competitive edge of our glass processing machines is reliability of operations, flexible capacity, energy efficiency, and the high quality of the end product.

We are a part of Glaston Corporation, a global company developing glass processing technology for architectural, appliance, automotive and solar applications. Glaston's portfolio ranges from pre-processing and safety glass machines to related services. Glaston's customer service network is the largest in the industry, with over 20 locations around the world and provides services for all glass processing needs with a lifecycle-long commitment in mind.

Glaston is a sound and growth-oriented technology company, listed on the Helsinki Stock Exchange's (OMX) Small Cap List. For more information about Glaston, please visit www.glaston.net.



2. Glaston Flat Tempering Line FC500™

2.1. System description and benefits

The Glaston FC500™ has been developed with anticipation of the growing demand for lower production costs, improved product quality and fabrication of more efficient Low-E glass. The FC500 fully responds to the ongoing fast-paced market trend changes. Increasing low-E production, energy efficiency and increasing quality requirements from the end customers are the trends that will continue to challenge furnace designers in the future.



The Glaston FC500™ provides a solution to the challenges set by the current market conditions. It incorporates technical solutions that help our customers to stand out from the crowd in the tempered glass market. The design includes a multitude of exclusive, patented features, which offer important advantages for the customer's day-to-day running of a flat tempering plant. Its patented convection control system together with latest convection technology offers a platform that glass processors can build their business on for the decades to come.

Main benefits of the new Glaston FC500™ system are:

- Superior end product quality
- Significant increase in lowE production rates
- Energy efficiency

These main benefits are further highlighted by the new cutting edge automation system, iControl, which offers the best usability and ease-of-use in the market. The Glaston FC500™'s highly reliable technology is supported globally with the widest service network in the industry, Glaston service.



glaston
seeing it through



New convection system, Glaston Chinook™, offers significant increase to Super Low-E capacity and capability

FC500 is designed to match the growing needs of super low emissivity production. Its excellent heating uniformity is guaranteed with new a high air volume convection system.

- Efficient high air volume top convection results up to 40% more throughput
- Extremely efficient and accurate heat transfer
- Flexibility to process all low emissivity coatings in a variety of sizes and thicknesses with no compromises on production rate



Energy efficiency – up to 30% savings in energy consumption

Energy efficiency is not only about green values, it forms a major cost component in the furnace total operating costs. The Glaston FC500™ is designed to provide a significant decrease in energy consumption with its intelligent convection system.

- Circulated convection system, Glaston Chinook™, decreases total energy consumption
- Minimal compressed air needed
- Blower motor inverters and optimum furnace insulation materials standard features



Superior quality reached with technology innovations

The Glaston FC500™ incorporates several patented technological innovations to optimise the final glass quality. The glass processors' hot topic, iridescence (leopard spots, anisotropy), is a prime driver in the Glaston FC500™ design. In addition, physical distortions are now significantly decreased due to an extremely efficient and uniform heating system.

- Uniform heat transfer with the Glaston Chinook™ convection system results in clearly reduced glass edge lift and roller-wave
- Decreased iridescence phenomenon with shifted heating modules and staggered quench nozzle disposition
- Accurate temperature profiling to enable best heating uniformity and quality with all sizes and shapes



Cutting edge automation system, Glaston iControl

The New cutting edge automation system, iControl, includes all the latest developments in machine automation. It is a result of an industry-wide usability study where several professional furnace operators and glass processors were interviewed in order to develop the best possible solution for glass industry.

- Easy to use 22" touch screen interface.
- iControl Intelligence™ (optional) package includes extensive reporting system
 - production reporting (m2/h, loads/ h, loadings efficiency etc.)
 - operator specific performance indicators
 - maintenance reporting
- All the latest developments in machine automation incorporated into one package

glaston
seeing it through

2.2. Standard features

The Glaston FC500™ includes the following performance enhancements as standard:

Glaston Chinook™	Glaston Chinook™ convection system Latest design Glaston Chinook™ convection system is circulated air convection system with advanced control. The result is superior end product quality through uniform heating.
CGSB	Bottom convection Bottom convection is included as standard feature to enable better control and capacity with all glass types. Bottom convection includes patented lengthwise convection piping for greater heat accuracy control.
DLP	Dynamic Load Pattern recognition DLP contains intelligent capacitive sensors which measure glass loading patterns before batch enters the furnace. The measurement data is used to create automatic heating profile. DLP greatly assists operators in their day-to-day activities.
RHC	Automatic Roller Heat Control The intelligent RHC adjust automatically bottom heaters to enable stable roller temperature. System measures roller heat information and transmits it to control system which automatically adjusts bottom heat levels.
iControl Dynamics™	iControl Dynamics™ – Cutting edge automation system iControl Dynamics™ is a cutting edge automation system that incorporates the latest development in machine automation together. It includes the best usability features in the industry in order to make the furnace operation easier than ever.
L	Lifting table for loading and unloading conveyors Pneumatic lifting table in loading and unloading area for easier handling of big glass sheets.
Drive	Independent drive system The Glaston FC500's drive system and its loading/unloading, furnace, and quenching/cooling sections are individually controlled to provide fewer marks, optimized oscillation speed and minimized cycle time.
S	Blower motor inverters Energy efficient tempering system up to 19 mm tempering with frequency converter(s)
VC	Vibrating cullet conveyor under quenching section Automatically removes the broken glass to the cullet collector placed under the unloading conveyor. Automatic collection of glass cullet and easy access is an industrial safety factor.
BMON	Blower vibration monitoring system Safety and service are the utmost important features for Glaston in production line design. This system measures on-line the blower vibration and temperatures and thus moves the blower maintenance and service approach from reactive to predictive.
Remote	System for remote control Remote system enables swift support and reaction time in problem situations. Remote support with Glaston CARE system guarantees the availability of the furnace.
HS8	Heat strengthening system up to 8 mm clear and Low-E glass acc. to ASTM 1048 and EN 1863.
ECS	Emergency cooling system in case of breakage in the furnace
BB	Battery back-up system to empty the furnace in case of power failure
SO₂i	SO ₂ interface system
DH	Divided heating elements





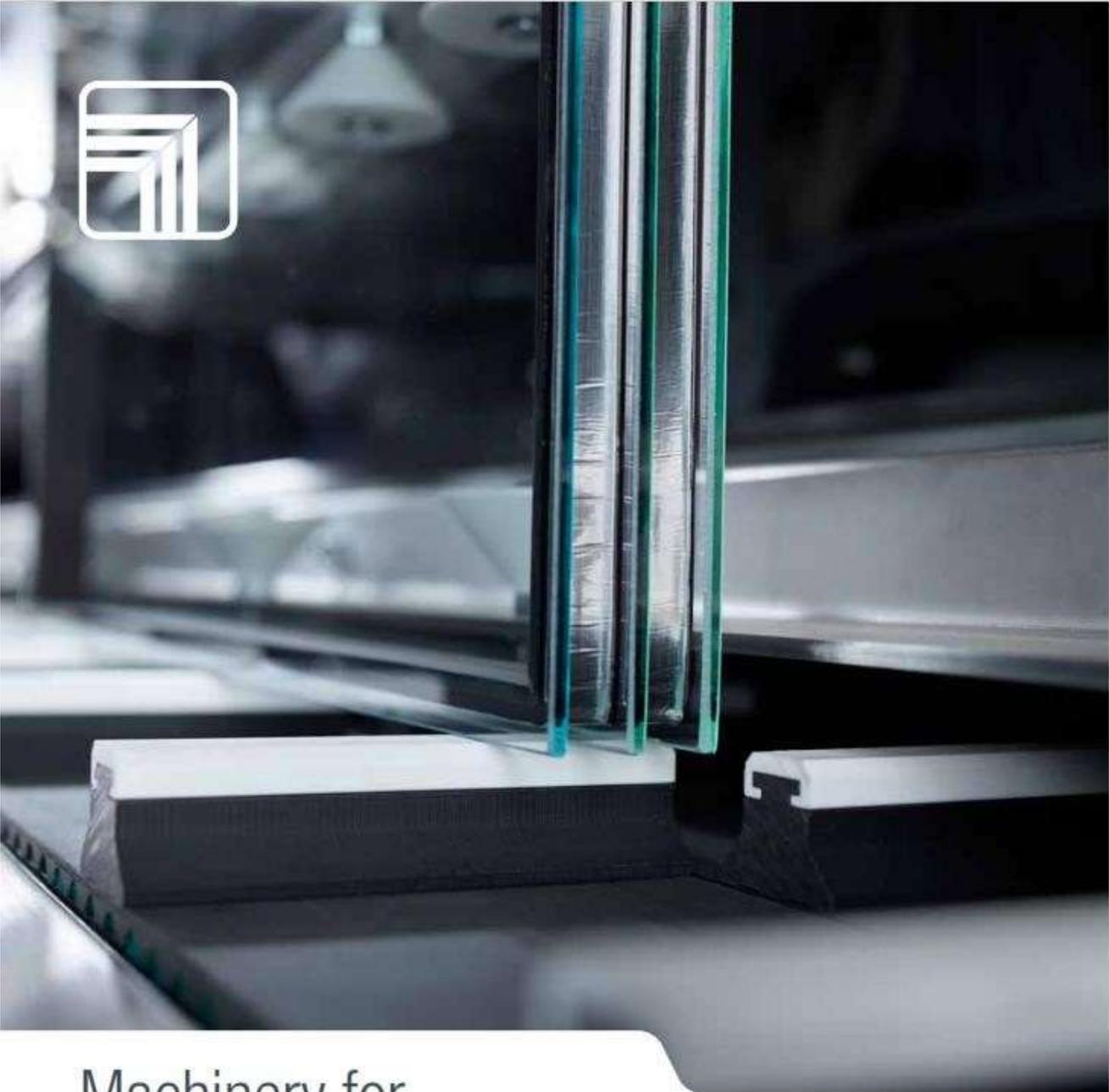
HORIZONTAL WASHING MACHINE



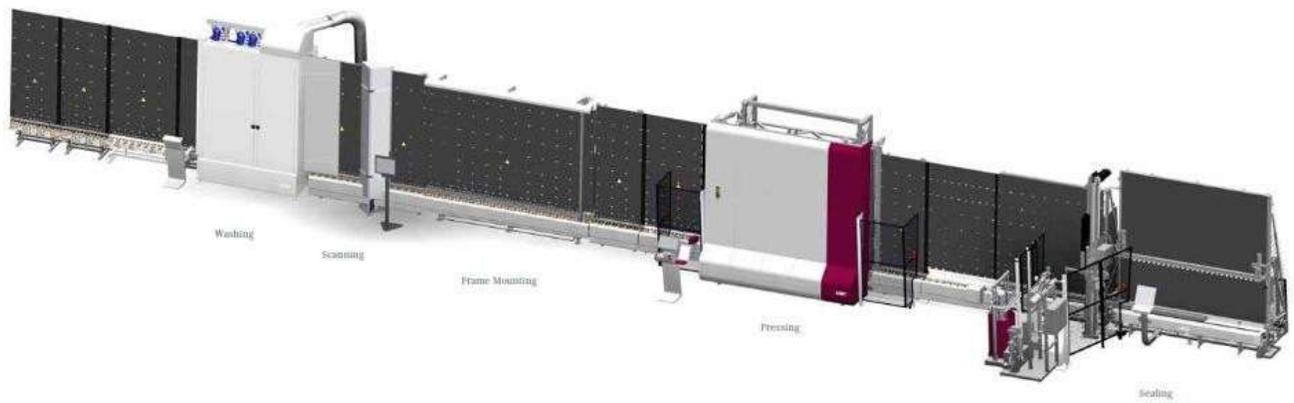
MAKE : LISEC

MODEL : HWM 28B6

Insulating Glass Production (IGU) Line LISEC



Machinery for
Insulating Glass Production



VHW-F

Automatic washing and drying plant for flat glass

Our newly developed washing and drying plant offers our customers the possibility to start with a washing machine for basic requirements and to gradually (even over years) adjust and upgrade this machine to meet their growing needs. But not only its flexible upgradability, also the extreme revision of the functional and technical facilities of this plant offer significant benefits.

Highlights

- No scratching of glass sheets or coating (infinitely adjustable brushes)
- Faster and more efficient drying process
- More compact construction
- Saving up to 50% energy with hot water generator

Options

- Shapes according to the LISEC shape catalog
- Speed control for rolling brushes front/rear
- Automatic coating detection
- 1000l tank and sand filter
- Additional pair of brushes for the main washing zone
- Additional heating element for the integrated heating tank
- Brushes with denser bristles
- Water temperature and conductance monitoring



Technical Data

	VHW-F
Glass height	2 m / 2.5 m / 3 m / 3.3 m
Glass thickness	2 - 21 mm / 2 - 60 mm
Minimum size	250 x 180 mm (2 m / 2.5 m) / 350 x 180 mm
Heating unit for the washer	Integrated hot water generation
Number of brushes	4 brushes (VHW-F/4), 6 brushes (VHW-F/V6), 8 brushes (VHW-F/V8)
Transport speed	3 - 8 m/min (4 brushes), 3 - 12 m/min (6 brushes), 3 - 15 m/min (8 brushes)
Maximum load	250 kg/m

A1RL

Automated Desiccant Filling Machine for Bent Spacer Frames

Multifunctional system for drilling, filling and closing two holes drilled in two adjacent frame legs. The machine automatically adjusts to the width of the respective spacer frame. The height of the single filling head can be continuously adjusted to different frame sizes. An electronic control device is fitted for reliable and optimal filling. Spacer frames are loaded manually. By simply turning the spacer frame 180 degrees, all four frame legs can be filled with desiccant.

Highlights

- Process-controlled filling with desiccant
- Suitable for steel and aluminum spacers
- Time-controlled filling possible
- Filling of a single frame leg is also possible

Options

- Shapes according to LiSEC shape catalog



Technical Data

	A1RL
Profile width	6 - 24 mm
Profile height	6 - 8,5 m
Minimum size	150 x 150 mm
Max. size depending on the aspect ratio of the frame	2,000 x 2,000 mm, 2,500 x 1,500 mm, 3,000 x 1,000 mm
Possible materials	aluminum, optional: steel, stainless steel

LBH-25V

Automated Butyl Coating Machine for Spacer Frames

Butyl extruder for precision butyl coating on both sides of spacers. Sensor-controlled guide rollers ensure optimal stabilisation of the frame and thus enable even coating. Opening and closing of the coating nozzles for each frame side are controlled automatically. The integrated measurement device for frame widths ensures continuous nozzle adjustment from 6 to 24 mm. The coating speed can be set individually.

Highlights

- Continuously adjustable working height
- Processing of spacer frames with georgian bars / muntins
- Round arches and special shapes can be coated without any problem
- Frame widths up to 42 mm are possible



Technical data

LBH 25V	
Profile width	6 - 24 (optional 24 - 42)
Profile height	6 - 8,3 mm
Minimum size	120 x 120 mm
Transport height	540 - 940 mm variable
Butyl nozzle	3 x 2,2 mm, 4,2 x 1,3 mm
Butyl supply	14 l Butylspeicher

VL-1N

Compact automated sealing system

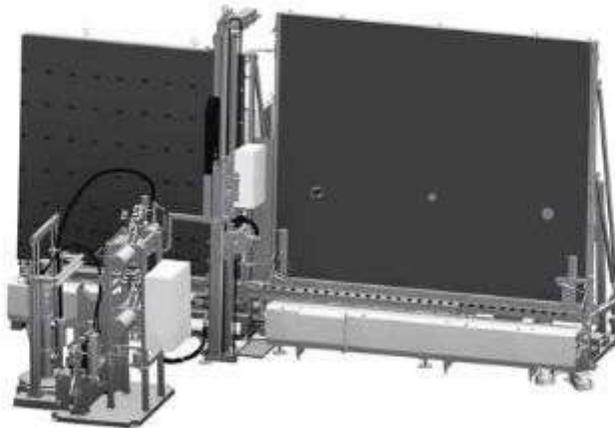
Space-saving design with proven technology. The VL-1N is a stationary metering unit for one- or two-component sealants. Its electronic speed control ensures perfect sealing even in the corners where the sealing cavities may have varying depths. The sealed glass units are transported by chains in order to avoid contact with the sealant and the edges of the glass sheet. The transport chain has special support points preventing any kind of contamination.

Highlights

- Quantity- and speed-controlled precision metering system
- Homogeneous sealing of corners by means of spatulas or rollers
- Data for shapes can be input manually or transferred online

Options

- Leaving gas-filling holes unsealed
- Shapes according to LiSEC shape catalog
- 3-sided stepped units
- 4-sided stepped units



Technical Data

	VL-1N
Glass height	2 m / 2.5 m / 3 m
Unit thickness	12 - 80 mm, optional 12 - 100 mm
Minimum size	250 x 180 mm
Maximum size	5,000 x 3,000 mm
Maximum length	2,500 mm, 3,500 mm, 4,000 mm, 5,000 mm
Frame inset	0 - 30 mm
Maximum load	250 kg/m

ER-140, ER-100

Sealing Table with Integrated Turning Mechanism

A double suction plate firmly grips the glass units during the sealing process. As the sealing table and the conveyors have the same height, glass units can be easily positioned and moved on the sealing table. After sealing, the glass units are automatically lowered to the table level. The sealing table is fitted with four telescopic arms for large-sized insulating glass units.

Highlights

- Rotation can be set to 90°, 180° or 360°
- Potentiometer control for the rotating speed



Technical Data		
	ER-140	ER-100
Minimum size	300 x 300 mm	230 x 180 mm
Maximum size	1,600 x 1,600 mm	1,600 x 500 mm
Maximum load	180 kg	30 kg
Transport height horizontal	865 mm	

CNC CUTTING MACHINE -2



LISEC 9505315

- **Max Sheet Size** : 2440mm x 3660mm
- **Capacity** : 1600 m2 / Shift

Drilling machine



- MAKE : GME, ITALY
- MODEL : VT 1250
- Glass Thickness : 4mm - 19mm

Round Polishing Machine



- MAKE : LOVATI, ITALY
- MODEL : LOV 1000 ES
- Glass Thickness : 4mm - 19mm

Flat Polishing Machine Number 1

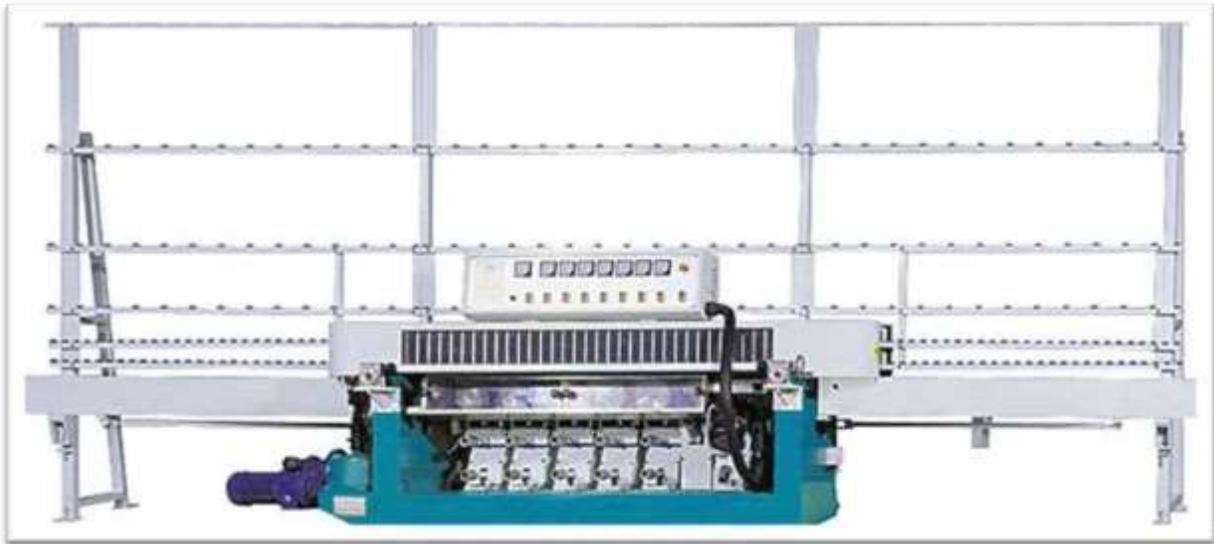


MAKE : SCHIATTI ANGELO, ITALY

MODEL : FPS 15S9

Glass Thickness : 4mm - 19mm

Flat Polishing Machine Number 2



- MAKE : HISUNG, CHINA
- MODEL : HG 2500
- Glass Thickness : 4mm - 19mm

Automatic Glass Sand Blasting Machine





**LIST OF MAJOR
PROJECTS
COMPLETED**

COMPLETED & RUNNING MAJOR PROJECTS

SR.	PROJECT NAME	LOCATION	CLIENT	TYPE OF GLASS	AREA in m2	STATUS
1	B + G + M + 14 STOREY BUILDING AT AL BARSHA	DUBAI	AL BADRI GROUP	6MM ECL. ADV. ARTIC BLUE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	12,000	COMPLETED
2	RULERS COURT BUILDING AT MUSCUT	OMAN	TOWEL CONT	6MM ECL. ADV. BRONZE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED	8,000	COMPLETED
3	ROYAL OMAN POLICE BUILDING	OMAN	TOWEL CONT	6MM BRONZE TINTED TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	9,500	COMPLETED
4	B + G + M + 14 STOREY BUILDING AT AL BARSHA	DUBAI	AL BADRI GROUP	6MM SUNGUARD HD BLUE TEMPERED GLASS + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	11,000	COMPLETED
5	SUPER SPECIALITY HOSPITAL, KERALA	INDIA	ELMEC	6MM SUNGUARD HD BLUE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	8,500	COMPLETED
6	G + 6 BUILDING ON PLOT NO. 421-382 AT WARQA-1	DUBAI	CJ CONTRACTING	6MM STOPSOL CLASSCI BLUE TEMPERED + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	4,500	COMPLETED
7	G + 10 BUILDING AT RAS AL KHAIMAH	RAK	AL HOLY	6MM STOPSOL CLASSCI BLUE TEMPERED + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	9,000	COMPLETED
8	G + 1 SCHOOL BUILDING AT RAK	RAK	AL HOLY	6MM STOPSOL CLASSIC BLUE TEMPERED + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	8,500	COMPLETED
9	ALOKOZY OFFICE BUILDING, KABUL	AFGANISTAN	CITY DIAMOND	6MM STOPSOL CLASSIC BLUE TEMPERED + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	9,000	COMPLETED
10	FAHMY FURNITURE BUILDING	OMAN	UNION CONT	6MM SUNGUARD NEUTRAL 40 TEMPERED + A/S + 6MM CLEAR TEMPERED GLASS	14,000	COMPLETED
11	G + 12 BUILDING FOR ROP, ADEN	OMAN	ROP	6MM DS 30 ON BRONZE H.S + A/S + 6MM CLEAR TEMPERED GLASS	12,000	COMPLETED
12	GLITZ-1 TOWER	DUBAI	DANUBE	6MM PLANITHERM BLUE TEMPERED GLASS + A/S + 6MM PLANITHERM LOW-E TEMPERED GLASS	9,000	COMPLETED

SR.	PROJECT NAME	LOCATION	CLIENT	TYPE OF GLASS	AREA in m2	STATUS
13	GLITZ-2 TOWER	DUBAI	DANUBE	6MM PLANITHERM BLUE TEMPERED GLASS + A/S + 6MM PLANITHERM LOW-E TEMPERED GLASS	11,000	COMPLETED
14	27 VILLAS AT JUMEIRAH	DUBAI	WASL	6MM DS 30 ON CLEAR H.S + A/S + 6MM CLEAR TEMPERED GLASS	14,000	COMPLETED
15	G + 14 STOREY BUILDING AT SILCON OASIS	DUBAI	OBAIDULLAH	6MM ECL. ADV. ARTIC BLUE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	7,500	COMPLETED
16	G + 12 BUILDING AT QUSAIS (TWIN TOWER)	DUBAI	OBAIDULLAH	6MM SS BLUE TEMPERED + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	16,000	COMPLETED
17	GOVT OFFICE BUILDING AT DHAID	SHARJAH	AL HOLY	6MM ECL. ADV. EVERGREEN TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	5,500	COMPLETED
18	G + 20 STOREY BUILDING	AJMAN	AL HOLY	6MM STOPSOL CLASSIC BLUE TEMPERED + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	12,000	COMPLETED
19	G + 7 TWIN BUILDING AT MUWAILAH	SHARJAH	AL SHAMSI CONT	6MM STOPSOL CLASSIC BRONZE TEMPERED + A/S + 6MM CLEAR TEMPERED GLASS	9,500	COMPLETED
20	G + 10 BUILDING AT FUJAIRAH	FUJAIRAH	PROTEC	6MM STOPSOL CLASSIC BLUE TEMPERED + A/S + 6MM CLEAR TEMPERED GLASS	6,000	COMPLETED
21	G + 20 STOREY BUILDING AT DSO	DUBAI	IMPACT	6MM STOPSOL PRIVA BLUE TEMPERED + A/S + 6MM CLEAR LOW-E TEMPERED GLASS	8,000	COMPLETED
22	G + 10 BUILDING AT MUHAISNAH	DUBAI	AL BADRI GROUP	6MM SUNGUARD HD BRONZE TEMPERED GLASS + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	6,500	COMPLETED
23	100 VILLAS AT FUJAIRAH	FUJAIRAH	AL MARAJ	6MM STOPSOL CLASSIC BRONZE TEMPERED + A/S + 6MM CLEAR TEMPERED GLASS	9,500	COMPLETED
24	1000 VILLAS PROJECT	FUJAIRAH	ARABTEC	6MM EMICOOL NN35T TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	36,000	COMPLETED
25	2 BUILDING AT DIP, DUBAI	DUBAI	FNC	6MM EMICOOL NN40T BRONZE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	12,000	COMPLETED

SR.	PROJECT NAME	LOCATION	CLIENT	TYPE OF GLASS	AREA in m2	STATUS
26	ST MARYS SCHOOL AT RAS AL KHAIMAH	RAK	AL HIKMAT	6MM SYP YBE 2530N TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	4,500	COMPLETED
27	AL JADAF BUILDING	DUBAI	AROMA	6MM COOLITE KNT 455 HS GLASS + A/S + 6MM CLEAR TEMPERED GLASS	6,000	COMPLETED
28	BUILDING AT AL WARQA, DUBAI	DUBAI	AL ASHRAM	6MM COOLITE KNT 130 HS GLASS + A/S + 6MM CLEAR TEMPERED GLASS	4,800	COMPLETED
29	BUILDING AT AL KHAIL GATE	DUBAI	BELHASA	6MM EMICOOL ST GREY TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	2,200	COMPLETED
30	G + 7 (2 BUILDING) AT AL WARQA	DUBAI	AL ASHRAM	6MM EMICOOL NN30T TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	7,500	COMPLETED
31	G + 7 BUILDING AT QUSIS	DUBAI	AL HASHIM	6MM EMICOOL NN50 BLUE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	2,400	COMPLETED
32	G + 2 WAREHOUSE BUILDING	SHARJAH	MAZOOON	6MM REFLITE ARTIC BLUE TEMPERED GLASS + A/S + 6MM ENERGY ADV. LOWE TEMPERED GLASS	6,000	COMPLETED
33	BURJ RESIDENCY AT DUBAI	DUBAI	AL BURJ	6MM EMICOOL NN50 BLUE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	8,500	COMPLETED
34	G + 10 BUILDING AT NAD AL HAMAR	DUBAI	EAGLE	6MM ECL. ADV. ARTIC BLUE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	3,800	COMPLETED
35	G + 12 BUILDING AT NAD AL HAMAR	DUBAI	EAGLE	6MM ECL. ADV. ARTIC BLUE TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	5,200	COMPLETED
36	BLOOM TOWER	DUBAI	BLOOM	8MM COOLITE KNT 125 HS GLASS + A/S + 6MM CLEAR TEMPERED GLASS	27,000	COMPLETED
37	62 BUILDING AT DUBAI	DUBAI	WASL	6MM SYP YBE 0125 TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	46,500	COMPLETED
38	SKY BAY TOWER AT DUBAI	DUBAI	AL HABBAL	6MM SUNLUX BLUE CHROMA TEMPERED GLASS + A/S + 6MM IPLUS SOLID LOW-E TEMPERED GLASS	9,500	COMPLETED

SR.	PROJECT NAME	LOCATION	CLIENT	TYPE OF GLASS	AREA in m2	STATUS
39	BUILDING AT DWC	DUBAI	DWC	6MM DS 30 ON CLEAR H.S + A/S + 6MM CLEAR TEMPERED GLASS	6,500	RUNNING
40	LABOUR CAMP AT JEBEL ALI	DUBAI	MCAG	6MM SUNGUARD HD GREEN TEMPERED GLASS + A/S + 6MM CLIMAGUARD N70 TEMPERED GLASS	2,200	RUNNING
41	AL ATTAR TOWER	ABU DHABI	AL ATTAR	6MM EMICOOL SS 20 BLUE TEMPERED GLASS + A/S + 6MM NE370 LOWE TEMPERED GLASS	8,000	90% COMPLETED
42	AL ATTAR TOWER	ABU DHABI	AL ATTAR	6MM EMICOOL SS 20 SILVER TEMPERED GLASS + A/S + 6MM NE370 LOWE TEMPERED GLASS	2,500	90% COMPLETED
43	G + 16 BUILDING AT AL MAJAZ	SHARJAH	ASUS	6MM PNA SOLAR-E PLUS BLUE GREEN TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	4,000	80% COMPLETED
44	295 WATER FRONT VILLAS	SHARJAH	TECH GROUP	6MM SUNGUARD NEUTRAL 40 TEMPERED GLASS + A/S + 6MM CLEAR TEMPERED GLASS	27,000	RUNNING
45	G + 1 SHOWROOM BUILDING	DUBAI	JLI	6MM COOLITE KNT 125 TEMPERED GLASS + A./S + 6MM CLEAR TEMPERED GLASS	3,200	70% COMPLETED



PROJECT NAME : BLOOM TOWER

LOCATION : DUBAI



PROJECT NAME : BLOOM TOWER

LOCATION : DUBAI



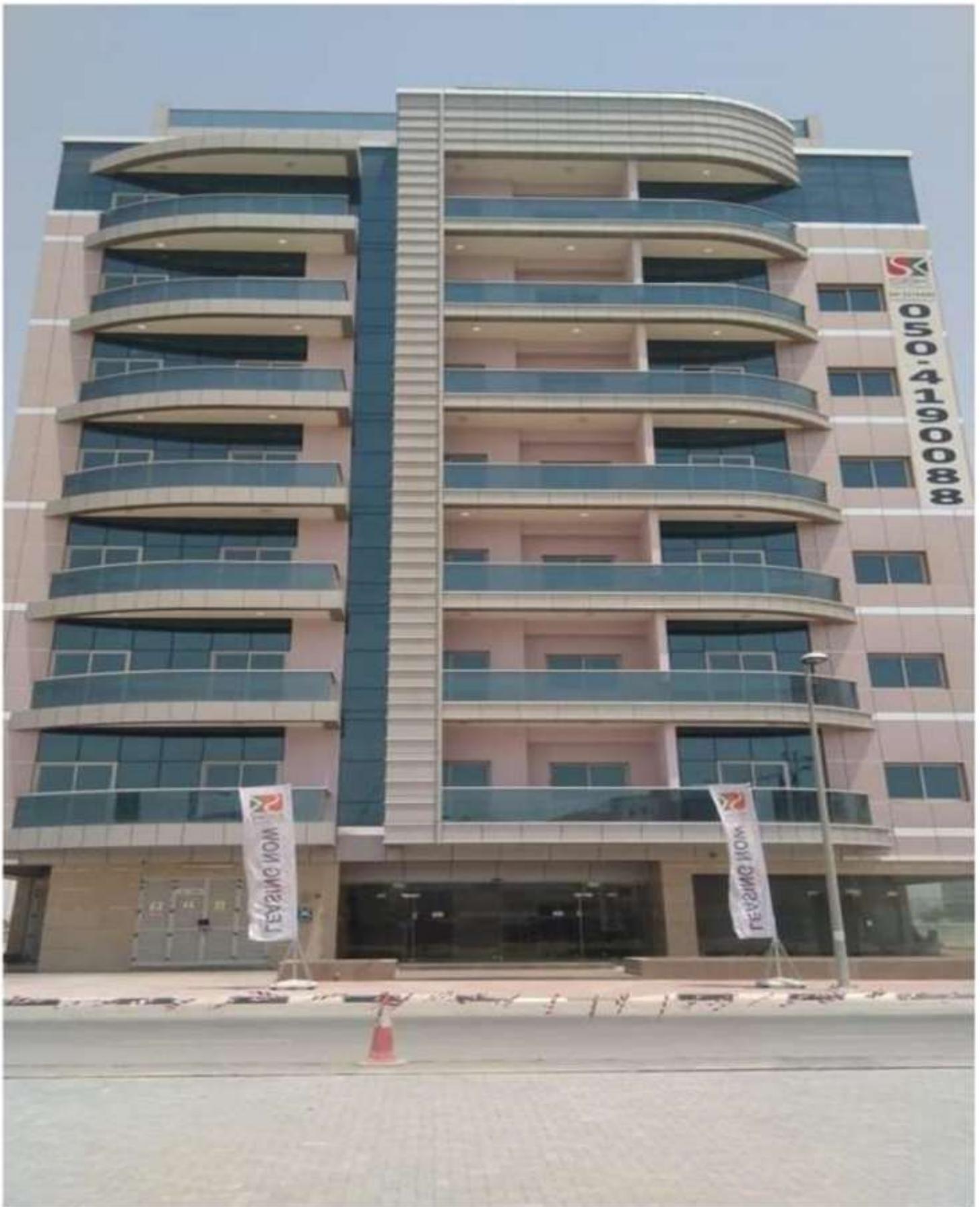
PROJECT NAME : AL JADDAF BUILDING

LOCATION : DUBAI



PROJECT NAME : BURJ RESIDENCY

LOCATION : DUBAI



Client :DAY TO DAY

Project :PROPOSED 2+G+7+GYM RESIDENTIAL BUILDING,DUBAILAND



PROJECT : PROPOSED G+4+ROOF LABOR ACCOMDATION BUILDING T
OWNER : MR. AFZAL MAJID ALIMOHAMED, MR. FAROOK KASSIM, MR. SHABIR MAJID- ALIMOHAMED
PLOT NO. : 599 - 1792
JOB NO. : 168 BL





Client :DAY TO DAY
Project :PROPOSED 2+G+11+GYM RESIDENTIAL BUILDING
Plot No : TECOM RD F 027



Client :RIBBON OF LIGHT
Project :2+G+15 PENTHOUSE
Plot No : 22-018 AT D.S.O, DUBAI.

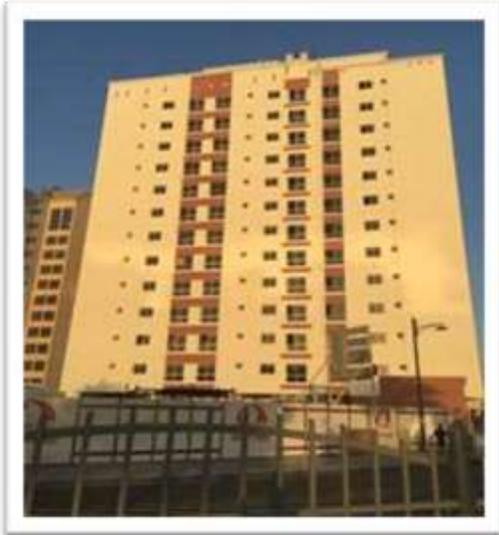


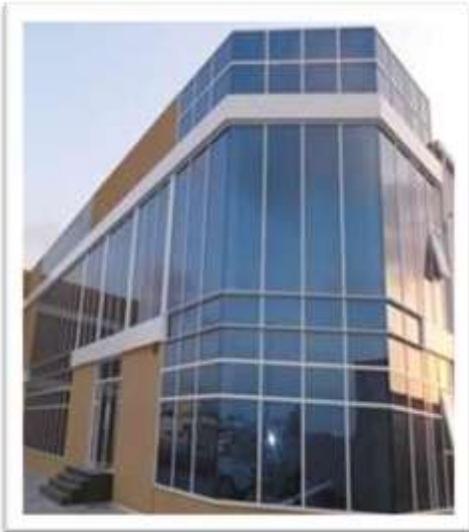
Client :OMAR ESSA SAEED ESSA ALFALASI.
Project :PROPOSED B+G+6+GYM+COMMERCIAL
AND RESIDENTIAL BUILDING
ON PLOT NO: 4210372
AL WARQA FIRST, DUBAI, UAE

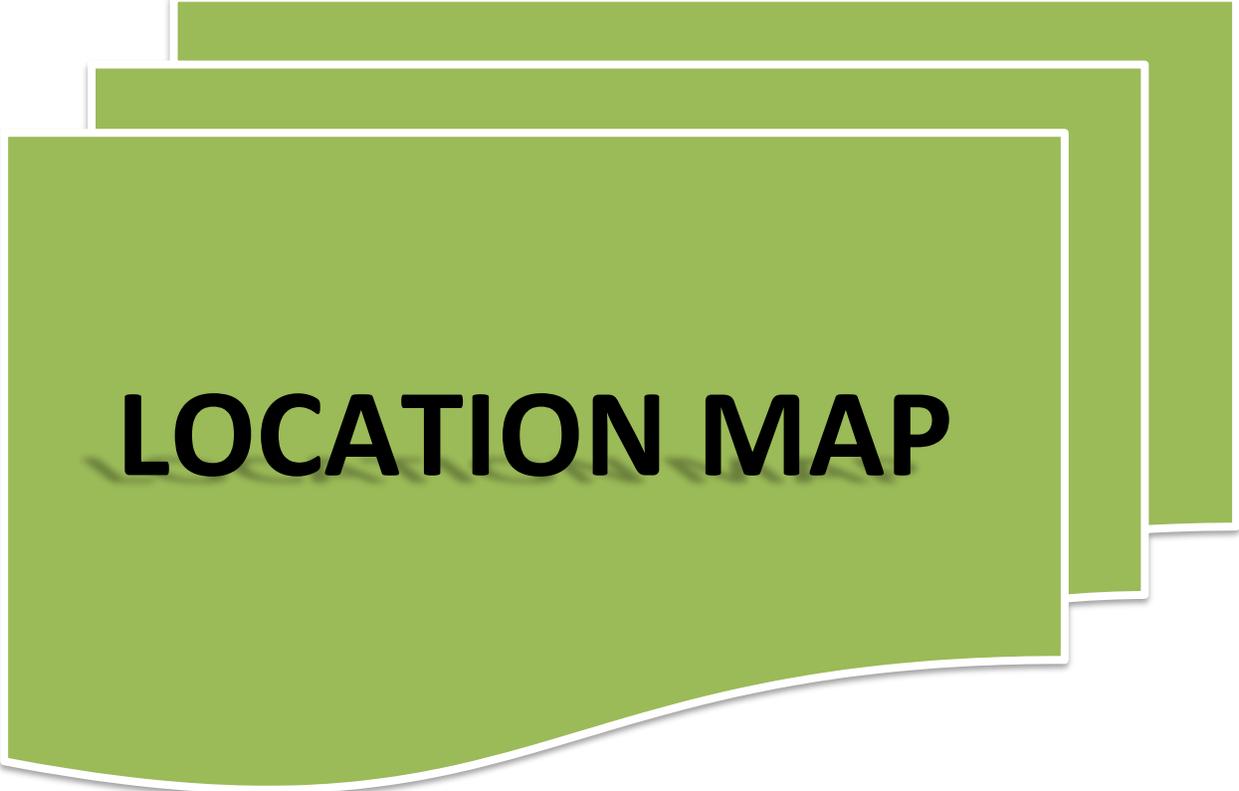




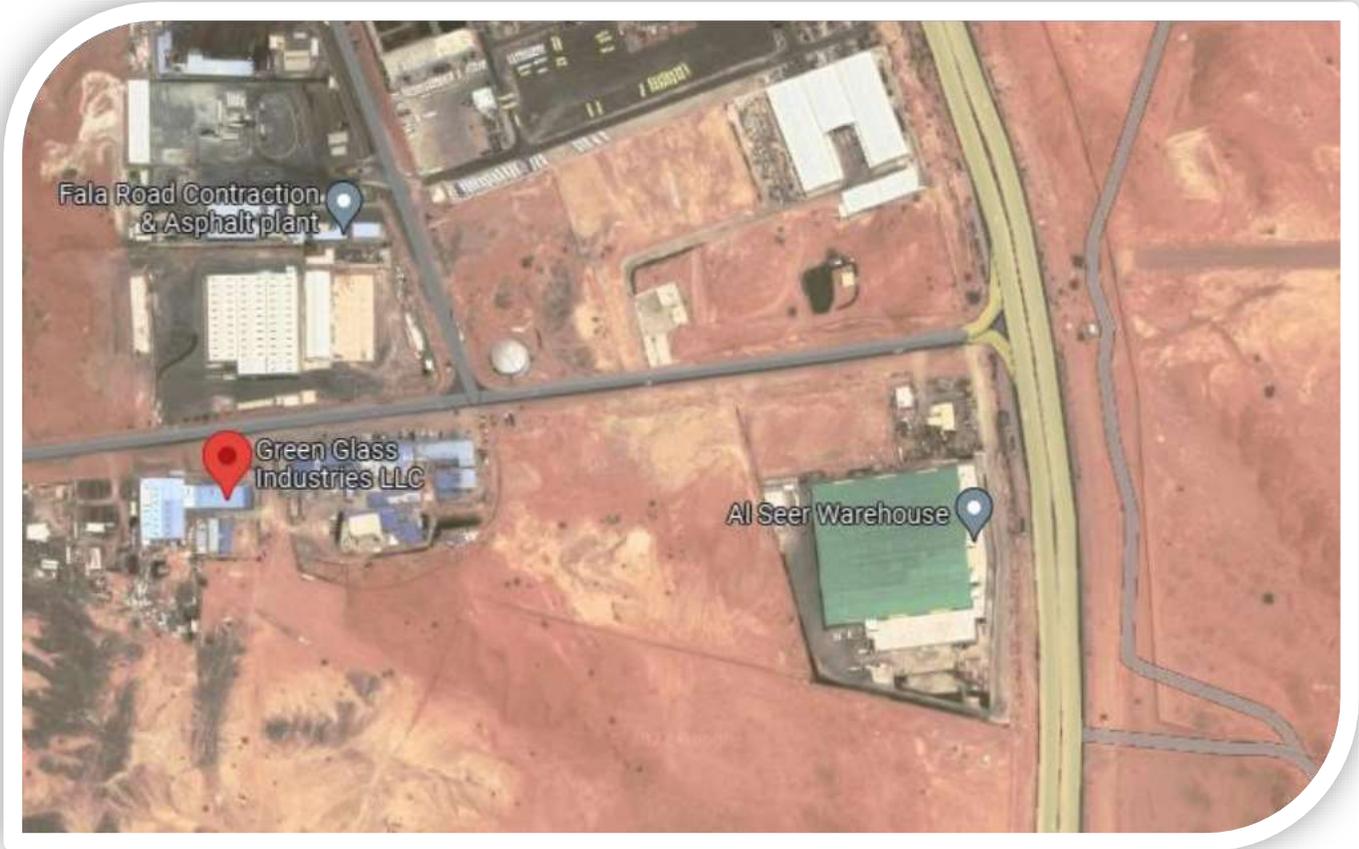








LOCATION MAP



The Contacts & Correspondence Details Address:

*Al Ghail Industrial Area
P.O.Box #34424
Ras Al Khaimah*

Office Phone:
+971 7 258 8369

Email Address:
greenqls@eim.ae
greenlassrak@gmail.com

Directions to Factory from Dubai:

*Take exit for Dhaid Road, Sharjah from Emirates Road
Follow signs of Manama and Ras Al Khaimah
Then follow road signs leading to Green Glass Industries LLC*

Directions to Factory from RAK Jazeera:

*Go straight through exit 119 of Emirates Road
Follow signs of Dubai/Sharjah
Then follow road signs leading to Green Glass Industries LLC*

Directions to Factory from RAK City

*Go towards RAK Airport
Follow signs of Dubai/Sharjah/Fujairah
Then follow road signs leading to Green Glass Industries LLC*