



مؤسسة كيان النخبة للمقاولات العامة
Kayan Alnokhba
general Contracting Est

Company profile

www.kayanalnokhba.com

مؤسسة كيان النخبة للمقاولات العامة
Kayan Al-Nakha
General Contracting Est



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INTRODUCTION

We are pleased to put before your kind consideration a brief account our establishment (kayan alnokhba) which is a wholly Saudi owned entity Eastern Province of Saudi Arabia and Is a leading provider which is dedicated to quality work and customers .

Satisfaction Through our collaboration with a lot of clients.(kayan alnokhba) establishment offers a wide range of services in the field Of glass, Aluminum, decor, stainless steel, steel, automatic door project And more.

The nature of our services is not limited to any particular stream of Work in the field of glass, Aluminum, stainless steel, steel, automatic Doors.

But has the ability to do a wide range of products. We are Passionate about development and we share your commitment to Learning in all areas we are providing our work is about unlocking

Hidden potentials and diversity is integral to everything we do.

OUR MESSAGE

kayan alnokhba since its foundation was on has been a pioneer Establishment in the field of glass, decor, steel, stainless steel and Aluminum Works, locally and globally, that came through the Establishment's advanced programs, plans and sincere efforts and Hard work of the staff of the establishment and the establishment's strong relationships with its valued customers.

kayan alnokhba establishment relationship with its customers is based on A number of important commitments include providing them with high quality products, we are closely with highest and best international Standards, and speed the delivery of services and manufactured products according Customer requirements and their need for these requirements to achieve .

kayan alnokhba establishment is the best installation ,manufacturers of glass, Steel, Stainless steel, Aluminum windows and doors in Saudi Arabia.

Kayan alnokhba establishment is characterized by high experience tanning from consultants, manufacturers, designers, premium installation teams and also high experience to work under one leadership to reach the message to be achieved.

OUR MISSION

To be the trusted partner with all clients because we believe that to provide our clients with the latest solutions in glass architecture, aluminum, Steel, stainless steel and cladding products as required and In a timely manner with competitive price, with the quality levels is the our real goal.

OUR VISION

Our vision towards successful business is to keep continuous efforts to become an excellent supplier and contractor of high quality products and pioneer projects in the field of glass, decor, steel, stainless steel, aluminum.

SERVICES AND PRODUCTS

- **Engineering consultancy for metal glass architecture and integrated solutions of metal hardware and glass panels used in facades animated and static.**
- **Engineering designs under the supervision of a professional team in the engineering department, with superior Technical, scientific and practical experience to create glass facades global engineering methods.**
- **Interest in scientific studies for the construction of buildings with metal structures and glass walls, and studies in glass-metal architecture integrated glass and metal hardware used in it.**
- **Holding successive seminars to examine and study what we have achieved in all our projects.**
- **Bringing of metal hardware accessories used for internal and external glass facades with different functions and uses for movement.**
- **Studying the possibility of finding appropriate integrated solutions teams of engineers to inspect and check project sites.**
- **Distinguished installation teams with scientific and practical experience to ensure ease of installation and to ensure the safety and excellence of work.**

- Installation of the facades of the metal glass architecture, including the metal and glass structure.
- Fixed and movable exterior and interior glass partitions.
- Glass decorations from glass cladding, drawings, sanding and drilling on glass with the latest international equipment.
- Stained glass of all kinds and various drawings.
- Fixtures of glass entrances from hinged doors in different ways for different uses.
- Sliding doors of all kinds and their different functions.
- Folding sliding doors with multiple systems, which helps to exploit the places as easily as possible.
- Hinged doors with multiple locking systems and hardware.
- Shower cabins are multi-shaped and multifunctional, including hinged, sliding, and foldable opening and closing methods, which suit different spaces.
- Preparing swimming pools from fixed and movable glass partitions, and the stainless steel stairs used in them.
- Supplying shower rooms from glass doors, mirrors, stainless stands, and stainless steel bathroom systems of all kinds.
- Glass staircase inlaid with stainless steel or metal.
- Handrails of all kinds, including glass and metal works, including stainless steel, aluminum, iron, wood, etc.

- Glass floors and ceilings in various designs.
- Cladding walls, columns or facades with glass, stainless steel and various metals.
- Cladding of various types, multiple colors and attractive design from aluminum cladding.
- Multi-glass offices and libraries with modern designs.
- Glass and metal tables of all sizes, designs and colors.
- Supply and installation of all type for double glass with aluminum framed
- Automatic sliding doors of all kinds and their different functions.
- Supply and installation of aluminum structure system with double glazing.
- Supply and installation of aluminum curtain wall system with double glazing.
- Suppling all kind of mirror (silver, color and antique mirror).
- Supplying of tinted and reflective glasses.
- Supply and installation of laminated safety glass.
- Supplying of pvc sheets such as (marble alternative , wood alternative) for interior and external facades
- Supplying of stainless-steel cladding, stainless-steel handrail.

KAYAN ALNOKHBA PRODUCTS

Folding



Balcony



Skylight



Swing doors



Floors



Sliding doors



Folding



Pergola



Handrails



Shower cabins



QUALITY POLICY

Kayan alnokhba establishment for glass and aluminum works, integrated solutions and decorations are classified among the leading and advanced companies locally fully to carry out its work in the field of glass construction and its integrated solutions with its various glass decorations, the company is committed to and globally to the international specifications required according to the principles of the industry in order to achieve the desires and expectations of our customers as committed high quality according to specifications to the requirements of our customers through the application of the steel system based on scientific and practical foundations to achieve high quality according to international standard of technology, achievements, Standard specifications and engineering techniques, which leads to continuous progress to achieve the difficult equation is architecture with glass and aluminum and this is achieved by fully adhering to local standards and international.

Research and examination to implement the requirements of each project and all laws and legislation related to work to ensure the achievement of the quality required to carry out the work and the optimal use of glass materials and metal hardware for various methods of use and the use of equipment modern with the latest advanced technological methods in architecture technology with glass and aluminum.

To keep pace with the progress of business implementation which leads to the continuous improvement and development of the methods of testing the materials used in manufacturing in terms of their high-quality specifications to ensure the quality of the final product and attention to training employees on the management style and training project workers to develop their scientific skills and personality in performing business accurately to establish solid long-term relationships with our customers through continuous cooperation and communication with them to satisfy their needs in terms of the required quality and to provide them with safety constantly .

SAFETY POLICY

kayan alnokhba is doing its best efforts to maintain a safety and healthy work environment for all its employees.

The management also is responsible to inform and note all employees in regard with requirements and standards of safety through effective communication, proceeding periodical inspections and training them correctly and continuously

In order of this responsibility, the management has made a program of workplace safety and explaining the procedures and related steps of safety and security of the facility and the employee, protection factors from accidents and strategies to maintain the environment, a matter which should be acknowledge by every person, follow it and apply the purpose of this program.

PERVIOUS WORKS

- Mall of Dhahran : interior frameless glass .
- Body power gym (Sihat) : external aluminum cladding , aluminum structure system with double glazing .
- Belhamer tower (Dammam) : interior office partitions.
- Balm compound (AL Khobar) : interior shower glass partitions , mirrors
- Dip and dip (Dammam) : external façade double glazing with aluminum cladding .
- Sumo tower (AL Khobar) : interior office partitions .
- King faisel university (Alissa) : aluminum windows , glass partitions , aluminum cladding ,aluminum louver , stainless-steel handrail and mirrors
- Naqy showrooms (Dammam) : external facades glass with spider system
- Vitoria tower (Manama – Bahrain) : interior shower glass partitions , pvc marble alternative for kitchens and stainless-steel cladding for elevators
- Alissa hospital (Alissa): interior automatic sliding doors.
- Maternity and children's hospital (Dammam): interior glass office partitions.
- Albabteen administration office (Dammam 3 rd. industrial) : external facades aluminum cladding and aluminum structure system with double glazing .
- Alriziza showrooms (AL Khobar) : external facades double glazing with spider system .
- AL-Rashid mall: interior frameless glass.
- Extra store (Dammam): interior frameless glass (swing doors).
- Almajdoui offices (Dammam): interior office partitions.
- Koob café (AL Khobar) aluminum cladding, aluminum curtain wall system with double glazing.



MIRROR GLASS LIMITED WARRANTY

During a period of five (5) years from **date of manufacture**, Mirror Glass ("MIRROR GLASS") manufactured by Guardian Industries Corp., or its subsidiaries ("Guardian"), is warranted, to its immediate customer only, subject to the terms and conditions of this Mirror Glass Warranty ("Warranty"), not to contain silvering defects resulting in discoloration, black spots, or clouding of the silver film that materially obstructs the mirror image of the vision area.

In the event that the MIRROR GLASS product fails to conform to the Limited Warranty as described above, Guardian must be notified in writing of such failure at the plant from which the purchase was made. Liability under this Warranty for defective MIRROR GLASS product is limited, at Guardian's exclusive option, to Guardian replacing such MIRROR GLASS product without charge F.O.B nearest shipping point of Guardian to place of original delivery or, in the alternative, a refund of 100% of Guardian's original selling price for such MIRROR GLASS product. **Labor costs are not covered by this Warranty.** This Warranty does not apply to replacement MIRROR GLASS beyond the Warranty period applying to the original MIRROR GLASS. Guardian reserves the right to inspect any MIRROR GLASS product which is alleged to be defective prior to its removal from the glazing system, installation or fabrication location.

Guardian's liability shall be limited solely to its responsibilities under the Warranty. In no event shall Guardian be liable to any person or entity for indirect, special, incidental or consequential damages or charges for any reason.

CONDITIONS WHICH WILL VOID THE WARRANTY

If any of the following events have occurred, Guardian will have no liability under this Warranty:

- **If the Glass or coating/paint backing surface is broken or fractured.**
- **If the Mirror Glass is subjected to standing water or other liquids.**
- **If the Mirror Glass product is damaged or altered by handling, storage, fabrication, or installation contrary to Guardian's written instructions attached and incorporated by reference or industry standards GANA - Glass Association of North America, which includes these former independent associations: FGMA, LSGA, and GTA; SIGMA - Sealed Insulating Glass Manufacturers Association; IGMAC - Insulating Glass Manufacturers Association of Canada; NAAMM - North American Association of Mirror Manufacturers; and AAMA - American Architectural Manufacturers Association or equivalent.**
- **If the Mirror Glass or coatings is attacked by incompatible glazing lubricants, glazing soaps, incompatible glazing gaskets, glazing sealants or silicones, incompatible cleaning fluids or moisture runoff, gluing or attachment of non-Guardian applied films, direct contact with paints, adhesives, solvents or insulation, or exposure to solvent or chemical fumes.**
- **If the Mirror Glass was discarded or destroyed.**
- **If the Mirror Glass is installed in swimming pool enclosures, bath enclosures, or commercial refrigeration products.**
- **If the Mirror Glass is installed or used in an application other than indoor use.**

EXCEPT FOR THE EXPRESS WARRANTY DESCRIBED ABOVE, THERE ARE NO EXPRESS OR IMPLIED WARRANTIES AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE MIRROR GLASS OR ANY PART OR COMPONENT THEREOF AND NO WARRANTY SHALL BE IMPLIED BY OPERATION OF LAW OR OTHERWISE.

No variation or change from this warranty will be binding upon Guardian unless made in writing and signed by an officer of Guardian.



May 13, 2012
 Thermal 5.2.6

Guardian
Total Performance Calculator

OUTDOORS

Lite

Clear;	#1 ----
Thickness =	#2 ----
Total Unit =	Slope = 90°

INDOORS

Thickness	Substrate	Visible Light		Solar Energy (Direct)		Winter		Summer		Relative Heat Gain	
		% Transmittance	% Reflectance		% Transmittance	Reflect % Out	U-Factor Night-time	U-Factor Day-time	Shading Coef.		SHGC
			Indoor	Outdoor							
6mm	Clear	89	8	9	81	8	1.03	.93	.97	.842	208
8mm	Clear	88	8	9	78	8	1.01	.92	.95	.821	202
10mm	Clear	88	8	9	75	7	1.00	.91	.92	.800	197
12mm	Clear	87	8	9	72	7	.99	.90	.90	.782	193

ASHRAE NFRC 2004

The performance values shown above represent NOMINAL VALUES for the center of glass (no spacer or framing). Slight variations may occur due to manufacturing tolerances, point of manufacture, and type of instrumentation used to measure the optical properties.

EXPLANATION OF NFRC 2004 STANDARD TERMS

Visible Light = radiant energy in the wavelength range of 380 nm to 780 nm with Ill. D65 and CIE 2° observer
 % Transmittance = percentage of visible light at normal incidence (90° to surface) directly transmitted through the glass
 % Reflectance Indoors = percentage of visible light at normal incidence directly reflected from the glass back indoors
 % Reflectance Outdoors = percentage of visible light at normal incidence directly reflected from the glass back outdoors
Solar Energy (Direct) = sun's radiant energy with wavelength range of 300 to 2500 nm at air mass 1.5 direct normal, ASTM E 891.
 % Transmittance = percentage of solar energy at normal incidence (90° to surface) directly transmitted through the glass
 Reflect % Out = percentage of solar energy at normal incidence directly reflected from the glass back outdoors
U-Factor = (also called U-Value) air-to-air thermal conductance of 39° high glazing and associated air films. Units are Btu/hr. ft².F.
 Winter-night = 12.3 mph wind at -0.4°F & 69.8°F indoors. Summer = 0 sun, 6.15 mph wind at 89.6°F & 75.2°F still indoor air.
Shading Coef. = (SC) fraction of solar heat, direct (300 to 4500 nm) plus indirect (5 to 40 μm), transferred indoors through the glass. For reference, 1/8" (3.1 mm) clear glass has a value of 1.00 (SC is an older term being replaced by the SHGC).
SHGC = (Solar Heat Gain Coefficient) fraction of solar energy incident on the glazing that is transferred indoors both directly and indirectly through the glazing. The direct gain portion equals the direct solar transmittance, while the indirect is the fraction of the solar energy absorbed to the energy reradiated & convected indoors. No heat gain from warmer outdoor air is included.

$$SHGC = (\text{Direct Solar Trans}) + \frac{((\text{Indirect Solar Heat Gain}) \cdot (\text{Summer U-Value})(89.6^\circ\text{F} - 75.2^\circ\text{F}))}{(248,209 \text{ Btu/hr.ft}^2)}$$

$$\text{Relative Heat Gain (RHG)} = \text{total net heat gain to the indoors due to both the air-to-air thermal conductance and the solar heat gain. The units are Btu/hr.ft}^2. \text{ RHG} = ((\text{Summer U-Value})(89.6^\circ\text{F} - 75.2^\circ\text{F}) + (\text{Shading Coef.})(200 \text{ Btu/hr.ft}^2))$$

This performance analysis is provided under license by Guardian Industries Corp. It is designed to assist the user in evaluating the performance of the glass products identified on this report. Many factors may affect glass performance including glass size, building orientation, shading, wind speed, type of installation, and other factors. While Guardian has made a good faith effort to verify the reliability of this program, it may contain unknown programming errors that could result in incorrect results. With respect to non-Guardian products, this performance analysis may be based on published information from the manufacturer that has not been independently verified by Guardian for accuracy. Moreover, the applicability and results of the analysis are directly related to user inputs and any changes in actual conditions can have a significant affect on the results. GUARDIAN DOES NOT PROVIDE ANY WARRANTY OR GUARANTEE REGARDING THE ACCURACY OF THE INFORMATION IN THIS REPORT OR AGAINST GLASS BREAKAGE OR FOR ANY DIRECT OR INDIRECT DAMAGES THAT MAY BE DUE TO THE USE OF THE PROGRAM.

SunGuard® is a registered trademark of Guardian Industries Corp.

Product Data Sheet
 Version 1 (07 / 2009)

Sikasil® WS-305 CN

Weatherproofing sealant

Technical Product Data

Chemical base		1-C silicone
Colour (CQP 001-1)		See product overview
Cure mechanism		Moisture-curing
Cure type		Neutral
Density (uncured) (CQP 006-4)	transparent all other colors	1.03 kg/l approx. 1.49 kg/l approx.
Non-sag properties (CQP 061-4 / ISO 7390)		< 2 mm approx.
Application temperature		5 - 40°C (40 - 105°F)
Skin time ² (CQP 019-2)		35 min approx.
Tack-free time ² (CQP 019-1)		180 min approx.
Curing speed (CQP 049-1)		See diagram 1
Shore A-hardness (CQP 023-1 / ISO 868)		15 approx.
Tensile strength (CQP 036-1 / ISO 37)		1.0 N/mm ² approx.
Elongation at break (CQP 036-1 / ISO 37)		900% approx.
Tear propagation resistance (CQP 045-1 / ISO 34)		4.0 N/mm approx.
100% modulus (CQP 036-1 / ISO 37)		0.4 N/mm ² approx.
Movement accommodation capability (ASTM C 719)		± 50%
Thermal resistance (CQP 513-1)		180°C (356°F) approx. 200°C (392°F) approx. 220°C (428°F) approx.
Short term	4 hours 1 hour	
Service temperature		-40 - 150°C approx. (-40 - 302°F)
Shelf life (storage below 25°C) (CQP 016-1)		12 months

¹ CQP = Corporate Quality Procedure

² 23°C (73°F) / 50% r.h.

Description

Sikasil® WS-305 CN is a neutral-curing silicone sealant with a high movement capability and excellent adhesion to a wide range of substrates. Sikasil® WS-305 CN is manufactured in accordance with ISO 9001 quality assurance system and the responsible care program.

Product Benefits

- Meets requirements of ASTM C 920 (class 50), TT-S00230C, TT-S001543A
- Outstanding UV and weathering resistance
- Adheres well to many substrates including glass, metals, coated and painted metals, plastics and wood

Areas of Application

Sikasil® WS-305 CN can be used for weatherproofing and sealing applications where durability under severe conditions is required. Sikasil® WS-305 CN is particularly suited as a weather seal for curtain walling and windows. This product is suitable for professional experienced users only. Tests with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.

Cure Mechanism

Sikasil® WS-305 CN cures by reaction with atmospheric moisture. The reaction thus starts at the surface and proceeds to the core of the joint. The curing speed depends on the relative humidity and the temperature (see diagram 1 below). Heating above 50°C to speed-up the vulcanization is not advisable as it may lead to bubble formation. At low temperatures the water content of the air is lower and the curing reaction proceeds more slowly.

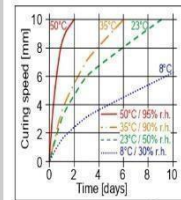


Diagram 1: Curing speed 1C-Sikasil®

Application Limits

Most Sikasil® WS, FS, SG, IG, WT, AS and other engineering silicone sealants manufactured by Sika are compatible with each other and with SikaGlaze® IG sealants. For specific information regarding compatibility between various Sikasil® and SikaGlaze® products please contact the Technical Service Department of Sika Industry. All other sealants have to be approved by Sika before using them in combination with Sikasil® WS-305 CN. Where two or more different reactive sealants are used, allow the first to cure completely before applying the next.

Do not use Sikasil® WS-305 CN on pre-stressed polyacrylate and polycarbonate elements as it may cause environmental stress cracking (crazing).

The compatibility of gaskets, backer rods and other accessory materials with Sikasil® WS-305 CN must be tested in advance.

Joints deeper than 15 mm should be avoided.

The above information is offered for general guidance only. Advice on specific applications will be given on request.

Method of Application

Surface preparation

Surfaces must be clean, dry and free from oil, grease and dust.

Advice on specific applications and surface pretreatment methods is available from the Technical Service Department of Sika Industry.

Application

After suitable joint and substrate preparation, Sikasil® WS-305 CN is gunned into place. Joints must be properly dimensioned as changes are no longer possible after construction. For optimum performance the joint width should be designed according to the movement capability of the sealant based on the actual expected movement. The minimum joint depth is 6 mm and a width / depth ratio of 2:1 must be respected. For backfilling it is recommended to use closed cell, sealant compatible foam backer rods e.g. high resilience polyethylene foam rod. If joints are too shallow for backing material to be employed, we recommend using a polyethylene tape. This acts as a release film (bond breaker), allowing the joint to move and the silicone to stretch freely.

For more information please contact the Technical Service Department of Sika Industry.

Tooling and finishing

Tooling and finishing must be carried out within the skin time of the adhesive.

When tooling freshly applied Sikasil® WS-305 CN press the adhesive to the joint flanks to get a good wetting of the bonding surface.

Removal

Uncured Sikasil® WS-305 CN may be removed from tools and equipment with Sika® Remover-208 or another suitable solvent. Once cured, the material can only be removed mechanically.

Hands and exposed skin should be washed immediately using Sika® Handclean Towel or a suitable industrial hand cleaner and water. Do not use solvents!

Overpainting

Sikasil® WS-305 CN cannot be overpainted.

Further Information

Copies of the following publications are available on request:
 - Material Safety Data Sheet

Packaging Information

Cartridge	300 ml
Unipack	400 ml
Unipack	600 ml

Value Bases

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Health and Safety Information

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

Legal Notes

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

Further information available at:
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Product Data Sheet
Version 1 (08 / 2009)

Sikasil® FS-665

Fire-rated sealant

Technical Product Data

Chemical base		1-C silicone
Colour (CQP ¹ 001-1)		Grey, Black
Cure mechanism		Moisture-curing
Cure type		Neutral
Density (uncured) (CQP 006-4)		1.47 kg/l approx.
Non-sag properties (CQP 061-4 / ISO 7390)		< 2 mm
Application temperature		5 - 40°C (40 - 105°F)
Skin time ² (CQP 019-2)		15 min approx.
Tack-free time ² (CQP 019-1)		120 min approx.
Curing speed (CQP 049-1)		See diagram 1
Shore A-hardness (CQP 023-1 / ISO 868)		25 approx.
Tensile strength (CQP 036-1 / ISO 37)		1.2 N/mm ² approx.
Elongation at break (CQP 036-1 / ISO 37)		700% approx.
Tear propagation resistance (CQP 045-1 / ISO 34)		4.0 N/mm approx.
100% modulus (CQP 036-1 / ISO 37)		0.4 N/mm ² approx.
Movement accommodation capability (ASTM C 719)		±25%
Thermal resistance (CQP 513-1)		180°C (355°F) approx.
Short term	4 hours	200°C (390°F) approx.
	1 hour	220°C (430°F) approx.
Service temperature		-40 - 150°C approx. (-40 - 300°F)
Shelf life (storage below 25°C) (CQP 016-1)		12 months

¹⁾ CQP = Corporate Quality Procedure

²⁾ 23°C (73°F) / 50% r.h.

Description

Sikasil® FS-665 is a fire-rated, neutral-curing, low-modulus silicone sealant with excellent adhesion to a wide range of porous and non-porous substrates. Sikasil® FS-665 is manufactured in accordance with ISO 9001 quality assurance system and the responsible care program.

Product Benefits

- Fire rated: EN 11925-2 / DIN 4102-B1; up to 4 hours insulation and integrity (BS 476, part 20)
- Meets requirements of ISO 11600 25 LM F & G, ASTM C 920 (class 25), TT-S00230C, TT-S001543A
- Outstanding UV and weathering resistance

Areas of Application

Sikasil® FS-665 is ideal for weatherproofing of curtain walling and facades where fire rating is required. It is especially suitable for sealing of expansion joints, cable and pipe penetrations in fire-rated constructions. This product is suitable for professional experienced users only. Tests with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.

Industry



Cure Mechanism

Sikasil® FS-665 cures by reaction with atmospheric moisture. The reaction thus starts at the surface and proceeds to the core of the joint. The curing speed depends on the relative humidity and the temperature (see diagram 1 below). Heating above 50°C to speed-up the vulcanization is not advisable as it may lead to bubble formation. At low temperatures the water content of the air is lower and the curing reaction proceeds more slowly.

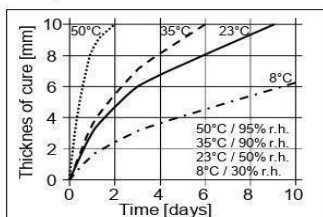


Diagram 1: Curing speed 1C-Sikasil®

Application Limits

Most Sikasil® WS, FS, SG, IG, WT, AS and other engineering silicone sealants manufactured by Sika are compatible with each other and with SikaGlaze® IG sealants. For specific information regarding compatibility between various Sikasil® and SikaGlaze® products please contact the Technical Service Department of Sika Industry.

All other sealants have to be approved by Sika before using them in combination with Sikasil® FS-665. Where two or more different reactive sealants are used, allow the first to cure completely before applying the next.

The compatibility of gaskets, backer rods and other accessory materials with Sikasil® FS-665 must be tested in advance.

Joints deeper than 15 mm should be avoided.

The above information is offered for general guidance only. Advice on specific applications will be given on request.

Method of Application

Surface preparation

Surfaces must be clean, dry and free from oil, grease and dust.

Advice on specific applications and surface pre-treatment methods is available from the Technical Service Department of Sika Industry.

Application

After suitable joint and substrate preparation, Sikasil® FS-665 is gunned into place. Joints must be properly dimensioned as changes are no longer possible after construction. For optimum performance the joint width should be designed according to the movement capability of the sealant based on the actual expected movement. The minimum joint depth is 6 mm and a width / depth ratio of 2:1 must be respected.

The achievable fire rating depends on the joint dimensions. For back-filling various materials have been evaluated including open-cell polyurethane foam, ceramic tape and mineral wool.

For more information please contact the Technical Service Department of Sika Industry.

Tooling and finishing

Tooling and finishing must be carried out within the skin time of the adhesive.

When tooling freshly applied Sikasil® FS-665 press the adhesive to the joint flanks to get a good wetting of the bonding surface.

Removal

Uncured Sikasil® FS-665 may be removed from tools and equipment with Sika® Remover-208 or another suitable solvent. Once cured, the material can only be removed mechanically.

Hands and exposed skin should be washed immediately using Sika® Handclean Towel or a suitable industrial hand cleaner and water. Do not use solvents!

Overpainting

Sikasil® FS-665 cannot be over-painted.

Further Information

Copies of the following publications are available on request:

- Material Safety Data Sheet

Packaging Information

Cartridge	300 ml
Unipack	600 ml

Value Bases

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

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Further information available at:
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Sikasil® FS-665 2 / 2

ALUPCO 50SG



CURTAIN WALL SYSTEM



ALUMINIUM PRODUCTS COMPANY [ALUPCO]

Established in 1975, ALUPCO is the leading manufacturer of aluminium extrusion products in the Middle East (M.E.). ALUPCO is also renowned for its variety of surface treatment finishes like electrostatic powder coating, anodizing, polishing and wood finish.

ALUPCO's twin facilities at Dammam and Jeddah industrial cities have 8 Extrusion presses with a total annual extrusion capacity exceeding 78,000 tons, 4 Powder coating lines with a total capacity exceeding 60,000 tons and 2 Anodizing lines with total capacity exceeding 10,000 tons, in its 135,000 square meters facilities operating with over 800 experienced personnel.

ALUPCO is the first Aluminium extrusion company in the M.E. to be awarded with the prestigious ISO 9001 certificate in 1995 and ISO 2000 certificate in 2004. To maintain the high quality standards of its products, European (EN), German (DIN), British (BS), American (ASTM) and the Saudi (SASO) standards are strictly followed in every step of its operations.

ALUPCO is the market leader in Saudi Arabia and the major supplier of extrusion profiles to the G.C.C. countries, Middle East and Europe for Architectural and Industrial purposes.

ALUPCO's steady growth is in line with regional and international developments, enhanced by the trust and confidence of designers, architectural engineers, contractors and end users in the Middle East and Europe.

Kingdom Center and Al Faisaliah Center in Riyadh, Burj Al-Arab in Dubai and the Communication Tower in Kuwait are some of the land marks supplied by ALUPCO.

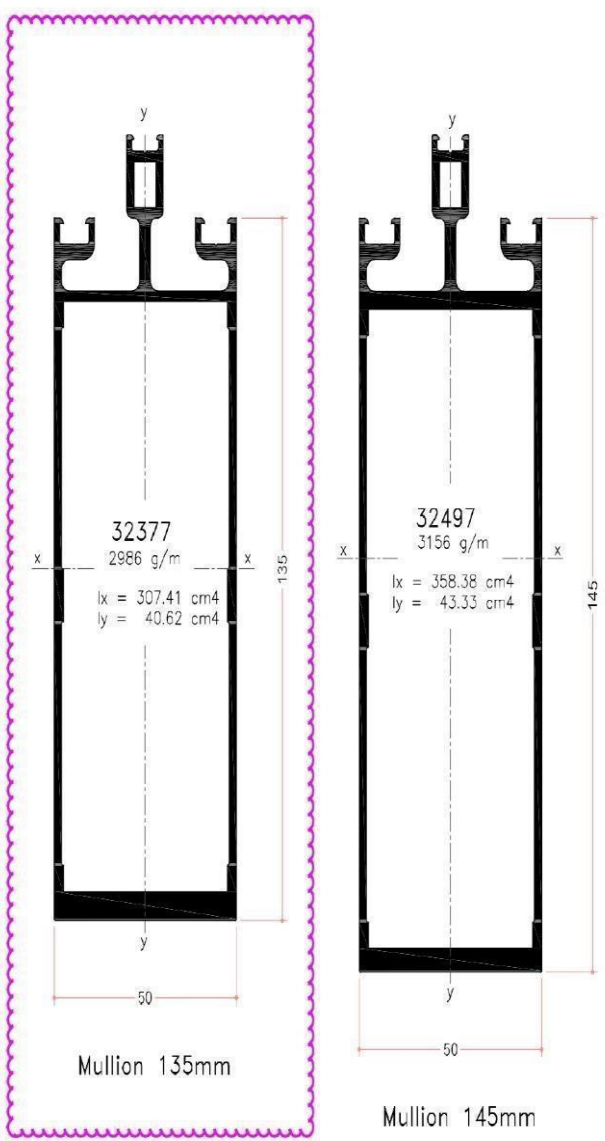
ALUPCO is committed to continue its progress through improved customer service and quality products.

ALUPCO 50SG



CURTAIN WALL SYSTEM

Profiles

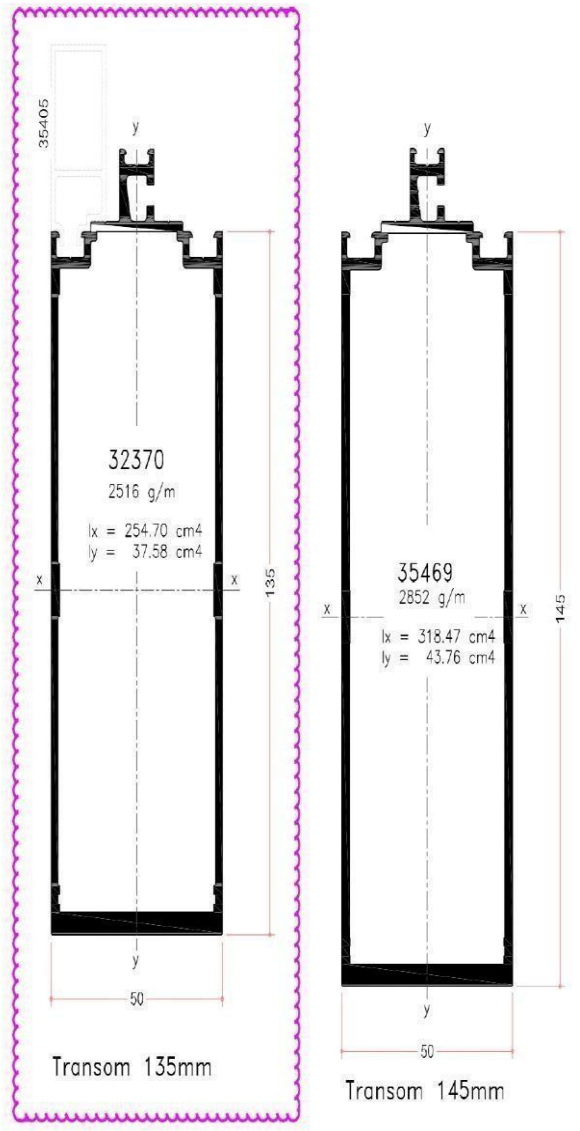


ALUPCO 50SG



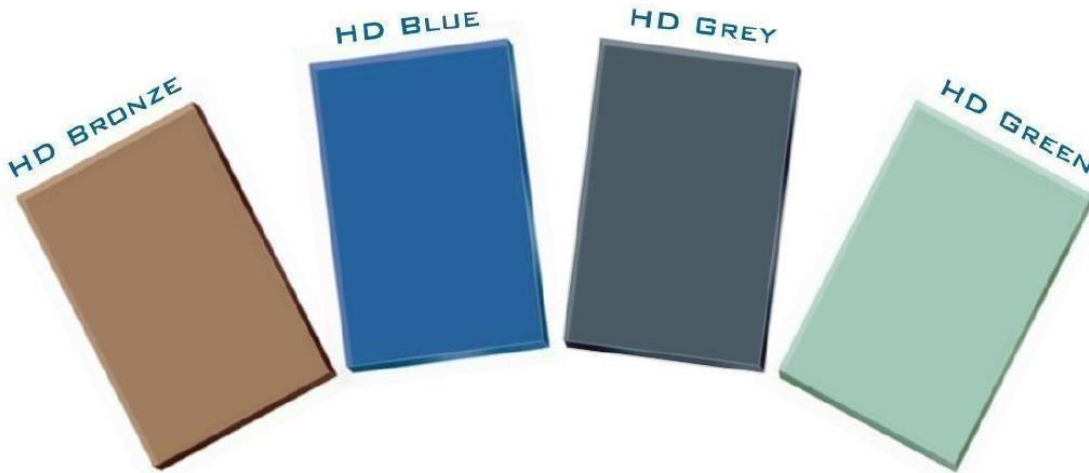
CURTAIN WALL SYSTEM

Profiles





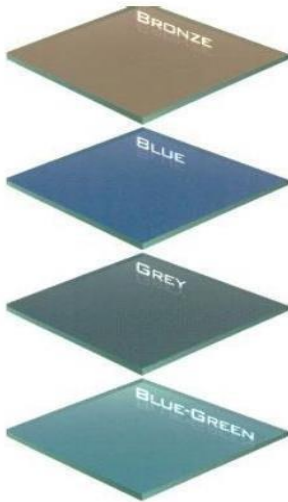
Guardian Industries introduces a revolutionary range of High Durability coated glass products that offer dramatic and distinctive colours on clear glass. This technological achievement provides consistent aesthetically pleasing exterior colour combined with a very natural and neutral view from the interior. These High Durability products can be tempered, laminated or bent. They can even be installed monolithically!



- ▶ Bold, vivid colours
- ▶ Local availability
- ▶ Large range of thicknesses
- ▶ Colour consistency
- ▶ Clear substrate ensures dependability of supply
- ▶ Clear, neutral appearance as viewed from inside
- ▶ Can be used monolithically (#2 surface)
- ▶ Can be tempered, bent or laminated

Product	Visible Light			Colour Rendering Index R _a (D65)	Solar Energy		European Standards			American Standards (NFRC 100 - 2004)				Light to Solar Gain	
	Transmission %	Reflection Outside %	Reflection Inside %		Direct Transmission %	Reflection Outside %	Solar Factor, (g) EN 410 %	Shading Coefficient	U-Value, EN 673 W/(m ² K)	Winter		Summer			
										U-Value, Night time BTU/ hr.ft ² .F	U-Value, Day time BTU/ hr.ft ² .F	SHGC	Relative Heat Gain BTU/ hr.ft ²		
Guardian HD Colours - 6 mm Clear - Monolithic															
HD Bronze	24	14	2	95	19	16	33	0.38	4.7	0.83	0.72	0.35	93	0.67	
HD Blue	26	21	28	99	23	17	37	0.43	5.1	0.91	0.80	0.40	105	0.64	
HD Grey	20	12	5	94	18	13	33	0.38	5.0	0.89	0.78	0.37	97	0.53	
HD Green	33	27	16	96	33	16	45	0.52	5.3	0.94	0.84	0.47	121	0.71	
Guardian HD Colours - 6 mm Clear / 12 mm a.s. / 6 mm Clear															
HD Bronze	21	14	10	95	16	16	24	0.28	2.4	0.41	0.43	0.27	67	0.80	
HD Blue	23	21	31	98	20	17	28	0.33	2.6	0.44	0.46	0.31	77	0.76	
HD Grey	18	12	12	95	15	13	24	0.28	2.6	0.43	0.46	0.27	68	0.65	
HD Green	30	28	21	95	28	17	36	0.41	2.7	0.45	0.47	0.38	93	0.80	
Guardian HD Colours - 6 mm Clear / 12 mm a.s. / 6 mm Clear															
HD Bronze	18	14	8	96	12	16	21	0.24	1.8	0.32	0.33	0.22	55	0.80	
HD Blue	20	21	23	97	15	17	24	0.28	1.9	0.33	0.33	0.26	63	0.77	
HD Grey	15	12	10	96	11	14	20	0.23	1.9	0.33	0.33	0.22	55	0.68	
HD Green	25	28	16	93	20	18	31	0.36	1.9	0.33	0.33	0.31	76	0.81	

GUARDIAN HD PLUS



SUNGUARD® HD PLUS™

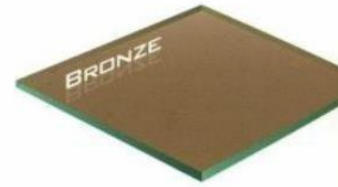
Vivid colours with energy saving technology

Benefits at a Glance

- ◆ Beautiful vivid range of colours
- ◆ Low SHGC and U-value for great occupant comfort
- ◆ Complies with Saudi building codes
- ◆ Locally manufactured
- ◆ High durable product makes it easy to process
- ◆ Can be used monolithically
- ◆ Can be tempered, laminated, bent*
- ◆ Excellent colour rendering properties from interior
- ◆ Low internal reflection
- ◆ Available in temperable version



SUNGUARD® HD PLUS™



Guardian HD Plus was designed specifically for use in hot climates. The vivid colours will complement the architectural design and let your project stand out. Guardian's high quality sputter coated products result in one of the best colour rendering index in the category, keeping a clear view of the outside, while maintaining privacy inside. Also, with a very low internal reflection, the view from the inside is clear and uninterrupted.

The HD Plus series is not only beautiful, but also very efficient in keeping out the heat and keeping occupants comfortable. The series is designed to let in just the right amount of light, while blocking out most of the heat from the outside. The performance of HD Plus complies with the Saudi Building Codes for SHGC and U-Value.

Guardian HD Plus series is made of a high durability coating, making the products easy to process resulting in very low wastage. It is so durable it can even be used monolithically, and can be tempered, laminated or bent*.

With unrivaled colour consistency, and industry leading service, Guardian HD Plus is the ideal solution for your residential projects.

* Please refer to the Guardian Product Application Notes for instructions

Applications : • Residential windows • Glass facades • Spandrels

Product	Monolithic (on 6mm clear float)												
	Visible Light (Monolithic)			Colour Rendering Index Ra(D65)	Solar Energy		European Standard (EN410)		American Standard (NFRC 2010)				Light to Solar Gain
	Transmission (%)	Reflection outside (%)	Reflection inside (%)		Direct Transmission (%)	Reflection Outside (%)	Solar Factor (g)	U-value	Relative Heat Gain W/m ² .K	SHGC	Shading Coefficient	U-value, Daytime, W/m ² .K	
HD Plus Bronze	13	12	10	99	13	15	0.28	4.92	277	0.33	0.38	4.35	0.41
HD Plus Blue	14	11	6	97	14	12	0.29	4.94	286	0.34	0.40	4.46	0.40
HD Plus Blue-Green	12	16	7	96	11	12	0.27	4.88	274	0.32	0.38	4.31	0.36
HD Plus Grey	13	5	14	99	13	9	0.29	4.88	288	0.34	0.40	4.31	0.36

Product	IGU (6-12-6 on clear with HD Plus coating on surface #2)												
	Visible Light (IGU 6-12-6)			Colour Rendering Index Ra(D65)	Solar Energy		European Standard (EN410)		American Standard (NFRC 2010)				Light to Solar Gain
	Transmission (%)	Reflection outside (%)	Reflection inside (%)		Direct Transmission (%)	Reflection Outside (%)	Solar Factor (g)	U-value	Relative Heat Gain W/m ² .K	SHGC	Shading Coefficient	U-value, Daytime, W/m ² .K	
HD Plus Bronze	12	12	17	99	11	15	0.19	2.53	185	0.23	0.26	2.56	0.53
HD Plus Blue	12	11	13	96	11	12	0.21	2.58	190	0.24	0.27	2.60	0.51
HD Plus Blue-Green	11	16	14	95	9	12	0.18	2.52	178	0.22	0.25	2.54	0.48
HD Plus Grey	11	6	20	98	11	9	0.20	2.52	191	0.24	0.27	2.54	0.47

Product	IGU (6-12-6 on clear with HD Plus coating on surface #2 and N70 coating on surface #3)												
	Visible Light			Colour Rendering Index Ra(D65)	Solar Energy		European Standard (EN410)		American Standard (NFRC 2010)				Light to Solar Gain
	Transmission (%)	Reflection outside (%)	Reflection inside (%)		Direct Transmission (%)	Reflection Outside (%)	Solar Factor (g)	U-value	Relative Heat Gain W/m ² .K	SHGC	Shading Coefficient	U-value, Daytime, W/m ² .K	
HD Plus Bronze	10	12	13	97	8	16	0.16	1.88	147	0.19	0.21	1.90	0.55
HD Plus Blue	10	12	10	94	8	12	0.17	1.88	150	0.19	0.21	1.90	0.54
HD Plus Blue-Green	9	16	10	93	7	12	0.15	1.88	140	0.18	0.20	1.90	0.51
HD Plus Grey	9	5	15	96	8	9	0.17	1.88	151	0.19	0.22	1.90	0.49

Notes : • Guardian reserves the right to change product performance characteristics without notice or obligation • The performance values shown are nominal and subject to variations due to manufacturing tolerances • Guardian performance data are calculated in accordance with the LBNL Window 5.2 computer analysis using an air mass of 1.5 • May require heat strengthening or tempering to resist potential thermal stresses. Please contact Guardian for assistance • A slight shift in visible light reflectance or transmission may be noticed after heat-treatment.

SAUDI GUARDIAN INTERNATIONAL FLOAT GLASS CO. LTD.
"GULFGUARD"

C.R. 2055003612 Al-Jubail
Paid up Capital 122,000,000



شركة زجاج جارديان السعودية الدولية المحدودة
"قلفجارد"

مس.ت ٢٠٥٥٠٠٣٦١٢ الجبيل
رأس المال ١٢٢,٠٠٠,٠٠٠ ريال

Product Name: Ultra Mirror - 6 mm

Quality Standards: CASS (Copper Accelerated Acetic Acid Salt Spray) test; ISO 9227
NSS (Neutral Salt Spray) test; ISO 9227
Condensation water test; EN 1036
Ferric Chloride Immersion test
Cross-Cut test; ISO 2409

Quality Properties:

CASS test	=	100-200 microns
Black Edge Corrosion	=	75 microns
Ferric Chloride Resistance	=	100 microns/24hrs
Reflectance (luminous coefficient)	=	> 83%
Rub test	=	> 100 strokes
Cross Hatch	=	Max. 2
Mirror Reflectance	=	80-85 %

Specification: Produced as per ASTM C 1503
Copper Free Mirror - User friendly
Coated with double layers of organic anti-corrosive paint
(base = Red color, top = Blue color) with manufacturing logo
Paint thickness = 42 - 52 microns
Palladium and GMP layers

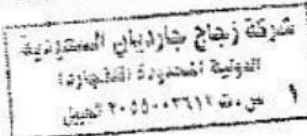
Glass Specification: Produced as per JIS standards

Thickness range	=	+ / - 0.3 MM
Size tolerance	=	+ / - 2 mm
Glass Transmission	=	70-75%

Approximate Glass Composition as per standards

SiO ₂ (%)	69 to 74 %
Na ₂ O (%)	10 to 16 %
CaO (%)	5 to 14 %
MgO (%)	0 to 6 %
Al ₂ O ₃ (%)	0 to 3 %
SO ₃ (%)	0 to 5 %
Fe ₂ O ₃ (%)	
TiO ₂ (%)	
K ₂ O (%)	

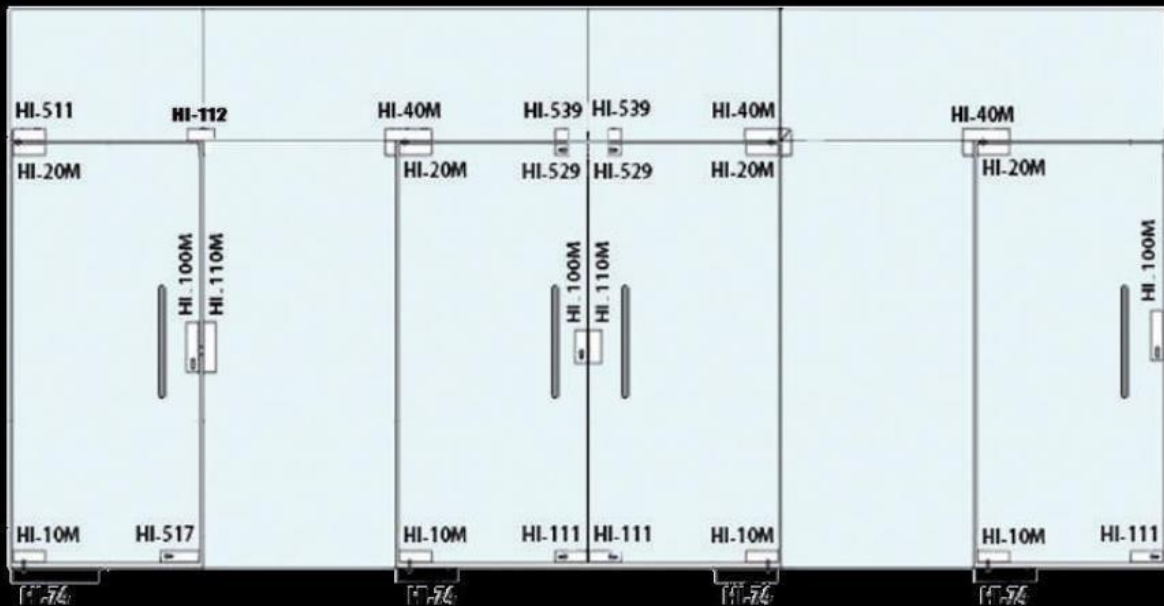
moh - 70






HICOO Classic

الخط الكلاسيك

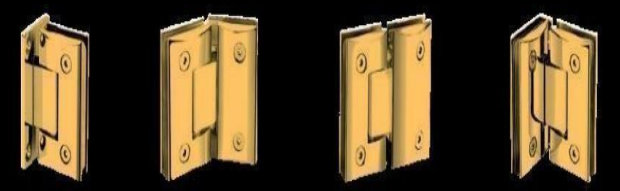


Doors ابواب




HI-2000G HI-4000G HI-5000G HI-6000G
 HI-6000G HI-7000G HI-8000G HI-9000G HI-1000G

Shower Hinges مفصلات الحمام



HI-4000G HI-4000G HI-4000G HI-4000G


Handles مقابض



HI-1000G HI-1000G HI-1000G HI-1000G

ø32 x 305 x 337 ø32 x 305 x 450
 ø38 x 700 x 1000 ø38 x 1140 x 1500
 ø25 x 150 x 300 ø32 x 305 x 450
 ø19 x 225 x 425 (200 x 400)
 ø25 x 225 x 425 (200 x 400)
 ø25 x 280 x 480 (250 x 480)

Hydraulic Hinge مفصلات هيدروليكية

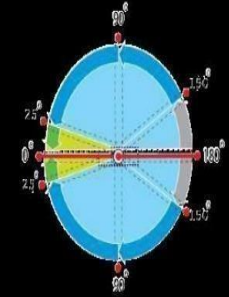
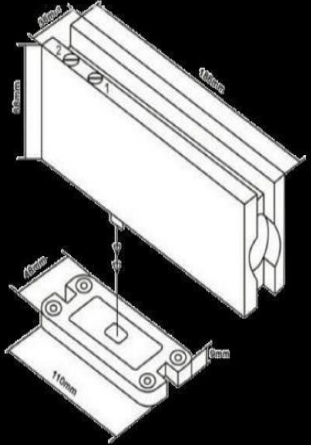



NEW
 PRODUCT

HI-188L HI-188

TECHNICAL				
ITEM NO	GUARANTEE	CAPACITY	DOOR WIDTH	GLASS THICKNESS
HI-188L	3 YEARS	100 KG	750 - 1000MM	8 - 14MM
HI-188	2 YEARS	75 KG	400 - 700MM	8 - 12MM

- Open Degree : 0 - 180
 - Two Section Speed Valve:
 - Closing Speed : 90~ 25
 - Buffer Speed : 25~ 0

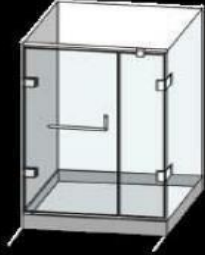






KT-201



KT-1801



نوعيات الحمامات



KT-205



KT-206



نوعيات الحمامات



KT-208



KT-1808



نوعيات الحمامات



KT-207



KT-1807



نوعيات الحمامات



KT-204



KT-1804



نوعيات الحمامات

MODEL: HI-008

نظام أبواب زجاجية



HI-008-1-2



HI-008-1-4



HI-008-2-2



HI-008-3-2



HI-008-6-1



HI-008-5



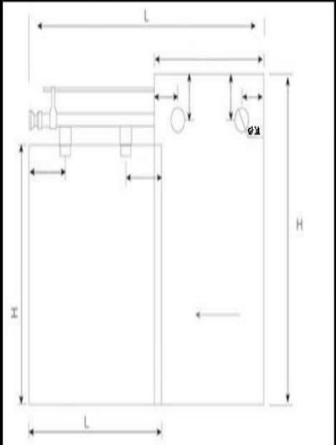
HI-008-4-2



HI-008-6



HI-012-10



MODEL: HI-002

نظام أبواب زجاجية



HI-002-1-2



HI-002-2-2



HI-002-3-2



HI-002-5-2



HI-002-6-1



HI-002-5-1



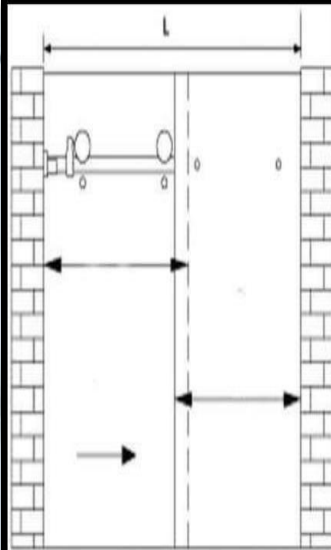
HI-002-4-2



HI-002-3-1



HI-002-6

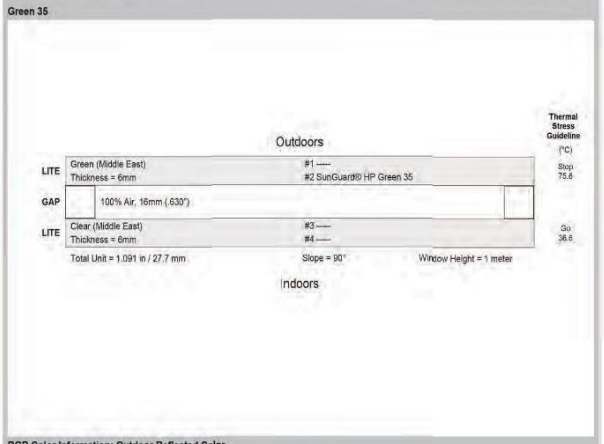




Proposal

Make-up Name	Make-up Icon	Outboard Substrate & Coating	Transmittance			Reflectance		Absorptance	U-Value	Relative Heat Gain (RHG)	Shading Coefficient (SC)	Solar Heat Gain Coefficient (SHGC)	Light to Solar Gain (LSG)	Color Rendering Index (Ra)		
			Visible (T _v %)	UV (T _{uv} %)	Solar (T _s %)	Visible (R _v % out)	Solar (R _s % out)									
Green 35		SunGuard® HP Green 35 on Green (Middle East)	29	9	14	33	23	19	67.73	1.73	1.36	182	0.22	0.20	1.46	90

Calculation Standard: NFRC 2010



Important Notes

The performance values shown above represent NOMINAL VALUES for the center of glass with no spacer system or framing. Slight variations may occur due to manufacturing tolerances, point of manufacture, and type of instrumentation used to measure the optical properties. For configurations which include ceramic frit coating, the actual values may vary significantly based upon the thickness and composition of the frit. For configurations with coatings laminated facing the PVB, there may be a noticeable color change. Guardian recommends a full size mock-up be approved. Calculations and terms in this report are based on NFRC 2010.

Please note that the THERMAL STRESS GUIDELINE is only a rough reference to the thermal safety of a glazing. Other factors such as the size of glass areas, shapes and patterns, glass thickness, glass damaged during shipping, handling or installation, orientation of the building, exterior shading, overhangs/fins that reduce wind speed, and areas with high daily temperature fluctuations can all increase the probability of thermal breakage. The results shown are not for any specific glazing installation and do not constitute a warranty against glass breakage.

Explanation of Terms

- % Transmittance Visible or Light Transmittance (T_v %) is the percentage of visible light at normal incidence (90° to surface) that is transmitted by the glass.
 - % Ultraviolet (UV) Transmittance (T_{uv} %) is the percentage of ultraviolet light at normal incidence directly transmitted by the glass. Ultraviolet Light is defined as radiant energy from the sun having a wavelength range of 300 nm to 380 nm.
 - % Solar Energy Direct Transmittance (T_s %) is the percentage of solar energy at normal incidence directly transmitted by the glass. Solar Energy is the radiant energy from the sun having a wavelength range of 300 nm to 2500 nm.
 - % Reflectance Visible Outdoors or Light Reflectance Out (R_v % out) is the percentage of visible light at normal incidence directly reflected by the glass back outdoors.
 - % Reflectance Visible Indoors or Light Reflectance In (R_v % in) is the percentage of visible light at normal incidence directly reflected by the glass back indoors.
 - % Solar Energy Reflected Outdoors or Solar Direct Reflectance Out (R_s % out) is the percentage of solar energy at normal incidence directly reflected by the glass back outdoors.
 - % Solar Energy Reflected Indoors or Solar Direct Reflectance In (R_s % in) is the percentage of solar energy at normal incidence directly reflected by the glass back indoors.
- Absorption (A_g %)** (Solar, Visible or UV) is defined as a process in which a range of radiation is retained by a substance and converted into heat energy. The creation of heat energy also causes the substance to emit its own radiation.
- U-Factor or U-Value (U_g)** is the air-to-air thermal conductance of 39" high glazing and associated air films. Units are Btu/hr.ft².F. Winter night values are 12.3 mph wind at 0.4°F outdoors and 69.8°F still indoor air. Summer values are 0 sun, 6.15 mph wind at 89.6°F outdoors and 75.2°F still indoor air.
- Relative Heat Gain (RHG)** is the total net heat gain to the indoors due to both the air-to-air thermal conductance and the solar heat gain. Imperial units are Btu/hr.ft². RHG = [(Summer U-Value)(89.6°F - 75.2°F) + (Shading Coefficient)(200 Btu/hr.ft².F)]. Metric units are W/m². RHG = [(Summer U-Value)(32°C - 24°C) + (Shading Coef.)(831 W/m²)].
- Shading Coefficient (SC)** is the fraction of solar heat, direct (300 to 2500 nm) plus indirect (5 to 40 μm), transferred indoors through the glass. For reference, 1/8" (3.1 mm) clear glass has a value of 1.00 (SC is an older term being replaced by the SHGC).
- Solar Heat Gain Coefficient (SHGC)** is the fraction of solar energy incident on the glazing that is transferred indoors both directly and indirectly through the glazing. The direct gain portion equals the direct solar transmittance, while the indirect is the fraction of the solar energy absorbed to the energy reradiated and convected indoors. No heat gain from warmer outdoor air is included.

SHGC = (Direct Solar Trans) + [(Indirect Solar Heat Gain) - (Summer U-Value)(89.6°F - 75.2°F)] / (248.209 Btu/hr.ft²)

Light-to-Solar Gain (LSG) is the ratio of visible light gain to solar gain. LSG = (Visible Transmittance) / (SHGC)

Color Rendering Index in transmission, D65 (R_a) is the change in color of an object as a result of the light being transmitted by the glass.

Weighted Sound Reduction Index (Rw) is a single-number quantity which characterizes the airborne sound insulation of a material or building element over a range of frequencies.

Sound Transmission Class (STC) is a single-number quantity which characterizes the airborne sound insulation of a material or building element over a range of frequencies.

Disclaimer
 This performance analysis is provided for the limited purpose of assisting the user in evaluating the performance of the glass products identified on this report. Spectral data for products manufactured by Guardian reflect nominal values derived from typical production samples. Spectral data for products not manufactured by Guardian were derived from the LBNL International Glazing Database and have not been independently verified by Guardian. The values calculated by this tool are generated according to established engineering practices and applicable calculation standards. Many factors may affect glass performance, including glass size, building orientation, shading, wind speed, type of installation, and others. The applicability and results of the analysis are directly related to user inputs and any changes in actual conditions can have a significant effect on the results. It is possible to create many different glazing types and glass make-ups using this tool. Guardian makes no guarantee that any glazing modeled by the tool is available from Guardian or any other manufacturer. The user has the responsibility to check with the manufacturer regarding availability of any glass type or make-up. While Guardian has made a good faith effort to verify the reliability of this tool, it may contain unknown programming errors that could result in incorrect results. The user assumes all risk relating to the results provided by the tool and is solely responsible for selection of appropriate products for the user's application. GUARDIAN MAKES NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND WITH RESPECT TO THE PERFORMANCE CALCULATOR. THERE ARE NO WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE PERFORMANCE CALCULATOR AND NO WARRANTY SHALL BE IMPLIED BY OPERATION OF LAW OR OTHERWISE. IN NO EVENT SHALL GUARDIAN BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND RELATING TO OR RESULTING FROM USE OF THE PERFORMANCE CALCULATOR.

Program Version: 4.1.0.4109
 Database Version: 20151216

SAUDI GUARDIAN INTERNATIONAL FLOAT GLASS CO. LTD.
 "GULFGUARD"

C.R. 2055003612 Al-Jubail
 Paid up Capital 122,000,000



شركة زجاج جارديان السعودية الدولية المحدودة
 "قلفجارد"

س.ت ٢٠٥٥٠٠٣٦١٢ الجبيل
 رأس المال ١٢٢.٠٠٠.٠٠٠ ريال



ISO 9001:2000
 FM 39391

Date : 18th August 2009

Quality Certificate

Product Name :	Ultra Mirror – 4 mm and 6 mm		
Quality Standards	:CASS (Copper Accelerated Acetic Acid Salt Spray) test; ISO 9227 NSS (Neutral Salt Spray) test; ISO 9227 Condensation water test; EN 1036 Ferric Chloride Immersion test Ammonia Resistance test Cross-Cut test; ISO 2409		
Quality Properties	:CASS test	=	100-200 microns
	Black Edge Corrosion	=	75 microns
	Ferric Chloride Resistance	=	100 microns/24hrs
	Ammonia Resistance	=	No Failure
	Reflectance (luminous coefficient)=		> 83%
	Rub test	=	> 100 strokes
	Cross Hatch	=	Max. 2
Specification :	Produced as per ASTM C 1503-01 Copper Free Mirror – User friendly Double coat (base = Red color, top = Blue color) with manufacturing logo Paint thickness = 46-52 microns Palladium and GMP layers		
Glass Specification :	Produced as per JIS standards		
	Thickness range	=	+ / - 0.3 MM
	Size tolerance	=	+ 1 / - 2.0 MM for 4 mm & + / - 2 mm for 6 mm
	Glass Transmission	=	70-75%
	Approximate Glass Comp.=		SiO ₂ 71.0% Na ₂ O 14.3% CaO 9.5% MgO 4.2% Al ₂ O ₃ 0.4% K ₂ O 0.2% SO ₃ 0.2% TiO ₂ 0.1% Fe ₂ O ₃ 0.1%

Authorized signatory



For Saudi Guardian International Float Glass Company Limited
 Al-Jubail – Kingdom of Saudi Arabia

WACKER

WACKER® WN - WEATHERSEAL NEUTRAL color

SEALANTS AND ADHESIVES

Product description

WACKER® WN - WEATHERSEAL NEUTRAL color is a one-part neutral silicone sealant which exhibits good adhesion on exterior joints and displays outstanding weather resistance and durability.

Properties

WACKER® WN - WEATHERSEAL NEUTRAL color cures at room temperature in the presence of atmospheric moisture to give a permanent flexible silicone rubber.



Special features

- long shelf life
- non-sag
- readily gunnable both at low (+5 °C) and high (+50 °C) temperatures
- good tooling properties
- good weatherability
- good adhesion
- excellent durability

Application

- Developed for sealing external and internal connection and expansion joints.
- Equally suitable for clean room our curtain wall joints especially where alkaline substrates are found (e.g. concrete, mortar). Due to its neutral characteristic it is non-corrosive to metals.
- Can be applied in joints between various substrates (e.g. glass-glass, glass-concrete, aluminium-concrete)

Adhesion

WACKER® WN - WEATHERSEAL NEUTRAL color exhibits excellent primerless adhesion to most non-porous siliceous materials (e.g. glass, tiles, ceramics, enamel, glazed tiles); metals (e.g. aluminum, steel, zinc or copper); impregnated, varnished or painted wood; and some plastics.

Users must carry out own tests due to the great variety of substrates.

The adhesion can be improved in many cases by pretreatment of the substrate with a primer.

Processing

The substrate areas that will be in contact with the sealant must be clean, dry and free of all loose material such as dust, dirt, rust, oil and other contaminants. Non-porous substrates should be cleaned with a solvent and clean, lint-free, cotton cloth. Remove residual solvent before it evaporates with a fresh clean, dry cloth. For application from cartridges cut thread open, fix nozzle on top and cut to required bead size. The sealant can be applied in beads or layers. It requires moisture in order to cure.

The curing time can take longer at lower temperatures, lower humidity or by low volume of air exchange.

Restrictions on use

WACKER® WN - WEATHERSEAL NEUTRAL color is not recommended for sealing of aquarium or for long term use under water. WACKER® 121 - AQUARIUM has been specifically developed for aquarium

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applications.

WACKER® WN - WEATHERSEAL NEUTRAL color is not suitable for food grade applications where the joints are likely to come in contact with food. For this application please use WACKER® 120 - FOOD CONTACT.

WACKER® WN - WEATHERSEAL NEUTRAL color is not suitable for the following plastic substrates such as Polyethylene, Polypropylene.

It is the responsibility of the user to test the compatibility of the sealant with the adjoining materials. Incompatible substances like coatings or organic plasticizers can lead to discoloration of the sealant. Cleaning agents and gaseous emissions can damage the sealant in its function or change its appearance. WACKER cannot make a general statement to the compatibility of all these varying materials with the sealant. In case of doubt the user shall conduct appropriate preliminary tests.

Storage

The 'Best use before end' date of each batch is shown on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Store dry and cool.

Packaging

WACKER® WN - WEATHERSEAL NEUTRAL color is usually supplied in standard size cartridges that fit all standard caulking guns. Additionally it is available in convenient sausages.

Additional information

WACKER® WN - WEATHERSEAL NEUTRAL color meets following specifications:

- ISO 11800 F-25HM

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

During vulcanization methylethylketoxime is released. These vapors should not be inhaled for long periods in high concentration. Hence, good ventilation of the work place is necessary.

Should uncured silicone rubber come into contact with eyes or mucous membranes, the affected area must be rinsed thoroughly with water as irritation will otherwise be caused. Avoid prolonged contact of uncured sealant with the skin - use a dry cloth or paper to remove it.

Keep out of reach of children.

Cured silicone rubber, however, can be handled without any risk to health.

Product data

Typical general characteristics	Inspection Method	Value
Cure type		Oxime, filled
Uncured / unvulcanized paste		
Density at 23 °C	ISO 1183-1 A	1,37 g/cm ³
Consistency	ISO 7390	non-seg
Extrusion rate at 6 bar	internal method	330 g/min
Skin forming time at 23 °C / 50 % r.h.	internal method	approx. 15 min
Cured / vulcanized rubber		
Hardness Shore A	ISO 868	32
Modulus at 100 % (joint)	ISO 8339-A	0,54 N/mm ²
Tensile strength (joint)	ISO 8339-A	0,55 N/mm ²
Ultimate elongation (joint)	ISO 8339-A	130 %
Modulus at 100 % (S2-dumbbell)	ISO 37	0,61 N/mm ²
Tensile strength (S2-dumbbell)	ISO 37	1,4 N/mm ²
Ultimate elongation (S2-dumbbell)	ISO 37	520 %
Movement capability	ISO 9047	25 %

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