

ARCHITECTURAL  
ALUMINIUM SYSTEMS &

# GLASS FACADES



# OUR VISION ...

Windorz India (P) Ltd was established in 1994 by Mr. M. P. Jain who has an experience of over fifty years in the aluminium industry. The Objective of the Company is to focus on building systems and enhancing the use of aluminium in architectural aesthetics. Over the years it has come up as a leading force in the industry and has successfully executed prestigious projects all over the region. These include luxury hotels, embassies and consulates, commercial complexes, corporate office buildings and residences.

## OUR STRENGTH

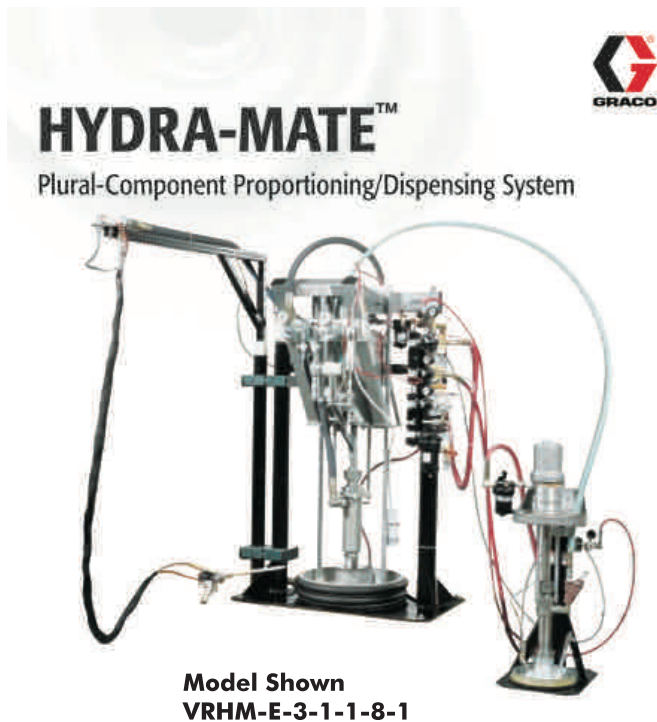
It is our endeavor to constantly improve, and provide our clients with the latest systems and designs in curtain walls, windows and door systems, and any other type of glass facade systems, display & signage systems comparable with the best in the world. We have a state-of-the-art plant in Faridabad, where we have the latest automatic double mitre saws, single mitre saws, copy routers, end milling machines, etc. The entire plant was imported from Spain.

## TEAM WORK

Windorz India (P) Ltd is an amalgamation of like minded professionals. The ideology of the company is to provide a detailed and professional approach in the field. We have a good mix of professionals and infrastructure which provides us with a wide exposure, ranging from designing of systems, procurement & developing extruded sections, to detailing out of complex systems.

# PLANT & MACHINERY

- Two Part Silicone Pump - **Graco (USA)**
- Hitech Automatic Cutter with Pneumatic clamping - **Codmisa (Spain)**
- Hitech Manual Cutters with Pneumatic clamping - **Codmisa (Spain)**
- End Milling Machine - **Codmisa (Spain)**
- Copy Router with pneumatic clamping - **Codmisa (Spain)**
- Manual Undercutting machines - **Hitachi, Makita**
- Crimping Machine
- Sheet Bending Machine
- Pneumatic presses
- CSA-V Bending Machine for Aluminium Profiles - **Codmisa (Spain)**
- Double Mitre Saw - **Codmisa (Spain)**
- Aluminium Composite Panel Grooving Machine - **Holzher (Germany)**
- Drilling & Hammering Machines
- Welding Machine



## AUTOMATIC DOUBLE MITRE SAW



## AUTOMATIC SINGLE MITRE SAW

**C-300 ZN**



## MANUAL CUTTER

**C-1300 ZN**



## COPY ROUTER

**C-420**



# LUXURY HOTELS

## **HOTEL GRAND HYATT, New Delhi**

A Five Star Deluxe Hotel in New Delhi, where Double Glass Windows were provided in the rooms with 47mm thick glass, to reduce sound coming in the rooms from outside. Patch fitting & framed doors for public areas and suites were made with 12mm thick toughened glass. Three Glass & metal skylights in the lobby and two skylights in the porch were made in combination with laminated and insulated glass.

**Architect: Rajender Kumar**



## **HOTEL LEO FORTUNE PARK, Jalandhar**

A four star hotel in Jalandhar. The rooms are being provided with Double Glass windows, and the public areas are with windows and doors with 12 mm toughened glass.

**Architect : Nareysh Sharma**

## **HOTEL HYATT REGENCY, Goa**

A Five Star Deluxe Hotel in Arrosim, Goa. The Rooms are "fitted" with Three Track Sliding Doors with both wiremesh & glass shutters. The entire hardware and wiremesh is imported from Italy.

**Architect : Jasbir Sawhney**







### **HOTEL JAYPEE PALACE, Agra**

A Five Star Deluxe Hotel in Agra, their three pavilions were covered by us with stick type curtain wall system with double glass in the vision areas and marble in the spandrel areas. The base structure was made in MS ISMB sections, which were then cladded with curtain wall from the outside, and from the inside, the vertical members were cladded with marble and the horizontal members were cladded in aluminium.

**Architect: Arcop**

### **Hotel Wildflower Hall, Mashobra Shimla (an Oberoi Hotel)**

A Five Star Deluxe Hotel situated near Shimla, where Thermally broken aluminium windows with double glass was manufactured & installed by us. A metal and glass conservatory covered their Pool and Brasserie. The conservatory was first made in MS ISMB and then clad with aluminium and double glass.

**Architect: Ranjit Sabhiki**



### **HOTEL DURBAR, Kathmandu**

This hotel in Nepal was one of the first projects done by our company. The windows were with double glass, and the unique aspect of the glass was that there were criss-cross anodised aluminium members within the glass, giving a very good design.



# LUXURY HOTELS

## **CROWNE PLAZA TODAY, Gurgaon**

A Five Star Deluxe Hotel in Gurgaon. This Building has a combination of fixed windows as well as Double Glazed Curtain Wall & Strip Glazing.

**Architect: Rajinder Kumar & Associates**

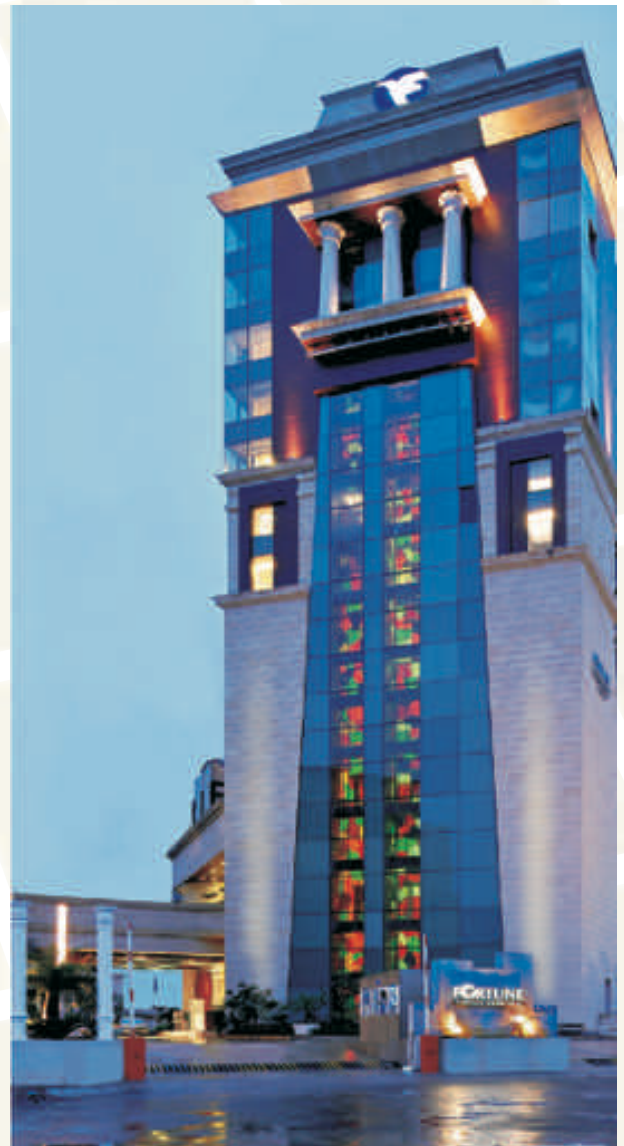




## **FORTUNE EXCALIBUR, Gurgaon**

**Architect: N Goyal & Associates and Sumit Khar**

A five star Deluxe hotel. Most of the rooms have tapered aluminium windows with high performance laminated double glass for sound insulation. Part of the rooms have semi unitized structural glazing with the same glass as the windows. The banquet and bar have a curtain wall system cladded on to MS support frames which were then cladded from the inside with wood. The public areas have spider glazing and patch fitted glass doors.



## **MARRIOTCOURTYARD, Gurgaon**

**Architect: Jasbir Sawhney & Associates**

The rooms have aluminum fixed windows with laminated and double insulated high performance glass. The public areas have semi unitized structural glazing with horizontal capping and fixed glazing with Patch fitting doors. The external walls and trellis on the roof is cladded with more than 4500 square meters of Alucobond.



# EMBASSIES & CONSULATES

## **GREECE EMBASSY, New Delhi**

The entire embassy area and the Ambassadors residence was made with Structurally glazed aluminium glazings with double glass. The windows were also structurally glazed, and the hardware was imported from Italy.

**Architect: Achal Kataria**



## **AUSTRALIAN HIGH COMMISSION, New Delhi**

The extension of their office was done by using double glass fixed windows, and partitions with board and glass.

**Architect: Surender Sharma**  
under Canadian High Commission  
New Delhi

## **CANADIAN HIGH COMMISSION, New Delhi**

The recreation area of the embassy was extended and the glazing had to match exactly with the existing glass façade. The aluminium glazing was done by us, by developing similar sections as already used in the old facade, and was provided with double glass.



# INDIRA GANDHI INTERNATIONAL AIRPORT

## TERMINAL 3 SKYWALK

### Architect: L&T

The sky walk connecting the multi-level car parking to the main terminal was covered with fully unitized strip glazing with high performance double glass in the visual panels. The Area below and above the strip glazing was clad with Alucobond and insulation.



# COMMERCIAL AND OFFICE BUILDINGS

## **GLOBAL BUSINESS PARK (Tower C & D), Gurgaon**

Double glass curtain wall system, single/Double glass windows with two point locking systems. Aluminium composite panel (Alucobond) cladding system for the wall, false ceiling & column cladding.

**Architect : Sikka & Associates**



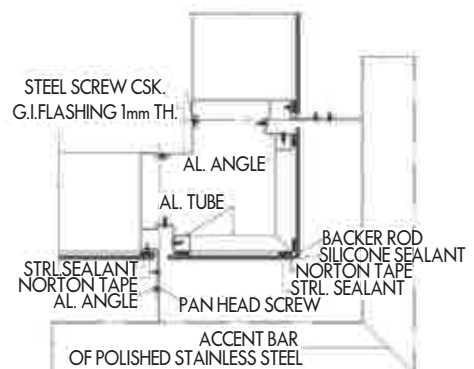




## ORCHID SQUARE, Gurgaon

Fully unitised structural glazing, Aluminium composite panel cladding windows & door.

**Architect: Sikka Associates**



# COMMERCIAL AND OFFICE BUILDINGS

## **ROCKLAND HOSPITAL New Delhi**

Single Glass Structural Glazing, Aluminium composite panel cladding for wall & canopy.



## **DMRC SHASTRI PARK STATION New Delhi**

Structural Glazing, windows & door & aluminium composite panel cladding

**Architect: Fountainhead**



## **OFFICE FOR IBC & IRC, New Delhi**

Single Glass Curtain wall system, windows & doors.

**Architect: C E S**



**USTAD HAFEEZ ALI KHAN  
MEMORIAL TRUST**  
**New Delhi**

Windows, structural glazing and  
composite panel cladding



# COMMERCIAL AND OFFICE BUILDINGS



**TATA TELESERVICES LTD,  
New Delhi**

## **OPERATIONAL COMPLEX**

Double Insulated and Single Glass Structural  
Glazing Aluminium composite panel cladding  
for wall & canopy.

**Architect: Sikka Associates**





**SELECT CITY WALK , Saket , New Delhi**

Systems: Double glazing and curtain wall system,  
Spider & Shop Front Glazing & Aluminum and  
Glass Doors

**Architect : Tewatia Chauhan Sharma & Associates**



## **IMPULSE INDIA, Gurgaon**

Double glass curtain wall systems, single glass aluminium windows and door, and aluminium partitioning system with etched glass.

**Architect: Rasik Behl**





# COMMERCIAL AND OFFICE BUILDINGS

## **GLOBAL FOYER - Golf Course Road, Gurgaon**

**Architect: ARCOP**

More than 7 thousand square meters of fully unitized structural glazing covered 3 sides of the building and the rear side had structurally glazed punch windows.



## **SHOP-IN-PARK-SHALIMAR BAGH, New Delhi**

Curtain wall, ACP cladding, Spider glazing, Show Windows, Shop fronts with doors and Canopies in metal and Glass.

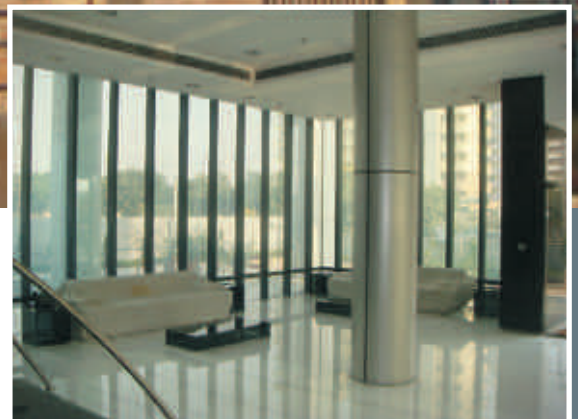
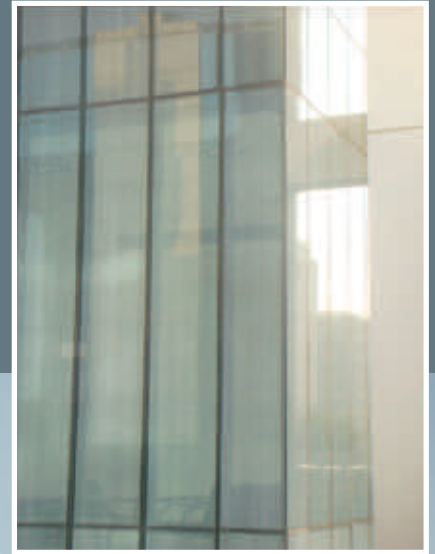




## **HERMES BUILDING, Sector 32, Gurgaon**

**Architect: Olivier Vidal & CP Kukreja Associates**

The first time in India "KOOLSHADE" glass from France has been used in a building. The laminated KOOLSHADE glass was then double insulated in India. The glass has been cladded to a semi unitized structural glazing system (PVDF coated). The interiors partitions are also in aluminium with 12-15mm toughened glass.



# COMMERCIAL AND OFFICE BUILDINGS

## **RGC INFOCITY, Gurgaon**

**Architect: Sanjeev Tandon**

Fully unitized structural glazing and ACP cladding, aluminium windows and patch fitting doors.





**Project: Copia Corporate Suites, Jasola, New Delhi**

**Promoter: Realtech**

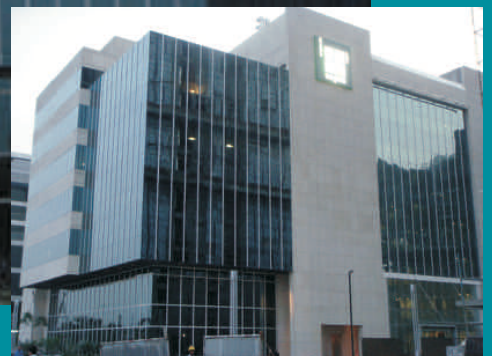
**Architect: Pradeep Sharma & Associates**

A Corporate Office complex in the new commercial development in Jasola, this building has a structurally glazed glass façade with Double Insulated Glass for energy efficiency. Vertical Cover Plates were used to highlight the vertical lines. One side of the building has fixed windows with Double Glass.

The entrance of the building has a 12mm Clear Glass Façade fixed with Spider Fittings and 19mm thick glass fins. Attached to the glass façade is a SS & Glass Canopy. The Toughened cum Laminated Glass in the canopy is also attached to the SS Frame through Spider Fittings.

Part of the Atrium of the building is clad with 12mm clear cum frosted toughened glass attached to the building with SS Spider Fittings.

The False ceiling on the exterior of the building is with 4mm ACP Sheets.

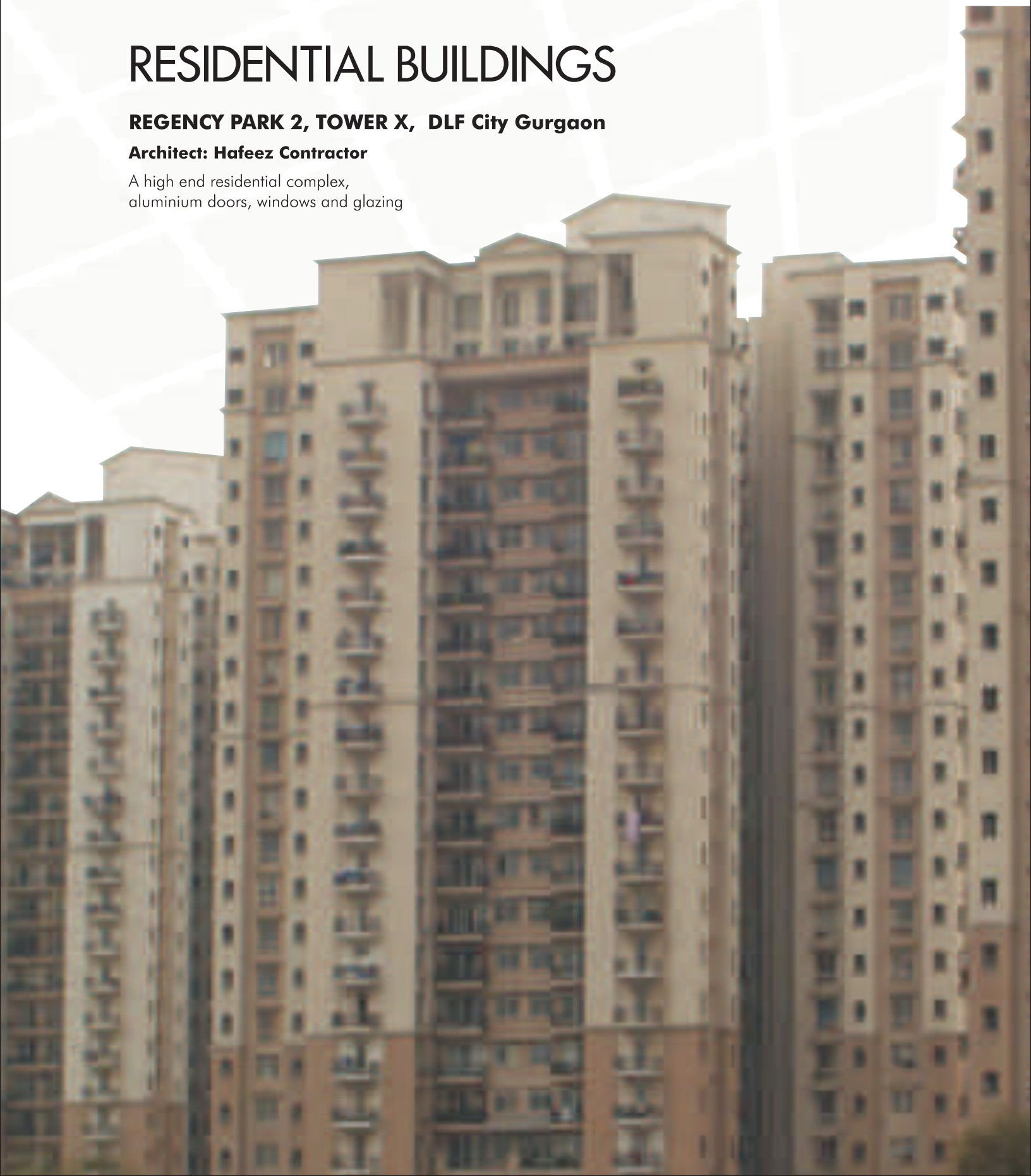


# RESIDENTIAL BUILDINGS

**REGENCY PARK 2, TOWER X, DLF City Gurgaon**

**Architect: Hafeez Contractor**

A high end residential complex,  
aluminium doors, windows and glazing





# STADIUM

## **SIRIFORT STADIUM, New Delhi**

**Architect: Sme International & Pedal Thorp Architects**

Front façade is clad with semi unitized structural glazing system, on a steel structure, with vertical grooves in silicon and horizontal grooves 200mm deep aluminium capping. The glass used is a laminated double high performance glass. A large area is clad with spider glazing supported on a steel frame structure. The façade also has aluminium strip louvers as well as 3500 square meters of Alucobond cladding.



# PROJECTS IN USA

## **Project: New Street Condominiums, Philadelphia, USA**

Windorz is probably the only company in India to successfully execute a façade project in the USA.

The entire Curtain wall and accessories was designed, produced and fabricated here in our plant in India and shipped to Philadelphia in knocked down condition (CKD) and assembled and installed at site by a local installation company.

As this building was just below a very old train bridge, sound insulation was of utmost importance, as when the train passed, the sound was unbearable. To negate this sound we designed a Double Glass with two sheets of laminated glass separated by a 12mm airgap filled with argon gas. The Aluminium sections were also filled up with Rockwool insulation to further improve sound insulation.





## RECENTLY COMPLETED PROJECT



### **JINDAL SAW LTD. Gurgaon**

System : Kanweer . Structural Glazing ,  
ACP cladding , Automatic doors,  
Skylights & Windows.

**Architect : M/s Burt Hill Design Pvt. Ltd.**

## RECENTLY COMPLETED PROJECT



### **ESTATE HOMES, Noida**

Dhir , residence

System : Schuco , Aluminium Sliding Windows,  
Doors , Openable Windows , Doors &  
fixed Glazing

**Architect : Arcop**



## RECENTLY COMPLETED PROJECT



### **JBM Group , Gurgaon**

System : Windorz , Structural Glazing ,  
ACP cladding , Double Skin Spider Glazing ,  
Doors & Windows .

**Architect : Jyoti Rath & Associates**



## RECENTLY COMPLETED PROJECT



### **HOTEL MARINA, Shimla**

System : Kawneer , Aluminium Windows ,  
Doors & Curtain Wall.



## RECENTLY COMPLETED PROJECT



### **IREO GROUP'S VILLA DEVELOPMENT**

#### **IREO Waterfront Pvt., Ludhiana**

**Architect : Pankaj Sangwan Associates Pvt. Ltd. &  
Spazio Design Architecture Pvt. Ltd.**



## RECENTLY COMPLETED PROJECT



**DISTRICT COURTS COMPLEX,**  
Tenghpora, Srinagar  
System : ALU K, Italy  
Architect : Jasbir Sawhney Associates



## RECENTLY COMPLETED PROJECT



**KNORR BREMSE INDIA,**

Palwal, Haryana

System : SCHUCO, Germany

**Architect : Sabyassachi Sen & Associates Architects**

## CURRENT PROJECTS



### **MULTISTORIED RESIDENTIAL APARTMENTS IREO VICTORY VALLER, Gurgaon.**

System : Kawneer

Architect : Spazzio Design Architecture Pvt. Ltd.





## CURRENT PROJECTS



### **BRITISH SCHOOL**

Phase 1 & Phase 2

British School Society

System : Schuco ,  
Aluminium Sliding Windows ,  
Openable Doors , Fixed Glazing ,  
Canopies , HPL Cladding &  
IPE Wood Cladding

**Architect : M/s Morphogenesis**

# CURRENT PROJECTS

**IREO VICTORY VALLEY , Haryana .**

**System : Kawneer , Architect:Spazzio**

**BRITISH SCHOOL PHASE 2 , New Delhi .**

**System : Schuco , Architect : Morphogenesis**

**BETALBETUM VILLAS , Goa .**

**System Schuco , Architect : Dinesh Sareen**

**BELGIUM AMBASSADOR'S RESIDENCE , New Delhi .**

**System Reynears , Architect : Kothari Associates**

**RESIDENCE OF MR. MOHANTY , Bhuwaneshawar**

**System Reynears , Architect : Casa Paradox**

**RESIDENCE OF MR. KOCHAR , Vasant Vihar , New Delhi**

**System Schuco , Architect : Prabhpal Singh**

**RESIDENCE OF MR. GROVER , Kalindi , New Delhi**

**System Schuco , Architect : Vipin Chawla & Associates**

**VILLA NOVOVADA, Bardez , Goa**

**System Schuco , Architect : Grounded Goa**

**FARMHOUSE , MR. ARPIT GOEL , New Delhi**

**System Windorz , Architect : Akaasa & Associates.**

# NEW RANGE FOR RESIDENCES



"WINDORZ" Doors , Windows, Skylights , Pergolas , Shading Systems and Railings are available with the best European technology and come in various colours, with finishes such as powder coated (including wooden finishes) and anodized (metallic finishes) boasting warranties up to 20 years .

Our windows and doors have provision for insulated glasses up to 47 mm thick thereby ensuring better sound and thermal insulation than traditional windows.

Our windows include Casement, Sliding (horizontal as well as vertical) and Turn and Tilt types and have provision for wire mesh as well.

Our doors come in Sliding, Openable, Panoramic (corner less) and Lift and Slide types with provision of wire mesh. Some of our door shutters can be made up to 6000 mm in height and 2400 mm in width, thereby giving maximum opening.

Our systems come in all aluminium, thermally broken aluminium (with possibility of dual finishes) and alu-wood (aluminium on one face and wood on the other face).





Our residential projects include the Residence of the Belgium Ambassador, Residences in Delhi ( West End Greens, Pushpanjali Farms, Chattarpur Farms, Sultanpur, Aurangzeb Lane , Amrita Shergill Marg , Golf Links, Vasant Vihar ) Goa and Bhubaneshwar.

SLIDING DOOR



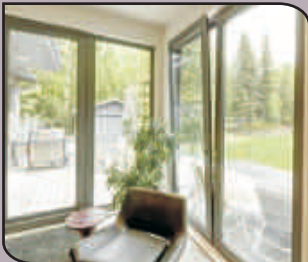
OPENABLE DOORS



LIFT & SLIDE DOORS



TURN AND TILT



LARGE GLAZING



SLIDING & FOLDING DOORS



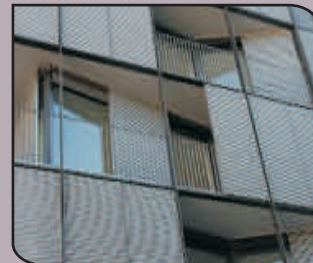
MOTORISED IN\_BUILT BLINDS



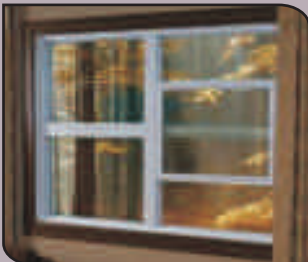
FIXED GLASS AND SS RAILINGS



SHADING SYSTEMS & LOUVERS



VERTICAL SLIDING WINDOW



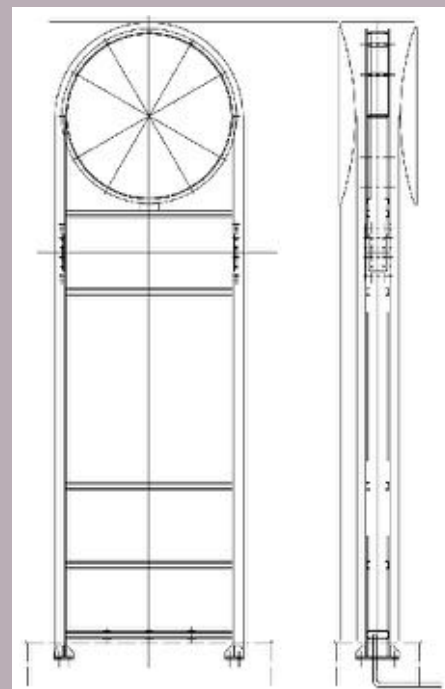
HORIZONTAL SLIDING WINDOW



CASEMENT WINDOW



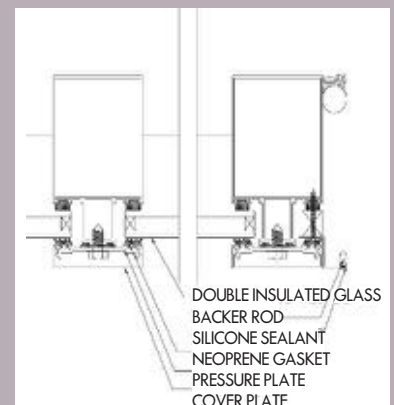
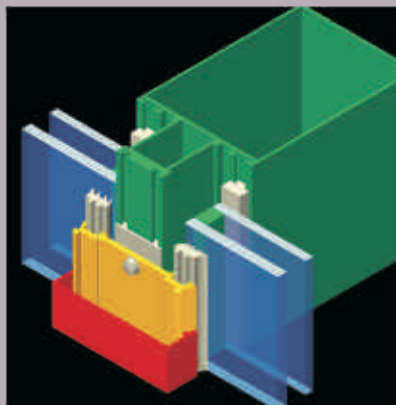
## RETAIL VISUAL IDENTITY SYSTEMS



# PRODUCTS

## CURTAIN WALL

Metal and glass curtain wall systems have found growing favour in 21st century architecture. The curtain wall system has evolved rapidly over the last two decades, especially with respect to weather control performance. A curtain wall system is a lightweight exterior cladding which is hung on the building structure, usually from floor to floor. It can provide a variety of exterior appearances but is characterized by narrowly spaced vertical and horizontal caps with glass or metal infill panels. These systems provide a finished exterior appearance and most often a semi-finished interior as well. They are also designed to accommodate structural deflections, control wind-driven rain and air leakage, minimize the effects of solar radiation and provide for maintenance-free long term performance. Most of today's metal curtain wall systems are constructed of lightweight aluminum



## STRUCTURAL GLAZING

Structural glazing systems incorporating spacers and adhesives are now a widely accepted glazing option and are used in a growing share of curtain wall, window and storefront installations. In fact, many people have come to regard structural glazing as the superior method of glazing. When properly installed, the structural sealant forms a continuous, waterproof seal against leakage and air infiltration. The sealant and spacer transmit wind load movement to the structure and withstand flexure, tension, compression and differential thermal shear stresses. Silicone resists UV, ozone and other environmental exposures and does not take on a compression set or lose resiliency. While structural sealants generally carry a 20-year of exposure still demonstrate elasticity, adhesion and strength. The major issues that govern the design of structural glazing systems are sealant performance air and water infiltration, structural design requirements, and the use of right type of glass. These requirements directly affect aluminium profile sizes, sealant widths and joint sizes.



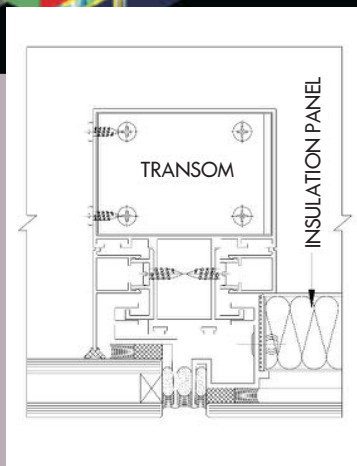
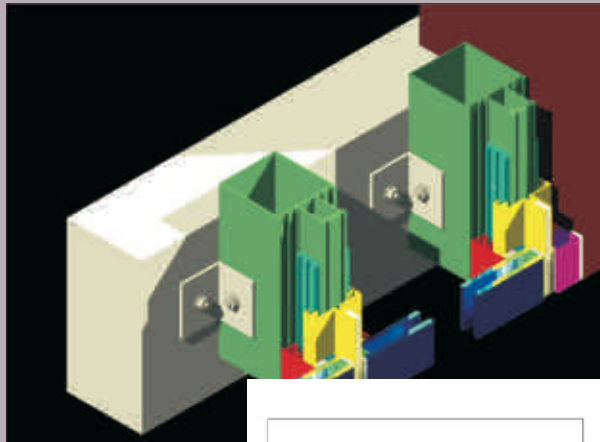


# PRODUCTS

**Unitized structural glazing** is a special type where modules—typically one mullion bay wide by one floor high—are assembled and glazed offsite, and then hung on the exterior of the building. Engineering and tooling costs are high for this system, but they become cost-effective with repetition, so large projects are often done in this manner. This system comes pre-assembled; it is preglazed at the factory and installed at site. In the process, it minimizes field labor and erection costs, and promises a shorter installation period than the stick system.

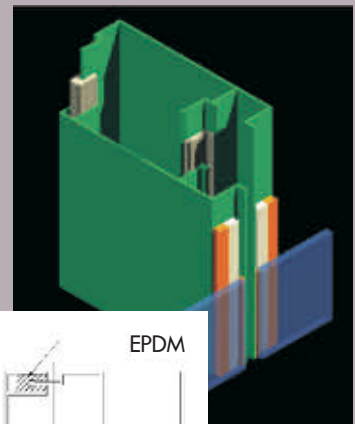
## A) SEMI-UNITISED

In semi-unitized systems the mullions and transoms are installed at site. The glass units are assembled in the factory along with the clips which are transported to the site and hooked on to the installed framework. In this systems a variety of elevational profiles in the finished glazing is possible, including inclines and curvatures. This is a perfect tool transform the architect's visualization into reality.

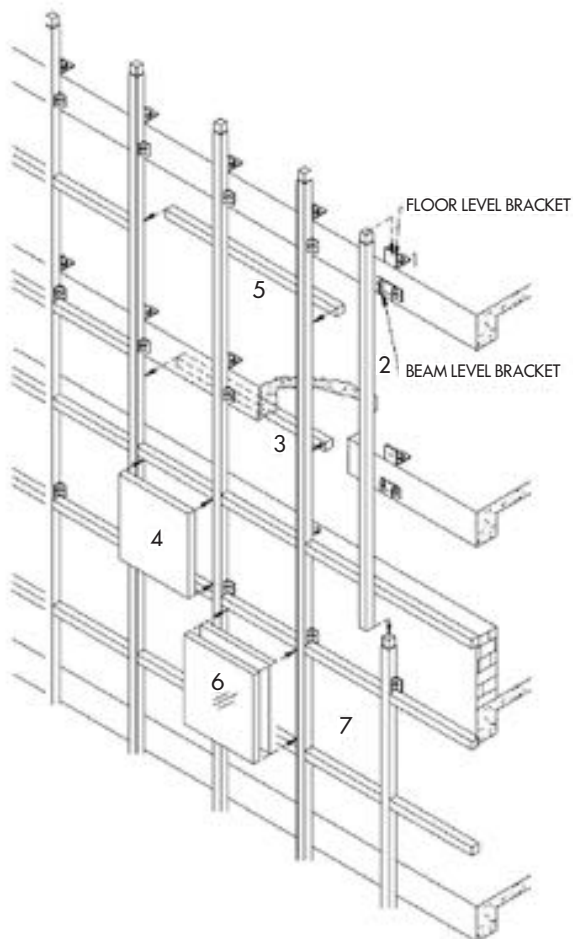


## B) FULLY-UNITISED

In a fully unitized systems entire floor to floor and mullion to mullion panels (except for the end panels) are assembled at the factory. At sites only the galvanized steel brackets are installed. The individual panels are then brought to the site and fixed in position. The panels are made of malefemale end sections which fit into each other at the site. It is a much faster construction technique and since on-site labour is considerably reduced, it works out to be reasonably less expensive than a semiunitized system.



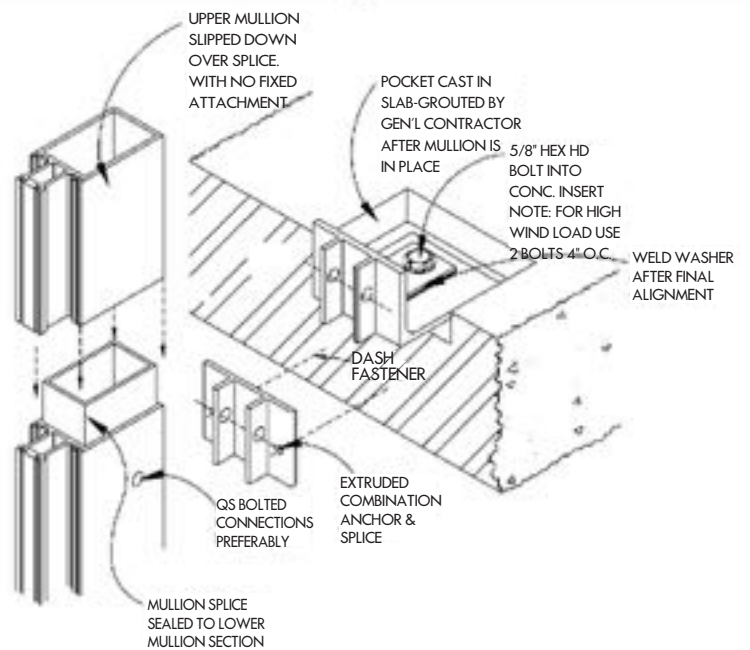
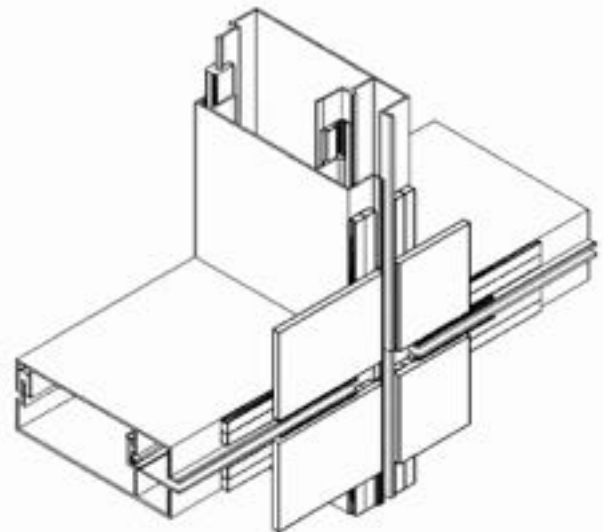
# PRODUCTS



STICK SYSTEM: Schematic of typical version

- 1: Anchors
- 2: Mullion
- 3: Horizontal rail (gutter section at window head)
- 4: Spandrel panel (may be installed from inside building)
- 5: Horizontal rail (window sill section)
- 6: Vision glass (installed from outside building)
- 7: Interior mullion trim

Other variations: - Mullion & rail sections may be longer or shorter than shown.  
Vision glass may be set directly in recesses in framing members, may be set with applied stops, may be set in sub-frame, or may include openable sash



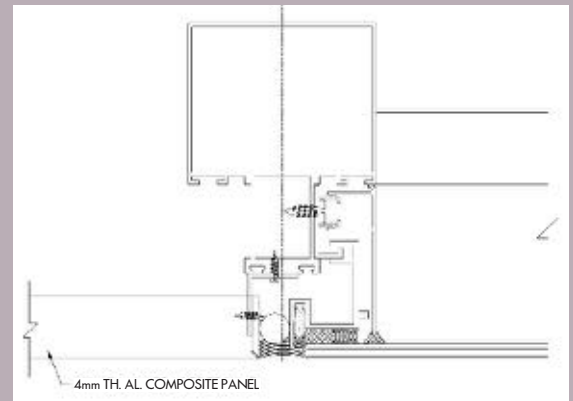
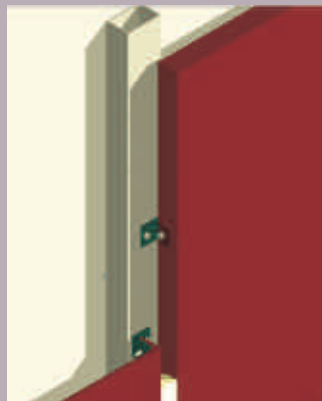
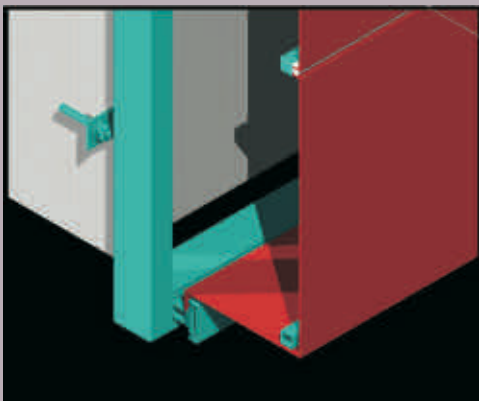
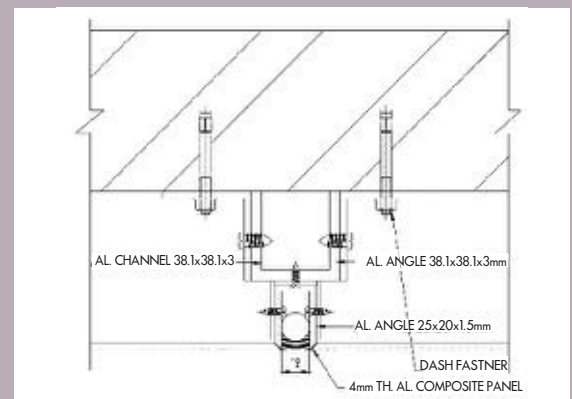
Fixed anchor for top of mullion, movable anchor for bottom of mullion located in pocket cast in top of floor slab.

# PRODUCTS

## ALUMINIUM COMPOSITE PANEL CLADDING

Aluminium composite material is made of Low Density Polyethylene. The Polyethylene core is laminated between two high-strength coil-coated aluminium sheets. Polyvinylidene Fluoride (PVDF) is a high performance fluoropolymer architectural coil coating system from PPG industries. ACM sheets can be easily fabricated (i.e. cut, bent, curved, drilled, grooved, punched and shaped) using common wood and metal working tools to suit specific design requirements.

Aluminium composite material is one of the most thoroughly tested and recognized material in the building industry. The surface finish coatings retain colour consistency and the ability to perform in aggressive environments consisting of urban grime, acid rain and salt spray. ACM sheets can be easily cleaned with water and a sponge or a soft bristle brush and a mild detergent solution, which will restore the panel to its original appearance. Preserving our worldwide environment from the effects of contamination is imperative. Most quality ACM sheets such as ALCOPLA, ALUCOBOND, ALPOLIC or REYNOBOND are composed of recyclable materials and is environmentally friendly.



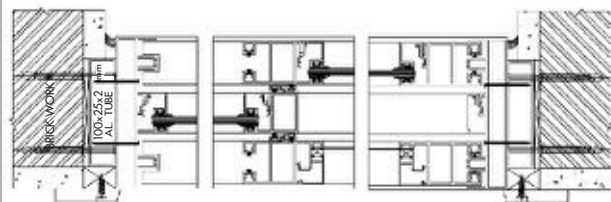
## TILE CLADDING SUSPENDED GLASS FAÇADE GLASS FAÇADE WITH SPIDER FITTINGS



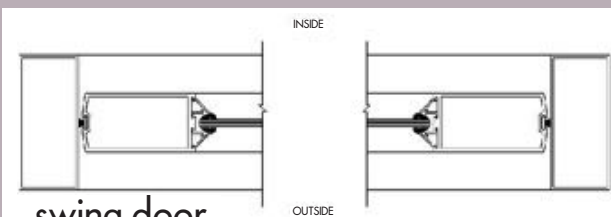
# PRODUCTS

## DOORS

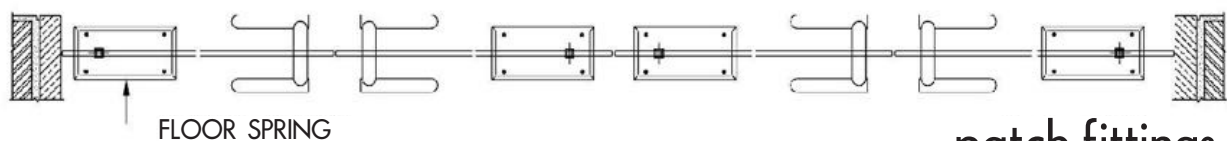
**DOUBLE ACTION (FLOOR SPRING)**  
**SINGLE ACTION (DOOR CLOSER)**  
**PATCH FITTING DOORS**  
**AUTOMATIC SLIDING**  
**FRAMELESS TOUGHENED**  
**SLIDING DOORS WITH WIREMESH**



sliding door



swing door



FLOOR SPRING

patch fittings

# PRODUCTS

## WINDOWS

**HORIZONTAL SLIDING**

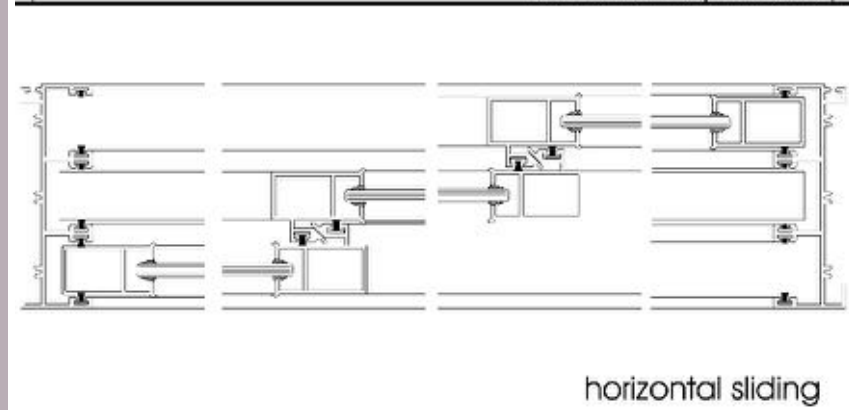
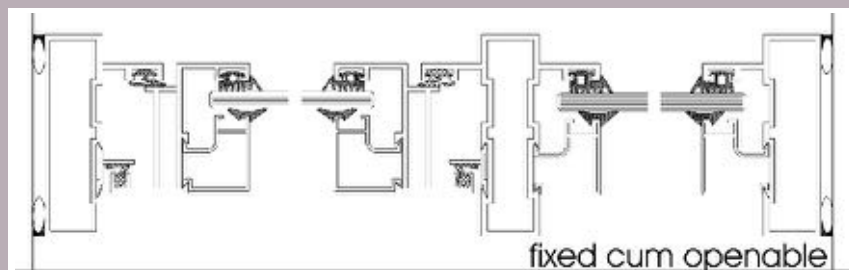
**VERTICAL SLIDING**

**CASEMENT**

**FIXED**

**VENTILATORS**

**LOUVERS**



# PRODUCTS

## SKYWINDOWS SKYLIGHT SERIES BY WINDORZ

Does your home seem slightly dark and dreary? Have you been looking for an attractive and easy way to allow more light into your home? Look into installing SKYWINDOWS, skylights by Windorz! These windows-to-the-skies are a beautiful way to lighten up every room in your home. Windorz India (P) Ltd has successfully designed and installed various types of skylights for a number of hotels, residences, etc

Skylights have the ability to open up a room and make it seem larger by simply letting more light in. An additional benefit of skylights is the soothing pitter-patter of rain on the windows. You'll be amazed at the many different styles of skylights available to you and the many wonderful ways you can brighten up your home. Skylights let natural sunlight into your home, a great alternative to artificial lighting!

### Types of Skylights

#### Flat Skylights

These are the most conventional types of Skylights, wherein the skylight is installed on a horizontal overhead opening in the building. We at Windorz always suggest that these skylights should be always be slightly sloping so that water accumulation on the glass and skylight is minimal.

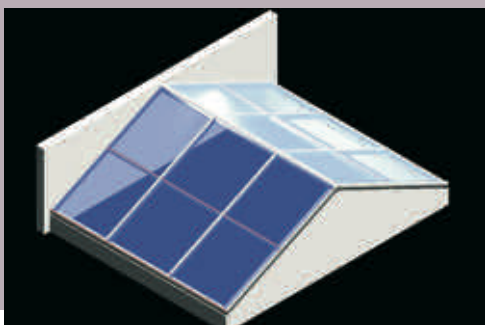


The divisions shown in drawing may vary.



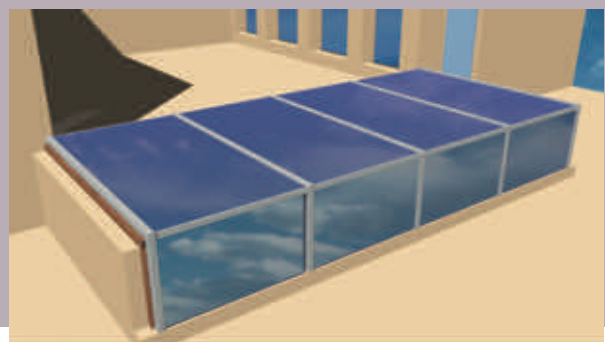
#### Gable Skylights

These skylights are like sloping roofs, sloping on two sides. These skylights allow light to come in from three sides, ie, the top and the two sloping sides.



#### Angle Skylights

These skylights are like an angle, thereby allowing light to come in from two sides.

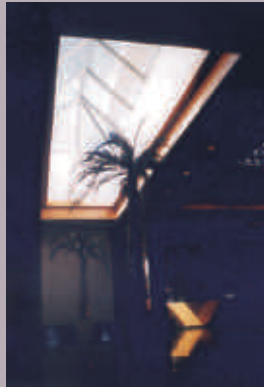




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## Pyramidal Skylights

These Skylights are like Pyramids, allowing light to come from all sides.



## Custom Skylights & Glass roofs

We can also make custom designed skylights as per the design of the architects.



## Skylight Glazing

Once you've decided that you want to install a Sky window, you need to decide what type of glazing best suits your situation. Windorz SKYWINDOWS are available with either Tempered & Laminated glass or insulated glass comprising of a combination of laminated and tempered glass.

Laminated glass is a combination of two or more glass sheets with one or more interlayers of plastic. In case of skylight breakage the interlayer is designed to hold the fragments together. Tempered glass doesn't contain an

interlayer to hold the fragments together, but is designed to break into small, pebble-like pieces. That is why we always recommend that tempered & laminated glass be used. In this type of glass, we laminate two tempered glasses with four layers of 0.38mm PVB interlayers, thereby making the glass SUPERSAFE.

We can also provide you glass with LowE insulation, which reduces heat transmission through the skylight, which is important in airconditioned climates, and the reduced UV transmission provided by a LowE skylight means less fading of your furnishings from the extra light you've brought into the house.

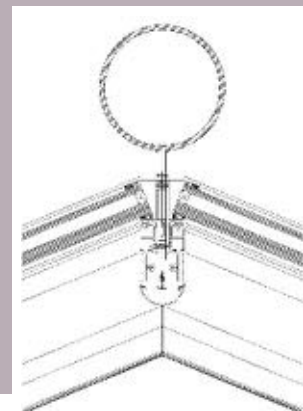
## Construction of the Skywindows

Skywindows come in a range of all aluminium, as well as a combination of steel and aluminium, depending on the span & size of the Skywindows.

The steel and aluminium combination skywindow has an advantage that it can be clad from the inside with any material so as to suit the interiors. We can clad the skylight with metallic sheets which come in various colours and finishes. In case the client wants, they can also get the skylight cladded with wood from their wood contractor.

## Maintenance of Skywindows

As the skywindows use glass, it is very important to regularly clean the glass to get the maximum benefit from the skywindows. The glasses need to be first cleaned for dust, and then cleaned with any glass cleaning solution mixed with water. After cleaning with water, use newspapers to clean the glass, as any moisture on glass will be soaked up by the newspaper.



## SAFETY & STANDARDS

### DESIGN WIND LOADING

We adopt wind loading as per IS-875 1987.

Wherever IS codes are not existent, we follow the ASTM or BS standards.

### EARTHQUAKE LOADS

We adopt earthquake forces as per IS-1893 1984. All anchors are designed conservatively.

### DEFLECTION

We limit the deflection of members to  $\text{Span}/175$  to ensure maximum safety.

### ACCOMMODATION OF MOVEMENT

We provide for lateral movement considering the following;

- Deflection under design loading
- Deflection due to repeated wind loads
- Deflection due to earthquake forces
- Deflection due to thermal movement
- Deflection due to building movement
- Deflection due to secondary effects such as creep, etc.

### SAFETY STANDARDS

We follow safety Codes of practice as applicable, such as wearing of safety belts, overhead protection, gloves, etc.

The glass is handled with the support of vacuum glass holding devices.

All employees and materials are covered by insurance.

We require the project to give us access to lifts for safer movement of material and glass.

## ASSURANCE

### SELECTION OF MATERIALS

We follow strict safety standards while selecting the specification of materials used for the work, e.g; specifying appropriate tolerances, specifying minimum required thickness in aluminium, insuring that all screws and metal fixtures are compatible to aluminium. We provide for buffers between frames and shutters in order to make the windows & doors impact resistant. We provide for protection of surface finishes during the transportation, fabrication and erection with abrasive resistant film. All the materials we procure are from reputed manufacturers.

### CONCLUSION

The entire execution of the work is carried out under the supervision of competent personnel to ensure that all the safety regulations are complied with, and we also take the expertise of our specialized vendors (such as glass) in various stages. We feel that, for maintaining the above standards it is very necessary that there is complete understanding and coordination between client, contractor, and us. We would also like to incorporate, other than the above mentioned, safety standards which the client or the contractor may wish to be incorporated.



# REFERENCES

**Kothari & Associates**

**Mr. Rajendra Kumar - R. K. & Associates**

**Bharadwaj Bharadwaj & Associates**

**Prof. V.P. Raori**

**Jyoti Rath & Associates**

**Arcop Associates (P) Ltd.**

**Vastu Shilpa Consultants**

**Mr. Atul Roy**

**Surendra Sharma & Associates**

**Aakriti Consultants**

**Sehgal Jatia & Associates**

**Hafeez Contractor**

**Pankaj Sangwan & Associates**

**The Guild of Architects**

**Arvind Gupta & Associates**

**Spazzio**

**Dks Alplan**

**Casa Paradox**

**Consulting Engineering Services**

**Mr. Romi Khosla - Grup India**

**Ranjit Sabikhi & Associates**

**Ajoy Chowdhary**

**Fountainhead**

**Sikka Associates**

**Contract Design Centre**

**Achal Kataria & Associates**

**Jasbir Sawhney & Associates**

**Olivier Vidal**

**Ashu Paul & Associates**

**Pradeep Sharma & Associates**

**Apartment 9**

**Vipin Chawla & Associates**

**Morpho Genesis**

**Burt Hill**


**Design Plus**

**Tewatia Chauhan Sharma & Associates**

**N Goyal & Associates**

**Zimmer & Associates ( USA )**





structural glazing  
curtain walls  
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doors  
skylights  
conservatories  
partition walls

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design consultancy



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