



SCHÜCO

# OPEN TO CHANGE

MODERN WINDOW SYSTEMS ARE AESTHETIC, EFFICIENT AND ENSURE A COMFORTABLE INDOOR CLIMATE

BY ARUNA RATHOD

**W**indows, as representative features of offices, buildings and houses, are more than just openings to the world. Their individual design plays a key role in determining the overall look of a building.

As part of the façade, windows must meet more than just the highest demands of quality and security – as the customer of today places great value on colour, form and function.

As for one of the most popular materials used to manufacture window systems, Kushal K Bajaj, executive director, Geeta Group of Companies, believes that aluminium is a good choice for tropical climates, since it is strong and does not rot or warp in humid weather. “Besides the biggest advantage of strength, aluminium window frames with thermal breaks, prevent the frame from conducting as much heat or cold and reduce condensation. These windows are

weather-resistant, require very little maintenance and are highly moisture-resistant.”

Since windows and doors can fail if they are not strong enough to resist wind pressures from a high-wind event or water intrusions, Rajeev Antony, managing director, Schueco, advises, “We would recommend non-thermally-insulated aluminium sliding window systems with high water tightness and wind load. A variety of factors can lead to rot and faster corrosion that weaken the window or door frame, or [even] the wall framing itself.”

To counter this, Schueco India has developed a sliding window system Schueco AS 39 SC.NI to meet the needs of tropical regions. The double or triple track and highly stable sliding constructions enable large vents with a high proportion of glass, even for high wind load requirements. Schueco AS 39 SC.NI can be fitted with single or double glazing.

1. Schueco AS 39 PD.NI system can accommodate glass thicknesses of up to 32mm. The concealed outer frame offers maximum transparency and light penetration.





2. Windows and doors for conservatories form part of the offering by Window Magic.

3. A Fold & Slide Door by Encraft.

4. Manish Bansal, director, Window Magic.

5. Avanish Singh Visen, CEO, Encraft India.

With growing concern for environmental problems such as global warming, acid rain, air pollution, urban sprawl, waste disposal, ozone layer depletion, water pollution, climate change, windows systems are making sure they use environment-friendly materials.

Avanish Singh Visen, CEO, Encraft India, observes, "uPVC is the most suitable option because of its wide range of benefits like UV protection, sound proofing, energy saving, fire-retardant quality, low maintenance, thermal insulation and aesthetics. The windows and uPVC formulation needs to be specially designed/tested as per Indian climate." The Twin Sash systems with security grills by Encraft seem to be an appropriate solution for India.

Tropical climates are characterised by warmth and humidity, requiring windows to be kept open during the day. Wooden, uPVC or aluminium windows are quite suitable. Sandeep Mathur, general manager, LIXIL-LWS, feels, "As the insulation requirement is not so high, a single toughened glass is quite adequate. In some cases, reflective glass is used to stop heat radiation, though it is not much preferred in residential areas. Double glass is sometimes used, but it is needed more in extreme climates like Europe, where the inside-outside temperature difference may be 60-70°C."

## NEW ON THE BLOCK

### Geeta Aluminium

Slim Windows with concealed shutters are the latest introduction, exclusively crafted for bungalows and premium apartments. The features of such systems include 2-track and 3-track frames; shutter dimensions of 1500mm x 3000mm; glass thickness of up to 18mm; a multiple locking system; maximum load carrying capacity of 300kg and wind load consideration of up to 2kPa. The installation techniques are standardised yet customised, depending on the requirement of the particular site.

### Schueco India

The company's new product, VentoLife, is an air purification device with a multistage filter that is suited to meet the needs of the city residents. VentoLife can be integrated discreetly into a Schueco window or façade - both in residential buildings and offices. While life-sustaining oxygen passes freely through the filter, VentoLife effectively rids the air of particulate matter and other particles in the air that are harmful to health. The highly effective air cleaning action is achieved through a tightly pleated, electrostatically-charged polypropylene membrane, which is extremely durable and ensures permanently high-performance filtration. A layer made from an activated carbon-potassium permanganate compound eliminates troublesome smells, bacteria and toxic substances that are hazardous to health.

Even in heavy smog, the smallest particulate is removed with a degree of efficiency  $n > 99.5\%$ . In recirculating inside the room, the air is cleaned so effectively that no further air purification is necessary. Outside air is added as required by a sensor-controlled flap in order to achieve optimum air quality at all times. Schueco VentoLife not only significantly improves quality of life and the working atmosphere, it also helps to keep the value of a property high in the long term.

### Window Magic

The Lift & Slide Windows offer smooth functioning as compared to other standard sliding systems. These windows use a thick profile section that enables the use of fewer panels, which makes the operation smooth and easy to use. This makes the windows suitable for residential and office applications. Being big, these windows afford panoramic views, elevating the spatial experience. The arched Fan Light Windows, another exciting product from the company, give a stylish flavour to façades, while Pivot Windows combine aesthetics and inclusion of maximum amount of light into the space. As the latter can be rotated on an axis, it makes maintenance safe and easy - especially in the case of tall structures.

### LIXIL-LWS

Tostem Grants offers a hidden sash design, creating a minimal look and resulting in larger glass area. A full complement of Casement, Sliding, Fixed or Combination Windows and Doors is available, with identical sightline of 35mm, making the line-up suitable for high-end architectural applications.

The product carries high wind load specifications of 2kPa and is designed for large sash sizes and openings for both, low-rises and high-rises. It has double drainage, making it highly suited to areas which experience heavy rain.

The Tostem windows can be submerged in the floor, which avoids a step and is safer to use by seniors. The submerged frame allows the additional facility to fix a decking on the balcony side at a later date.





6. Kushal K Bajaj, executive director, Geeta Group of Companies.

7. Sandeep Mathur, GM & director, LWS.

8. LIXIL-LWS window systems pass through stringent quality checks to guarantee performance in the harshest weather conditions.

9. Combination windows from Geeta Aluminium are suitable for high-rises.

The sliding window has gained great preference in recent years as it allows a large part of the window to remain open to incoming fresh breeze. It is cost effective, gives an aesthetic appearance to the façade and is preferred by architects.

Since there is a considerable difference between day and night temperatures, Manish Bansal, director and CEO of Window Magic feels that uPVC windows are the best bet. "Asian climate is quite versatile. We can call it a mixed climate. The German Technology uPVC window and door systems by Window Magic are ideal for a country like India, as a special compound called Komalit-Z is used in the manufacture of the products. These products are best suited to a climate like ours because they are waterproof, humidity resistant and provide the best heat insulation when compared to aluminium or wood." Moreover, these uPVC windows and doors are termite proof, very important in a country with a tropical climate.



#### WHICH WINDOW?

Heat energy is transferred inside or outside through the frame and glass. Frames don't have much impact in this regard for countries like India, where the outside temperature may be 40°C and the indoor temperature has to be maintained at 24°C. The story, however, is different for countries like Russia, where the outside temperature can drop to -40°C. Mathur states, "In a tropical country like India, homes get heated due to the impact of heat radiation – which comes directly inside, irrespective of glass thickness. A reflective glass works better under these conditions. In cold climates, double glass is recommended, as radiation heat is very less and energy saving is achieved by stopping convection heat transfer using a double glass. It is for this reason that, in Europe, uPVC windows are marketed as energy efficient windows – which are not of much relevance in India."

Windows and doors are the single biggest source of home energy loss. Singh pegs the loss of energy through air infiltration through windows and doors at as much as 45%. At a time when energy costs are sky high, energy efficiency becomes a necessity. "The main appeal and importance of energy efficient windows is their ability to save money on heating, cooling and lighting costs while simultaneously reducing your home's carbon footprint. Insulation is one of the most efficient ways to save energy at home, since it keeps the interiors warm in winter and cool in summer. Hence, installation of double (or triple) glazed windows and doors is a necessity," says Bajaj. Double glazed windows have two panels of glass, some millimetres apart, instead of a single glass. Double glazing also protects the interior space from exterior noise. "Clients look for the best insulation solution, and that's where the role of uPVC comes in," insists Singh.

