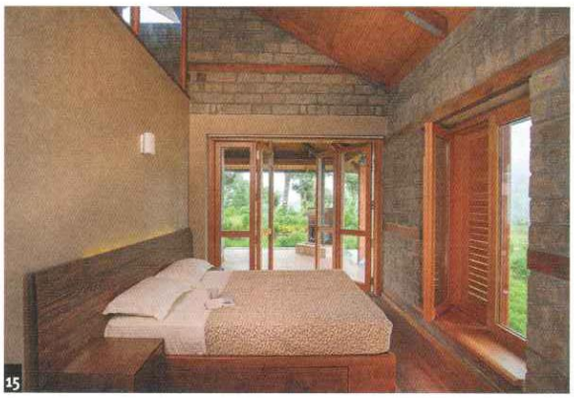
14



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The choice of the right glass could make a lot of difference too. "A uPVC door and window with thermal insulated glasses can actually make the AC work effectively when there is scorching heat outside. Transmission loss is less, which in turn saves a lot of energy. uPVC keeps homes warmer in winters and cooler in summers. Wood is preferable for cold regions because it is a natural insulator, which means it doesn't let the heat escape – but with it comes the problem of maintaining it. Thus, the right solution would be uPVC casement systems (openable), which are more energy efficient than sliding systems because they are sealed with gaskets," advises Bansal.

FIRE PROOF, SMOKE-PROOF

According to British Standard BS 476, aluminium is described as non-combustible. The same set of standards gives aluminium high marks on fire resistance versus spreading scale. "Most aluminium alloys have a melting point between 600 and 660 degrees Celsius. When aluminium is exposed to a prolonged fire environment, it will begin to melt (not burn) – provided that the metal's temperature passes the melting point. Therefore, there are contradictions on products like windows offering wide openings, or they need fire insulation," says Bajaj. Currently, the need of the hour is to make wide openings to rescue more people during emergency situations – which is made possible today with aluminium windows; but the biggest challenge is fixed steel grills which are installed outside windows, as they could endanger life in such situations and delay rescue operations.

Antony laments about the few options of fire and smoke resistant windows and doors in the market. "These are classified according to the certificates they are accredited with, post rigorous testing. On case and need basis, Schueco can supply complete aluminium systems to fulfill the numerous fire and smoke protection requirements, which are extensively used in Western markets. These Schueco systems are tested according to the highest German/European standards for fire and smoke protection and then certified. These systems will satiate the needs for tall buildings in terms of fire and smoke resistance."

In India, fire-rated doors in steel are popular. But they lack an aesthetic touch and are not available as a complete range, mostly limited to partitions and casement doors. Hence, they get restricted to some parts of the building. Bhadu says, "We are offering a complete range of fire-rated and smoke-proof systems, which are aesthetically appealing and cater to the demand of the complete building's design. We can create fire-rated glass walls, casement doors, sliding doors, etc, to create a seamless design while integrating with the same series as non fire-rated. Our systems are also well tested in order to satisfy the needs of tall buildings."

Window Magic uPVC windows and doors are completely recyclable, containing calcium zinc stablisers instead of lead (which produces toxic fumes during production). "Thus, this product is called Green Line. It also helps in preventing deforestation by reducing the use of wood for making windows and doors," explains Bansal.

AESTHETICS IN HARDWARE

Handles are an important aesthetic and functional element of a window or a door system. They are the interface to the door and window and should meet the highest requirements in terms of functionality, security and design. There can be different types of handles based on the usage – whether it is for doors or windows (heavy/moderate/light usage). Antony elaborates, "Handles should also add to the security of the house and should be seamless with windows and doors. Design elegance, burglar resistance, smoke and fire protection, integration of mechatronics fittings (like the ones Schueco provides – Schueco TipTronic and Schueco AvanTec, which is a radio-controlled handle) should be considered while selecting handles for doors and windows."

Bajaj believes that a handle works as a steering wheel – unlike in the car, as all operations are directed through it. All operations in a door and window are centralised to a handle, whether to push/pull or lock. There are multiple choices made available in the market today, and all international standard materials can be easily sourced locally. A&I

14. Yellow-Cedar wood from Canadian Wood is being used for 14,000+ doorframes in large-scale residential projects by Puravankara Projects.

15. Douglas-Fir from Canadian Wood is used for doors and windows in this house in Himachal Pradesh.