

FAST FACT

■ SPACE SAVING BEING A CHALLENGE TODAY, WE SEE SMALLER, CHEAPER, FASTER AND GREENER INNOVATIONS IN THE MARKET EVERY DAY

From bricks to façade material, everything is changing to adapt to green requirements

The innovations in essential but non-glamorous materials and techniques of house building and construction taking place today can save the user a whole lot of money in running costs. Every service provider is aware and working on getting the best possible operating method and material in place to lower capital and working costs, along with other imperatives like being more environmentally sustainable in both running and generation of the equipment. Space saving is another huge challenge in today's times. So we see smaller, cheaper, faster and greener innovations in the market today, as compared to the slower times gone by.

From the basic building blocks of construction - bricks to façade materials like glass, everything is changing. Regular bricks are being changed to fly ash, hollow ones are better insulation against the heat.

Glass has been revolutionized with internal changes and other superficial applications of film and coatings. Wienerberger India has perforated clay hollow blocks called POROTHERM that are used for non-load bearing partition walls. These have 60% less weight than a solid concrete block and offer excellent thermal insulation. This results in reduction of dead load and saving on structural costs apart from faster construction. ArGeTon® from the same company is a natural clay façade with increased thermal insulation and long lasting colours with no maintenance required. The appearance is very different from the increasingly common aluminium bond that is seen on most façades.

For internal walls, gypsum plasterboard systems are light weight and can provide huge structural savings. These systems are very fast to erect and provide huge labour saving and flexibility in construction.

Venkat Subramanian, Managing Director, Saint-Gobain Gyproc India Ltd., manufacturers of gypsum plasterboard, ceiling tiles and gypsum plaster range of products all approved by CII - IGBC, says, "In the conventional brick and masonry type of construction quality varies as components sourced from various vendors may not be up to the standard and the cost of transportation is high. Gypsum Drywalls are aesthetically more appealing allowing experimentation and are 30-40% faster to erect. 8 to 10 times lighter than masonry systems and offer flexibility in creating and dividing spaces along with fire protection, sound insulation and thermal insulation. Builders driven by greater demands by end clients for high performance, environmentally friendly buildings, are increasingly adopting these modern construction techniques and materials".



PICS: COMFORT INSULATION

BASIC NEEDS

There are many products, which used internally, can help in your home achieving peak performance, says DEEPIKA MITAL

Developers can mix and match these options to obtain the most optimum performance versus cost ratio - especially once the end buyer is educated about how this can cut down on his lifecycle costs.

Extruded Polystyrene (XPS) foam can be used to thermally insulate interiors - keep cool in summer and warm in winter, consume less energy and save costs.

Mr. R. Rangarajan, Chief Executive, XPS Marketing, Supreme Petrochem, the only producer of XPS under the INSUboard brand name, says, "The power cost of air conditioning can be brought down by more than 15% and insulated buildings and homes need a smaller size of air conditioners. It has been found that they have 4-5 degrees lower temperatures in summer and vice-versa in winter. For homes that are already up and living, retrofitting is always an option."

Apart from insulating the home for better energy performance, water proofing it is essential in our wet climate. Comfort Insulation's Spray Applied polyurethane seamless process is a building protection system to provide affordable, healthy and water efficient solutions that are environmentally friendly and minimise uncontrolled water leakages throughout the building envelope.

Spray foam insulation remains flexible - meaning as the building expands and contracts with changes of season and temperature, it will move with the changes without destroying the seal. The spray is applied both on horizontal as well as vertical exterior walls, metallic and non-metallic roof sheds, interior and exteriors of bungalows, available in 200 shades. It has a longer life and is guaranteed for 18 to 20 years as compared to conventional waterproofing that lasts 5 to 7 years. Anil Nigam, Proprietor, Comfort Consultancy Services says, "SAPS gives us waterproofing along with insulation. This combination ensures that the roof slab is water proofed, heat proofed and also it acts like a protective layer in enhancing the life of the slab by a minimum of 25% as thermal stress cracks that develop in the slab are avoided. SAPS although having multiple advantages over conventional waterproofing is only 20% higher in cost and can be used in new buildings as well as old buildings with a minimum warranty of 8-10 seasons.

The second method is Penetron, a U.S. based cementitious capillary waterproofing product that provides very effective permanent concrete waterproofing on surfaces that are not accessible. This is a boon

in areas like basements, parking lots, neighbour's bathrooms in high rise towers and wall seepage control in individual flats where the problem is isolated and not common. Doing this kind of treatment from the opposite side is called negative waterproofing".

Ancillary building equipment like elevators that are now environmentally friendly and space-saving are also available, for instance the GeN2 Comfort by Otis India that was recently launched. The ReGen technology that drives it feeds energy usually lost during braking back into the building's internal electrical grid, where it can be used by other loads or users connected to the same network such as lighting, thus it reduces energy consumption by up to 75 percent. The machine-roomless design enables architects greater design flexibility while increasing rentable space. In addition, and is cleaner for the environment as neither the belts nor the gearless machine require any additional lubrication. Pierre Dejoux, president, Otis South Asia Pacific and Gulf Area is confident that this green elevator system will efficiently meet the growing needs of the Indian market.

Within the home too, there are different products, small and big, geared to reduce our consumption pattern - and consequently bills, and make life easier. The range of hot and cold AC's from multinational's like LG ensure optimum weather management. These AC's work intelligently, cutting down your electricity bill by 50% as compared to a conventional heater. Even smaller are eco-friendly high power factor (hpf) CFLs from a company like Havells - these use significantly less mercury as during the disposal of used CFLs the mercury present in these bulbs poses an environmental threat. These CFLs are designed in such a manner that it reduces power wastage and enhances the network



capacity required for incandescent lighting.

These newer materials and technology might not be headline grabbers and neither are they glitzy and noticeable - but they do end up taking away a lot of the headaches from regular life! As Anil Nigam says, "What price your fancy home and woodwork if the very walls and safety is compromised?"

QUICK BYTES

■ PERFORATED CLAY HOLLOW BLOCKS BEING USED FOR NON-LOAD BEARING PARTITION WALLS ARE 60% LESS HEAVY THAN A CONCRETE BLOCK, OFFERING EXCELLENT THERMAL INSULATION

■ FOR INTERNAL WALLS, GYPSUM PLASTERBOARD SYSTEMS ARE LIGHT WEIGHT AND CAN PROVIDE HUGE STRUCTURAL SAVINGS