A GREEN ALTERNATIVE

Gypsum is fast proving to be a viable option to replace sand, water and wood, says Venkat Subramanian

Traditionally in India, sand, wood and water form the basis of every building construction. The building construction sector uses 17 per cent of fresh water available in the world and 25 per cent of wood harvested plus a sizeable amount of sand. The amount of sand, water and wood that goes into constructing a structure is sometimes astronomical. With each new tall tower another beach is heading towards becoming sand less, a chunk of the population is dying without water and our environment is becoming victim to a thousand natural diseases because there are hardly any trees left to protect us. Does this mean we stop construction at all? The solution to this problem is the use of gypsum, which has emerged as a lifesaver for our construction sector.

Gypsum is a lightweight material formed as the result of evaporating sea water in massive prehistoric basins. Gypsum has excellent insulation properties both thermal and acoustic and can offer very good passive fire protection, moisture resistance, impact resistance and vapour control when used in combination with the right systems.

Gypsum is used as plasterboard to create false ceilings and high performance drywalls and partitions. It can also be used as a plaster for finishing brick and mortar walls and ceilings instead of traditionally used sand-cement plaster to deliver superior finishes. A clear testament of the viability of gypsum products can be seen in the pyramids of Giza in Egypt which were lined with gypsum stucco plaster centuries ago and are still intact, proving the durability.

The buildings of the future will be taller, with stringent fire safety requirements and need more acoustic comfort, rendering traditional construction materials obsolete. Gypsum plasterboard based Drywall Solutions have the following benefits:

- Light weight systems
- Faster construction
- Conservation of resources
- Superior acoustics performance
- Tested and certified systems
- Smooth, aesthetic surfaces
- Flexibility in dividing spaces
- Green recyclable product

All these benefits packaged in one system give architects the flexibility in designing spaces of the future. Over 80 per cent of all interior construction is with drywalls. Light weight Drywall Solutions are soon set to become a norm in India. In the developed world, the building solutions are fairly advanced from a performance point of view as the construction practices have evolved over a period of time. In conventional construction, quality of bricks and sand varies as components sourced from various vendors may not be up to the standard, there is a huge cost involved for transportation of large volume of bricks, sand, cement etc. Besides, there is also the possibility of messy work in progress and waste being accumulated at the site of construction

Again, brick and masonry wall systems are more prone to shrinkage cracks and the process is also time consuming.

In most parts of the country, there is a serious shortage of sand and examples galore when construction has halted due to the scarcity of sand.

Wood, besides making the construction fire-prone, is detrimental to the environment, as they necessitate the cutting of tress. They have poor acoustics (sound created in one room can be easily heard in another room having a wooden partition) and are not very economical.

For a nation to be able to breathe, it must have at least 33 per cent of its area covered by forests. By that measure, India looks to be in trouble, with a total forest cover of 21.02 per cent, according to the India State of Forest Report 2009 put out by the ministry of environment & forest.

Apart from its advantages over traditional methods of constructions, the usage of drywalls enables water conservation. According to an estimate, more than 500 million square meters of construction area uses more than 500 million tons of water, and the level of construction site waste, estimated to wastage of millions of tons of water. Gypsum being a green recyclable material ensures a smoother and timely finish, higher productivity, and higher performance. It also leaves the sites cleaner as it is a non-messy procedure along with low electricity bills owing to its low conductivity levels. Gypsum is indeed proving to be a boon to our construction sector.

(Subramanian is MD, Saint Gobain Gyproc)

QUICK BYTES

- GYPSUM IS USED AS PLASTERBOARD TO CREATE FALSE CEILINGS AND HIGH PERFORMANCE DRYWALLS AND PARTITIONS
- GYPSUM BEING A GREEN RECYCLABLE MATERIAL ENSURES A SMOOTHER AND TIMELY FINISH, HIGHER PRODUCTIVITY, AND HIGHER PERFORMANCE