CATEGORY

BUILDING SYSTEMS

PRODUCT / TECHNOLOGY

COST-EFFECTIVE BRICKS, BLOCKS AND OTHER BUILDING COMPONENTS

Alternate to conventional burnt clay bricks.

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CONTACT DETAILS

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BRIEF

M/s Eco Vision Industries is manufacturing cost effective building materials and products based on industrial waste i.e. flyash. The components being manufactured are flyash bricks, Flyash Cellular Light-weight Concrete Blocks & interlocking blocks, Ferrocement roofing channel and RCC plank and joist system. These materials and products are time tested and proven and need to be propagated for building construction as an alternate to burnt clay bricks / blocks / roofing options for sustainable development.

- **Fly-ash bricks:** Made out of 50% fly-ash- a waste from thermal power plant, cement/lime and sand. 100% replacement of burnt clay bricks.
- **Cellular Light Weight Concrete Blocks:** Made out of mixture of cement, water, fly-ash and preformed foam. Blocks are produced with a density of 250 Kg/cum to 1600 M/Cum.
- **Interlocking Compressed Earth/Fly-Ash Blocks:** The blocks replaces conventional bricks/blocks. Doesn't require sand-Cement mortar i.e., dry stack masonry is done/binding is through gravity/ interlocking. Interlocking blocks have smooth & even finish on both sides thus saving on plaster.
- **RCC Planks and Joist System:** A precast concrete flooring/roofing system for single and multi-storey buildings. It consists of precast R.C. planks supported over partially precast R.C.C. joists. Thecompleted floor/roof with 40 mm thick in-situ concrete filling forms the monolithic T-beam slabresting over walls. The system is developed by CBRI.

Eco Vision

SALIENT FEATURES

- Building products are based on industrial by-product i.e. flyash
- Time tested and proven
- Energy Efficient and recyclable.
- Environmental friendly.
- Cost Effective and time saving.
- Creates local employment.
- Simple technologies which can be easily adopted by semi-skilled labor.
- Pre-fabrication in factory leads to better quality control.
- Do not require mechanical handling and erection equipment.
- Suitable technologies for PMAY(Urban/Rural).

ECONOMIC ASPECTS

- The cost of construction using cost-effective building materials is 10 to 20% less than the conventional load bearing construction.
- Moreover it is greener and sustainable development with reduced carbon footprints.
- Considerable reduction in use of cement and steel.

SUSTAINABILITY ASPECTS

- Energy Efficient, eco-friendly & Green Building components
- Fast-track construction technology to reduce time period of construction
- Use of local materials & technologies
- Use of waste products & technologies reducing the embodied energy
- Conservation of resource materials
- Durable
- Low life cycle cost
- Maximize use of local manpower, and renewed resources
- Low Energy Materials & Technologies
- No heavy equipment or sophisticated T&P required : Saves energy & fuel
- Less consumption of cement, Steel & aggregate : Saves energy
- No shuttering : Saves forest
- Flyash mixed in C.M : Saves cement & energy
- Flyash Bricks : Utilisation of waste product
- Savings in Embodied Energy
- No shuttering used - Saves wood & steel

SUITABILITY AND AVAILABILITY

- Suitable for all climatic conditions.
- Easily Available in various parts of the country.
- Lesser carbon footprint.
- Fly-ash bricks may not be easily available in areas where thermal power plants are at far distance.
- RCC planks and joist may not be suitable for rooms having larger span.

LIMITATIONS, IF ANY

- Strict quality control and assurance is required to produce building components
- Training of workforce is also necessary
- Characterisation of raw material and appropriate design mix along with quality of manufacturing greatly influence the quality of products.

MARKET LINKAGES

- The components can be locally cast near construction site.
- It can also be produced by small entrepreneurs and supplied to consumers at State/ Block/ village level

MAJOR PROJECTS

- Widely used in various projects throughout the country.

CERTIFICATION/INDIAN STANDARD/ ENDORSEMENT

- IS 12894:2002 - Fly-ash bricks.
- IS 2185(Part 4) - 2008-Cellular Light Weight Concrete Blocks.
- IS 13994:1994 - RCC Planks and Joist System.