

CATEGORY

POTENTIAL TECHNOLOGY – ACCELERATION : GHTC-INDIA



PRODUCT / TECHNOLOGY



STRUCTURAL SYSTEM / TERRACOTTA BLOCKS

Alternate to conventional construction system



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Technology Detail

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CONTACT DETAILS

M/s Apna Ghar

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APANA GHAR

Green building "n" very cost effective construction system,
one flat in flat 40 working days.

BRIEF

Apna Ghar Construction system is an innovative housing construction system, which is based on porotherm Clay/ Terracotta blocks, made of silt, industrial wastes etc. These blocks can be used as load bearing/ non load bearing blocks in house construction.

As per the structural requirement, columns, lintel/beams are constructed with concrete & reinforcement & with terra cotta hollows blocks acting as permanent stay in place formwork. The floor/roof is made with hollow clay blocks supported on ISMB as joists & 60 mm screed concreting with nominal reinforcement on the top of it. The terra cotta blocks give quite an aesthetic appearance, and does not require external internal plaster & paint on it. This innovative system has been developed by the Agency in the year 2014.





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SALIENT FEATURES

- The Porotherm blocks are perforated & have density about 700 to 800 kg/m³. As a result, the buildings constructed using the blocks are much lighter than RCC construction with ordinary burnt clay/solid concrete blocks as infill.
- Structural Terracotta blocks have compressive strength more than 7 N/mm².
- No heavy machinery is required at site.
- System is user friendly and faster than conventional system.
- Excellent thermal insulation, reduces temperatures up to 6-8 degrees and sound insulation up to 48 db.
- Porotherm brick/blocks are rated green products by Indian Green Building Council & GRIHA.
- System is very much suitable for scattered and upto G+3 storied building and is cost effective.

ECONOMIC ASPECTS

- With the system, the considerable reduction in cost has/can be achieved.



SUSTAINABILITY ASPECTS

- With perforation, low density, & comprising of silt, industrial waste etc., the Porotherm clay blocks are highly resource efficient.
- Reduction in almost 50% sand, cement, steel, and water consumption can be achieved.
- Helps in sustainable construction and reduction in carbon footprint.
- The system is also thermally efficient.

SUITABILITY & AVAILABILITY

- It is suitable for all climatic conditions.
- The structural clay blocks and steel ISMB are available throughout the country.

LIMITATIONS, IF ANY

- Structural engineer should be consulted for design & connections, particularly in high seismic regions or exposure to other lateral forces.





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MARKET LINKAGES

- The agency is based in Nagpur and can provide consultancy and other services for the system Pan-India.

MAJOR PROJECTS

- G+1 Residential building at Dabha, Nagpur.
- G+1 building at Gujarat
- G+3 Structure at Wardha.
- G+2 Residential building at Sonogao, Nagpur

CERTIFICATION/INDIAN STANDARD/ ENDORSEMENT

- Recommendation by VNIT Nagpur and BMTPC, New Delhi

