

Generating database on properties of hollow bricks and blocks used in India

Background

The Indian Standard IS 3952:2013 '*Burnt Clay Hollow Bricks for Walls And Partitions - Specification*' covers types, dimensions, quality and strength, methods of sampling etc. It is desired that a market survey may be undertaken to understand the current usage of the product in the market and the requirements of the product as per the market.

Objective

1. Determining extent of utilization, dimensions prevalent in the market, the compressive strength, flexure strength, water absorption and initial rate of absorption (IRA) for hollow clay bricks and blocks from different sources of manufacture covering various parts of India.

Scope

- Undertake extensive and intensive examination of the available literature on the subject which will include international standards, if any, research papers published on the subject, any study conducted by industry or any organization or any available literature.
- Survey the market to determine the usage of the product and the expectations of the market on the dimensions, strength and other properties of the product.
- Visit to at least two manufacturers (large/medium/micro) in the eastern, western, central, northern and southern region of India, identifying the manufacturing ways of the product
- At least two laboratories in each region where the testing is being conducted may be visited.
- Analysis of the data collected.

Methodology

- Major regional manufacturers of the hollow bricks and blocks may be contacted for information regarding the extent of utilization and properties of the product.
- User organizations of the above products may be contacted for information regarding their expected properties and the details of how the product is utilised.
- The laboratories may be approached to confirm that the tests carried out as well as the method of testing being carried out there is in line with the existing Indian standard for the same. Deviations, if any observed, may be noted.
- Brick samples should be collected from at least 2 – 3 manufactures in the eastern, western, central, northern and southern region of India as per IS 5454:2024. A minimum of 24 bricks are to be collected from each manufacturer (6 bricks each for determining the properties as listed below.)
- Determine the following properties as per the relevant Indian standards
 - (a) Compressive strength
 - (b) Flexure strength
 - (c) Water absorption
 - (d) IRA
- Compile the data with all the statistical parameters (mean, SD, COV, etc.)
- Conduct a literature survey on these parameters (journals, books, reports, theses, etc.)

Deliverables

- an analytical report on the variations of manufacturing methods, properties and usage of hollow bricks/blocks as found across the industry.
- report on the validation of the existing test methods.
- summary of group discussions carried out, responses of interviews held, details of visit to industries/users carried out.

- **Timeframe**

- Expected to complete within 6 months
- collection of information from manufacturers/users – 1 month
- Literature survey – 1 month
- Collecting samples- 2 month
- Testing the samples-3 weeks