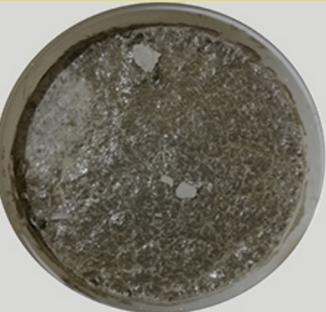


CONCRETE EXPLORATION



concrete with glass
Proportion 1:1:1
cement:aggregate:glass pieces
Observation: Glass enhanced the surface textural qualities of concrete



concrete with wax
Proportion 1:1:1
cement:aggregate: fine pieces of wax



concrete with paper mash
Proportion 1:1:1
cement:aggregate:paper mache
Observation: Paper mache made the concrete light weight.



concrete with black salt
Proportion 1:1:1
cement:aggregate:black salt
Observation: Black salt got crystallized and improved aesthetic of concrete. it reduced the strength of concrete



concrete with alum
Proportion 1:1:1
cement: aggregate:alum powder
Observation: Alum got crystallized and increased the strength of concrete.



concrete with naphthalene balls
Proportion 1:1:1
cement : aggregate :powdered naphthalene

ABSTRACT

The aim of the exercise was to explore the response of concrete when mixed with different materials and how the properties of concrete are altered. The intension of the exercise was to identify such materials and recognize its potential application.

SELECTION OF MATERIALS

- Materials were chose on the basis of the properties the material inherited .
- some materials were selected according to the properties they could add to the concrete.

CONCRETE WITH THERMOCOL WASTE



Proportion 1:1:1
cement :aggregate: waste thermocol
Observation: Thermocol made the concrete light wiegt and enhanced the textural qualities when chamfered

CONCLUSION AND FUTURESCOPE

Based on the observations and result ,we arrived at conclusion that that these materials can be used in construction or interior design in future. glass concrete ,thermocol concrete can be used in their exposed nature in cladding , as table tops or for floorings. black salt concrete can be used in sculptures, models or as decorative art pieces. We aimed to take Thermocol concrete for further experiment.

THERMOCOL CONCRETE

ABSTRACT

Present experiment is aimed to observe the combined effect of thermocol waste in concrete. Thermocol waste was mixed with ordinary Portland cement, sand, water to form Thermocol Concrete. Sample blocks of size 225mm x112mm x75 mm of different ratios are prepared. The main findings of this experiment suggest that mixture of waste thermocol can be used as in concrete composites. The experiment involves comparison between concrete block and thermocol concrete block.

INTRODUCTION

Thermocol is nothing but Expanded Polystyrenes (EPS). Thermocol is cellular plastics material consisting of fine spherical shaped particles of polystyrene. It comprises of 98% air and 2% polystyrene. It may be harmful to environment. Thermocol has the characteristics like light in weight, low thermal conductivity, good sound absorbent, etc. So, it has wide usage in packaging industry, model and craft industry.

Hence, the current study is to observe whether these inherent characteristics of thermocol is retained when mixed with concrete, and whether these concrete blocks can be used in construction and insulation industry.

PRODUCT

THERMOCOL CONCRETE BRICKS(mix no. 1 and 2)
225mmx112mmx75mm

APPLICATION -light weight partition walls

THERMOCOL CONCRETE SLAB with reinforcement
mix proportion- 4 : 3: 7.5
size : 400mmx600mmx300mm
reinforcement :aluminium grid

APPLICATION :movable table tops with thermocol texture

MATERIALS

CEMENT: simple portland cement was used of grade

SAND: black river sand as fine aggregate

THERMOCOL: waste thermocol used for packaging was granulated to small pieces

MIX PROPORTION

MIX NO.	CEMENT	SAND	THERMOCOL
M 1	4	3	7.5
M 2	4.5	3	6.5
M 3	1	1	-

*proportions used are used by volume. (volume 1695.6)

OBSERVATION

Initial setting time for thermocol concrete bricks was reduced as compared to normal concrete brick.

the required consistency of the slurry was not formed if the thermocol content was increased (more than 7.5)

THERMOCOL PROPERTIES

- light weight material
- thermal insulator
- recyclable material

comparison with other bricks

	brick types			
	masonry brick	cement brick	c4x	thermocol concrete brick
weight(22.5+11.25+7.5)	21kg	3.5kg	1.6kg	1.8kg