

THE MOST PRACTICAL, ECONOMICAL SOLUTION to overcome environmental disasters, fires, and frost cycles with the most **sustainable, durable, and green concrete**

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INTRODUCTION & AIM

Our goal:

We aim to reach concrete structures (low to medium rise) resist harmful environmental factors :

- Hot climates
- Humidity
- Coastal environment
- Earthquake
- Prone areas
- Frost areas
- Stormy areas
- Noisy environment
- Industrial environment
- Weather fluctuation
- Rotting
- Termite
- Resonance

characterized by :

High fire resistance (externally and internally)

Higher structural balance rates & toughness

Higher sustainability & durability rates

Longer life cycle than its counterparts

Locally produced – No significant increase in cost

All these are achieved by using **lightweight structural concrete** called : **KANDCRETE**

METHOD : USING High Performance Concrete

Raw Materials

Normal weight Aggregate (natural sand – natural gravel)

Cement, preference Ordinary Portland Cement (OPC) or (SRC) 350-400 kg/m³

Water for concrete Mixture

Foaming Agent

Silica Fume min. 5% of cement content

Fiber : fiber glass

Admixtures

Density

1650 kg / m³ to **1850** kg / m³

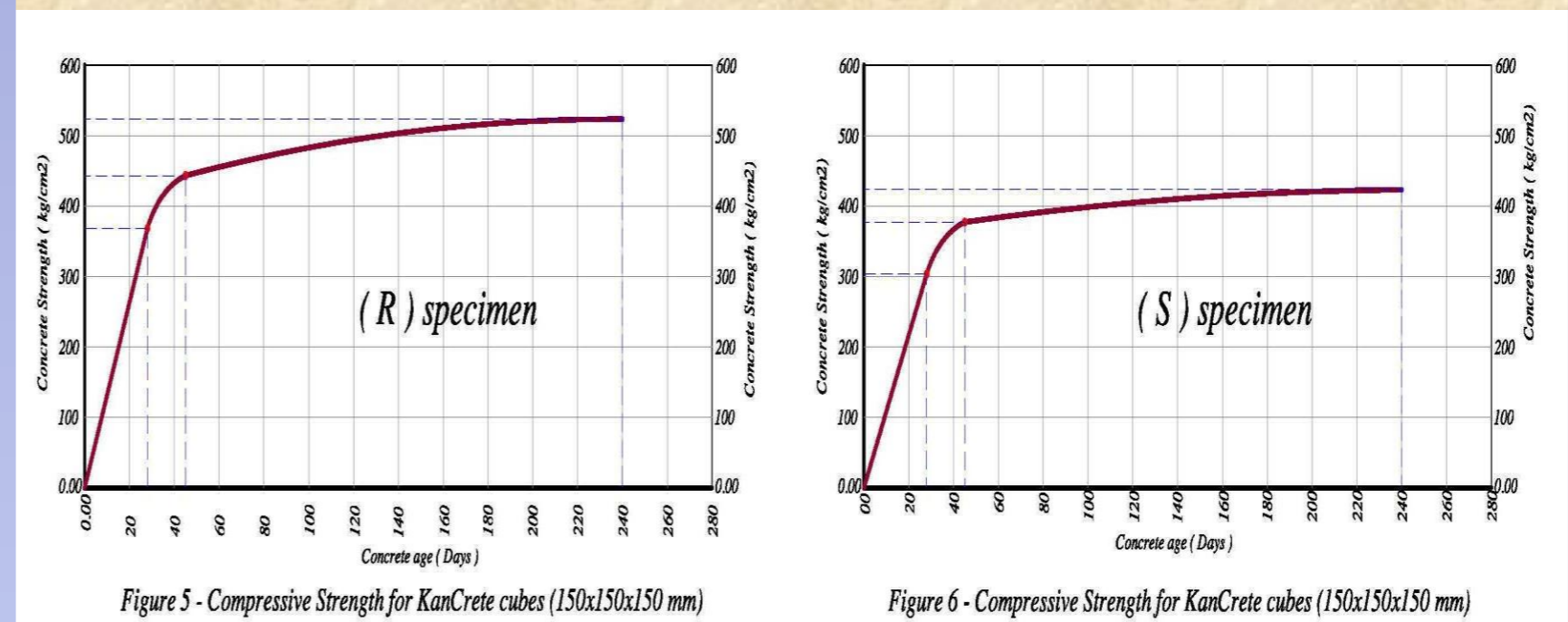
Compressive strength

Table 1 : Compressive Strength Of Cube Concrete (KandCrete) Specimens at different ages

Sample	Dimension mm	Strength @ 28 days Kg/cm ²	Strength @ 45 days Kg/cm ²	Strength @ 240 days Kg/cm ²	strength @ 570 days Kg/cm ²
R	Cube 150x150x150	368	443	525	665
S	Cube 150x150x150	303	377	425	585

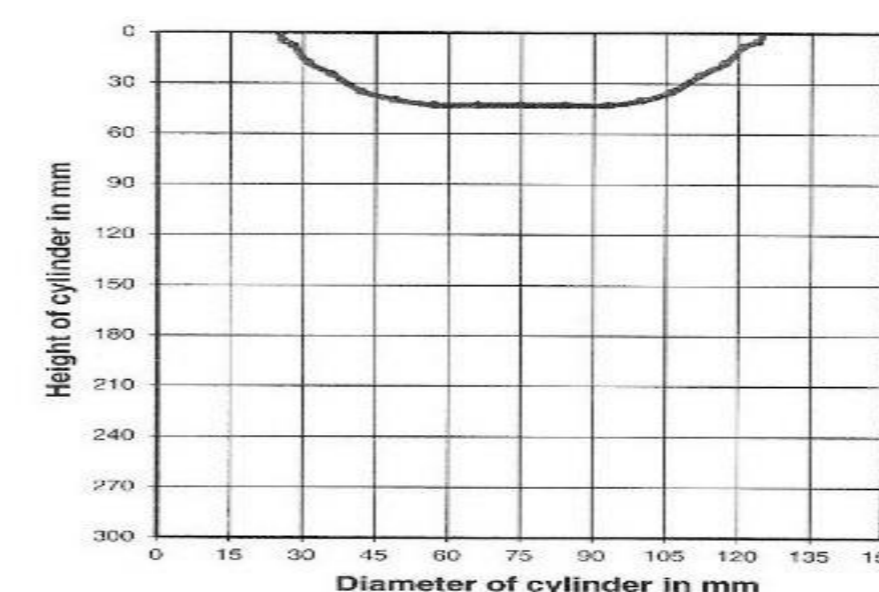
RESULTS & DISCUSSION

Compressive strength charts

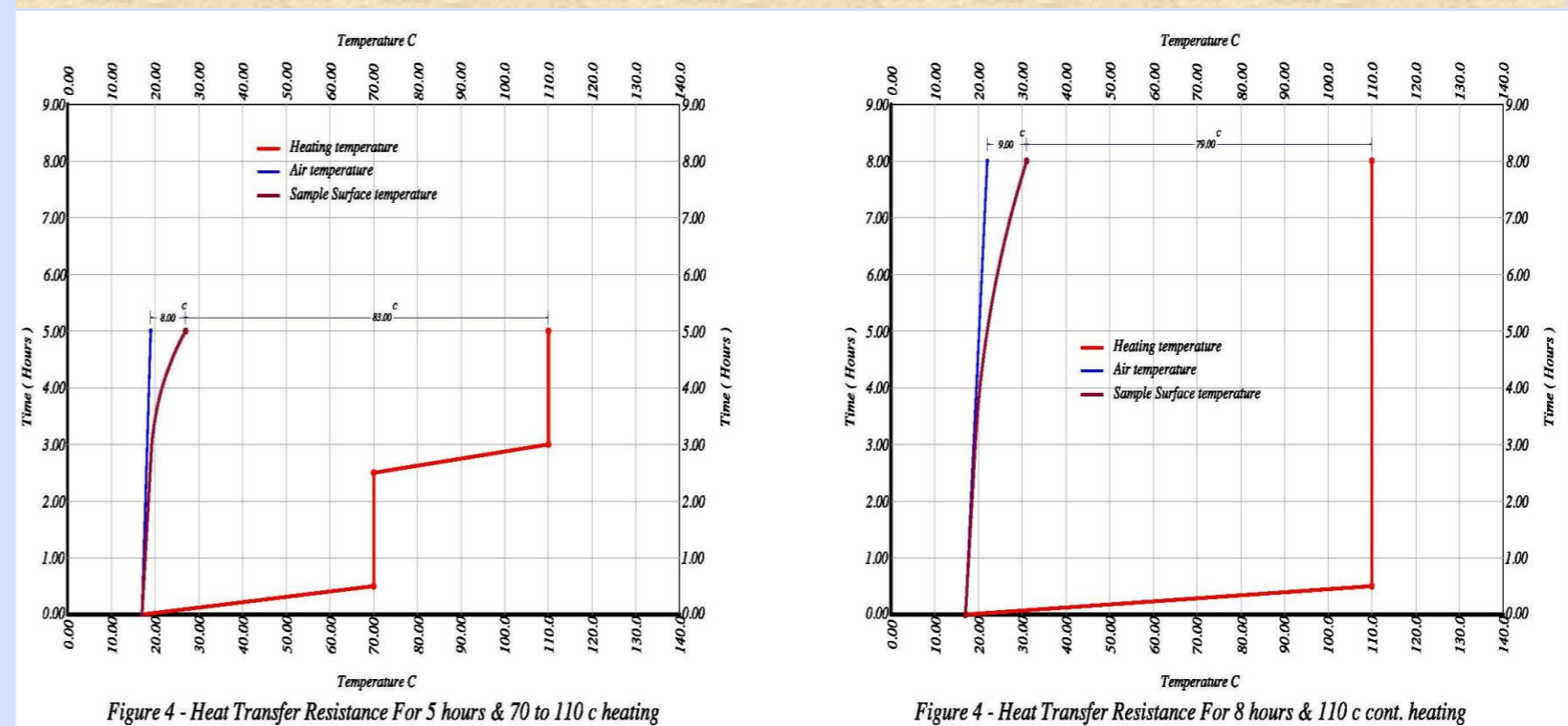


Water Permeability Test Results :

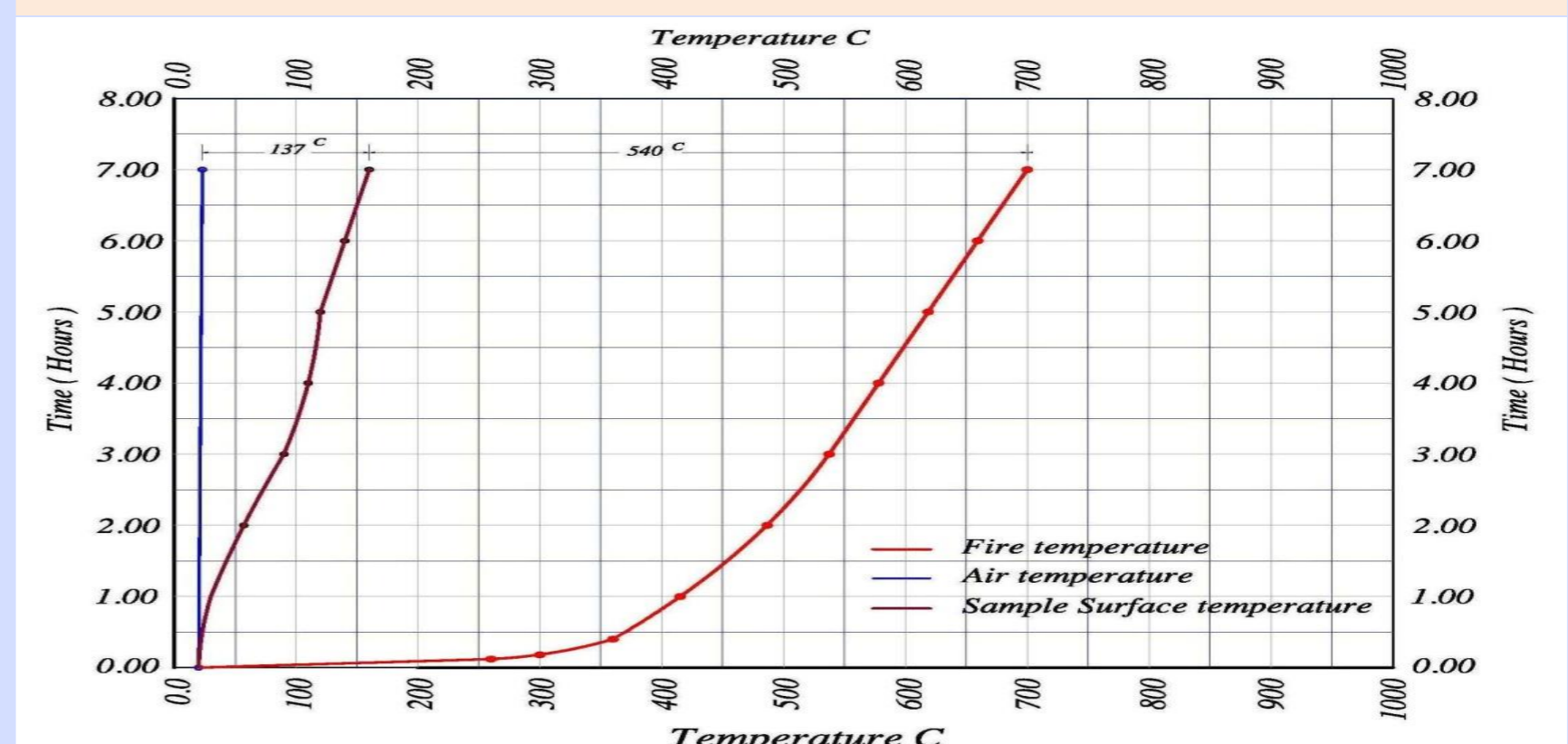
Typical arrangement for the determination of the water permeability from the concrete cylinder representative sample (15 x 30 cm) when subjected to water pressure of 5 bar acting to the mold filling for a period of three (3) days.



Heat Transfer Test Results charts



Fire Resistance Test Results charts



CONCLUSION and RECOMMENDATION

(KandCrete)

Considered as an innovative product for the human civilization, for the days to come & is expected to show its multi-various facets in all the spheres of construction yet to be explored in the hands of future researchers.