

*Precast concrete - non load bearing partition wall*



### What is ICW-25?

ICW – 25 is a sustainable technology of manufacturing precast concrete wall that combines greater stiffness matrix with a rib profile, enhancing the structural stability. A thickness of 25mm was achieved due to the configuration which prevents bending along the width. These are **LIGHT** in weight with a unique **TWIN** cavity wall panel fixed back to back with a 50 mm air gap, facilitating services to be added after erecting of panels in one direction. ICW25 panels improve the quality of work and reduce load on the structure, cost effective / **simplicity** of erection by regular construction workers. More durable and affordable, cost effective- alternate solution to: earth / wood walls/ brick / concrete blocks or cast- in – place concrete. Lower thickness - reduction in raw material.

### What it changed or replaced?

In order to save the planet and leave a legacy for our children and their children, we all need to ensure that everything we do is **SUSTAINABLE**, be it at work or home. ICW-25 is shaped and structured to make full use of its profile to provide greater stability and to facilitate services – like electrical, plumbing, etc. A gap of 10 mm is left between the beam bottom and the panel, to prevent load transfer on the panel occurring due to deflection of the structure. Modifications are possible in electrical / services which may arise, after the panels are fixed, modification made can be repaired with cement – sand mortar. Easy to erect and shift – light weight machineries can be used along with local labour force. Curing is negligible – keeping the construction site clean and dry. With slight modifications the panels can be used for permanent formwork – for concreting. Sound transmission is reduced –50 mm air gap is given between the panel walls. The walls have a two hour fire rating – as RCC. Increase in floor area. Sustainable type of construction as volume of material consumed is minimal.

Affordable quality homes – **A HOUSE I CAN AFFORD – A SHELTER OVER MY HEAD – HOPE REASURED.**

Zero energy system considers all the aspects manufacturing process of precast elements.

### Where & when it originated?

To overcome the reality of reducing skilled labour and escalation in material cost which pushed the project beyond schedule and cost over runs, KT group, partners, came up with a concept of thin twin precast walls. The idea was conceived by Mr. Gautam Janakiram ME. And Mr. Kartik Janakiram BE. Granite is around 20 mm thick and can be lifted and shifted- what was the reason? Why does the column box formwork not bend – and how is its structurally stable? The thickness of our toilet door shutter is 25mm thick. With this in mind and, after preliminary calculations the first prototype was made in 2010 Mysore, Karnataka, India.

*The **ICW25** is a thin and light weight concrete panel- which has great scope in the **FUTURE.***

**ICW-25 (INTERNAL CAVITY WALL)**

**Nova Award Nomination**

**PRECAST NON LOAD BEARING LIGHT WEIGHT TWIN PARTITION WALL**



Light panels allowing through twin wall add electrical, plumbing and cooling systems, which can be put everywhere and simplicity of fixing.

**Non load bearing internal partition wall**

- Each panel 25 mm thick, duct = 50mm, total thickness of 100 mm.
- Joints sealed with weak mortar/ thermal expansion does not effect as it is internal wall.
- Weight - 7.8 kkg/ sq.m/ panel.
- 10 -20 mm gap, b/n panel and beam bottom for deflection.
- Can be used as false floor with secondary supports



MOULDING



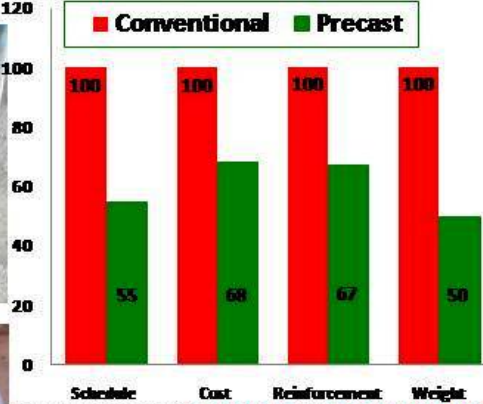
STRIPPING



Tiling done on ICW25



Window and door fixed



COMPARISON B/N PRECAST AND CONVENTIONAL



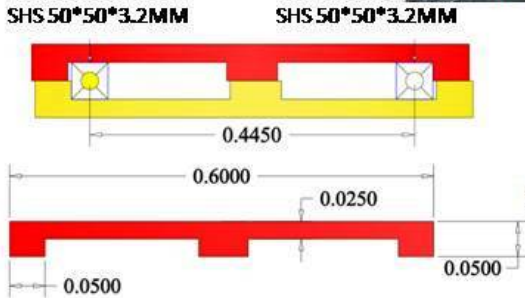
Fixity



Electrical - light point & direct painting



After painting



Section A

- EA M 10 N Fisher sleeve anchor 40 mm deep
  - M 10 bolt and washer 40 mm deep
  - SHS 50\*50\*3.2 mm
- 20 mm hole left to fix M 10 -40 deepbolt to EA M 10 N sleeve anchor