



WHAT IS A FERRON PANEL?

Ferrocement as a construction material has been in existence for more than 150 years. The properties of this material manifest with small thickness only, usually between 15mm and 40mm. Its properties are uniquely different from those of Reinforced Concrete. Ferrocement generates tensile capacity in the section. This can be of advantage if used in conjunction with a proper design method creating thin sections with large load bearing capacity.

The Ferron panel is the world only, patented, precast concrete panel, that has been developed, tested and used in India over the past 4 years. It is the standard cladding preferred in all BMTPC tenders. The panels are factory manufactured and are made to exact specifications and quality controls. Their primary advantage is imparting waterproof, high strength cladding (internal and external) to LGS frames. Their use, as cladding, helps reduce LGS consumption by 65%, thereby reducing associated costs for the client.

GENERAL SPECIFICATIONS OF FERRON PANELS

1. Minimum strength of mortar is M 35 (35 MPa)
2. Size of panel: 600 x 900 x 18 mm.
3. Density of Panel: 2000-2200 kg/m³
4. U value : 0.35 W/m²K
5. Weld mesh details: Galvanised, Drawn wire, minimum 250 MPa strength.
6. Reinforcement Details : 1.2 mm dia mesh and 4mm dia steel bars.
7. Type of screw: Self Tapping 3mm/4mm dia countersunk, 35mm long.
8. Glue and Jointing Compound : Epoxy polymer

WHERE IS IT USED?

The panel is a cladding material for structures made from Cold Form steel (Light Gauge Steel). They provide a cladding option for both the external and internal walls.

WHY IS FERRON A BETTER WALLING OPTION?

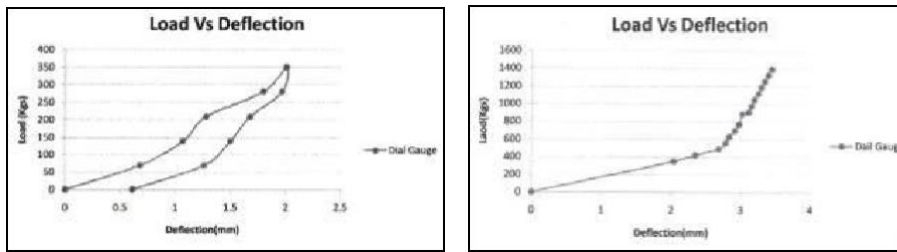
- Lightweight yet high strength
- Designed to support high horizontal loading
- Waterproof. It has a water absorption of 7.96%
- The Ferron Seal prevents joint cracks
- Attachment of the panel to the LGS as well as to each other creates a composite shear wall system.
- Form Finish. Does NOT need further plastering.
- Waterless Construction
- Fire Rating : 2 hours each panel
- Acoustic Dampening : 100 Db+
- Zero Knocking Effect

STRESSES GENERATED BY FERROCAST SECTIONS OF FERRON - WALL AND SLAB PANELS

1. 24 MPa in hoop and bending.
2. 14 MPa in pure tension.
3. 9 MPa in shear.

ADVANTAGES OF CONNECTION FERRON PANELS TO LGSF SECTIONS

1. The Moment of Inertia of column channel is increased substantially thereby increasing the design stress value in compression.
2. Ferron slab panels laid on LGS sections for floor beams act as shuttering plates as well as adding top flange to the section, increasing its moment capacity.
3. The panels are fixed with bondar material so as to act with LGSF section and topping concrete.



LOAD CARRYING CAPACITY (GRAPHS 1 & 2)

1. Ferron wall panels are designed to support 150 kg/sq.m horizontal wind loading on a span of 600 mm.
2. Ferron slab panels are designed to support 400 kg/sq.m live load on a span of 600 mm.

Structural Integrity and Insulation Property of Ferrocement exposed to Fire. Nimityongskul et. al. 8th International Symposium & Workshop on Ferrocement and Thin Reinforced Cement Composites, Bangkok, Thailand, 2006.

GRAPHS 1 & 2 : Durocrete Engineering Services P. L. (ISO/IEC 17025:2005 NABL Accredited Laboratory)

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