



Introduction

LEGO Precast Concrete is a part of the energetic and dynamic BHATIA group of Dubai with interests in Real-estate and Property Development, Contracting, Hospitality, Manufacturing and others.

Our parent group has successfully completed, over several decades, major projects for the Dubai Municipality, Sheikh Mohammed bin Rashid Housing, other Government agencies and leading clients from the private sector.

LEGO is manned by some highly experienced professionals with extensive experience in the precast concrete industry in the UAE. The production facilities are located at Technopark, Dubai.

We offer complete services from Design, Production and Erection/Installation at site. Our products offer excellent value-for-money and are designed to provide years of hassle-free performance.

LEGO precast concrete products are accurately and consistently produced to Contemporary Industry-Standards. Concrete mixes with characteristic compressive strength of up-to 60 N/sq.mm are offered depending upon the application.

Our current range of products includes:

- Wall panels
- Boundary-walls and retaining walls
- TT slab flooring
- Underground water tanks
- Complete structures
- Columns and crane-beams for industrial sheds
- Man-hole system
- Pipes for micro-tunnelling
- Domes

We can also customise our products to suit your particular requirements.

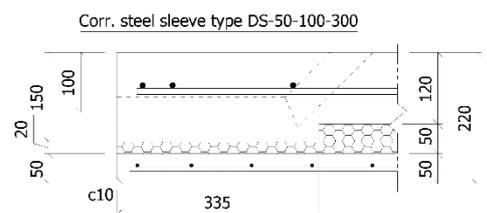
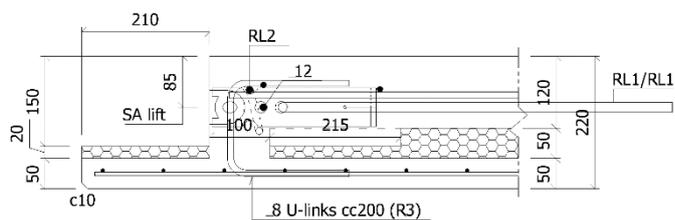
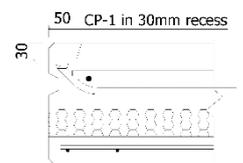
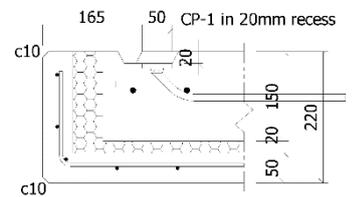
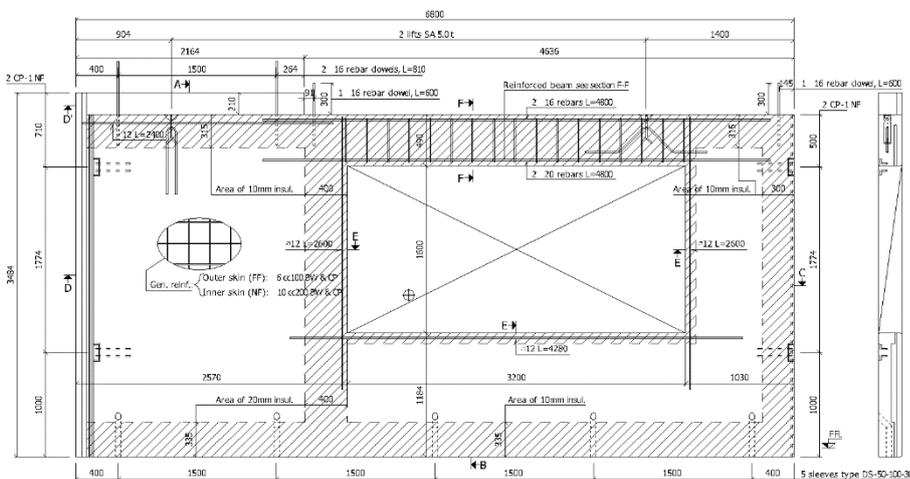
Our technical staff would be glad to discuss value-engineered and durable solutions in precast concrete.

Insulated Precast Wall-Panels

LEGO Precast wall-panels are produced under stringently controlled conditions. These are then delivered to site in special frames mounted over trailers and erected.

LEGO Advantages:

- The superior accuracy of moulds, high control of concrete mix, special embeds and connectors, along with the casting process itself, ensures that you are provided a quality product.
- Embeds for various MEP services as well as accurate openings for Doorways, Windows provided in the precast wall-panel ensure a considerable saving on construction times.
- Construction site would require significantly reduced logistics and trades. Facilitates good house-keeping at site.
- The reinforcement of the internal layer of concrete is nominally provided with a cover of 40mm. This provides the precast wall-panel with a fire rating of 2 hours.



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Components of LEGO Insulated Wall-Panels:

- A single layer of thermal insulation (typically, polystyrene) is sandwiched between two layers of concrete. Additionally, a polyester/polythene vapor-barrier is placed next to the thermal insulation.
- The two layers of concrete and one of thermal insulation are connected together with either a system of polyamide connectors or a system of stainless steel anchors and pin-connectors..
- Concrete around openings in the concrete for Doors, windows, etc., which need to support metal doorway frames etc., are locally thickened by reducing locally the thickness of the thermal insulation.
- Structural design requirements govern the thickness of the internal layer of concrete. This is typically between 90mm to 120mm.
- The outer or external layer of concrete is typically 50mm thick.
- The middle layer comprising the thermal insulation is made of required grade of polystyrene.



Thermal performance:

- Thermal conductivity through the composite insulated precast wall-panel is governed by the thermal conductivity of individual layers.
- The Common List of Material Specification issued by D.M. provides a reference to the thermal conductivity factor for concrete and thermal insulation based on their individual density.
- The average thermal conductivity for the composite panel is calculated based on formulae spread sheet provided by D.M.