

# Precast Lattice Girder (Plate Flooring)

Concrete Flooring Systems' composite floors consist of a temporarily propped precast plank, which also acts as fully participating permanent formwork in conjunction with the in-situ structural topping.

## THE BENEFITS OF LATTICE GIRDER COMPOSITE FLOORS

### Fast to Erect

All planks which are manufactured to the specific needs of the building can be erected at a rate of up to 100m<sup>2</sup> per hour

### Robust Construction

Designs to resist progressive collapse are simple and economically achieved.

### High Quality Finish

Level soffits which may be decorated direct and toppings that can be power floated allowing total floor zone to be minimised.

### Services

Large or small holes, services in the topping, beams within the depth of the slab - all easily achieved.

### High Load Capacity

Strong mechanical key between precast and in-situ concrete

### Fire Resistance

Cover to reinforcement and concrete depth can be varied to cope with required fire resistance.

### Sound

Meets the highest standard for resistance of sound transmission

In situations where self weight must be minimised, the lattice girder planks can be used in conjunction with polystyrene void-formers applied to their upper surface. These are then incorporated within the in-situ topping. Alternatively, the planks can be manufactured with lightweight aggregate concrete. This type of composite floor is equally suited to use in almost every building type, masonry, steel or concrete structures and particularly those with progressive collapse considerations.

### Section profiles

Profiles vary from project to project

### Plank Depths

The typical thickness of the plank ranges from 75mm - 100mm depending on the design specification.

### Plank Widths

The plank widths are usually 1200mm or 2400mm, but other widths are available

### Structural Performance

The table below will give general guidance on performance characteristics.

| Imposed Load         | Slab Depth | Maximum Spans (metres) |       |       |       |       |       |       |
|----------------------|------------|------------------------|-------|-------|-------|-------|-------|-------|
|                      |            | 115mm                  | 125mm | 150mm | 175mm | 200mm | 225mm | 250mm |
| 1.5kN/m <sup>2</sup> |            | 3.0                    | 3.0   | 4.0   | 5.0   | 5.5   | 6.0   | 6.5   |
| 3.0kN/m <sup>2</sup> |            | 3.0                    | 3.0   | 4.0   | 4.5   | 5.5   | 6.0   | 6.5   |
| 5.0kN/m <sup>2</sup> |            | 2.5                    | 3.0   | 3.5   | 4.5   | 5.0   | 5.5   | 6.5   |
| 7.5kN/m <sup>2</sup> |            | 2.5                    | 2.5   | 3.5   | 4.0   | 5.0   | 5.5   | 6.0   |

Including 1.0kN/m<sup>2</sup> allowance for finishes