

# The benefits of Composite Floor Decking

## Speed

Large areas of deck can be rapidly craned into position and up to 400m<sup>2</sup> laid by one team per day. With minimal mesh reinforcement and pumped concrete, the completed floor can quickly follow.

## Working platform

Once laid, the deck acts as a safe working platform for all following trades. Temporary props can usually be eliminated.

## Construction stage bracing

The deck acts as lateral restraint to the beams and acts as a diaphragm, transmitting wind Load from the outer steelwork to the core.

Thus, once the decking is fixed, it contributes significantly to the stability of the structure.

## Weight

Due to the intrinsic efficiency of composite construction and the displacement of concrete by the profile shape, considerably less concrete is used than in conventional reinforced concrete construction.

This reduces both the primary structure and foundations

## Height

Composite beams use the slab as a compression element, which increases their stiffness and reduces their size. The composite slab itself has a very low centre of reinforcement compared to a conventionally reinforced slab and therefore does not need the same depth.

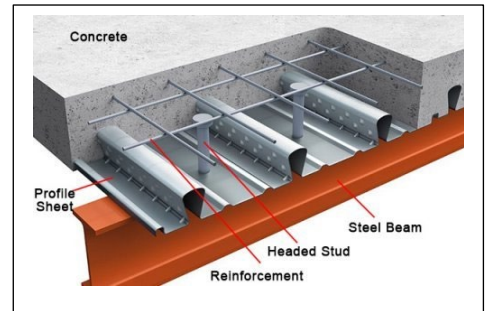
These savings translate to a reduced floor zone and thus overall floor height.

## Fire

Extensive testing and fire engineering work by PMF and The Steel Construction Institute have resulted in fire ratings of up to 4 hours being available with the use of light mesh within the composite slab and no protection to the deck.

## Services

Composite floor decks incorporate systems for the easy attachment of services, negating the requirement to fix into concrete.



Shear studs are required to transfer force between the steel section and the concrete slab. The studs are welded to the beam, normally through the deck sheet. This enables the concrete slab to act like a large top flange to the composite beam when the concrete has hardened and creates a stronger section to support the loadings applied to the finished slab.