



OP-DECK®

Lightweight insulated floor system

OP-DECK® is a lightweight insulated floor system. The advantages of steel decking/concrete composite floors and reinforced in-situ concrete have been combined in this unique patented flooring system. The OP-DECK®/insulated concrete floor system is based upon a traditional in-situ concrete process but incorporating optimal design and installation flexibility.

The system

An OP-DECK® floor can be laid on supporting structures of steel, concrete, brickwork, timber, etc. The OP-DECK® sandwich floor panels function as permanent shuttering for a relatively thin reinforced concrete floor with a free span of up to 10 metres maximum.

Application possibilities

- Car parking roof decks
- Insulated concrete roofs
- Insulated (ground) floors
- Terraces and roof gardens
- ICF projects (Insulated Concrete Form)
- Renovation
- Adding extra floors to buildings
- Modular construction



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Much lighter than PCC or in-situ concrete floor systems, OP-DECK® comprises of a sandwich panel made from thin profiled steel sheets with PIR foam insulation. EPS profile block used in conjunction with the sandwich panel ensure further weight reduction and turn the floor into a concrete floor based upon a T-beam principle (concrete rib floor).

Both components, the sandwich panels and the EPS profile blocks are installed on site. The end result after fixing the reinforcement and pouring concrete is a lightweight, fully insulated floor with a large free span, small floor zone height and a smooth white under side soffit ceiling. Under floor heating and complete energy management systems are easily incorporated within an OP-DECK® floor.

Installation

OP-DECK® sandwich floor panels and EPS profiled blocks are quite simple to install – fixing details are available upon request. If required, installation can be provided by nominated specialist contractors.



Identifying properties

- Finished floor depths from 270 mm
- Low weight (from 190 kg/m²)
- Free span up to 10 m¹
- High permissible load
- High bearing capacity at point load
- Design flexibility
- Fire resistance (REI) ≥ 90 minutes
- Highly insulated ($R_c > 6$ [m².K/W])
- Strut-free installation (max. 5.5 m¹)
- Simple and fast installation



Design software

OP-DECK® design software has been specially developed for the system to provide details of the optimum cross section based upon performance and design details provided by the client. Apart from providing a load bearing structural floor an OP-DECK® floor provides up to 60% reduction in weight against other concrete floor systems. As a result the total cost of the project can be considerably reduced.

Calculations / Drawings

Will be produced by REPPPEL but must be signed off by the project engineer. Details of the OP-DECK® floor in the various applications are available.



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Specification service

OP-DECK® specification details are available from REPPPEL or can be downloaded from the RIBA NBS Plus website.

TECHNICAL DATA FOR OP-DECK® FLOOR SYSTEM

Width of sandwich floor panel	1,000 mm
Height of sandwich floor panel	188 mm
Sandwich floor panel in custom lengths	up to max. 16,000 mm
Nominal steel thickness of under sheet	0.7 mm
Standard coating (incl. protective foil)	interior coating white (9002)*
Nominal steel thickness of top sheet	0.9 mm
Weight of sandwich floor panel	approx. 20 kg/m ²
Height of EPS profile blocks (dependent on floor design)	min. 140 mm

* Other coating systems and colours are available on request.

Service and advice

If you have any questions you may contact our technical consultants. They are available to answer any question or query and will provide detailed advice regarding the suitability, use and installation of the OP-DECK® flooring system.



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