

CONSTRUCTION PROCESS

Soft formwork problem solved

The increasing thermal insulation requirements of The Building Regulations, together with the introduction of 'soft' permanent formwork has led to problems in ensuring that the formwork provides the steel reinforcement with the specified cover at all locations within the concrete. An example of the problem is shown in Figure 1.

So-called 'soft' formwork is a term applied to a range of products, for example expanded polystyrene (such as Eco-slab used for insulation purposes in sustainable construction), cellular plastic sheet (CPS) as shown in Figure 1, or plastic encapsulated steel fabric (PESF). Soft formwork is sometimes used for ground beams, ground bearing and suspended ground floor slabs, and foundations.

The spacers and chairs used to achieve the specified cover to the reinforcement are required to comply with British Standard 7973:2001 Part 1, and be used in accordance with the requirements of Part 2 of that Standard. Plastic 'A' spacers to Part 1 are particularly successful when used with hard formwork such as plywood and steel and were developed for this purpose.

The new soft formwork spacer (see Figure 2) builds on the success of the 'A' spacer and was developed for use with expanded polystyrene insulating soft formwork such as Eco-slab, which won the Shell Springboard 2010 Award for Innovation in Carbon Reduction. The spacer could (subject to the provisions of BS 7973:2001 Parts 1 and 2) also be used with CPS or PESF providing sufficient numbers were used to provide the additional support required.

The development of a soft formwork spacer is another significant and innovative step forward to better and more-sustainable construction, and is particularly suited for use with expanded polystyrene insulating formwork such as Eco-slab where a 'U' value of 0.13 can be achieved. The spacer is made from at least 95% recycled plastic and is currently available from stock in 40 and 50 mm cover sizes. It is

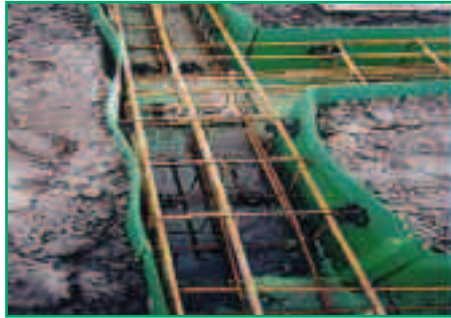


Figure 1 Lack of specified cover to reinforcement.

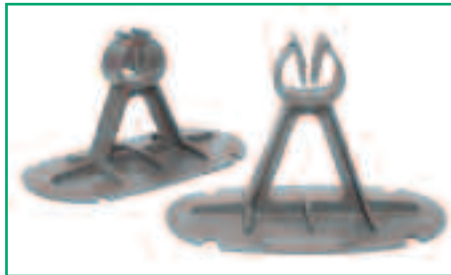


Figure 2 The new soft formwork spacer.

used with 10 and 12 mm size reinforcement which is the most common size for links. Where a damp proof membrane is used under the spacer the cover can be reduced and a 25 mm cover version is currently being developed.

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