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Sheffield Learning Resource Centre Library

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The new Resource Centre/Library for Sheffield University consists of four floors and plant room, totalling 5,990m² of floor space. The challenge was to source methods and materials to accommodate the budget and rigid time constraints while achieving the high level of finish required for this in-situ concrete building. To satisfy these requirements, Stephenson Holdings Ltd delivered a pioneering project, using the innovative Hanson Cobiax slab system.

The semi-precast system comprises two-way spherical hollow void formers made from recycled plastic within the depth of the slab that are factory fixed to a precast soffit. This results in concrete slabs that are 35% lighter than traditional in situ slabs by removing the non-working dead load whilst maintaining biaxial strength. The permanent formwork means that no finishing work is required so the need for labour is reduced. Construction time is reduced by up to 40% and the reduction in weight enables greater spans to be achieved.

The use of this system resulted in increased construction speed, reduced loads and less on-site labour.

The reduction in the volume of concrete contributes significantly to environmental benefits and a reduction of up to one third of embodied carbon dioxide (CO₂). This represents a key factor benefiting the construction industry's reputation where environmental issues are concerned.

The project won the Construct Award for Innovation and Best Practice in 2006.

Project team:

Architect: RMJM

Engineer: Whitbybird

Main contractor: HBG Construction

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▶ Beetham Tower

▶ Marine Crescent, Folkestone

▶ Slice House, Brazil

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