Case Study

Project
Usher Hall, Edinburgh

Main Contractor
Expanded Structures

Precaster
Border Concrete Products

Architect
LDN Architects

Engineer
Will Rudd Davidson

Product(s) supplied
TSS 101

About Invisible Connections

Invisible Connections is the registered trademark of SB Produksjon AS, Norwegian developer and manufacturer of the telescopic connectors range for nearly 30 years. In this time, hundreds of thousands of connectors have been used in construction projects around the world.

From a buildability perspective, our ETA approved products appeal typically to precast concrete manufacturers and in situ concrete frame contractors who appreciate the fuss free ease with which precast or in situ elements can be connected. Our products also provide design freedom for architects, who appreciate the aesthetic benefits of 'clean lines' wherever concrete elements are joined.

Invisible Connections Ltd
Unit 6, Thame Forty
Jane Morbey Road
Thame, Oxfordshire OX9 3RR
+44 (0)1844 266000
sales@invisibleconnections.co.uk
invisibleconnections.co.uk

Project description

The 100 year old Usher Hall was renovated and extended to provide improved visitor facilities, including a curved foyer and refreshment area on the side of the circular building.

Our role

The curved extension meant the supporting walls were also curved, resulting in some critical tolerances. The chosen solution was to use architectural precast beams, with precast roof planks and an in situ topping. The support of these beams had to satisfy an architectural requirement of 'no visible supports'. To achieve this, TSS 101 telescopic connectors were cast into the ends of the beams. The size of the TSS 101 connectors meant they could be fitted (on edge) within the slender precast elements (see photo below).

Outcome

No corbels or any other supports were needed, resulting in a roof structure which appears to be floating on air. The deployment of TSS connectors into receiving recesses in the walls allowed adequate tolerance for the curved layout. Given that TSS connectors are conventionally used for staircase construction, this was an early example of using telescopic connectors for unusual applications, to dramatic effect.

Application

Footnote

At the time of this project, Invisible Connections' products were supplied via J&P Building Systems Ltd. In 2014, Invisible Connections Ltd was formed to create specific focus on the telescopic connectors range.