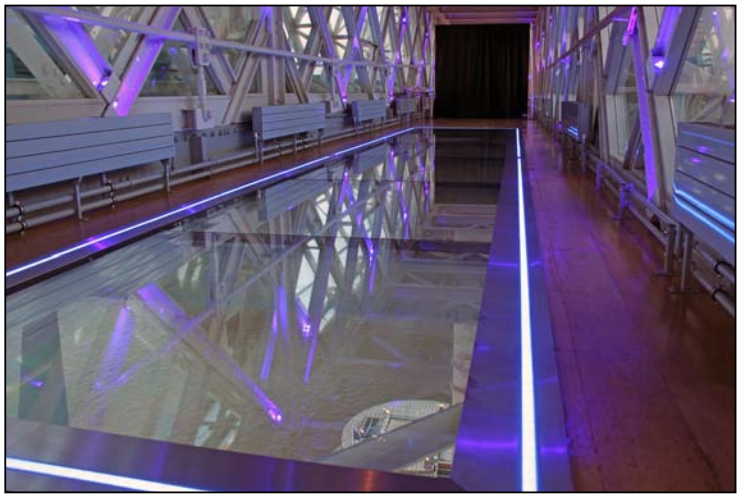
CASE STUDY

TOWER BRIDGE - LONDON
HIGH LEVEL GLASS WALKWAY INSTALLATION

EKSPAN
"Bridging the years, Supporting the future"



Job Brief

Supplied: Fabrication and installation of 2 no new glass floors on Tower Bridge's West and East High Level Walkways.

Project Team

Client: The City of London Corporation
Start Date: October 2014
Completion Date: December 2014

Background Information

Ekspan were selected as Principal Contractor by The City of London Corporation to fabricate and install two new glass floors on Tower Bridge's West and East Elevated Walkways.

The delivery of this £1 million funded project would provide visitors and tourists alike unique views of bridge lifts 42 metres above the River Thames and stunning day and night vistas of the Capital.

West Walkway underside - roadside view looking up at the fitted glass panels

Ekspan's Workscope

Works commenced with an initial survey and assessment of the current walkway floors to finalise the design and manufacture of the steel supporting structural frames to hold the glass panels. An underslung gantry was then installed to act as a working platform to undertake the works from. The existing oak flooring and substructure local to the final glass panel positions were carefully removed in various stages - starting with removal of 20mm thick oak boards, 18mm plywood boards, 45mm thick PIR insulation boards and rubber matting. The screed layers, after marking the frame locations, were broken and removed to reveal the original steel flooring. The steel flooring was marked to size for cutting and removing in sections before new steel framework and glass panels could be installed.The original surrounding oak flooring was then reinstated to complete the installation.

Each walkway is fitted with 6 reinforced glass panels (each weighing 530kg) supported within a fabricated carbon steel frame weighing approximately 1000kg.
The glass panels combined measure a length of 11m by 1.8m width per walkway.

Cutting the existing steel floor

Tower Bridge is a Grade 1 listed heritage site, this combined with working on a tidal waterway above the Thames in the very heart of London's thriving hub, meant this project was faced with numerous challenges, making planning logistics for deliveries and all work processes deadline critical for both engineers and sub-contractors. Transportation of site materials, equipment and glass panels, and all work shifts/ operations were planned to accommodate the movement of working and residential public, road access constraints, pre-booked events and noise pollution. Ekspan ensured the walkways original steel lattice structure had been preserved and was visible through the glass flooring. The existing structural t-section cross bearers remained in place as planned and the new framework connected directly to the existing primary steel work.

This modern feature gives Tower Bridge it's most significant change since its opening in 1894.

Steel floor section lifted after cutting