

SDG

STRONGER
TOGETHER

HUB BY PREMIER INN OLD MARYLEBONE ROAD, LONDON

MAIN CONTRACTOR

Gilbert-Ash

STRUCTURAL ENGINEER

Simpson Associates

ARCHITECT

Sheppard Robson

DATE

January 2021

PROJECT SUMMARY

SDG was proud to supply Creagh Concrete with movement solutions for the new Hub by Premier Inn Hotel, in London. Main contractor Gilbert-Ash constructed the new 294-bedroom hotel, adding to the now 14-strong portfolio of hotels under the Premier Inn brand in London. The project encompassed turning an existing office and residential block into a smart modern hotel, occupying 13 floors with a total of 294 bedrooms. Formerly known as West-court House, the new Marylebone Road hotel is expected to have 100,000 guests stay annually, furthering London's hotel capacity greatly.

THE CHALLENGE

With the increased use of off-site methods, interface challenges grow as we encounter more and more connections between all types of modern construction materials. This particular construction featured an in-situ concrete frame, with a precast external structural façade. The precast façade elements would be fixed to the concrete frame, providing an above-standard architectural finish with integrated brick. As with most precast elements, connections to in-situ concrete can present a challenge due to uneven surfaces. Factory-made precast concrete can achieve a precise surface flatness due to a high-quality mould, but in-situ concrete cannot offer the same hence the interface between the two materials can be a challenge.

OUR SOLUTION

The key to sound connections between precast and existing in-situ concrete is to utilise a deformation bearing to absorb surface unevenness and distribute the load evenly between both elements.

With the assistance of Calenberg Germany, we proposed the use of their Bi-Trapeze elastomeric bearing for use with the precast elements. The elastic effect of the Bi-Trapeze bearing works to transfer force centrally in structural connections while also compensating for deviations in the contact surfaces. Through elastic deformation, Bi-Trapeze bearings easily accommodate surface defects such as unevenness.

THE RESULTS

SDG liaised closely with both site and Calenberg Germany to ensure continuity of supply was seamless. Over 10,000 meters of Calenberg Bi-Trapeze elastomeric bearings were supplied over the entire project duration.

As of November 2022, the bearings are working to support the precast façade, offering the following benefits:

- Maintenance free.
- Permanently elastic product, offering a lifelong response to lifetime structural movements.
- Sound dampening benefits through the reduction of hard structural joints.
- Greatly reduces the risk of fissures and wear on concrete surfaces.

