

# 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.

