



Trelleborg’s marine and infrastructure operation has successfully supplied its range of noise and vibration isolation bearings, for the construction of Park House – a high-end development of retail, commercial and private residential space occupying an entire city block on Oxford Street, London.

Appointed by leading international consultancy and construction group, Mace, Trelleborg worked closely alongside acoustic consultants, Hann Tucker Associates and structural engineers, Adams Kara Taylor to formulate a strategy to prevent noise and vibration from the adjacent Central underground rail line passing through to key spaces within the building. Trelleborg designed and supplied several thousand specially engineered rubber/steel laminated vibration isolation bearings. These bearings are located throughout the building across five levels; two floors below ground to two floors above.

PAUL FAIRHURST, PROJECT MANAGER AT MACE, SAID:

“The nature of this multi-purpose building meant that its needs varied throughout the structure; the third floor – housing premium rate, luxury accommodation – required the highest level of noise and vibration isolation.

“We were impressed with Trelleborg’s proposal to meet these needs with tailored-made bearings.

The company showed a real understanding of the impact that ground vibrations can have on a building, which was proven by their detailed calculations and suggested strategy. Very, very few companies in the world can fulfil this type of requirement.”

The majority of the building’s 100,000 Tonnes weight is supported on bearings situated at the foundation level beneath the two steel-reinforced concrete cores and at the second floor within the 44 main steel columns directly beneath the luxury apartments and offices.

About 50 concrete and steel beams installed at three levels required special isolation bearings, capable of withstanding compression and tension forces in all three orthogonal directions to prevent vibration transfer across the isolated structural connection passing through to the base-isolated concrete cores. There are several hundred smaller bearings, 110 mm diameter, installed at the first floor level to isolate the exterior triple glazed cladding panels, which are suspended from a steel ring-beam at the level above.



ASHLEY HAINES, DESIGN MANAGER AT TRELLEBORG, SAID:

“The Park House project was by far the most challenging vibration isolation project I’ve worked on. From a practical stand-point it was imperative that each bearing was placed in exactly the right location. We individually marked up each one with its specific location identifier, for plan and level, so that the installers were unable to make a mistake on such a complex and busy building site.”

Trelleborg has more than 60 years of experience in the field of structural bearings. To find out more about these products, please visit the Trelleborg website.



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