

Regufoam floating floor system

Client Linden Homes
Acoustic Consultants Alan Saunders Associates

In brief

Granville Gardens is a contemporary residential development of 51 spacious units situated in Ealing developed by Linden Homes. As the residential apartments were being constructed directly above a new bar/restaurant, they had to be treated with a very low frequency solution to ensure the building was fit for purpose and prevent vibrations from travelling through the structure and emanating as nuisance noise. As a result, acoustic consultants, Alan Saunders Associates, specified a floating floor to attenuate frequencies of 25Hz with 95% isolation efficiency. This high performance specification was necessary to control the vibrations that would be generated once the bar was occupied.

Project scope

Seeking a system that would also prove cost effective, Linden Homes consulted the technical team at CMS Vibrations, who were able to design and manufacture a bespoke Regufoam floating floor system. Drawing on experience in the field and an unrivalled product range, CMS Vibrations designed special Regufoam 400 isolators to be used in conjunction with a standard concrete floating floor system in the CMS range.

Regufoam 400 is a high quality Polyurethane (PUR) foam that is capable of achieving low natural frequencies, in this instance below 7Hz. Completely recyclable, Regufoam 400 offers low compression ratio combined with excellent resilience. With a maximum static load bearing capacity of 0.1Nmm² and guaranteed performance over time, Regufoam 400 satisfied the specification criteria with ease.

Covering a total area of 487m², the system was constructed by first laying the Regufoam 400 isolators in fibreglass matting at 600mm centres and flanking the area with Perimeter Isolation Board (PIB). A plywood pouring form was created and a damp proof membrane used to cover the area before the concrete slab was cast on top.



A bespoke Regufoam floating floor system was designed and manufactured for Linden Homes to control vibration in a new mixed use development.



Results

Installed by CMS Vibrations, the team had to contend with several challenges, including a particularly intricate floor layout and the accommodation of services in the floor structure that required additional isolation countermeasures. In spite of these challenges and the bespoke design, CMS Vibrations was able to meet the strict site programme as the isolators were manufactured on-site at CMS Vibrations' own facilities.

Achieving low natural frequencies below 7Hz, Regufoam 400 prevented vibrations from travelling through the structure minimising any resulting nuisance noise.

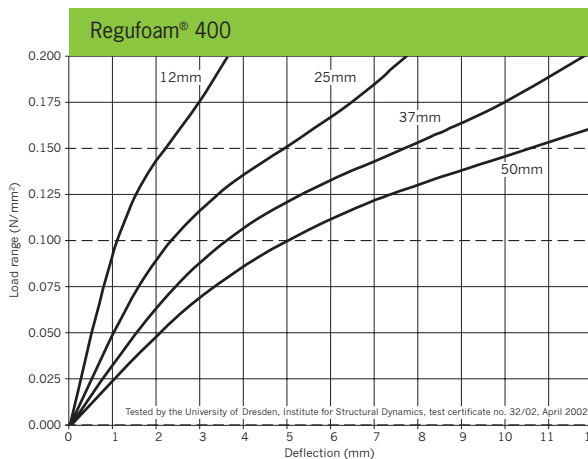
Richard Weaver, technical manager, Linden Homes, comments: "The acoustic performance of the floating floor was one of the most stringent I have ever come across, which is to be expected given we were constructing apartments directly above what will be a busy bar. We were extremely impressed with the technical expertise of CMS Vibrations, particularly as they were able to deliver a high performing system that also proved to be cost effective."

Benefits

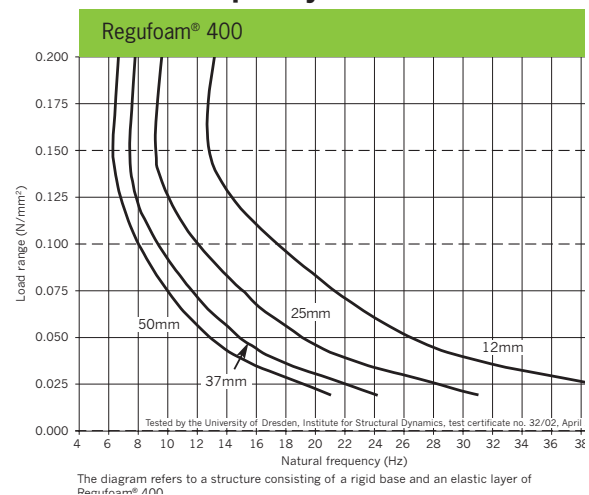
- Excellent acoustic properties
- Precision installation
- Tailored to meet exact acoustic consultant specification
- Market-leading performance
- Proven effective for vibration isolation
- Expert support available



Load Deflection



Natural Frequency



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