

Earthquake Levelling Foot

Levelling Foot Designed for Seismic Environments

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Design Brief

A major semi-conductor equipment manufacturer was looking for a cost effective method of supporting their equipment in earthquake risk areas of the world.

The application required that the equipment be bolted to the floor with minimum ground clearance to maintain the working bench height of the equipment, whilst ensuring the mounting arrangement would be capable of withstanding the extreme forces of seismic activity.

In addition to this the weight of the equipment had to be spread evenly over the floor on a surface which could not be guaranteed to be flat.



Solution

The solution was to design a low profile bolt down levelling foot which could withstand high impact forces in both tension and compression with an articulating stud to compensate for potentially uneven surfaces.

The levelling foot was designed with a wide base to spread the load evenly over the floor area and large bolt down holes were provided in the base to enable installation engineers to drill and fit anchor bolts through the levelling feet in situ, thus reducing installation costs of having to accurately drill and fix anchor bolts prior to installation.

To withstand the seismic forces caused by earthquake tremors it was necessary to ensure that the Levelling Foot stud would not dislodge from its base.

A special screw retained stud was designed securing the stud to the base whilst still enabling it to articulate, the assembly was now capable of withstanding 6800N force and yet still self level to an angle of 7%

The total solution approach gave the customer a very flexible effective design which helps reduced manufacturing and installation costs whilst improving the specification of their equipment.