

Trelleborg Offshore Products

Shockpads and Bearings

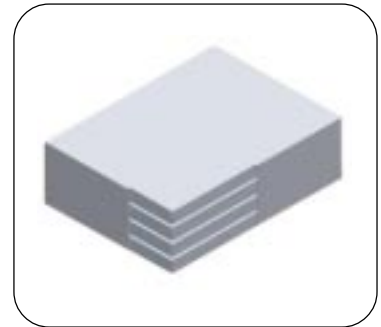


Resilient Bearings and Shockpads

Rubber is an ideal maintenance free material for offshore applications where energy absorption and vibration reduction combined with movement tolerance is required.

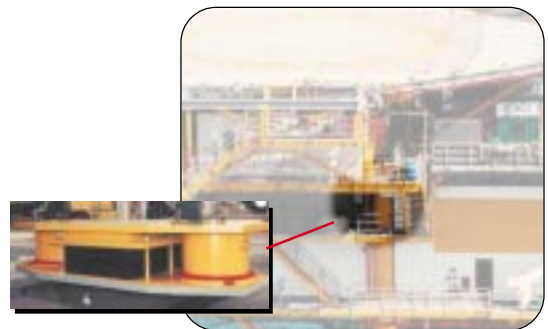
Elastomeric Bearings

Steel plate laminated rubber bearings. They are used to accommodate, axial, shear and rotational movement.



Anti Vibration Mountings

Rubber elements with an optimised stiffness in order to achieve the desired natural frequency of the supported system. These elements are capable of transferring all the system loads together with providing substantial vibration isolation for the supported structure.



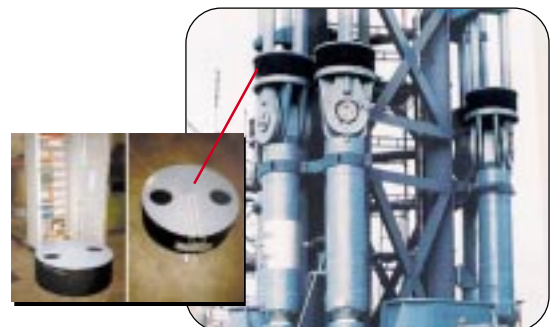
Shockpads

Shockpads are steel-rubber laminated products which are similar in design to elastomeric bearings but optimised for the use as shock absorbers in the lifting system of a self-elevating platform.



Shockpads with Load Measuring

The Shockpads as mentioned above may be fitted with load measuring devices to enable monitoring of loads during the elevation processes.



Special Bearings

Special application bearings are designed and produced based on customer's specifications.

For example: The pictured Pretensioned Bearings for MSC Mopustor used to stabilize rig leg movement in storm conditions. These bearings were pretensioned to a load of 440 kN, maximum load is 660 kN.



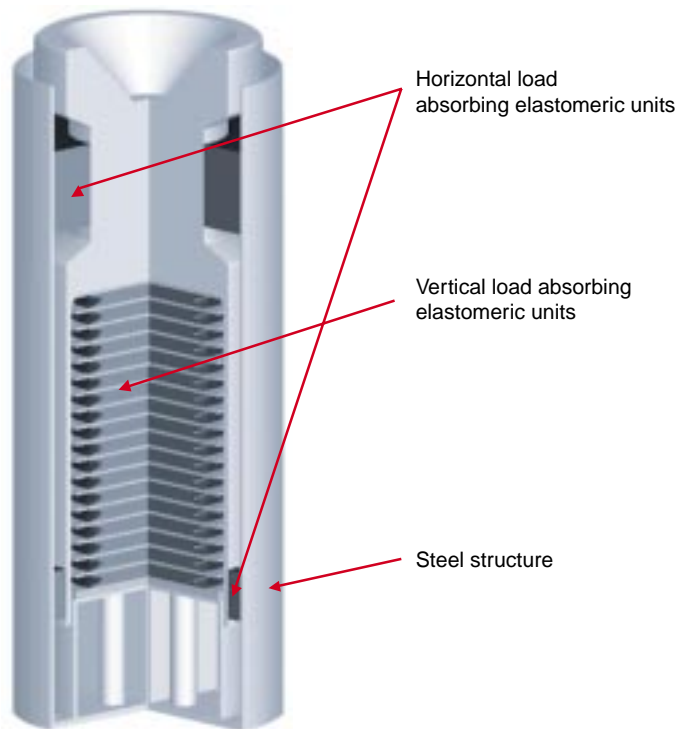
Leg Mating Units

Leg Mating Units (LMU's) are used in the float-over process. In this process a topside structure is installed onto an in-situ base structure (e.g. jacket). The topside structure is transported to the site on a barge. After the barge is positioned such that the topside structure is aligned with the in-situ base structure, the barge is slowly submerged.

During this process, the loads need to be transferred from the barge to the in-situ base structure in a controlled manner. This is achieved by using Leg Mating Units. LMU's consist of a steel structure incorporating rubber elements to achieve a specified spring rate. The specified spring rate depends on the expected loads and movements.

Initially, the topside structure sits on barge mounted LMU's. During submerging the loads are then slowly transferred from the barge mounted LMU's to the LMU's on the in-situ base structure. Any wave movement is then absorbed in the rubber elements in the LMU's.

After the installation is completed the topside structure is fixed (e.g. by welding) to the in-situ base structure.



Module Support Bearings for FPSO

Wave action results in multidirectional loads between the hull and the topside modules. These bearings must be able to resist:

- Alternating movement in all three dimensions.
- Large rotational movements in line with FPSO's longitudinal axis.

