Measurement Report: Elastic Base Feet for Electrical Appliances

WMUF.AT

Successful isolation of unwanted noise and troublesome vibrations

Description of the project

High-quality, high-performance blenders are essential for the preparation of sparkling cocktails, mixed beverages and smoothies. However, unwanted vibration of the device is also associated with the high performance and speeds, which can spread from the base feet to the entire counter or worksurface. These vibrations are then accompanied by disruptive noises.

Getzner Werkstoffe has developed a solution for this problem: **elastic base feet made from Sylodyn®**, which protect the worksurface from vibrations and impacts. The two-part combination of the innovative Getzner base feet ensures both efficient vibration isolation and stability of the device. The original, hard base feet on the blender were easily replaced with new Getzner base feet.

Blender causes vibrations

Original base foot

Innovative base foot from Getzner

Advantages:

- High cost-benefit effect
- Maintenance-free
- Consistent material properties
- Reduction of vibrations

Comparative measurement process

In order to verify the effectiveness of the Getzner base feet, the following measurement was taken with both the original feet and the new Getzner base feet. Once the blender attachment had been filled with fruit and vegetable pieces, the measurement process was started and the blender was then operated at a constant rotational speed. After roughly 20 seconds, the ingredients had been blended into a fine pulp and the measurement was completed. Measurements were taken at four different measurement points (MP) in total (see experimental set-up), and the acceleration was measured at each point.

Experimental set-up: arrangement of the measurement points (MP) with acceleration sensors

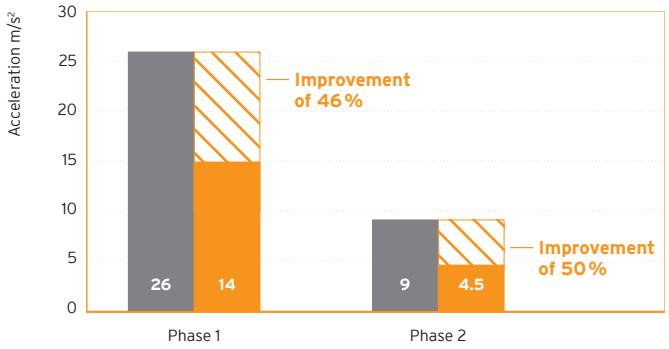
Measurement results for vibration reduction

Two operating states were examined during the respective measurements:

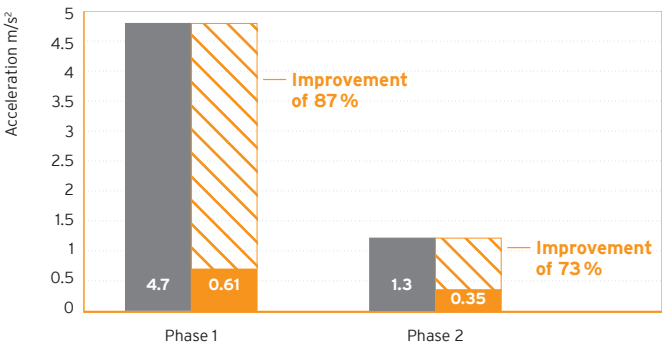
- **Phase 1:** Immediately after starting the blender – when the fruit and vegetable pieces are being chopped into smaller pieces (approx. 5 seconds). Comparatively high accelerations occur, which is why the maximum acceleration was considered in the results.
- **Phase 2:** Once the ingredients had been blended into a pulp, the acceleration was reduced and remained at a more or less constant level. The average acceleration was used for the results.

On average, the Getzner Sylodyn® base feet reduced acceleration and thus vibrations by 70 % in phase 1 and 57 % in phase 2.

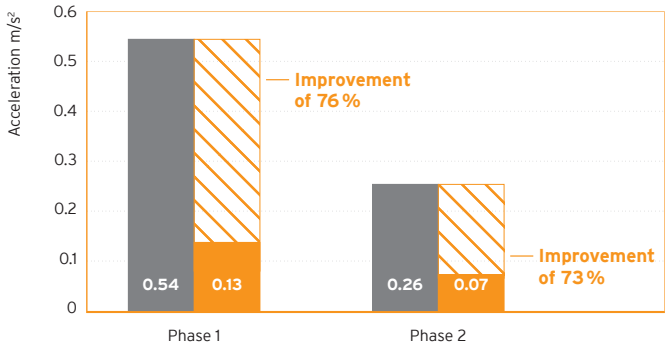
Measurement point 1: on the device



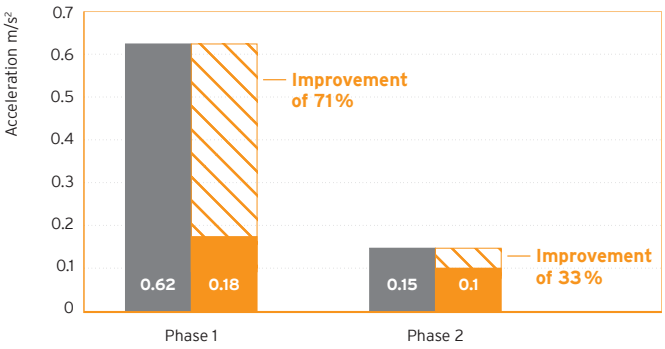
Measurement point 2: near the device



Measurement point 3: at a distance from the device



Measurement point 4: glass shelf



Original base foot
Innovative base foot from Getzner

Detailed measurement report available on request