

# MAURER

# Vibration Isolation

State of the art of sustainable solutions



ELI-NP, Bucharest, Romania; information property of IFIN-HH/ELI-NP

# Experience in Innovation

The MAURER Group is a leading specialist in mechanical engineering and steel construction and has been family-owned since it was formed back in 1876. The MAURER Group is currently one of the global technological leaders in steel and plant construction in various specialist fields. We offer products, solutions and services which are particularly notable for their quality, durability and reliability.



MAURER headquarters, Munich / Germany

## Five areas of application for a customized Structural Protection System

Traffic, wind, seismic induced movements of buildings, bridges and complex structures can be controlled through selective use of expansion joints, structural bearings, tuned mass dampers, seismic devices and vibration isolation systems to protect the structures from damage.

We also offer the following services:

### >> SUPERVISION & TRAINING

- Inspection
- Maintenance
- Refurbishments
- Training courses

### >> STATIC & DYNAMIC ANALYSIS

- FE analysis
- Component testing
- Design planning
- Monitoring



STRUCTURAL BEARINGS



EXPANSION JOINTS



TUNED MASS DAMPERS



SEISMIC DEVICES



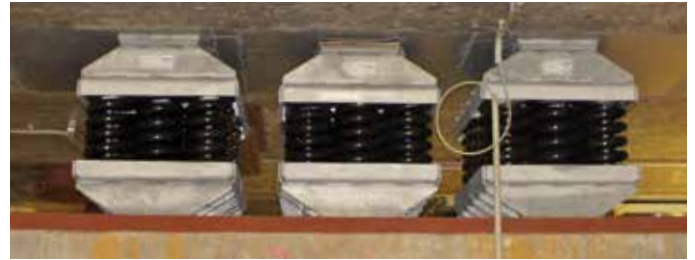
VIBRATION ISOLATION

# MAURER Vibration Isolation

## >> MAURER Structural Isolation

### >> TASK

Residential and commercial buildings close to railroad tracks, heavily traveled transportation routes and industrial areas are exposed to vibrations and structure-borne noise. In order to maximize functionality and life quality such disturbances on the structure have to be minimized.

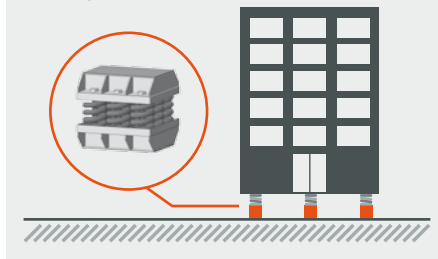


MAURER Spring Boxes

### >> MAURER SOLUTIONS

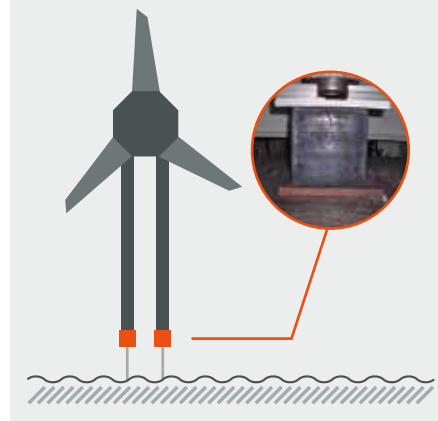
Isolation from microseismic vibrations in vertical and horizontal direction through:

- **Spring boxes with/without dampers for isolation systems with tuning frequencies from 2.5 Hz** (typical tuning frequencies from 2.5 Hz to 9 Hz)



Smallest vibrations in the micrometer range of the building surroundings are efficiently isolated, thus enabling top-quality manufacturing and measurement.

- **Elastomeric bearings for isolation systems with tuning frequencies from 7 Hz** (typical tuning frequencies from 7 to 20 Hz)



In this way, stress peaks in the load-bearing structure of wind power plants are efficiently reduced.

### >> AREAS OF APPLICATION

- Buildings with highly sensitive measuring systems, e.g. optoelectronic microscopes, equipment for chip manufacturing in semiconductor technology, and laser-based measuring devices.
- Strong horizontal vibrations caused by earthquakes are minimized through a suitable additional horizontal seismic isolation.



Building isolation

## >> MAURER Machine Isolation

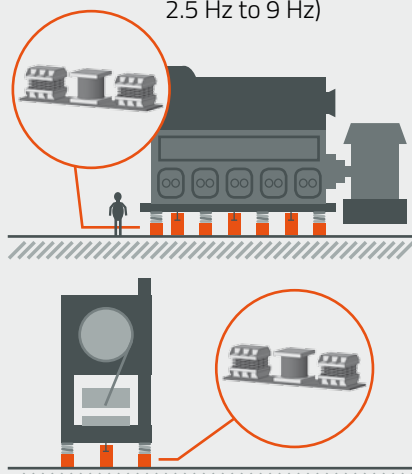
### >> TASK

Machines and vehicles may cause disturbing impacts into the environment that should be kept as low as possible.

### >> MAURER SOLUTIONS

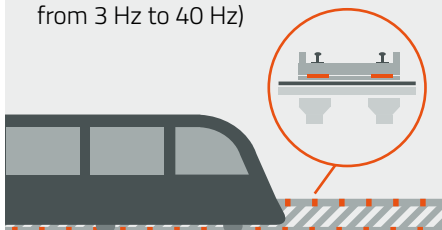
The MAURER vibration isolation of machines minimizes the transmission of vibrations and structure-borne noise into the environment:

- **Spring boxes in combination with dampers for isolation systems with tuning frequencies from 2.5 Hz** (typical tuning frequencies from 2.5 Hz to 9 Hz)

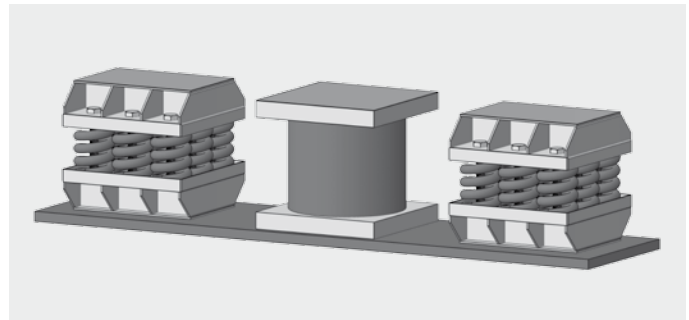


Vibrations caused by diesel generators and presses are efficiently isolated

- **Elastomeric pads for isolation systems with tuning frequencies from 3 Hz** (typical tuning frequencies from 3 Hz to 40 Hz)



Vibrations caused by rail transportation are efficiently isolated



Spring boxes in combination with damper

### >> AREAS OF APPLICATION

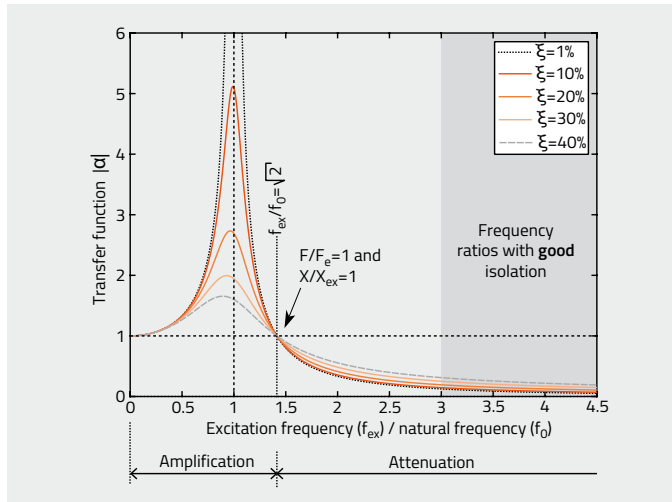
- Machines in power plant technology such as turbines, coal mills, crushers, gas or diesel generators
- Metal forming machines such as forge hammers or presses
- Industrial machinery such as industrial crushers, cement mills, printing machines, textile machines or centrifuges
- Routing of railroad tracks
- MAURER has obtained approvals for machinery platforms in nuclear power plants

- **Elastomeric bearings for isolation systems with tuning frequencies from 7 Hz** (typical tuning frequencies from 7 Hz to 20 Hz)



MAURER Elastomeric Bearings for tuning frequencies from 7 Hz

# MAURER Services



## >> DESIGN PLANNING AND SOLUTION FINDING

The exceptional strength of our team is its comprehensive technical expertise and its extensive experience. Our engineers have developed solutions for projects exposed to extreme conditions and with extraordinary requirements in regions all over the world.

## >> TEST

On request, our specialists check stiffness and damping under static and dynamic loads, linear-elastic behavior and stability behavior under horizontal displacement in cooperation with recognized testing institutes and universities.



Test of a spring box



## >> QUALITY MANAGEMENT

Superior quality, reliability and safety of our products and services are the cornerstones of our success. For MAURER, customer satisfaction ranks first and each and every employee lives up to this corporate philosophy. MAURER has been certified according to the international ISO 9001:2008 standard that forms the basis for our quality management system.

## >> ASSEMBLY

Our specialists support you in every project phase with consulting and constructional services. We integrate our systems in your building project professionally and on time.



Assembly device for spring boxes



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German Engineering since 1876

