Vibration Mitigation Solutions for Power Generation with Sylomer® and Sylodyn®

For more than 40 years Getzner offers solutions for vibration isolation for power, iron & steel, mineral processing and cement industry.
Getzner Werkstoffe provides elastic solutions for the following industrial equipment

- Turbines:
  - gas turbines, turbines for combined cycle power plants, hydro power turbines
- Mills and crushers:
  - PCI mills, ball mills, vertical roller mills (VRM), hammer mills, ring granulators
- Fans and blowers
- Boiler feed pumps
- Compressors
- Chillers & AHUs

Services provided by Getzner Werkstoffe

- Development of customer-specific vibration isolation solutions:
  - development of complete isolation systems
  - selection of appropriate Sylomer®/Sylodyn® material
  - design of superstructures (concrete foundation decks) in cooperation with external engineering consultants
- Supply of materials
- Installation supervision

Production and engineering are both located in Bürs/Austria.

Table foundation bearing

Example of elevated foundation using Table Foundation Bearing (TFB)

TFB is a specially designed solution for isolation of elevated foundations. These bearing are capable of sustaining high dynamic loads and the horizontal loads like seismic/wind loads. TFBs unique design facilitates leveling of the foundation. A brochure giving the details of TFBs is available on request.
Sylomer® and Sylodyn® solutions – High efficiency in vibration isolation combined with low implementation costs

**Easy and fast installation**
- No special equipment or staff training required
- Damping properties already included in Sylomer®/Sylodyn® – therefore no need for additional dampers like visco dampers
- Concrete can be directly poured on Sylomer®/Sylodyn® isolation layer

**Adaption to various constructions methods**
- Isolation layer can be provided in 3 configurations depending on the construction method
  - Full surface bearing
  - Strip bearing
  - Point bearing
- System can be designed for in-situ concrete construction and for construction with pre-fabricated elements

**No requirements for special foundation design**
- No maintenance for the elastic layer needed
- Simple and cost-effective slab design
- Significant cost reductions especially for deep seated foundations

**Deep seated block foundations**

*Deep-seated foundation with full surface bearing*

*Elevated foundation with Table foundation bearing (TFB)*

*Elevated foundation with strip bearing*
Vibration mitigation solutions by Getzner are made out of microcellular polyurethanes. Both Sylomer® and Sylodyn® materials are designed to achieve maximum isolation values at moderate implementation costs.

### Sylomer® - Excellent elasticity and durability

**Material characteristics**
- Mixed cell construction
- Static range of use 0.011 N/mm² to 1.2 N/mm²
- Load peaks to 6.0 N/mm²
- Insignificant amplitude dependence
- Proven long-term performance
- Fatigue strength
- Optimized range of products (10 standard types) to cover the needs of calculations for systems
- Customer-specific adjustments are possible

### Sylodyn® - Outstanding dynamic load bearing capacity

**Material characteristics**
- Closed cell construction
- Permanent static load for standard product types from 0.075 N/mm² to 1.5 N/mm², special types to 2.5 N/mm² (N80 - 1030, for specific projects)
- Load peaks to 8 N/mm²
- Insignificant amplitude dependence
- Minimal tendency to creep
- Stiffening factor from $C_{\text{stat}}/C_{\text{dyn}}$ 1.15-1.40
- Proven long-term performance
- Fatigue strength
- Optimized range of products (5 standard types) to cover the needs of calculations for systems
- Customer-specific adjustments are possible

References
- Ccpp Deir Ali, Syria, gas- and steam turbine foundations
- Ccpp Melach, Austria, boiler feed pump foundation
- Hydro power plant, Kempen, Germany, turbine set
- Ccpp Ciclo del Norte, Mexico, gas turbine foundation
- Ccpp Karstrø, Norway, gas turbine foundation
- Essar Power, Salaya and Mahan TPP, India, boiler feed pump and seal air fan foundations
- GMR Energy, Raipur TPP, India, boiler feed pumps and Primary Air (PA) and Forced Draft (FD) fan foundations
- Costal Energen, Tuticorin TPP, India, boiler feed pumps

![Image of vibration mitigation materials](image-url)