

# Case Study

## Luxury Condominium Building

### The Touraine, Manhattan NYC (US)



» The first application of full surface resilient Sylodyn® building bedding in the US

» Luxury residential living standards despite proximity to subway

» Cost-effective solution resulting from seamless integration into construction process



# Resilient Bedding of Buildings

## Project description

### Luxury condominium building The Touraine on the Upper East Side of Manhattan.

**T**he Touraine is a fifteen-story luxury condominium building containing 22 exclusive residences in the historic Upper East Side Manhattan neighborhood of New York City. The challenge with this project consisted of implementing appropriate measures to protect the residences from subway generated vibration and associated ground-borne noise. The development site is immediately adjacent to the Lexington Avenue subway lines 4, 5 and 6; on a typical weekday more than 1000 trains run along this stretch of track.

The Lexington Avenue subway line's rail traffic creates vibrations that have a negative impact on the living standards in the luxury condominiums.

*“Getzner was the only company to come up with a feasible and cost-effective solution that fit well into the construction process”,*

explained Benjamin Sachwald, Director of Acoustics, Noise and Vibration at AKRF, the project acoustical consultant.

## Getzner solution

### Full surface bedding for buildings.

**P**rior to starting construction, acoustical consultant AKRF carried out a detailed evaluation of the vibration situation at the site. The readings revealed that the vibration and associated ground-borne noise levels caused by subway train pass-by events were above design guidelines for luxury residential buildings.

Using Sylodyn® material from Getzner, the construction project managers subsequently developed an innovative and comprehensive bedding for the condominium building which offered protection from vibrations.

Specifically, elastic foundation and wall supports made from the high-tech polyurethane were used to good effect under the foundation of the condominium building and on the surfaces of the foundation walls.

*The Touraine was not just the first building in New York City to be given a full surface bedding based on Sylodyn®; to date it is also the largest completely decoupled building in the USA.*

“Getzner can provide hundreds of references relating to the effective use of their vibration isolation

materials. It wasn't just this that impressed the customer. The in-depth consultancy carried out in advance and the fact that Getzner was able to propose a solution tailored to the specific requirements of the construction project both contributed to its successful conclusion”, stressed Andreas Stofleth, the Getzner Project Manager.

### Design

The vibration isolation was installed between June and September of 2011. Key factors in the decision to award the contract to Getzner were the defined elasticity of the material, its durability – which was verified by an independent laboratory – and its proven isolation properties under ground water conditions. The closed cellular structure of Getzner materials makes them highly compressible. The resulting elasticity means the material requires no profiling or cavities and is not, as often incorrectly claimed, produced by air bubbles that could deflate over time.

*The closed cellular structure of Sylodyn® material is therefore the perfect choice for full surface installation in pressurised groundwater.*



Getzner facilitated a smooth integration into the construction process.

## Feedback

Handling of the material is also refreshingly different: its installation was integrated into the construction process without disrupting the work in any way. No cutting to size or cavities were required for the resilient bedding. The Getzner project team managed the project and the excellent cooperation between it and the construction team enabled the site work to be carried out quickly and efficiently.

Getzner is not just a developer and manufacturer of specialty vibration reducing materials; in this instance, the company developed a custom-built solution for the luxury condominium building and was involved in the project from the planning stage through to its implementation and supervision.

### Overall coordination

In addition to their planning and supervisory activities, the vibration specialists coordinated all the necessary steps during and after the installation. "Normally, individual components are specified separately. On this project, Getzner took on an important role as a central point of contact that managed and coordinated all the processes relating to vibration/ground-borne noise protection," commented Benjamin Sachwald of AKRF, before adding: "We are very impressed by the innovative solutions developed by Getzner and look forward to working with them again on future projects."

### What did Benjamin Sachwald of acoustical consultants AKRF say about the project?

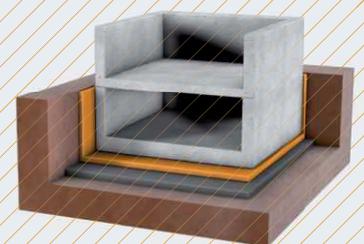
"This unique Getzner solution is ideal for many building projects in the vicinity of the busy rail lines that are found all over New York City. When this solution is implemented, as it has been here, the completely isolated 'floating' building is decoupled from the vibrating subsoil and the effect of vibrations entering the structure is reduced considerably. Getzner came up with a project-specific solution that not only met all the acoustical criteria but also took into account the various requirements of the construction company, the architect, the structural engineer and the site manager."

Benjamin Sachwald,  
Director of Acoustics,  
Noise and Vibration, AKRF

### What did Joseph Clark from general contractor Falcon Construction say about the project?

"The material provided met the project requirements in every way and the Getzner specialists were able to install it quickly and easily. It's just amazing: no vibrations at all can be felt inside the building."

Joseph Clark,  
Senior Project Manager,  
General contractor,  
Falcon Construction LLC



Principle of a full surface resilient bedding

## Facts and figures at a glance

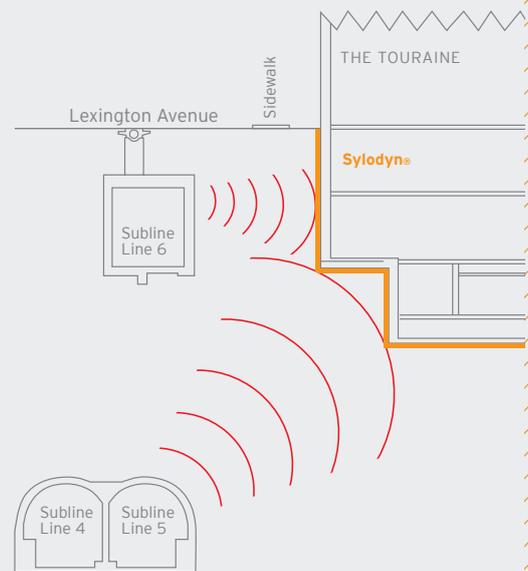
### Resilient bedding for the The Touraine condominium building in New York City

Building:	15-story luxury condominium building with 22 residences
Location:	Lexington Avenue and East 65 <sup>th</sup> Street, New York City
Vibration isolation:	Getzner Werkstoffe GmbH
Solution:	Full surface bedding of building using Sylodyn®
Implementation Getzner:	June to September 2011
Customer and investor:	Toll Brothers City Living
Execution building bedding:	General contractor Falcon Construction LLC
Acoustical consultant:	AKRF, Inc.

### Getzner Werkstoffe GmbH

Foundation:	1969 (as a subsidiary of Getzner, Mutter & Cie)
Chief Executive Officer:	Ing. Jürgen Rainalter
Employees:	420
2017 turnover:	EUR 95.2 million
Business areas:	Railway, construction, industry
Headquarter:	Bürs (AT)
Locations:	Berlin (DE), Munich (DE), Stuttgart (DE), Lyon (FR), Amman (JO), Tokyo (JP), Pune (IN), Beijing (CN), Kunshan (CN), Charlotte (US)
Ratio of exports:	94 %

Busy subway lines vibration is effectively blocked by Getzner Sylodyn®.



### Construction references (extract)

- The Rushmore Building, New York (US)
- Luxury apartment block "Four Suns", Moscow (RU)
- Central & Park Panorama Towers in Arnulfpark, Munich (DE)
- New residential complex (5-story multi-family buildings), Munich (DE)
- Drachen-Center, Basel (CH)
- National Training Centre, Tokyo (JP)
- Hotel am Potsdamer Platz, Berlin (DE)
- Music Hall, Helsinki (FI)
- Oslo Opera, Oslo (NO)
- BMW-Welt, Munich (DE)
- And many more