



CASE STUDY

# **PROJECT BG21 NURSING SCHOOL BY SCHEUMAR BAUMANUFAKTUR**

Nideggen  
Germany

**KNAUF**

*Build on us.*

*The transformation of a former nursing school in Nideggen into a residential building has been recognised with the German Design Award special mentions for Excellent Architecture and Interior Architecture.*



## Enhancing Living Comfort

The original building in Nideggen, North Rhine-Westphalia, from which gave rise to the BG21 project, was initially constructed during the Cold War as an air-raid shelter, cleverly disguised as a nursing school, in the heart of the Eifel nature reserve. Over time, it fell into disuse and decay. The architectural challenge was to transform this abandoned structure—locally known as a "Lost Place"—into a comfortable home. Yvonne and Wiorel Scheumar aimed to retain as much of the existing structure as possible while incorporating elements such as usability, modernity, and functionality. Remarkably, the construction project was completed in just five months. The result is a house that serves as a blueprint for sustainable renovation and meets the German Efficiency House standard.

- **Owner** Scheumar Baumanufaktur GmbH & Co. KG
- **Architect** Scheumar Baumanufaktur GmbH & Co. KG
- **Year of Completion** 2023
- **Photographer** © Kami Studio – Fita Hausdorf



## The Harmony of Aesthetics and Acoustics

At the outset of planning, the homeowners considered questions such as: what does a family of six require? How many private spaces are needed? What proportion of space should be shared versus individual? And what roles do light, acoustics, and tactile elements play? The aim was to create an environment that appealed to all the senses: sight, smell, touch and hearing. Covering approximately 380m<sup>2</sup> of gross floor area across two storeys (with a living area of 300m<sup>2</sup>), a relaxed loft character was achieved through material choices and interior design. This approach preserved the building's original charm while delivering contemporary living comfort.

The physical and mental well-being of the residents, alongside environmental consciousness, were central to the project. Yvonne and Wiorel Scheumar opted for ecological building materials like clay plaster, untreated naturally fragrant Swiss pine wood, and shell limestone natural stone. These choices facilitated the creation of well-regulated, light-filled, and soundproofed spaces using modern construction techniques. A nature-inspired atmosphere and a seamless transition between indoors and outdoors are accentuated by a colour palette featuring brown, green, and grey tones, as well as large windows.

## In Conversation with Yvonne and Wiorel Scheumar

While acoustic ceiling and wall solutions are well-established in industrial buildings, offices, leisure or hospitality venues, and educational settings, their presence remain notably limited in private residences. Knauf Ceiling Solutions spoke with Yvonne and Wiorel Scheumar, the founding couple and managing directors of Scheumar Baumanufaktur, to discuss the significance of acoustic measures across a range of projects.

**Wood wool acoustic panels on ceilings are relatively uncommon in residential settings. What led you to utilise this material in BG21, your family home?**

Scheumar: Our decision to incorporate wood wool acoustic panels into our living space was primarily motivated by the need of sound absorption. In our lively household with four children, creating a comfortable acoustic environment is especially important. We also place a high value on aesthetics and harmonious design, and believe the panels enhance our interior both functionally and visually—we find the design superb! Furthermore, we appreciate their humidity-regulating properties, which contribute to a balanced indoor climate and improve well-being in our living areas.

**Is acoustic optimisation generally an important aspect of your projects, and what impact does this area have on living quality, in your experience?**

Scheumar: Acoustic optimisation is essential to us. In a family home with children, we can scarcely imagine living without these acoustic benefits. The sound absorption transforms our home into something akin to a small recording studio, allowing us to communicate comfortably and without disturbance. This enhanced living quality significantly contributes to our overall quality of life.

**Have you previously worked with Knauf Ceiling Solutions products?**

Scheumar: Yes, we've had positive experiences with Knauf Ceiling Solutions products, particularly in our project on Försterstraße in Cologne. There, we transformed a former gingerbread bakery into a stylish loft, which I personally occupied for several years. Wood wool acoustic panels were also used in this project, which ultimately earned us the distinction of the German Design Award Special 2017.



*“Design is a way of life.”*

This credo and guiding principle belong to Yvonne and Wiorel Scheumar, founders of the Scheumar Baumanufaktur, based in Cologne-Ehrenfeld. This principle was also implemented in their personal project: the transformation of a former nursing school into a private residence for the entrepreneurial couple. High-quality and sustainable materials were employed, including a HERADESIGN® acoustic ceiling.



**What criteria did you use when selecting the panels?**

Scheumar: The panel selection was primarily driven by design criteria. We aimed for a modern and aesthetically pleasing appearance that would seamlessly integrate into our living concept, while also delivering high performance. This combination was essential for us to satisfy both aesthetic and functional demands.

**Were acoustic calculations performed beforehand?**

Scheumar: No, we chose not to perform calculations, as we already possessed experience from our previous project on Försterstraße. Having lived there with three children, we were able to directly observe the acoustic properties of the wood wool panels.

**Are there any other acoustically effective measures in the house?**

Scheumar: Yes, we have implemented several additional acoustic measures throughout our home. These include numerous soft surfaces, such as clay plaster, the use of untreated wood, and a variety of plants—all of which complement the effects of the acoustic panels and contribute to enhanced room acoustics.

**Rather than creating a flat, smooth surface, the panels were laid in an offset pattern to achieve a dynamic design. Did this arrangement require a bespoke substructure, and how was it technically achieved?**

Scheumar: The dynamic offset of the panels was achieved solely through the use of varying panel thicknesses. The substructure was constructed from Multipor, which was reinforced and dowelled to ensure the desired stability and appearance.

**Are you pleased with the acoustic and visual outcomes?**

Scheumar: We are exceptionally satisfied with both the acoustic and visual results—a definite ten out of ten! The fusion of functionality and design has surpassed our expectations.

**How significant was the interaction of natural materials in this project?**

Scheumar: The interaction of materials based on natural substances was integral to our concept. We sought to establish a harmonious and healthy living environment. We consciously avoided sealants and paints, selecting exclusively for natural building materials. This decision was driven not only by design considerations, but also by health and indoor climate concerns. The utilisation of natural materials significantly contributes to a pleasant and wholesome indoor environment, validating our choice.

**Solution**

**HERADESIGN® Macro**

AK-01, Natural tone,  
600×600/1200mm, Various panel thicknesses (15, 25, 35mm)  
Custom Substructure System

**Quantity**

300m²



## Achieving Lively Aesthetic

Acoustic quality within the living spaces is secured by ceiling tiles crafted from magnesite-bonded wood wool panels, which demonstrably diminish noise levels and significantly enhance to the residents' well-being. HERADESIGN® panels from Knauf Ceiling Solutions were selected, featuring the natural colour and Macro surface. Formats of 600×600 mm and 1200×600mm were combined in three distinct thicknesses (15, 25, and 35mm). This combination of varied formats and thicknesses yielded a dynamic and visually engaging overall aesthetic, effectively showcasing the natural material.

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