

Holweide, Cologne, Germany

Regupol® and Regufoam® for bedding of buildings in a housing development

Holweide, the area of Cologne that lies on the right bank of the Rhine, is one of the favoured residential areas of the cathedral town's 'exurbs'. Based close to the city - in other words, only 10km north-east of the centre - the people of Holweide live away from the hustle and bustle of the big city; however, they can still reach the centre of Cologne in no time at all, thanks to the excellent transport connection. When a new residential area was built directly next to a railway line, special measures were taken regarding the structure of the buildings, due to the anticipated vibrations.

The 'Living in the Old Holweide Garden Centre' building project came to fruition on the site of a former garden centre. The plot of land, approximately 8000 m² in size, directly borders the course of two railway lines between Cologne City Centre and Cologne Dellbrück to the north. Seven of the 16 three-floor housing units are situated in a space that lies around 6m away from the track-bed of the city railway, with trains running every 10 minutes daily.

Because of the specific location of the buildings, the Höchberg engineering firm Wölfel and the BSW application engineers were involved in the planning phase at the behest of the planners. The reason for this was because it was necessary for the proposal to take shock disturbances and secondary airborne sound emissions caused by rail traffic into account. The survey carried out by Wölfel Beratende Ingenieure GmbH & Co. KG confirmed that this would be the case.

The step-by-step concept developed by BSW included a horizontal isolation of the building structure, in the level between the basement and the ground floor, with the vibration damping materials **Regupol® MF**, **Regupol® XHT** and **Regufoam® 510**. Factory-made insulation strips were deployed and laid on all basement walls in several layers, before the manufacture of the ferro-concrete basement ceiling. In order to prevent concrete slurries from seeping through during the pouring of the ceiling plate, the insulating boards were covered with 2mm thick commercial PE foil after being laid. This served to prevent an acoustic bridge from being created, and any associated structural-borne sounds from being transmitted. **Regupol® MF**, **Regupol® XHT** and **Regufoam® 510**, products which are usually manufactured in the form of rolls of material, are made up of rubber fibres, rubber granules (SBR, NBR) and polyurethane, or of mixed-cell PUR foam. They are suited for a load-bearing capacity of up to 1.5 N/mm² (**Regupol®**) and up to 0.2 N/mm² (**Regufoam®**).

Information at a glance

Objective: Building of a residential area, Holweide, Cologne
Vibration isolation planning: Wölfel Beratende Ingenieure GmbH & Co. KG, Höchberg

BSW products

Regupol® MF, **Regupol® XHT**, **Regufoam® 510**

