

# The “Macherei Berlin-Kreuzberg” is banking on a dry bolted connecting system for permanently joining prefabricated concrete elements

**BT innovation, with its clear focus on efficiency, sustainability and technological progress, helps to accelerate construction projects and take them to a new level. The company has shown how modern technology can effectively address the challenges of the construction industry through the development of products such as the BT-Spannschloss® and how innovative connecting systems can contribute to fast, safe construction progress.**

In Berlin, the new “Macherei Berlin-Kreuzberg” project is becoming tangible as a sustainable, green neighbourhood. This

development heralds a significant advance in the cityscape and lights the way for vibrant, sustainable urban renewal. Art-Invest Real Estate has shaped the vision of the “Macherei Berlin-Kreuzberg” by going beyond conventional construction projects and integrating renewable energy sources such as a carbon-neutral biogas cogeneration power unit and photovoltaics. The conscious integration of smart heating-cooling systems, sensor-based technologies and state-of-the-art facilities, such as the Cycle-In Bike Garage, shows their forward-looking focus on user friendliness and sustainability. The BT-Spannschloss fits seamlessly into this vision.



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*Installing a timber-concrete hybrid floor on a construction section in front of the original Post Office Bank Tower*



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*A timber-concrete hybrid floor being assembled*

The M50 tower rises in the heart of this up-and-coming urban neighbourhood. The revitalisation and transformation of the historic Berlin West Post Office Bank is a resource-friendly, core component of the quarter's redevelopment.

### Architecture in harmony with nature

Surrounding the M50 tower will be two new buildings, the M40, designed by Robertneun and KEC Architects, and the M60, designed by Sauerbruch and Hutton. The M40 is an eight-storey building featuring sustainable timber hybrid engineering. Combining concrete and timber facilitates resource-efficient construction work and the timber beams give the structure an attractive appearance. The BT-Spannschloss connects the timber-concrete hybrid slabs employed in the M40. The individual slabs feature wooden beams on which slender concrete slabs are supported. The floor slabs are friction-locked to each other by means of the BT-Spannschloss and are joined up to form a disc. Construction times can be accelerated because no grouting work is required during assembly.

The spacious inner courtyard and greened roof terraces generate an inviting atmosphere. The M60 is an eight-storey office building with around 7,500 m<sup>2</sup> of rentable space. It operates at 100 per cent CO<sub>2</sub> neutral thanks to extensive photovoltaic technology, making it one of the most sustainable office buildings of its size in Germany.



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*M40 building shell with a view of the underside of the timber-concrete hybrid floors*

The installation of the interior fittings and the technical building equipment is in full swing now that the structural work has been completed. The exterior finishing of the buildings and surrounding area is taking place in parallel. The green spaces around the buildings will provide a pleasant, calming environment for their residents.

### For a sustainable future

This neighbourhood development illustrates how innovative construction technology can help to implement efficient, sustainable construction projects. The BT-Spannschloss plays a key role, as it not only optimises the construction process, but also assures the immediate load-bearing capacity of the structures. In this case, 3,000 BT-Spannschloss are guarantors of stability and rapid construction progress. The harmony between the values of the Macherei Berlin-Kreuzberg and the cutting-edge solutions from BT innovation underlines the importance of joint efforts in creating a greener environment fit for the future.



*Connecting two precast concrete elements (left) and three precast concrete elements (right) The BT-Spannschloss is inserted on site into factory-made recesses with planned anchor points that can withstand permanent loading; the precast elements form a force-locking connection by means of bolts*

### Innovation in practice

The BT-Spannschloss possesses building authority approval. It is a "dry" connecting system for joining two or three precast concrete elements by means of a simple bolted connection. Anchor points are planned into precast concrete elements at the factory and these elements are assembled by being bolted together with the BT-Spannschloss at their anchor points on a construction site. The structure can be subjected to loads and is load-bearing as soon as the last bolt is tightened. It is not necessary to grout the clamping points with mortar, which makes construction almost independent of the weather. The joint between the precast elements can be sealed in the same operation using RubberElast® compression sealing tape. The BT-Spannschloss can be used in all types of civil engineering. The aim is always the same: a fast, friction-locked, permanent connection of precast concrete elements. ■

### FURTHER INFORMATION



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