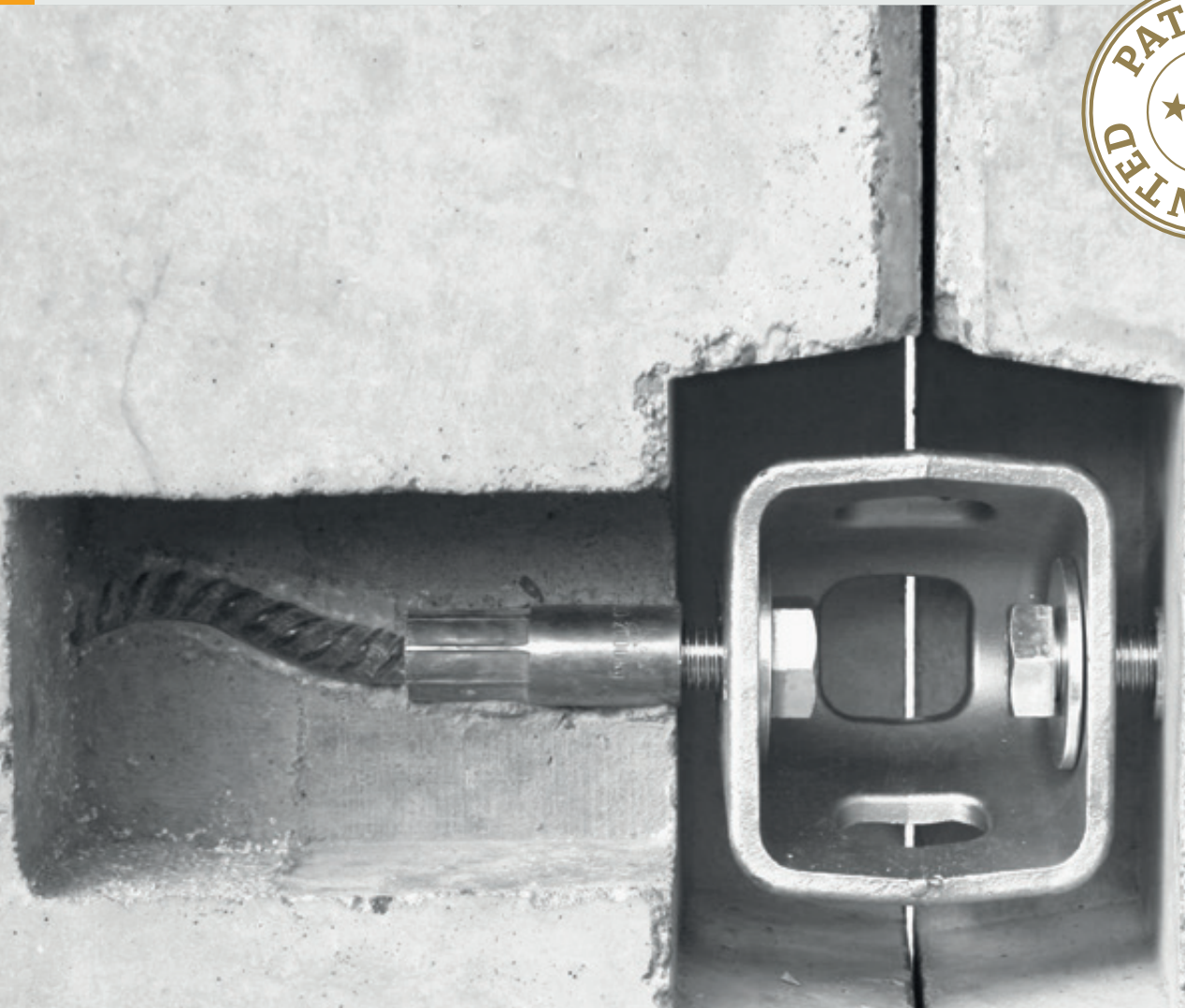


A connection that fulfils its promises

# BT-Spannschloss<sup>®</sup> (turnbuckle)



 Product information  
English





## **B.T. innovation GmbH**

"The future of construction starts here."

What began in 1991 as a regional wholesaler has now developed into an internationally recognized company that is always close to its customers and constantly one step ahead in its innovations and ideas.

We provide the concrete processing industry/trade with true solutions to problems, thus considerably simplifying work processes and saving time.

The continuous development and high quality of our products have afforded us with numerous certificates, patents and successful building inspection approval certificates, and you can benefit from this too!

Alongside our extensive product range, we can provide you with consulting, planning and implementation services for new or existing buildings in the field of precast plants.

The focus of our daily operations is always our customers - we are only happy if the customer is happy too.

We hope you enjoy finding out more about our products and look forward to the start of an inspiring partnership.

Felix von Limburg

--CEO--

## General

General Description  
Advantages

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## Installation/Building site

Applications  
Installation

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## Precast plant

Applications  
Installation  
Building site/  
Precast plant accessories

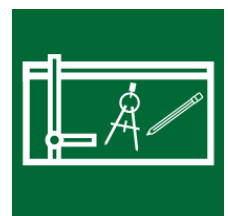
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## Architects

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## General information about the BT-Spannschloss®

The effective joining technology for precast elements



The BT-Spannschloss® is a new clamping system which includes screw connections and anchors sunk into prefabricated concrete parts. With the innovative BT-Spannschloss®, precise assembly and permanent constructional connection of prefabricated concrete parts with a predominantly static load in the tensile and transverse directions are now easily possible.

The BT-Spannschloss® is available in three sizes (M20; M16; M12), in galvanised metal and stainless steel.



**„A truly exciting connection.“**

- Jan Dittmar, B.T. Product Manager -



### **B.T. Tip:**

WU designs can also be implemented in connection with our sealing products.



Overview of advantages:

- Fast, frictional connection of concrete elements
- Generally approved by the building authorities (No. Z-14.4- 599)
- Capable of supporting high shearing- and tensile loads
- Structural certificate for the selected construction
- Lightweight
- No more expensive individual solutions
- Immediate, fully loadable connection - no grouting necessary
- No temperature dependency

>> **EASY ASSEMBLY**

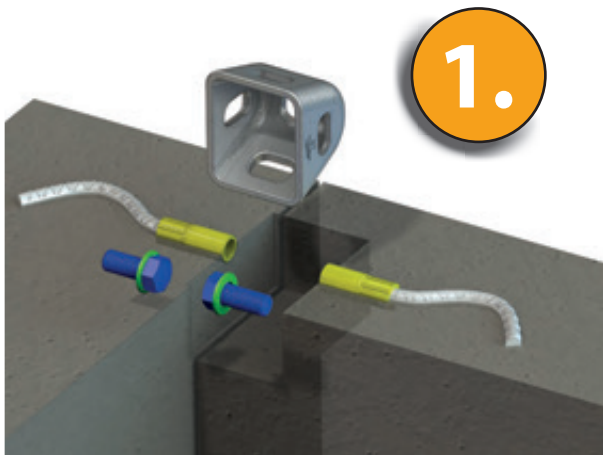
>> **MAXIMUM COST AND TIME SAVINGS**



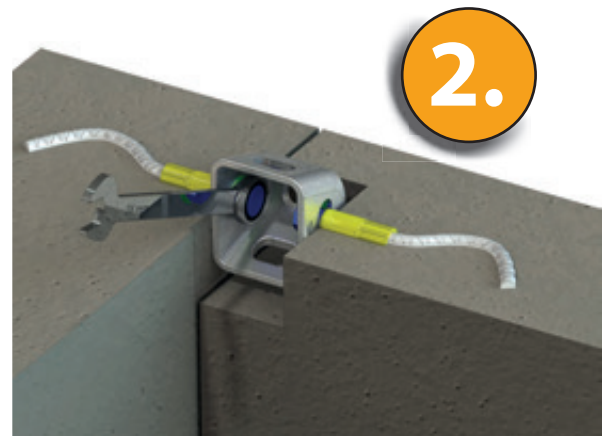
# Application



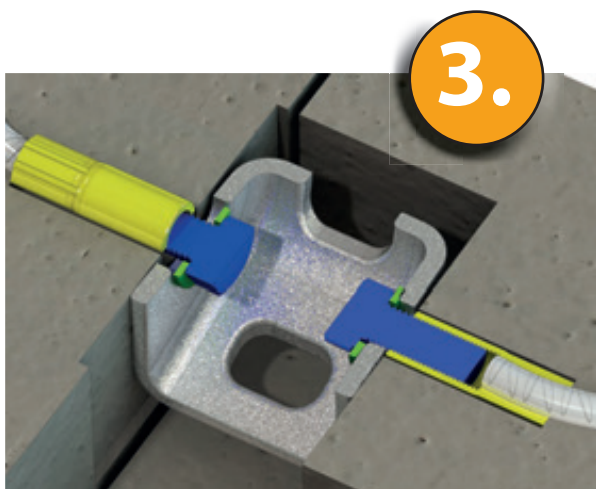
# Applications



Place the concrete parts in the installation position, insert the turnbuckles and ensure that the screw connections are properly aligned, and loosely secure by hand.



The clamping joints must be tightened parallel and crosswise using the ring ratchet wrench or cordless screwdriver until the intended joint width (tightening torque) has been achieved and the thrust bearings (washers, elastomer bearings) are firmly clamped.



Once the prefabricated concrete elements are tightened, the turnbuckle cavities can be closed optimally with grouting mortars, foils, etc. The joint area can be closed with appropriate sealing materials or special mortar, depending on the structural circumstances.

## B.T. Tip:



The lock connections must be tightened parallel and crosswise to avoid tilting. If the element remains partially attached to the crane hook when it is tightened, installation will be much easier. Placing a wedge between the tensioning lock and the concrete element prevents co-rotation when the screw is tightened.

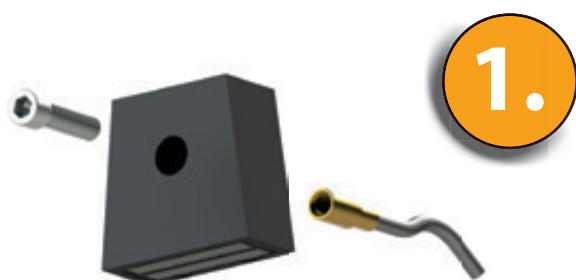
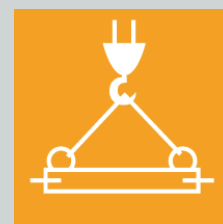




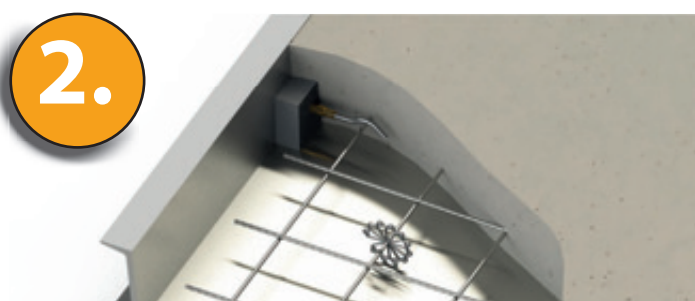
**>> PROVEN TECHNOLOGY**  
**>> RELIABLE AND REUSABLE**



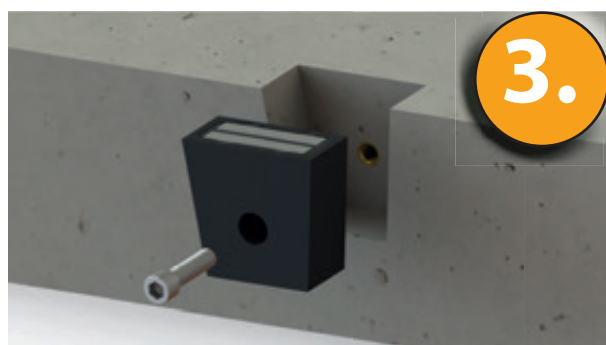
# Assembly



1. Connect screws, recessed bodies and anchors.



2. Attach the recessed bodies to the shell as specified. Markings on the shell and the recessed bodies allow the anchors can be accurately and intuitively positioned without requiring any measurement. The built-in magnets make it easy to position the recessed bodies on a steel shell. Insert the appropriate reinforcement(s) and add the concrete. In addition to the magnetic fixing, the recessed bodies can also be screwed in or glued when working with wood shells.



3. After the concrete has hardened, the recessed bodies are removed. The created recess is used to house the turnbuckle at the anchor point.

**B.T. Tip:**



By the way, we also have just the right magnet and switching technology for you. We would be happy to help.



e.g. MagFly® AP

# Products & accessories



The BT-Spannschloss® is available in the following sizes: **M12, M16, M20**



### B.T. Tip

Are you interested in the **BT-Spannschloss®**? You'll get the optimal product overview with the starter set.



### Accessories for the construction site:

- BT-Spannschloss® set with screws + washers
- ratchet wrench
- RubberElast®



RubberElast®



ratchet wrench



BT-Spannschloss® Set



### Accessories for the precast plant:

- Recessed body for all 3 sizes
- Anchor (screw, flat steel, shaft, sleeve anchors)



Recessed body



Screw anchor



Flat steel



Shaft anchor



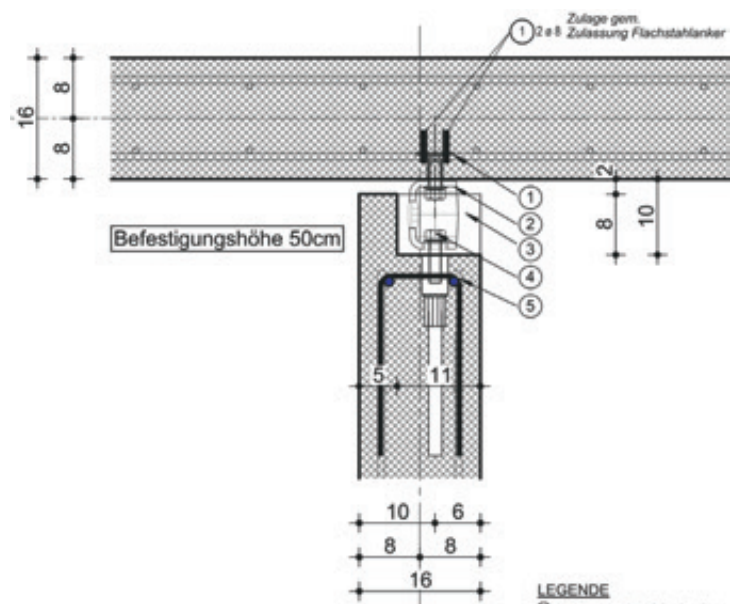
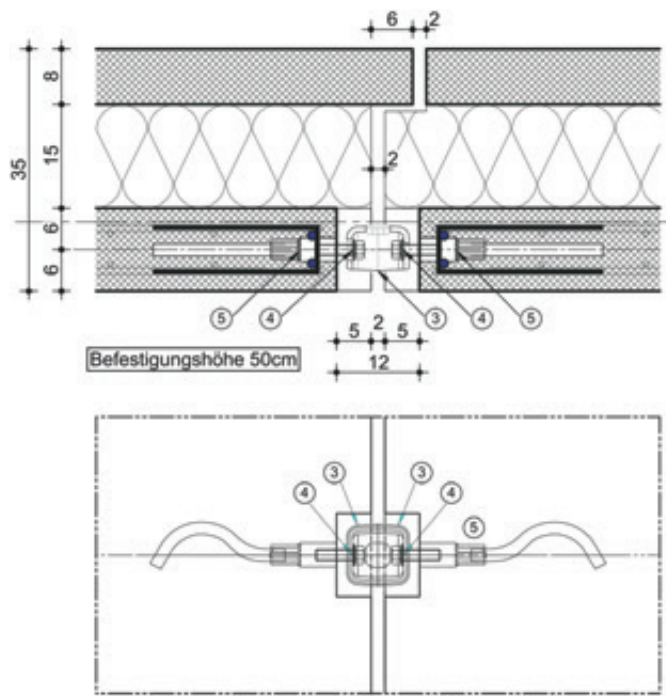
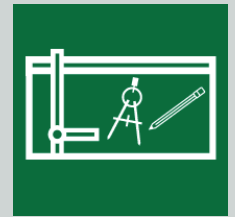
Sleeve



>> WEATHERING-RESISTANT  
>> CAN BE INSTALLED AT TEMPERATURE  
BELOW ZERO DEGREES CELSIUS



# Technical Specifications



- LEGENDE**
- ① Flachstahlanker RD + Zulagebewehrung
  - ② Sechskantschraube HSK-M16x40-g8.8
  - ③ BT-Spannschloss M16
  - ④ Sechskantschraube HSK-M16x80-g8.8
  - ⑤ Pflock DB-Anker RD16
  - ⑥ Sechskantschraube HSK-M16x70-g8.8
  - ⑦ Sitzanker M16
  - ⑧ Drelay / Montagehilfe
  - ⑨ Dichtband RubberElast®

Der komplette Zeichnungssatz steht unter [www.bt-innovation.de/de/bt-spannschloss/](http://www.bt-innovation.de/de/bt-spannschloss/) zum Download bereit.



Approved by the German Institute of Construction Engineering, **approval no. Z-14.4-599**

## B.T. Tip

The **BT-Spannschloss®** makes it possible to construct a **Low Cost House** in 2h. For more information about the Low-Cost House, click here:



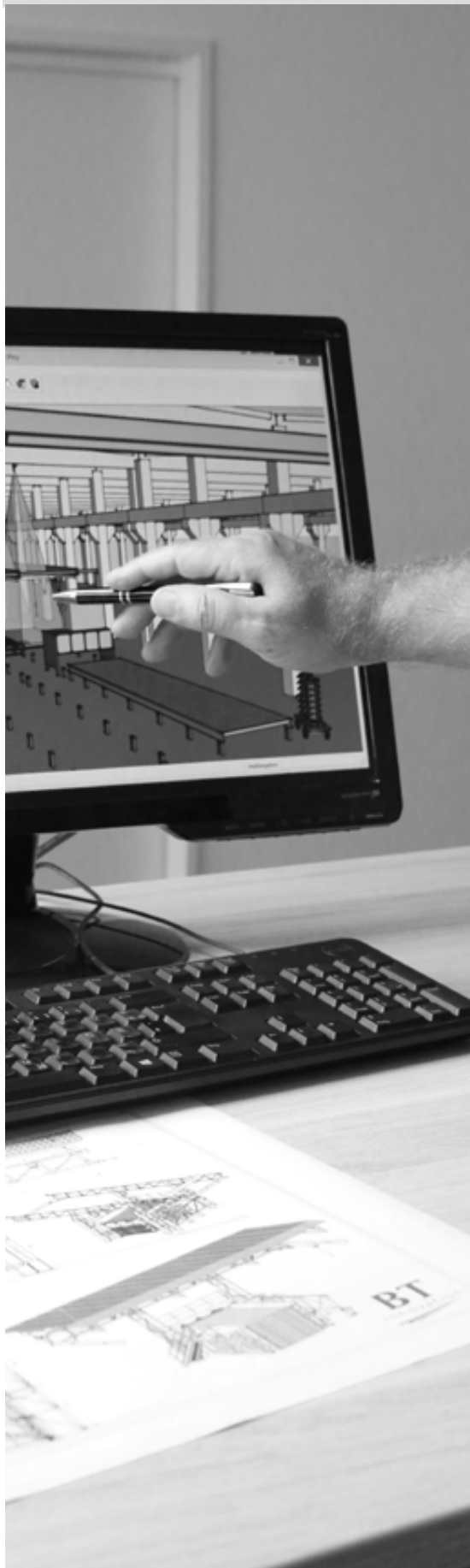
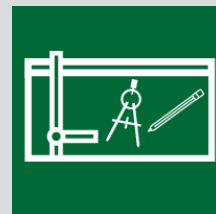
## Rated values at a glance:

	Tensile force N	Lateral force V
BT-Spannschloss® M12	33,7	9,4
BT-Spannschloss® M16	43,2	26,2
BT-Spannschloss® M20	52,2	24,8





# Technical Specifications



## **BT-Spannschloss® M12**

Turnbuckle for the force-transmitting connection of prefabricated concrete parts for predominantly static stress.

The turnbuckle is attached to the prefabricated concrete parts using connection elements (screw or threaded rod with washer) which are screwed into the anchors of the prefabricated concrete parts.

Depending on the type of turnbuckle, connecting elements with an M12 thread and associated washers must be used.

-Tensile force:

33.7 kN in the direction of the connection element axle

-Lateral force:

9.4 kN perpendicular to the connecting element axis

When using the turnbuckles, the conditions listed in the General Building Inspection Approval (DIBt) must be observed.

When anchoring the connecting elements in the prefabricated concrete part (e.g. anchor sleeve, shaft anchor), the manufacturer's installation instructions must be observed.

## **BT-Spannschloss® M16**

Turnbuckle for the force-transmitting connection of prefabricated concrete parts for predominantly static stress.

The turnbuckle is attached to the prefabricated concrete parts using connection elements (screw or threaded rod with washer) which are screwed into the anchors of the prefabricated concrete parts.

Depending on the type of turnbuckle, connecting elements with an M16 thread and the associated washers must be used.

-Tensile force:

43.5 kN in the direction of the connection element axle

-Lateral force:

26.2 kN perpendicular to the connecting element axis

When using the turnbuckles, the conditions listed in the General Building Inspection Approval (DIBt) must be observed.

When anchoring the connecting elements in the prefabricated concrete part (e.g. anchor sleeve, shaft anchor), the manufacturer's installation instructions must be observed.

## **BT-Spannschloss® M20**

Turnbuckle for the force-transmitting connection of prefabricated concrete parts for predominantly static stress.

The turnbuckle is attached to the prefabricated concrete parts using connection elements (screw or threaded rod with washer) which are screwed into the anchors of the prefabricated concrete parts.

Depending on the type of turnbuckle, connecting elements with an M16 or M20 thread and associated washers must be used.

-Tensile force:

52.2 kN in the direction of the connection element axle

-Lateral force:

24.8 kN perpendicular to the connecting element axis

When using the turnbuckles, the conditions listed in the General Building Inspection Approval (DIBt) must be observed.

When anchoring the connecting elements in the prefabricated concrete part (e.g. anchor sleeve, shaft anchor), the manufacturer's installation instructions must be observed.





>> MAXIMUM EFFICIENCY  
>> HIGHEST COVERAGE



# References



Elevator shaft with staircase, Ennepetal



Flood protection wall, Wittenberge



Media channel, Geesthacht

Pump storage power plant, Reißbeck - Austria



Residential building, Pensa - Russia

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