



# POWERCON

Load connector for precast parts



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# POWERCON

## LOAD CONNECTOR FOR PRECAST PARTS

### THE PRODUCT

POWERCON is a simple, quick and reliable system for connecting precast concrete parts. The quick connector has been granted national technical approval by the DIBt (German Institute for Structural Engineering). Made from galvanised cast steel for transferring static loads, it enables concrete parts to self-centre, a crucial advantage in the economical assembly of precast concrete parts. The wall locking connector is robust in design, easy to anchor in the component and intuitive to use.

### FEATURES

- DIBt approval Z-14.4-709
- High level of prefabrication
- Reliable and safe to use
- Easy to assemble

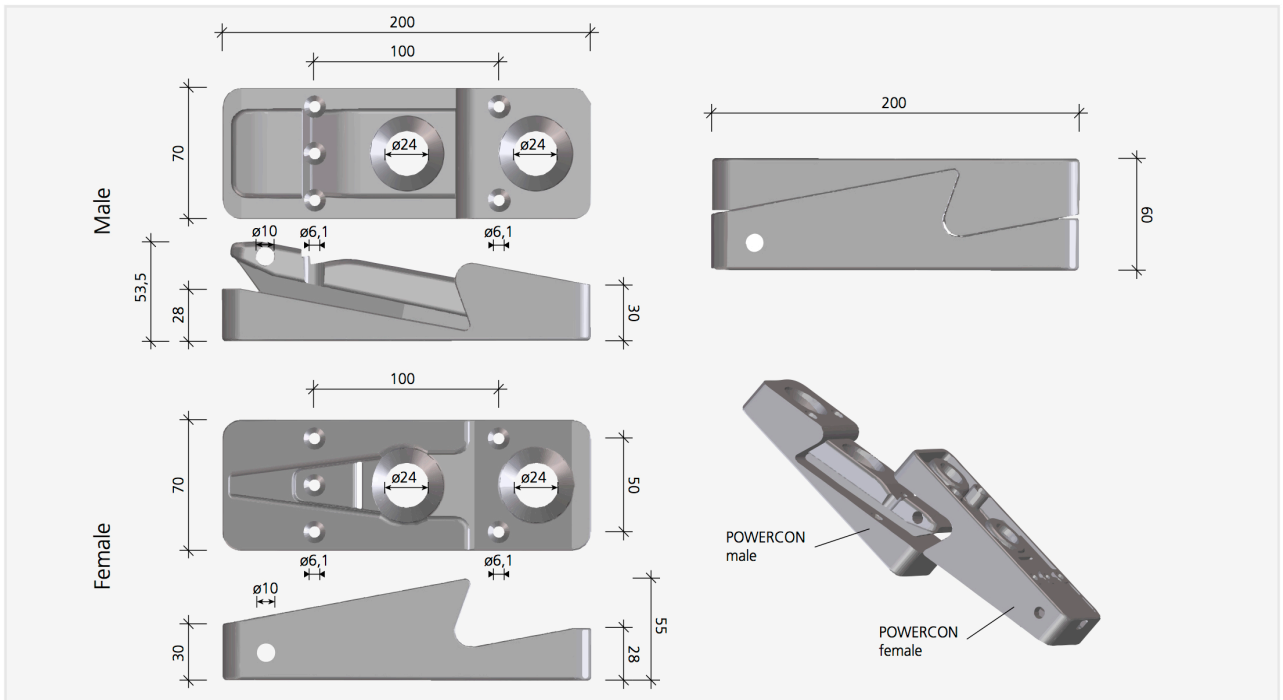
### APPLICATION AREA

The POWERCON wall locking connector is used to connect precast concrete parts in projects where great importance is attached to a high level of prefabrication and where assembly time is considered a key factor in costing.

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# DIMENSIONS & ACCESSORIES

## DIMENSIONS



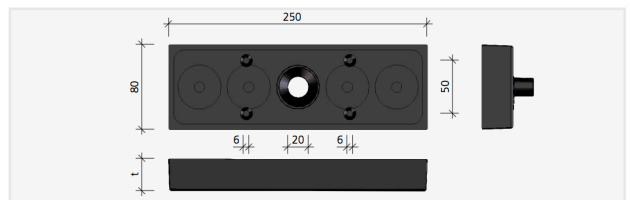
## ACCESSORIES



### SCREWS

Galvanised flat-head screw with internal hexagon in accordance with DIN 7991 for attaching the POWERCON.

- M20x40 mm: For securing the female connector to the M20 thread embedded in concrete
- M20x60 mm: For securing the male connector to the M20 thread embedded in concrete
- Minimum strength: 8.8



### MULTIBLOCK

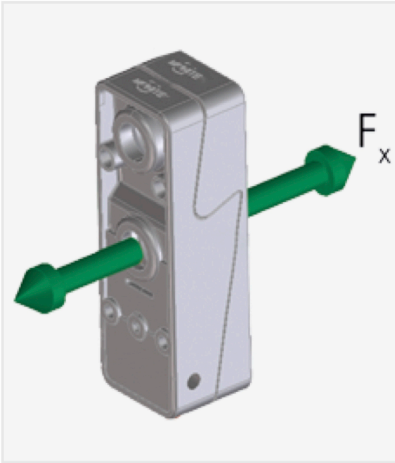
Reusable assembly element for securing the anchor sleeves and for creating the component recess.

- Multiblock 25: For creating a recess depth for the assembly joint width of 10 mm
- Multiblock 30: For creating a recess depth for an invisible joint
- Material: Natural rubber

**NOTE:**  
Structural certification must be carried out by a structural engineer!

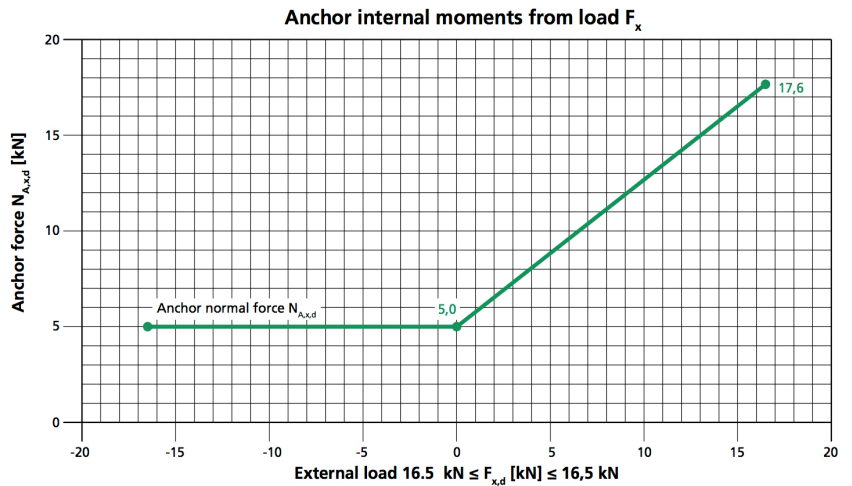
# DESIGN VALUES

## NORMAL FORCE ONLY

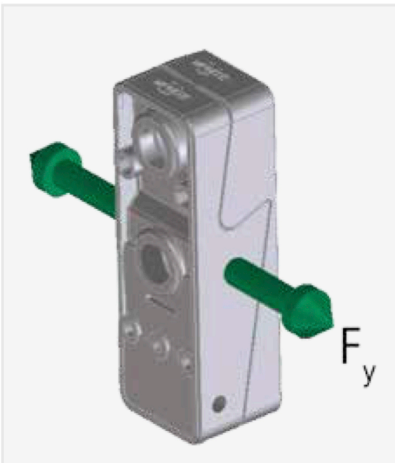


	C25/30	≥ C30/37
$F_{x,d}$	16,5	16,5

No additional reinforcement is required for this load case.

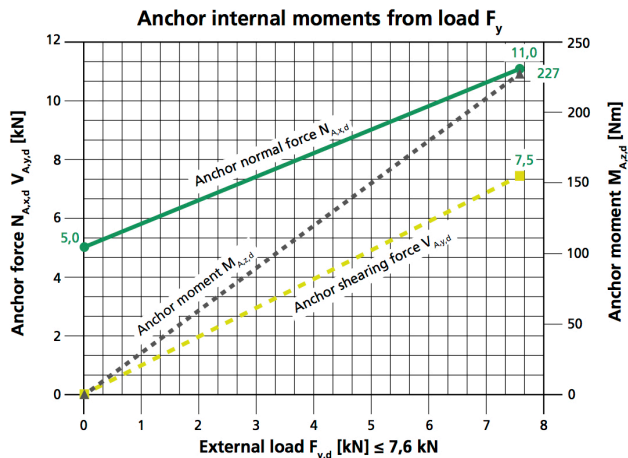


## HORIZONTAL SHEARING FORCE ONLY



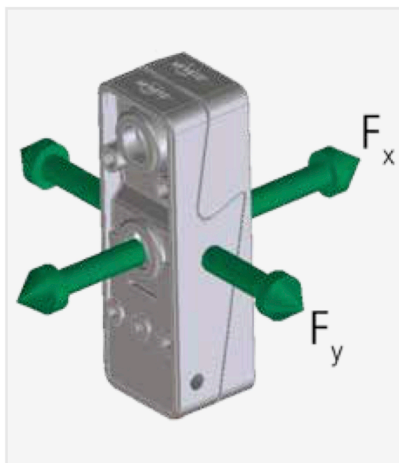
	C25/30		≥ C30/37	
	with special reinforcement	without special reinforcement	with special reinforcement	without special reinforcement
$F_{y,d}$	7,6	4,7	7,6	5,6

Details of special reinforcement for installation on the face or near the edges can be found on page 8. These details do not need to be followed for installation away from the edges.



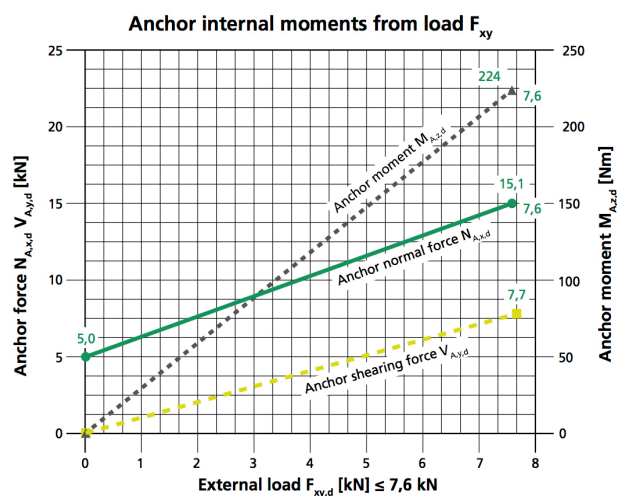
# DESIGN VALUES

## NORMAL FORCE AND HORIZONTAL SHEARING FORCE



	C25/30		≥ C30/37	
	with special reinforcement	without special reinforcement	with special reinforcement	without special reinforcement
$F_{x,Rd}$	5,4	4,7	5,4	5,4
$F_{y,Rd}$	5,4	4,7	5,4	5,4

Details of special reinforcement for installation on the face or near the edges can be found on page 8. These details do not need to be followed for installation away from the edges.



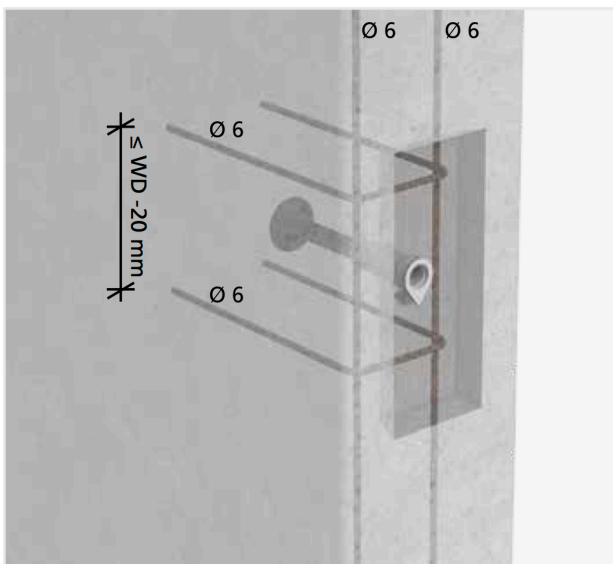
# REINFORCEMENT

## POWERCON MINIMUM REINFORCEMENT

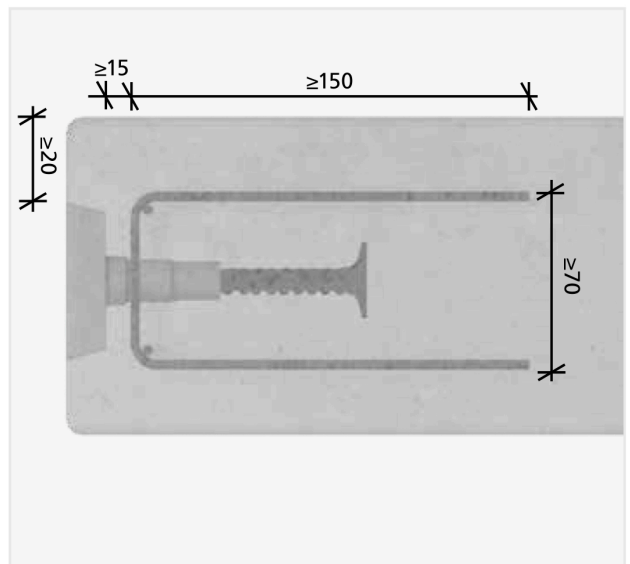
When installing POWERCON on the face or near the edges, a minimum reinforcement is required where indicated to make the most of the forces specified in the dimensioning tables on pages

6 and 7. Existing reinforcement may take the cross-sections into account.

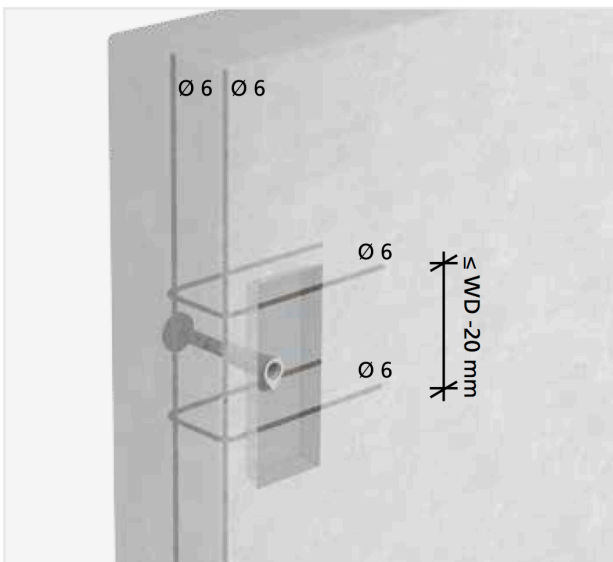
### INSTALLATION ON THE FACE



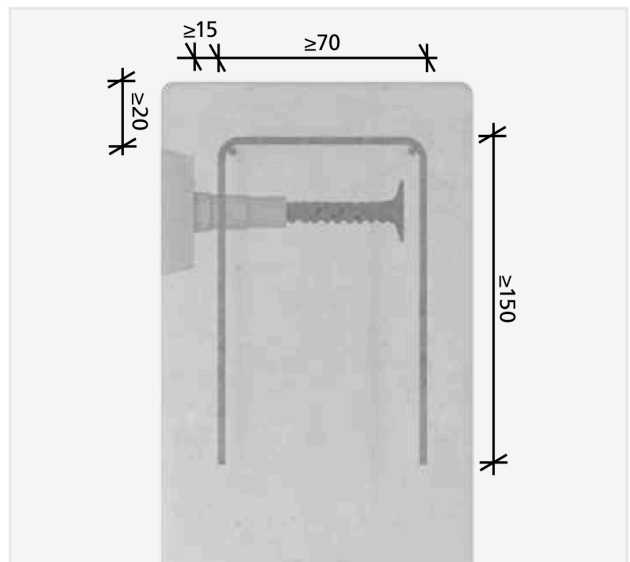
### VIEW FROM ABOVE



### INSTALLATION NEAR THE EDGE



### VIEW FROM ABOVE

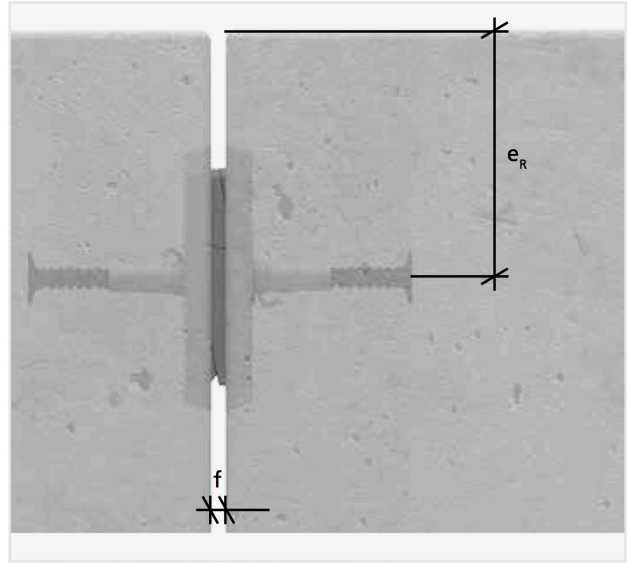
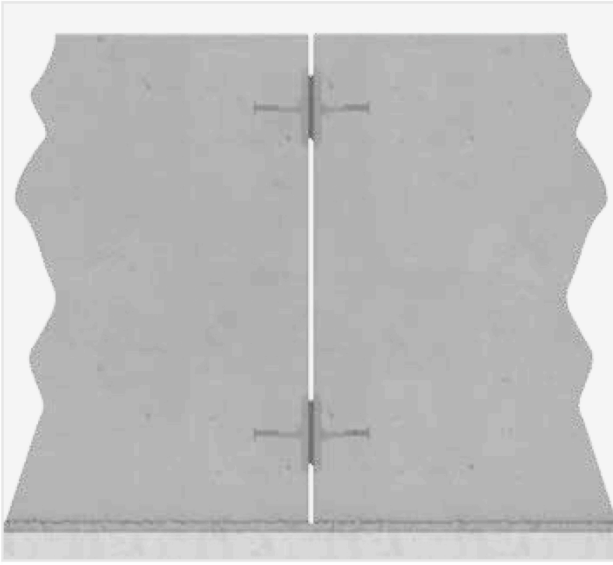


## NOTE

Additional requirements for component reinforcement may arise from dimensioning the means of anchorage. Provisions should be made for these in accordance with the manufacturer's specifications.

# BOUNDARY CONDITIONS

## GEOMETRY AND ASSEMBLY



- Concrete strength  $\geq$  C25/30
- Force-fit mounting on mortar bed
- At least two POWERCONS per wall joint
- Component thickness  $\geq$  120 mm

- Distance from edge  $e_2 \geq$  150 mm
- Recommended joint design  $f =$  10 cm
- Screw strength grade  $\geq$  8.8
- Prestress 5 kN

## CONNECTION VARIANTS





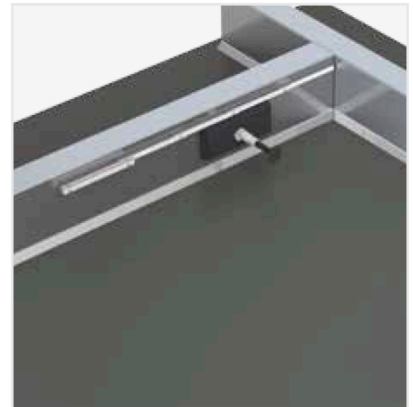
# INSTALLATION & ASSEMBLY



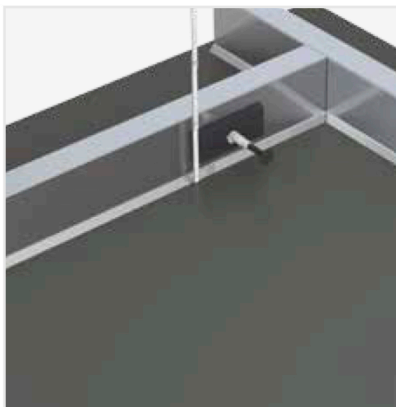
Attach the anchor sleeve to the Multibloc assembly element in accordance with structural requirements.



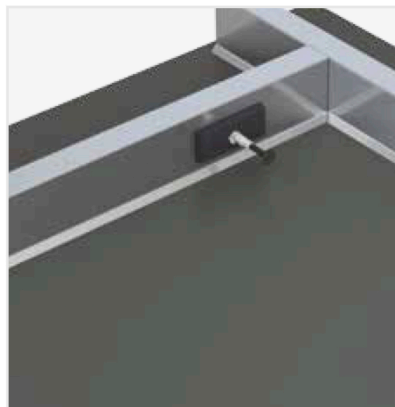
Secure the Multibloc to the formwork using magnets or hot-melt adhesive.



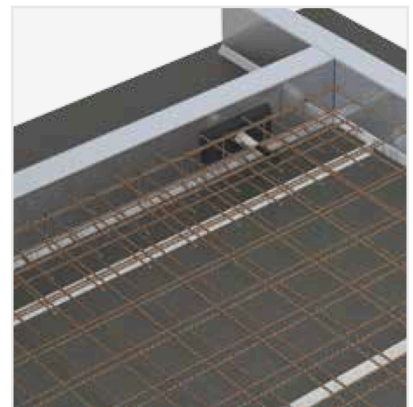
Position the Multibloc horizontally.



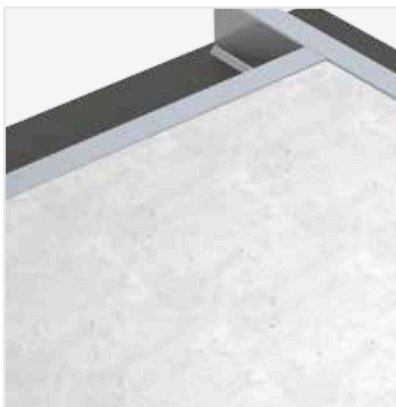
Position the Multibloc vertically.



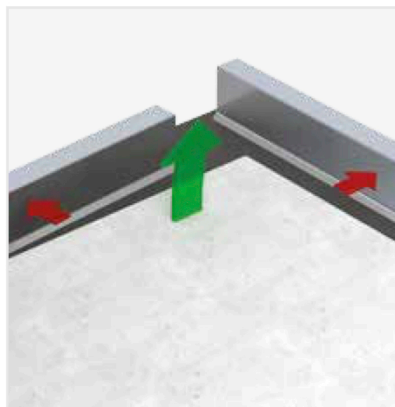
Secure the Multibloc immovably in the correct position on the formwork.



Reinforce the component in accordance with structural design specifications.



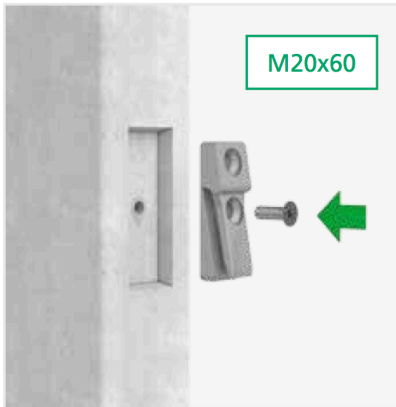
Concrete the component.



Strip and remove the formwork from the component.



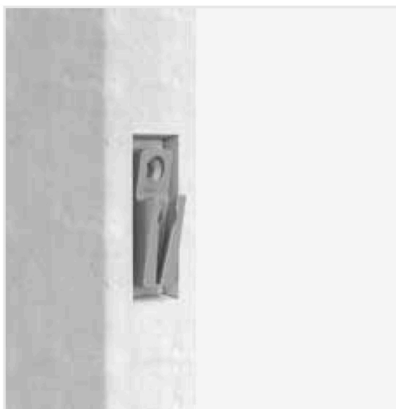
Remove the Multibloc.



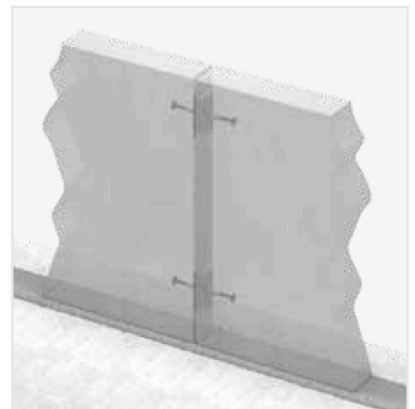
Screw the male POWERCON connector in place.



Screw the female POWERCON connector in place.



Stagger the wall elements on the building site in accordance with the assembly plan.



Lock the wall elements together and set in the mortar bed.



**POWERCON**

Pair of connectors for connecting concrete components and enabling them to self-centre. The elements can be used simply as a fitting aid or for transmitting static loads.



Connectors made from galvanized steel for securing walls in the base plate. The two-part connectors can be readjusted and protect walls against uplift forces.



**BASECON**

Load connector for transmitting loads in wooden and concrete buildings. The BASECON accommodates media connectors (water, electricity) and provides the basis for the AQUACON and the ENERCON.



**ENERCON**

Electrical-system connector for use in wooden and concrete prefabricated buildings. Approved by the VDE (Association for Electrical, Electronic and Information Technologies) for 12 to 400 volts. Can be used to construct empty conduit installations.



**AQUACON**

Water-system connectors for connecting drinking water pipes and pipes in heating installations in wooden and concrete prefabricated buildings. The water-system connectors with three O-rings for triple sealing are made from dezincification-resistant brass.



**SANICON**

Pipe connector for connecting wastewater pipes or ventilation pipes in wooden and concrete prefabricated buildings. Can be connected to high-temperature pipe systems.



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