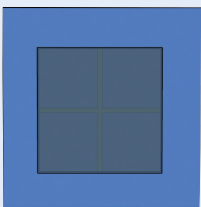
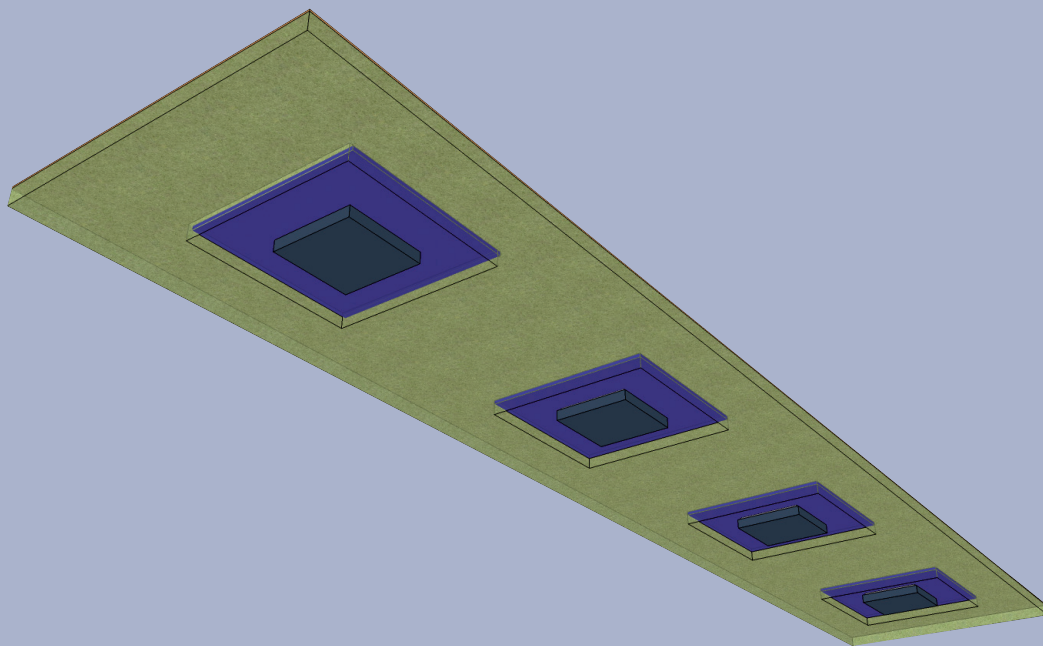


CIVALIT[®]-Sliding Bearing



*Reinforced elastomeric sliding bearing
with standard dimensions for the application
as single pad or strip sliding bearing*

Technical Data

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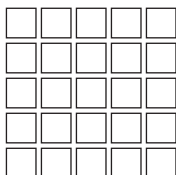
General

Civalit® sliding bearings are used in standard sizes as single pad bearing or as strip supported bearing. The number of modules determines the size of the bearing (Figure 1).

Product description

The bearing has transverse tensile reinforcement and consists of an elastomer based on chloroprene with a vulcanized PTFE sliding layer, 8.5 mm thick. The 2 mm thick sliding plate is made from glass reinforced plastic (GRP). These two components guarantee a dimensionally stable sliding surface. The total thickness of the bearing is 11 mm.

Civalit single pad sliding bearing – modular grid and sizes



Size of module: 52 mm x 52 mm

Total thickness: 11 mm (bearing and sliding plate)



Type 1, Type 5 – size of bearing: 104 mm x 104 mm

Type 2, Type 6 – size of bearing: 156 mm x 156 mm

Type 3, Type 7 – size of bearing: 208 mm x 208 mm

Type 4, Type 8 – size of bearing: 260 mm x 260 mm

Figure 1. Dimensions of Civalit® single pad sliding bearing

Single pad sliding bearing

Type	Size of bearing [mm]	Size of sliding plate [mm]	Allowable load [kN]	Allowable angular rotation [‰]	Application
1	104 x 104	170 x 170	150.0	20.0	precast concrete
2	156 x 156	220 x 220	337.5	13.3	precast concrete
3	208 x 208	270 x 270	600.0	10.0	precast concrete
4	260 x 260	320 x 320	937.5	8.0	precast concrete
5	104 x 104	170 x 170	150.0	20.0	in situ concrete
6	156 x 156	220 x 220	337.5	13.3	in situ concrete
7	208 x 208	270 x 270	600.0	10.0	in situ concrete
8	260 x 260	320 x 320	937.5	8.0	in situ concrete

Table 1. Technical Data of Civalit® single pad sliding bearing

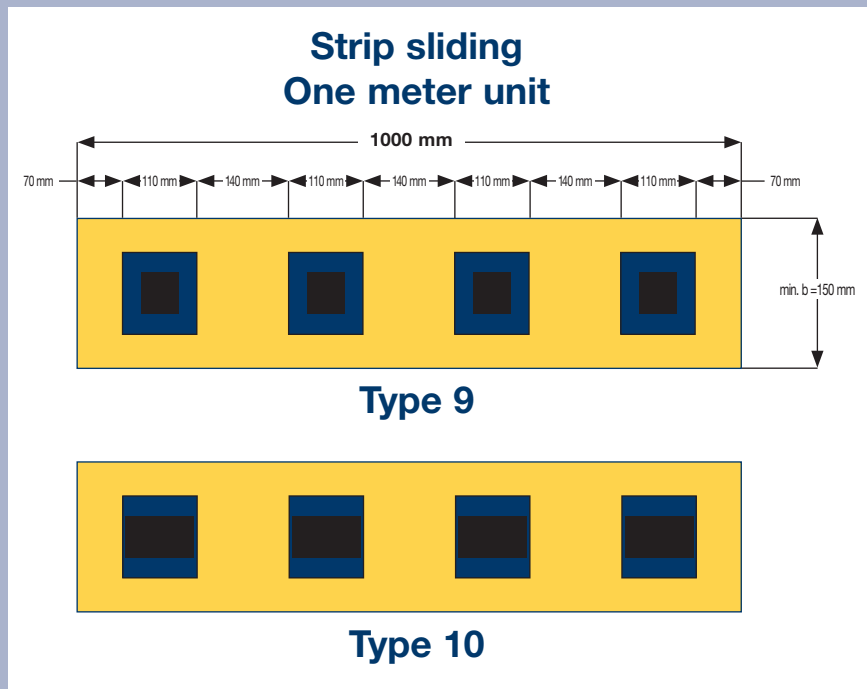


Figure 2. Design of Civalit® strip supported sliding bearings

Strip sliding bearing					
Type	Size of bearing [mm]	Size of sliding plate [mm]	Allowable load [kN]	Allowable angular rotation [%]	Application
9	52 x 52	110 x 110	150.0	40.0	in situ concrete
10	104 x 52	110 x 110	300.0	40.0	in situ concrete

Table 2: Technical data of Civalit® strip supported sliding bearings

Text of tender document

Civalit® sliding bearing

Highly ageing resistant elastomeric CR bearing with transverse tensile reinforcement and dimensionally stable sliding plane, according to DIN 4141 part 3, bearing class 2, average bearing capacity of up to 15 N/mm²; ozone resistant up to 200 pphm; material according to DIN 4141, part 140/150, general building authority test certificate No. P-20041090

a) Single pad sliding bearing

Type No:
Quantity: item
Price: €/item

b) Strip sliding bearing

Type No:
Wall/corbel width: mm
Quantity: m
Price: €/m

Supplier:
Calenberg Ingenieure GmbH
Am Knübel 2-4
D-31020 Salzhemmendorf
Phone +49 (0) 51 53 / 94 00-0
Fax +49 (0) 51 53 / 94 00-49

Dimensions

Functional Characteristics

Field of application

Civalit® sliding bearings are used to accommodate loads without nearly any friction and angular rotations as well as movements of structural elements.

Form of delivery

The Civalit® sliding bearings are delivered to standard dimensions as single pad and strip bearings (Table 1 and 2)

Functional characteristics

- Angular rotations of up to 40 ‰ caused by deflections of structural members can be absorbed.
- Low friction of less than 2 % reduces the transmission of restoring forces as compared to the use of sheeting or tubing.
- Friction values are independent of the load.
- The long term function is guaranteed as there is no need of lubrication.
- Encasing the bearings in polystyrene prevents thermal bridges and stops the concrete from entering the bearing joint. If the encasing consists of Ciflamon mineral wool the classification into the fire resistance class F 90 or F 120 is assured.

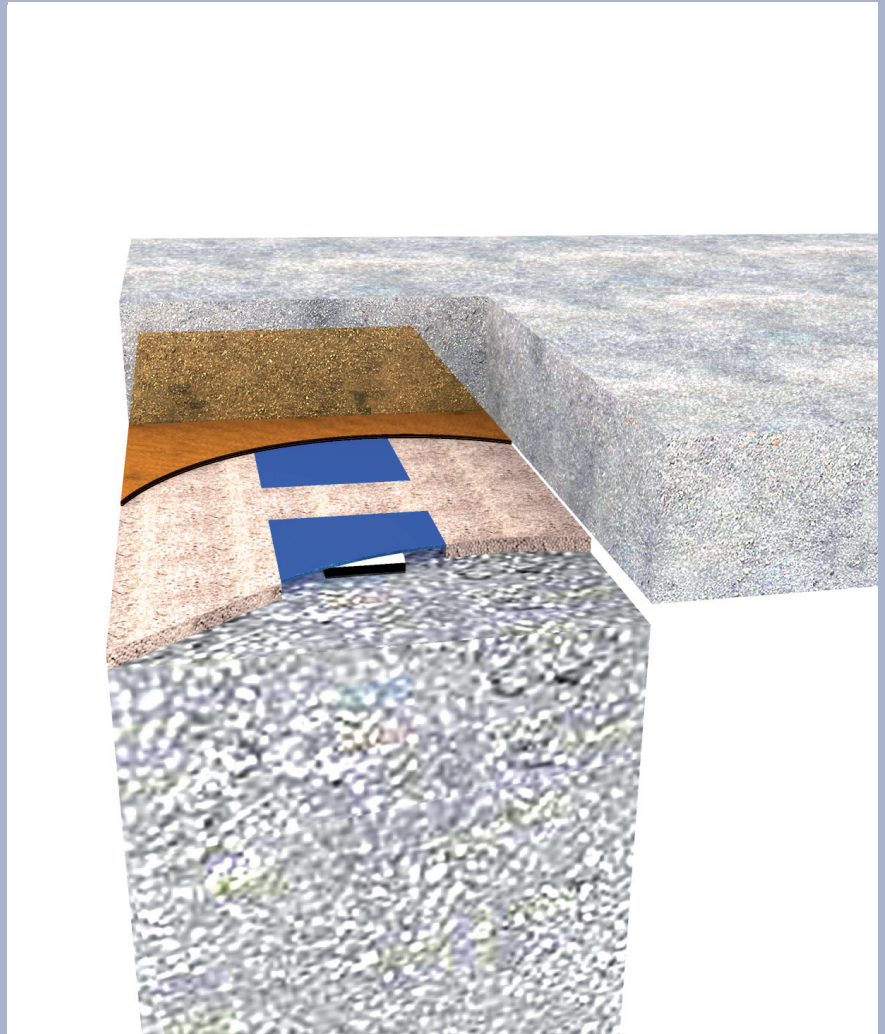


Figure 3. Installation of Civalit® strip sliding bearing (schematic diagram)

Sliding distance and friction

The sliding distance for all bearing types is $\leq \pm 30$ mm. Friction values are given in figure 4.

Note:

Special solutions can be developed for specific applications (longer sliding distances, higher loads, member restraint, etc.).

Deflection

The approximate deflection for all bearing types can be taken from figure 5.

Installation details

In the case of precast concrete construction sliding bearings are placed in the centre of the support area. For structural concrete members the distance between the edge of bearing and the outer edge of the structural member must be at least 40 mm. The reinforcement shall extend at least as far as the bearing area or enclose it. The chamfered edges of the structural members need to be taken into account when determining the edge distance.

Please note:

- The sliding direction of the bearing must correspond to the direction of movement of the structural member.
- The sliding ability of the bearing must not be restricted.
- For in-situ concrete construction the gaps and joints around the bearing have to be filled and covered to prevent the fresh concrete from penetrating.
- For steel and timber elements the edge distance shall be at least 20 mm.

Materials

The elastomer is made of CR-rubber and has an internal layer with a Shore A hardness of 90. The sliding layer consists of PTFE (polytetrafluorethylene) and the sliding plate is made of glass reinforced plastic (GRP).

Fire Behaviour

For all applications of elastomeric bearings which have to comply with fire protection requirements the fire safety assessment No. 3799/7357-AR- of the Technical University of Braunschweig applies. It specifies minimum dimensions and other measures in accordance with the specifications of DIN 4102-2, Brandverhalten von Baustoffen und Bauteilen (Fire behaviour of construction materials and components), 1977-09.

Installation Details

Deflection

Certificate, Proof of suitability

- General building authority test certificate No. P-20041090, Accredited Testing Authority for Mechanical Engineering Materials and Plastics of the Institute of Materials Science, University of Hanover, 2004
- Fire safety assessment No. 3799/7357-AR; assessment of Calenberg elastomeric bearings regarding classification into the fire resistance class F 90 or F 120 according to DIN 4102 part 2 (issued 9/1977); Accredited Material Testing Authority for Civil Engineering at the Institute for Construction Materials, Reinforced Concrete Construction and Fire Protection, Technical University, Braunschweig; March 2005

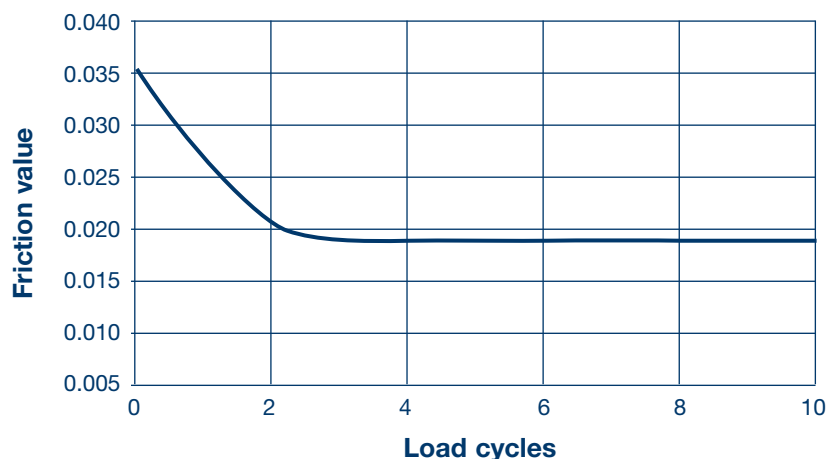


Figure 4: Friction values

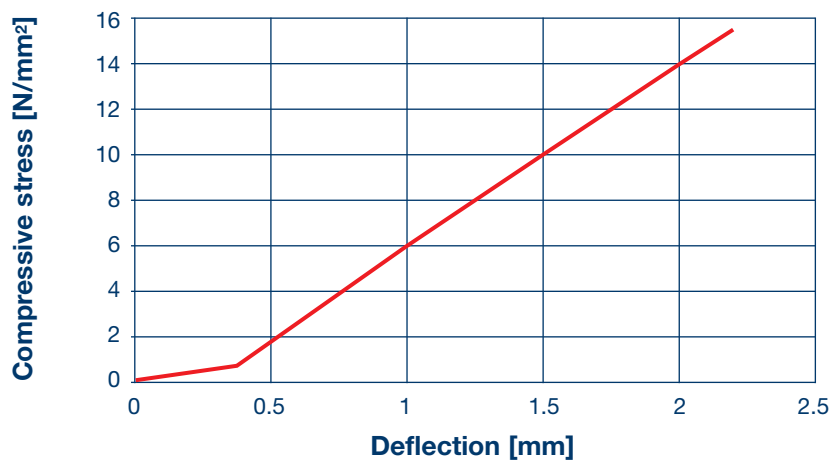


Figure 5: Deflection Δt (approximately)

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