

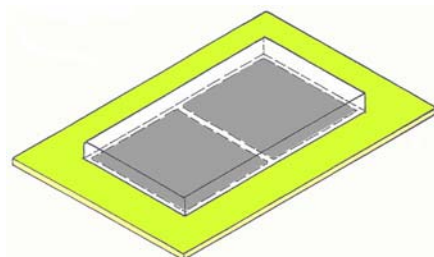
CALENBERG CIVALIT SLIDING BEARING

**Reinforced elastomer
sliding bearing**

**Loadable up to
15 N/mm²**

**Standard dimensions
for the application as
point or strip sliding
bearing**

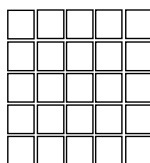
**Official certificate
No. P-20041090**



Contents

	Page
General	2
Product description	2
Design	2
How to specify	2
Grid geometry	2
Fields of application	2
Table point sliding bearings	2
Functional characteristics	3
Table strip sliding bearings	3
Glide path and friction	3
Mounting instructions	3
Deflection	3
Fire resistance properties	4
Materials	4
Certificates	4

Civalit point sliding bearing – Grid size and bearing dimensions



Grid size: 52 mm x 52 mm

Bearing thickness: 11 mm

Due to the grid size the following bearing dimensions are available:



Type 1, Type 5 – Bearing body: 103 mm x 103 mm

Type 2, Type 6 – Bearing body: 156 mm x 156 mm

Type 3, Type 7 – Bearing body: 209 mm x 209 mm

Type 4, Type 8 – Bearing body: 262 mm x 262 mm

Picture 1: Dimensions of Civalit point sliding bearing

General

Civalit sliding bearings are applied in standard sizes as point and strip bearings (Pic. 1)

Product description

The bearing consists of a reinforced elastomer based on chloroprene with vulcanized PTFE sliding layer of 9 mm thickness. The 2 mm sliding plate is made from glass reinforced plastic (GRP). These two components grant a rigid glide plane. The total thickness of the bearing is 11 mm.

Fields of application

Civalit sliding bearings are used to absorb bigger displacements of components with lowest possible friction.

Design

Civalit sliding bearings are delivered in standard dimensions as point and strip bearings (table 1 and 2)

Point sliding bearing

Type	dimension bearing body [mm]	dimension sliding plate [mm]	permissible load [kN]	permissible angle of rotation [‰]	for application in
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 point sliding bearing

How to specify

Civalit sliding bearing

Reinforced CR elastomer bearing, high resistant to ageing, with rigid sliding plate, according to DIN 4141 part 3, bearing class 2, loadable up to a mean load of 15 N/mm²; ozone resistant up to 200 pphm; material according to DIN 4141, part 140/150 official certificate No. P-20041090

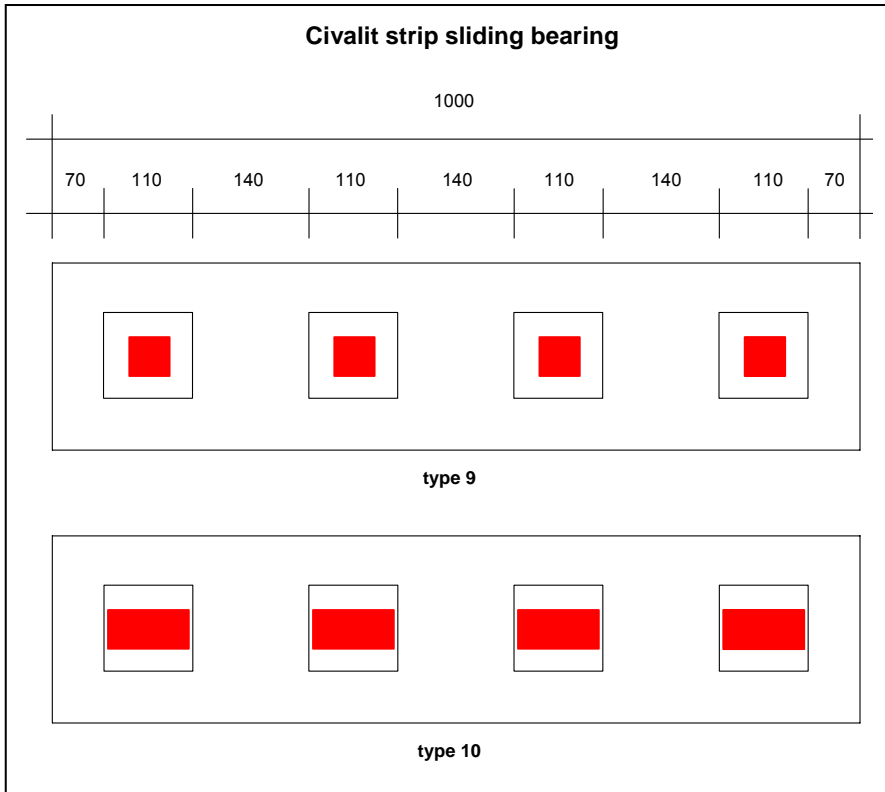
a) point sliding bearing

Type-No.:
 quantity: piece/s
 price: €/piece

b) strip sliding bearing

Type-No.:
 wall / console width: mm
 quantity: m
 price: €/m

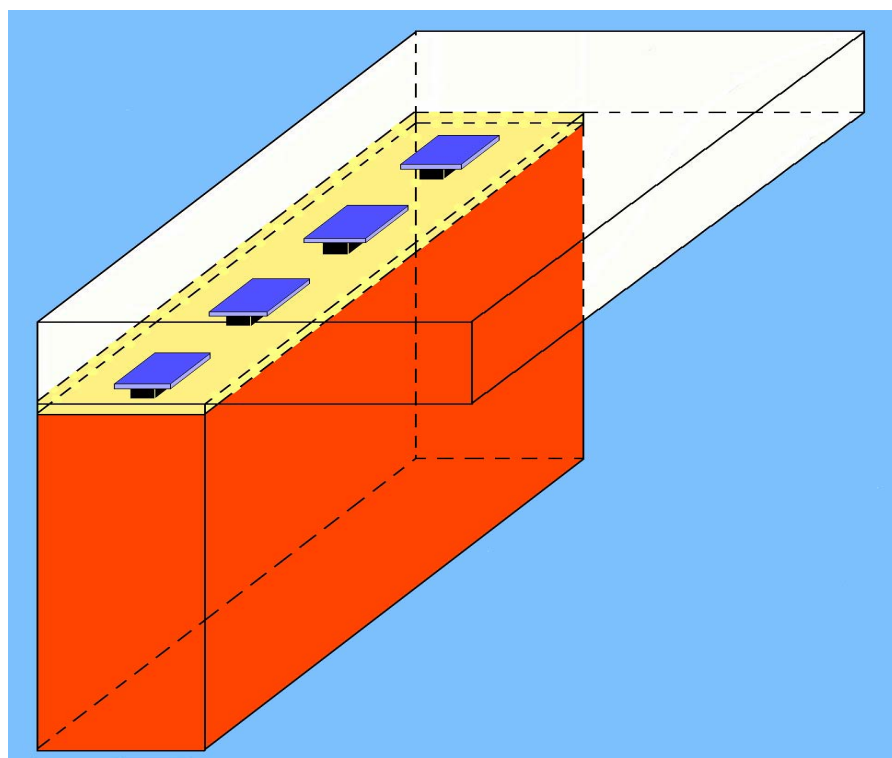
Supplier: Calenberg Ingenieure GmbH
 Am Knübel 2-4
 D-31020 Salzhemmendorf
 Tel. +49(0)5153 / 9400-0
 Fax +49(0)5153 / 9400-49



Picture 2: Design of Civalit strip sliding bearings

Strip sliding bearing					
Type	dimension bearing body [mm]	dimension sliding plate [mm]	permissible load [kN/m]	permissible angle of rotation [‰]	for application in
9	50 x 50	110 x 110	150,0	40,0	in situ concrete
10	100 x 50	110 x 110	300,0	40,0	in situ concrete

Table 2: Technical data of Civalit strip sliding bearings



Picture 3: Installation of Civalit strip sliding bearing (principle sketch)

Functional characteristics

- Rotations up to 40 ‰ caused by bending-down components are absorbed.
- Low friction of only 1.8 % reduces the transmission of reset forces compared to common sheeting and similar.
- The long term function is granted as there is no need of lubricants.
- Embedment of the bearing prevents thermal bridges.
- Friction values are load independent.
- Bearing body remains constant even with big displacement.
- To meet the demands of fire resistance class F 120 the bearings are embedded in a Ciflamon fire resistance plate.

Glide path and friction

The sliding path for all bearing types is $\leq \pm 30$ mm. Friction values according to picture 4.

Note:

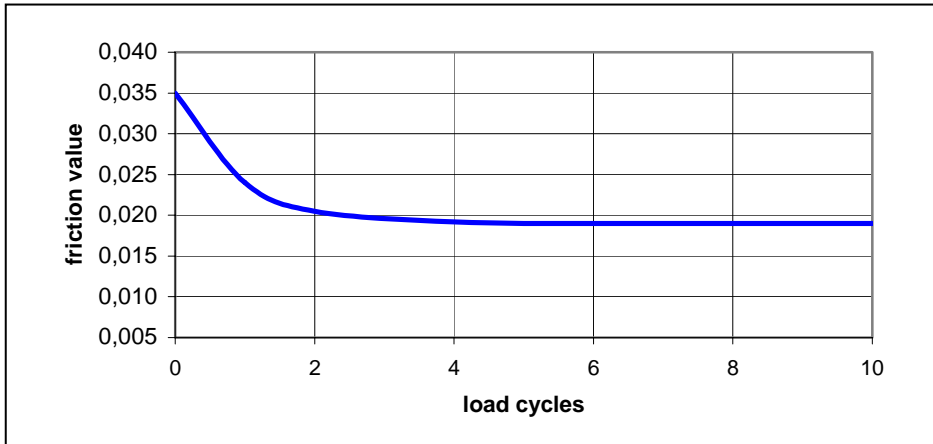
For special applications (bigger glide paths, higher loads) Ciparall sliding bearings are used.

Deflection

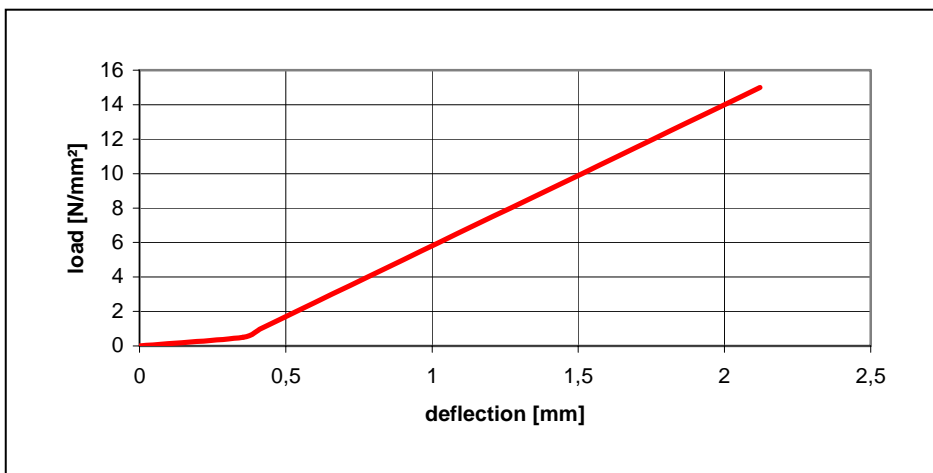
The approximate deflection for all bearing types can be taken from picture 5.

Mounting instructions

With steel reinforced concrete components the bearings are placed in the centre of the support area. The distance between bearing edge and component edge must be at least 40 mm. Chamfered edges have to be considered. The steel reinforcement must enclose the bearing area.



Picture 4: Friction values



Picture 5: Deflection Δt (approximate)

Certificate, Suitability proof

- Official Certificate no. P-20041090, Testing Institute for Mechanical Engineering Materials and Plastics, University of Hannover, 2004
- Fire protection judgement no. 3799/7357-AR; Judgement of Calenberg Elastomer bearings regarding a classification into fire resistance class F 90 resp. F 120 according to DIN 4102 part 2 (edition 9/1977); Official Material Testing Institute of Civil Engineering and Building Construction, Institute for Building Materials, Massive Structure and Fire Protection, Technical University of Braunschweig, Nov. 1997

Please note:

- **The glide path of the bearing must be in accordance with the direction of the component's movement.**
- **The sliding ability of the bearing must not be restricted.**
- **When erecting in situ concrete structures joints and gaps around the bearing have to be filled and covered to avoid penetration of fresh concrete.**
- **Steel and timber structures require a minimum edge distance of 20 mm.**

Materials

The elastomer body consists of CR-rubber and is combined with a 90 Shore A hard intermediate layer. The sliding layer consists of PTFE (Polytetrafluorethylene), the sliding plate is made of glass reinforced plastic (GRP).

Fire resistance properties

The minimum bearing dimensions required for the classification into fire resistance class F 90 and 120 according to DIN 4102 part 2 are listed in the „Fire protection table“ (Brandschutztechnische Beurteilung) no. 3799/7357-AR-. Bearings of smaller dimensions need an at least 30 mm wide jacketing of Ciflamon fire protection plate to meet the conditions of the F 120-classification.

The contents of this publication are the result of many years of research and experience gained in application technology. All information is given in good faith; it does not represent a guarantee with respect to characteristics and does not exempt the user from testing the suitability of products and from ascertaining that the industrial property rights of third parties are not violated. No liability whatsoever will be accepted for damage – regardless of its nature and its legal basis – arising from advice given in this publication. This does not apply in the event that we or our legal representatives or management are found guilty of having acted with intent or gross negligence. No liability is borne for damage due to ordinary negligence. This exclusion of liability applies also to the personal liability of our legal representatives and employees and other persons employed in performing our obligations.

Calenberg Ingenieure, planmäßig elastisch lagern GmbH
 Am Knübel 2-4
 D-31020 Salzhemmendorf
 Tel. +49 (0) 5153/94 00-0
 Fax +49 (0) 5153/9400-49
 E-Mail: info@calenberg-ingenieure.de
<http://www.calenberg-ingenieure.de>