

# CIPARALL® SLIDING BEARING

Reinforced point sliding bearing loadable up to to 21 N/mm<sup>2</sup>



# SECURELY AND PERMANENTLY BEDDED

## ENHANCING LIVING COMFORT WITH CALENBERG

Premium grade rubber material and a high quality standard in our elastomeric bearings guarantee freedom from maintenance, a long service life and, consequently, a completely damage-free structure.

HOW

**KNOW**





## Prevention of structural damage

Deformations in structural components are caused by permanent loads, such as a structure's dead load, variable influences, such as wind, and constraining forces due to factors such as temperature changes, creep, component tolerances or settling. Without the use of suitable elastomeric bearings, the aforementioned impacts will cause damage to structures. Besides cracks and spalling, they can also inflict major permanent damage to adjacent components, which will need to be repaired at considerable expense in terms of time and cost.

The structural bearings' elastic effect transfers forces into connections between structural elements centrally while also compensating for deviations in plane parallelism. Elastomeric bearings systematically absorb shear deformations caused by non-permanent horizontal impacts.

### Advantages for our customers

The bearings' extremely high load capacities allow cost-effective, filigree structural designs to be built. Elastomeric bearings do not require maintenance and do not need to be replaced if dimensioned and installed correctly. The designers also ensure there is extra capacity in the material to absorb any unforeseen loads. The service life of the construction bearings is equal to the service life of adjacent components as a minimum. Our elastomeric bearings increase the value of the building by preventing structural damage and eliminating renovation and maintenance costs. The static elastomeric bearings permanently transmit forces, twists and displacements into adjacent components without causing damage.

### Product features

- Simple dimensioning
- Maintenance-free
- Weather- and ozone-resistant
- Extremely durable
- Very low creep behaviour
- Premium grade material (CR)
- Approved by building authorities

## The Ciparall® sliding bearing

### Product description

Calenberg Ciparall® sliding bearings are combined sliding and deformation bearings with sliding and deformation layers which act separately from one another. The bearings can be selected in different thicknesses, depending on requirements. They consist of elastomer layers combined with vulcanised reinforcement layers and a PTFE coating plus a sliding plate made of glass-fibre reinforced composite (GRP).

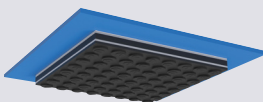
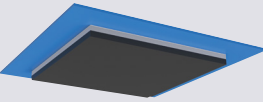
### Use and areas of application

Ciparall® sliding bearings allow exerted forces to be transmitted without causing damage while also centralising the load. Splitting forces, uneven bearing surfaces and creep deformation are not transmitted into the sliding layer; the dimensionally stable slide level remains planar and parallel and the slide properties are preserved. These are a fundamental component of ensuring correct, reliable function. Low coefficients of friction allow practically force-free horizontal displacements in components.

### GRP reinforcement

Approved by building authorities, the GRP version is fully corrosion-resistant and offers an inexpensive alternative.

#### EXCERPT FROM THE TECHNICAL DATA

	Bearing designation	Type of bearing	Bearing thickness [mm]	Compressive stress	Approval
	Ciparall® sliding bearing, steel-reinforced	Reinforced point sliding bearing	11	max. $\sigma_K = 15 \text{ N/mm}^2$	Approval applied for
			20		
			30		
			40		
	Ciparall® sliding bearing, GRP-reinforced	Reinforced point sliding bearing	14	max. $\sigma_{R,d} = 21 \text{ N/mm}^2$	Z-16.2-518

### Building authority approval

The approval for use as a construction bearing in building construction is regulated by the standard building authority certification Z-16.2-518, issued by the German Center of Competence in Civil Engineering (DIBt).



### Fire behaviour

Fire safety report no. 3799/7357-AR by the Technical University (TU) of Braunschweig must be taken into account for fire safety requirements. The report describes minimum dimensions and other measures that fulfil the requirements specified in DIN 4102-2.

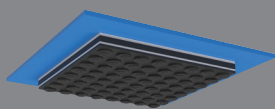
## Delivery forms

Ciparall® sliding bearings can be supplied in almost any size to meet your project's requirements. The bearings can be provided with holes, cut-outs, slots and similar.

The bearings are embedded in polystyrene at the factory and equipped with a watertight plastic cover for in-situ concrete construction.

A Ciflamon fire protection board with a width of at least 30 mm is provided if necessary to meet fire protection requirements.

### STANDARD CUT-OUTS



Hole



Corner notch



Slot



Rectangular notch



Slit notch



Rectangular hole



Diagonal cut

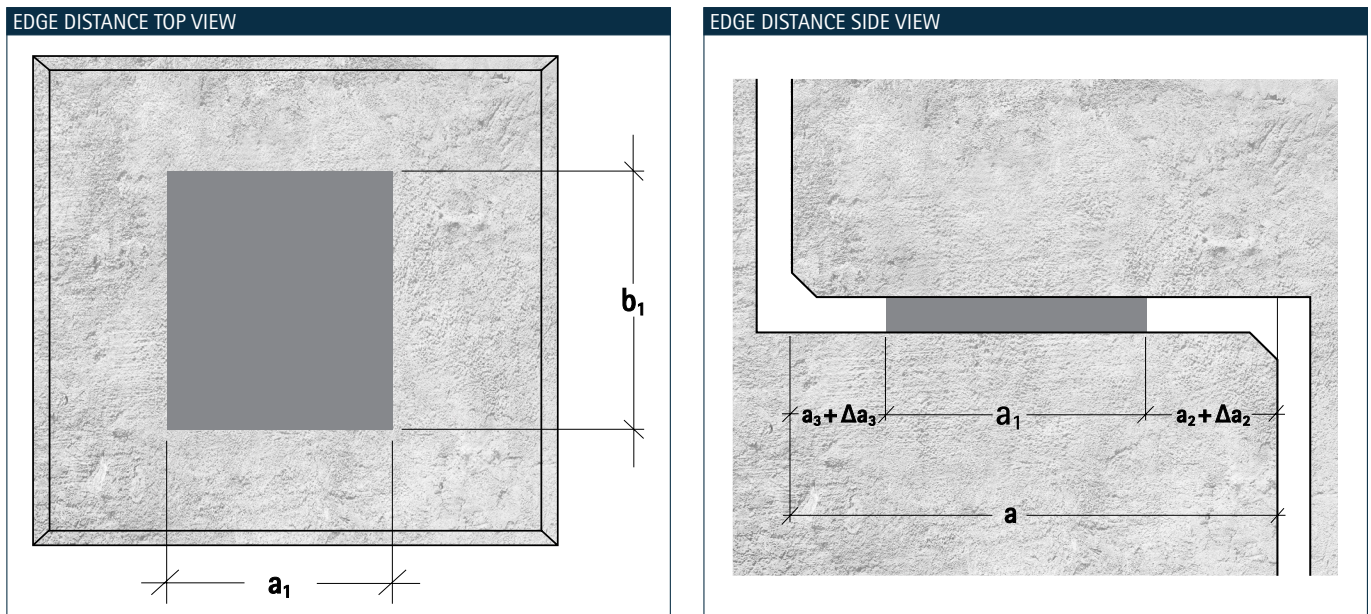


### DIMENSIONS

Bearing thickness	Sliding plate thickness	Maximum plate size	Custom sizes
11, 14 20, 30, 40 mm	2.6 mm 4.8 mm	600 mm x 600 mm	Available on request



The bearing sections must be designed in accordance with the structural specifications and standards. The required edge distances must be taken into account in accordance with EN 1992-1-1 (2011-01). The elastomeric bearing must be located within the reinforcement to allow the bearing to deform as designed and prevent spalling at the edge.



#### LEGEND

Values for determining the required edge distances according to DIN EN 1992-1-1

$a$  |  $a_1$  |  $a_2$  |  $\Delta a_2$  |  $a_3$  |  $\Delta a_3$  |  $b_1$

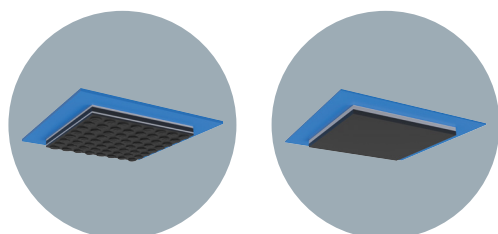
## Installation



Prior to installation, it must be ensured that the elastomer bearings and bearing surfaces are free of dirt, ice, snow, grease, solvents, oils or separating agents.

In the case of in-situ concrete construction, the bearing joints must be filled and covered so that no concrete slurry can penetrate them. The bearing's spring effect must be guaranteed.

## Extract from our client reference projects



### CIPARALI® SLIDING BEARING

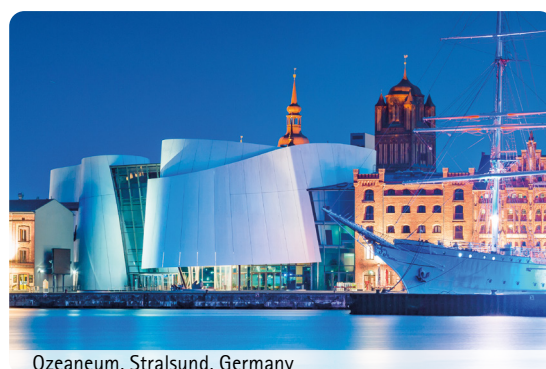
- MS Iona cruise ship, Papenburg, Germany
- Barberini Palace, Potsdam, Germany
- Pergamon Museum, Berlin Germany
- Zalando office complex, Berlin, Germany
- Fresh Market logistics centre, Moscow, Russia
- Arnhem Centraal station, Arnhem, Netherlands
- Wreck and Fishing Museum, Cuxhaven, Germany
- FC St. Pauli football stadium, Hamburg, Germany
- Das Schloss shopping centre, Berlin, Germany
- Vodafone Campus, Düsseldorf, Germany
- Mercedes-Benz Arena, Stuttgart, Germany
- Ozeaneum, Stralsund, Germany
- Central Bank of Oman, Muscat, Oman
- SoHo Tower, New York, US
- Afrikahaven harbour basin, Amsterdam, Netherlands
- Tower Riem, Munich, Germany
- Haribo production workshop, Graftschaft, Germany
- PARCOLOG logistics centre, Saint-Vulbas, France



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Am Knübel 2-4  
31020 Salzhemmendorf | Germany

Tel. + 49 5153 940 00  
Fax + 49 5153 940 049

[info@calenberg-ingenieure.de](mailto:info@calenberg-ingenieure.de)  
[www.calenberg-ingenieure.com](http://www.calenberg-ingenieure.com)

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