

# COMPACT BEARING CR2000

Unreinforced elastomeric bearing loadable to 28 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 elastomer bearings guarantee freedom from maintenance, a long service life and consequently ensure absolute damage-free construction.

HOW

KNOW



## Prevention of structural damage



Permanent loads (e.g. inherent weight of the structure), variable influences (e.g. wind) and constraining forces (e.g. from temperature changes, creep, component tolerances or settlements) result in deformations of structural components. Without the use of suitable elastomeric bearings, these impacts mentioned will cause damage to structures. In addition to cracks and spalling, there can also be large-scale destruction of the adjacent components, which need to be repaired at considerable expense in terms of time and cost.

In component connections, the elastic effect of the structural bearings transfers forces centrally and at the same time compensates for plane-parallel deviations. Shear deformations from non-permanent horizontal effects are absorbed by the elastomer bearings.

### Advantages for our customers

The extremely high bearing loads of the bearings enable filigree and cost-effective structural designs. Elastomer bearings do not require maintenance and do not need to be replaced if correctly dimensioned and installed. The designers also secure the material reserves in the event of unforeseen load conditions. The service life of the construction bearings is at least equal to the service life of the adjacent components. Our elastomeric bearings increase the value of the building by avoiding structural damage and eliminating renovation and maintenance costs. The static elastomeric bearings transmit forces, twists and displacements into the adjacent components permanently and damage-free.

### Product features

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

## The Compact bearing CR 2000

### Product description

The Calenberg Compact Bearing CR 2000 is an unreinforced elastomeric bearing with a profiled bearing surface. The main component is an ageing resistant CR material with a hardness of  $70 \pm 5$  Shore A. The material is weather and ozone resistant.

### Use and areas of application

Calenberg Compact Bearings CR 2000 are used in all areas of construction as permanently elastic articulating connection elements. In building construction they are mostly used as point bearings for providing elastic support for beams and joists. In multi-storey buildings they are also used as strip bearings under deck structures and on wall sections.

### Building authority approval

The approval for use as a construction bearing in building construction is regulated by the standard building authority certification Z-16.32-477, issued by the Deutsches Institut für Bautechnik.

### Behaviour in fire

For fire safety requirements, the fire safety report No. 3799/7357-AR by the Technical University (TU) of Braunschweig shall be taken into account. The report describes the minimum dimensions and other measures that meet the requirements of DIN 4102-2.

#### EXCERPT FROM THE TECHNICAL DATA

	Type of bearing	Bearing thickness [mm]	Compressive stress	Approval
	Unreinforced deformation bearing	11	$\sigma_{R,d} \leq 28 \text{ N/mm}^2$	Approval no. Z-16.32-435, issued by the DIBt Berlin
		16		
		21		

## Delivery forms

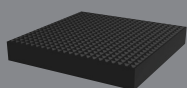


Calenberg Compact Bearings CR 2000 are supplied in almost any desired dimension for the specific structure. The bearings can be provided with holes, cut-outs, slots, etc.

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

For fire protection requirements, a Ciflamon fire protection board with a width of at least 30 mm shall be provided if required.

### STANDARD CUT-OUTS



Hole



Corner notch



Slot



Rectangular notch



Slit notch



Rectangular hole



Diagonal cut



### DIMENSIONS

Bearing thickness	Maximum cut size	Minimum cut size	Minimum width
11 mm	1250 mm x 1200 mm	70 mm x 70 mm For $b_1 \geq 100$ mm also $a_1 \geq 50$ mm	50 mm
16 mm			80 mm
21 mm			110 mm

Point and strip bearings in precast construction



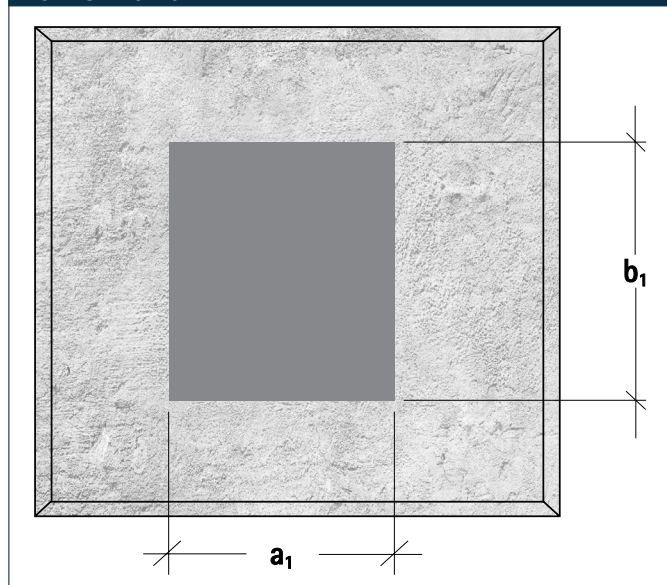
Point and strip bearings in in-situ construction  
embedded in polystyrene or Ciflamon with cover



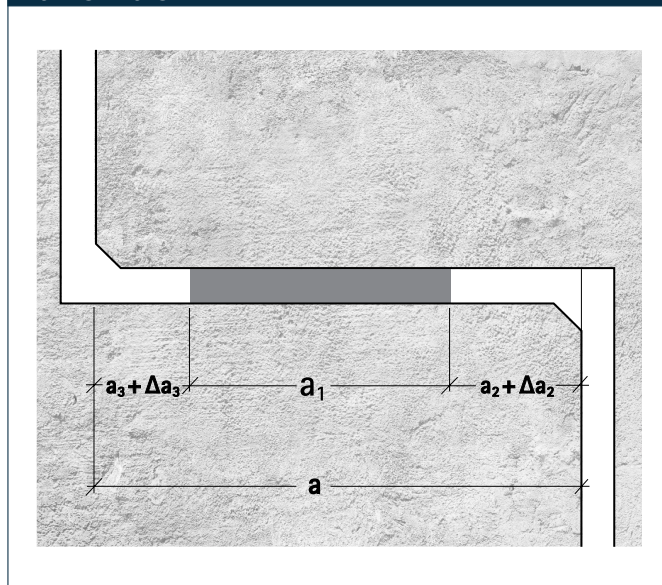


The bearing areas must be designed in accordance with the structural specifications and standards. The required edge distances shall be taken into account in accordance with DIN EN 1992-1-1 (2011-01). The elastomeric bearing must be located within the reinforcement in order to allow planned deformation of the bearing and to avoid spalling at the edge.

EDGE DISTANCE TOP VIEW



EDGE DISTANCE SIDE VIEW



## LEGEND

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

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

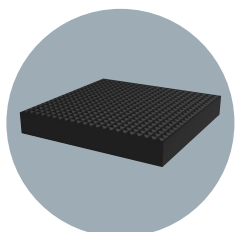
## Installation instructions



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

## Extract from our client reference projects



### COMPACT BEARING CR 2000

- Refurbishment of Volksbad, Nuremberg, Germany
- New school campus Hamburg, Germany
- Edeka central warehouse, Neumünster, Germany
- Housing development „Zum Goldenen Adler“, Oberried, Germany
- Amazon logistics centre, Hof, Germany
- Babor production and logistics centre, Eschweiler, Germany
- New multi-purpose hall, Lauchheim, Germany
- Lidl logistics centre Hanau, Germany
- Airbus assembly plant Hamburg, Germany





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