

# COMPACT BEARING S 65

Unreinforced elastomeric bearing loadable to 14 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 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 (EPDM)
- Approved by building authorities

## The Compact bearing S 65

### Product description

The Calenberg Compact Bearing S 65 is an unreinforced elastomeric bearing with smooth contact surfaces. The main component is an ageing resistant EPDM elastomeric material with a hardness of  $65 \pm 5$  Shore A. The material is weather and ozone resistant.

### Use and areas of application

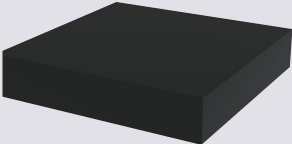
Calenberg Compact Bearings S 65 are used in all areas of construction as permanently elastic articulating connection elements. In building structures, their main use is as point bearings for providing elastic support to beams and joists, and as strip bearings under decks and walls.

### Building authority approval

The approval for use as a construction bearing in building construction is regulated by the standard building authority certification Z-16.32-474, 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 minimum dimensions and other measures that fulfil the requirements of DIN 4102-2.

EXCERPT FROM THE TECHNICAL DATA				
	Type of bearing	Bearing thickness [mm]	Compressive stress	Approval
	Unreinforced deformation bearing	5*	$\sigma_{R,d} \leq 14 \text{ N/mm}^2$	Approval no. Z-16.32-474, issued by the DIBt Berlin
		8*		
		10		
		15		
		20		
		25		
		30		

\* without building authority approval



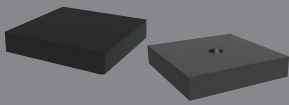
## Delivery forms

Calenberg Compact Bearings S 65 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
5*, 8*, 10, 15, 20, 25, 30 mm	1200 mm x 1200 mm	70 mm x 70 mm for $b_1 \geq 100$ mm also $a_1 \geq 50$ mm	5 x bearing thickness

\* without building authority approval

Point and strip bearings in precast construction



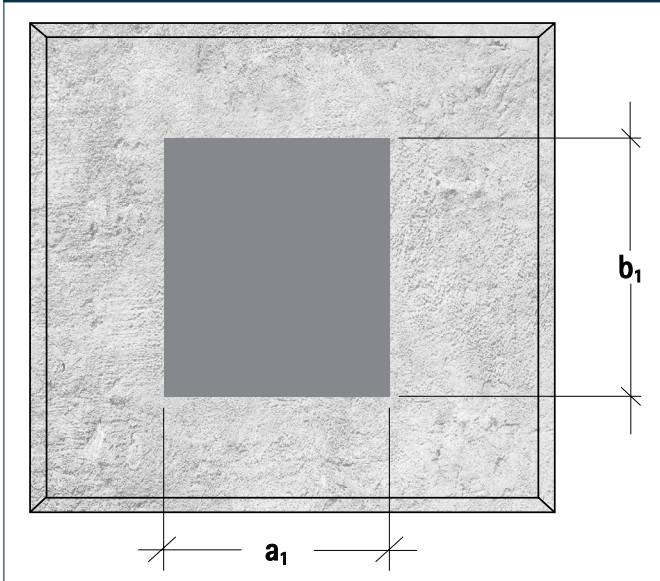
Point and strip bearings in in-situ construction  
embedded in polystyrene or Ciflamon with cover



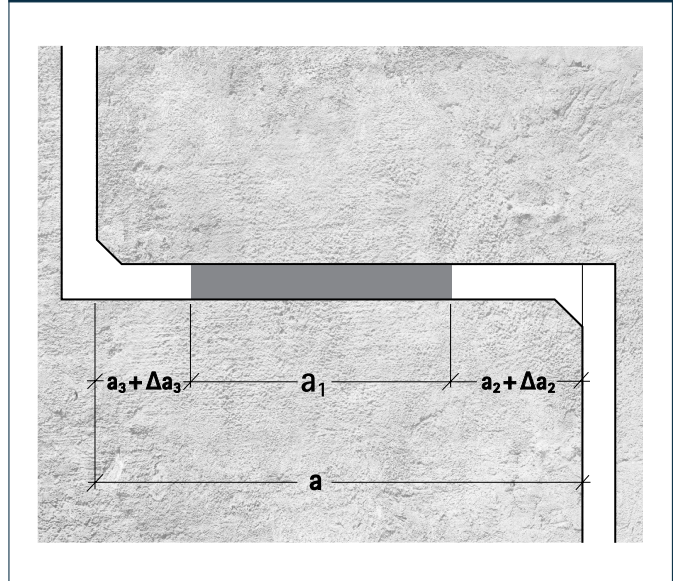


The bearing areas must be designed in accordance with the structural specifications and standards. The required edge distances shall be taken into account in accordance with DIN EN 1992-1-1 (2011-01). The elastomeric bearing must be located within the reinforcement in order to allow planned deformation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

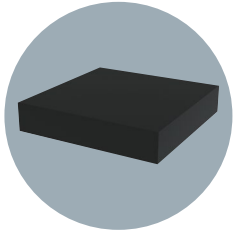


Prior to installation, it must be ensured that the elastomer bearings and bearing surfaces are free of dirt, ice, snow, grease, solvents, oils or separating agents.

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.

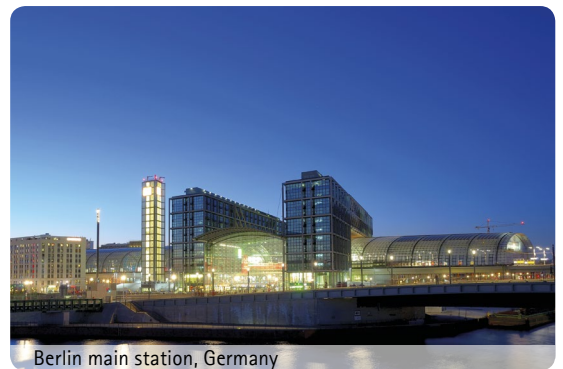


## Extract from our client reference projects



### COMPACT BEARING S 65

- Amazon, Sosnowiec, Poland
- Novozymes Innovation Campus, Lyngby, Denmark
- Siemens Plant, Duisburg, Germany
- Metro Cash & Carry shopping centre, Moscow, Russia
- Main station, Berlin, Germany
- Airbus, Hamburg, Germany





Am Knübel 2 - 4  
31020 Salzhemmendorf | Germany

Tel. + 49 51 53 - 94 00-0  
Fax + 49 51 53 - 94 00-49

info@calenberg-ingenieure.de  
www.calenberg-ingenieure.de

A LISEGA Group Company



The contents of this publication are the result of many years of research and experience gained in the application of this 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.

We reserve the right to make technical modifications in the course of product development.