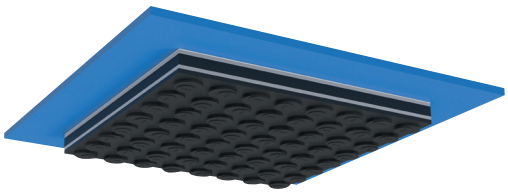
CALENBERG



CIPARALL SLIDING BEARING TYPE ST

11, 20, 30 and 40mm thickness

Reinforced sliding point bearing with a load capacity up to 28 N/mm²

A LISEGA Group Company

SECURE AND DURABLE BEARINGS

INCREASE LIVING COMFORT WITH CALENBERG

The combination of elastomeric deformation and sliding bearings compensates for greater displacements, angular rotations and imperfections while keeping the load centred.
The superior quality rubber material used in our elastomer bearings is maintenance-free, has a long service life and will ensure that the structure remains free of damage.

KNOWHOW

Prevention of structural damage

Constant loads (such as the dead weight of the structure), variable effects (such as wind) and constraining forces (such as from temperature changes, creep, component tolerances or settlement) cause components to deform. Our Ciparall sliding bearing absorbs any displacement that cannot be absorbed by a deformation bearing.
Without the use of suitable sliding bearings, the forces mentioned above cause structural damage. In addition to cracks and spalling, extensive damage to adjacent components may also occur, which requires considerable time and financial resources to repair. In structural connections, the elastic effect of the structural bearings transfers forces centrally whilst simultaneously compensating for deviations in plane parallelism.

The benefits for our customers

The tremendous load-bearing capacities of the sliding bearings permit the use of lightweight and economical designs. Sliding bearings do not require maintenance or replacement if they are correctly dimensioned and installed. The material allowances also safeguard the planners should any unforeseen stress occur. The service life of the sliding bearings is at least equal to the service life of the adjacent components. Our sliding bearings increase the building's value, as they prevent structural damage and eliminate renovation and maintenance costs. Ciparall sliding bearings transfer forces to adjacent components permanently and damage-free, while absorbing torsion and displacement as planned.

ADVANTAGE FOR OUR CUSTOMERS

- Form-independent load capacity up to 28 N/mm^2
- Steel-reinforced, heavy-duty, combined sliding and deformation bearing
- Dimensionally stable sliding surface
- Top-quality elastomer material (CR)
- Absorption of vertical loads, horizontal displacements and torsions
- Almost stress-free thanks to excellent friction coefficients
- Very low creepage
- Maintenance-free
- Resistant to weathering and ozone
- Easy dimensioning
- General building authority approval
- Increased service life

The Ciparall sliding bearing type ST

Product description

The Calenberg Ciparall sliding bearing type ST is a combined sliding and deformation bearing.
The bearing body's main component is an ageing- and ozone-resistant CR material with a hardness of 70 ± 5 Shore A, vulcanised steel reinforcement and a PTFE coating. The sliding plate is made of glass fibre reinforced plastic (GRP). The materials are weather-resistant and subject to quality control.

Functional features

The Ciparall sliding bearing type ST permits virtually stress-free movement of components. Due to the low coefficients of friction, no restoring forces result from displacement.
Ciparall sliding bearings type ST provide damage-free transmission of applied forces while centring the load. Component tolerances, irregularities in the support surface and distortions are not transferred to the sliding layer. The dimensionally stable sliding surface remains plane-parallel and the sliding properties are retained. These are the prerequisites for lasting functionality and safety.

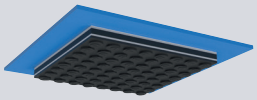
Building authority approval

Its suitability for use as a sliding bearing in building construction is regulated by the general building authority approval no. Z-16.22-534, issued by the German Institute of Building Technology.

Fire behaviour

The fire protection assessment no. 3799/7357-AR issued by the Technical University of Braunschweig must be observed in case of fire protection requirements. This assessment contains specifications for the minimum dimensions and other measures that meet the requirements of the DIN 4102-2 standard.

EXTRACT FROM TECHNICAL DATA

	Name of the bearing	Bearing type	Bearing thickness [mm]	Compressive stress	Approval
	Ciparall sliding bearing, steel reinforced	Reinforced sliding point bearing	11, 20, 30, 40	max. $\sigma_{R,d} = 28$ N/mm²	Z-16.22-534

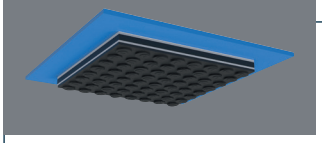
Delivery forms

Calenberg sliding bearings are delivered in virtually every desired size to suit the structure.
The bearings can be provided with (oblong) holes, cut-outs, slots, etc.

For cast-in-place concrete construction, the bearings are factory-coated with polystyrene and fitted with a waterproof plastic cover.

Where fire protection requirements apply, a Ciflamon fire protection board with a minimum width of 30 mm will be provided, to be installed around the perimeter of the sliding plate.

STANDARD CUT-OUTS



- Hole
- Oblong hole
- Slot cut-out
- Angled cut
- Corner cut-out
- Rectangular cut-out
- Rectangular hole

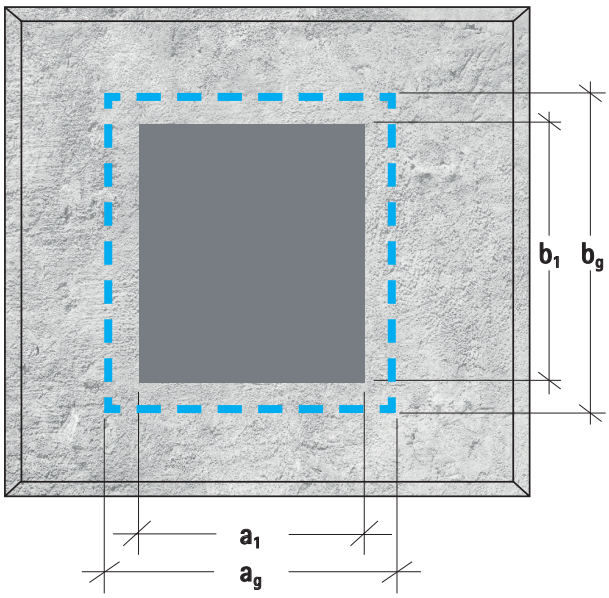
DIMENSIONS

	11 mm thickness	20 mm thickness	30 mm thickness	40 mm thickness	Maximum cutting size	Minimum cutting size
Sliding plate	2.6 mm	4.8 mm			2000 mm x 1000 mm	The size of the bearing body increased by the amount of displacement
Bearing body	8.4 mm	15.2 mm	25.2 mm	35.2 mm	600 mm x 600 mm	a ≥ 120 mm b ≥ 120 mm

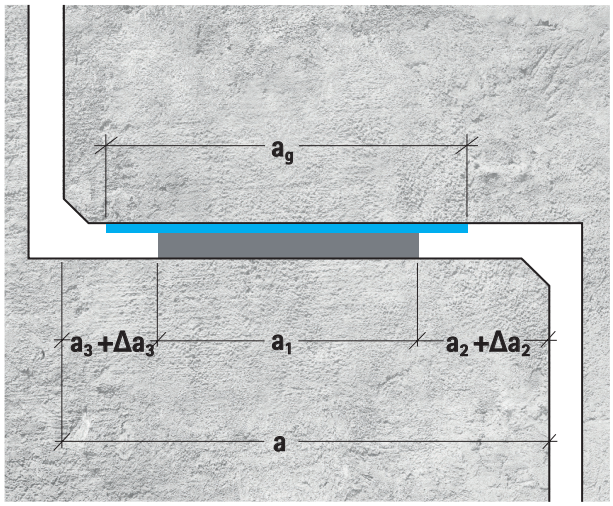
Constructive execution

Support zones must be designed in accordance with technical specifications and construction standards. Values for the required edge clearances are determined according to EN 1992-1-1 (2011-01). In reinforced concrete construction elements, the elastomer bearing body must be inside the reinforcement to allow for systematic deformation of the bearing and to prevent damage such as cracks and spalling at the unreinforced edges of the concrete.

EDGE CLEARANCE, TOP VIEW



EDGE CLEARANCE, SIDE VIEW



KEY

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

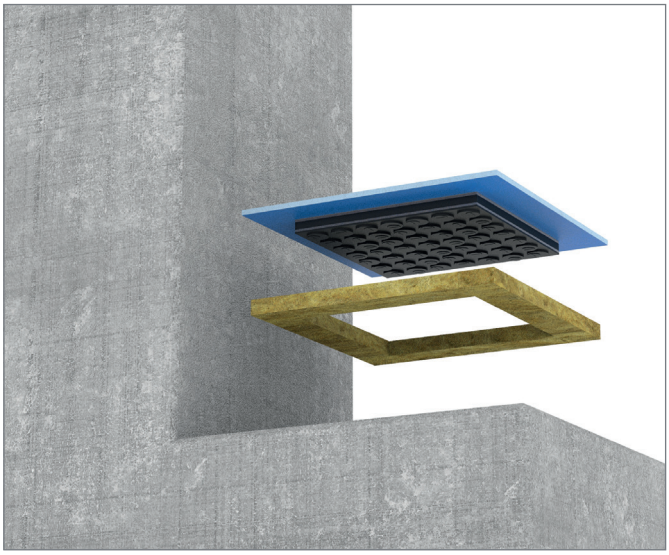
a | a_1 | a_2 | Δa_2 | a_3 | Δa_3 | b_1 | a_g | b_g

Sliding plate

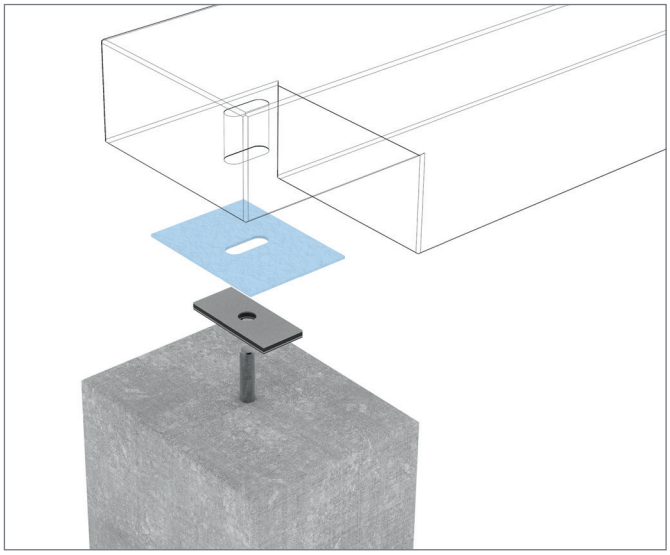
Installation instructions

Prior to installation, ensure that the elastomer bearings and support surfaces are free from dirt, burrs, blowholes, ice, snow, greases, solvents, oils and release agents.

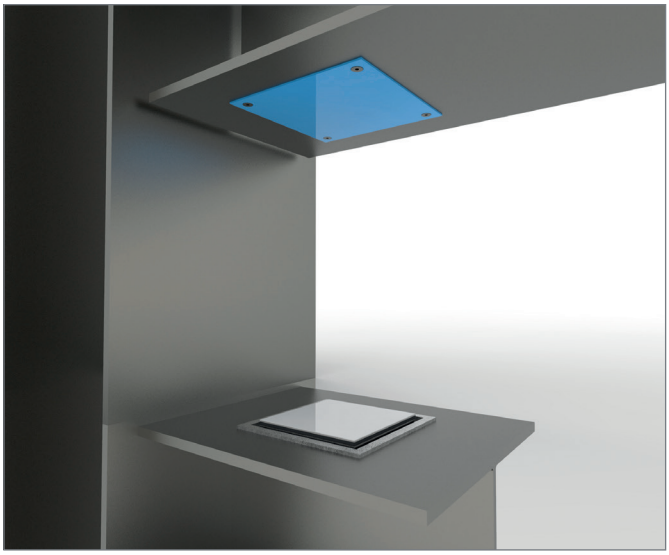
In cast-in-place concrete construction, the bearing joint is filled and covered to prevent fresh concrete from penetrating. Free deformability and mobility of the support must be guaranteed!



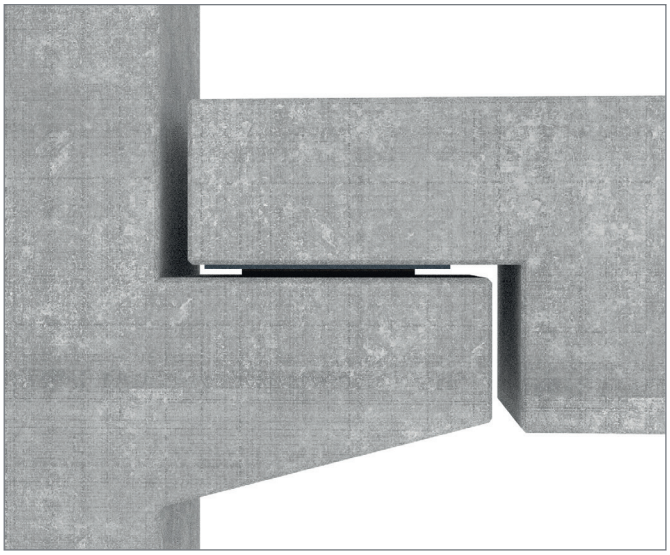
Model F90 / F120



Model with hole/oblong hole

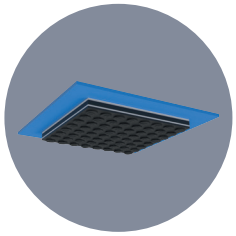


Fixing the position in steel structures



Installation in precast construction

Extract from our customer references



CIPARALL SLIDING BEARING TYPE ST

- K-Citymarket, Porvoo, Finland
- Logistics centre for the Hagebau Group, Walsrode, Germany
- Hotel Courtyard London: „Sky Bar", London, UK
- F1 Hungaroring Race Track: Grandstands, Hungary
- Extension to the Federal Chancellery, Berlin, Germany
- Data center maincubes FRA02, Schwalbach am Taunus, Germany
- New construction Skywalk, Hamburg, Germany
- New "all-electric" office buildings, Siemens Campus Erlangen, Germany
- Skydome, MS P&O Iona, Papenburg, Deutschland
- Apartments at Donaufeld Ost, Vienna, Austria
- FAIR particle accelerator facility, Darmstadt, Germany
- New station area, Ede-Wageningen, Netherlands
- Pandion Next Condominiums, Düsseldorf, Germany
- PROMAX Stadium, Skierniewice, Poland
- Federal printing works Berlin, Germany

Hagebau Group logistics centre

Federal printing works Berlin, © Ingo Schulz/Alamy

Skydome, MS P&O Iona

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