Seismically isolated sliding bearing

To provide the seismic isolating building with a higher performance, Nippon PILLAR has developed the seismically isolated sliding bearing to which the fluorine resin of low-friction characteristic is applied. Installing this seismically isolated sliding bearing at the underside of relatively lightweight structure such as attached facility (elevator, staircase, surrounding short-story) will allow the seismic isolation system to be further effective.

Seismically isolated sliding bearings are available in three types, each with a different coefficient of friction, to provide seismic isolation performance for a variety of base-isolated structures. Type A ($\mu = 0.011$), Type B ($\mu = 0.02$), and Type C ($\mu = 0.03$).

Type A is characterized by a low friction coefficient, and the sliding bearing is slide at low friction coefficient. Type C has the highest friction coefficient, followed by Type B.

### Structural Features

- **Example of construction**
  - Slab on grade
  - Sealing PLAFON (Type A)

- **Structure**
  - Building
  - Slab on grade
  - Sealing PLAFON (Type A)
  - Bearing Type: PLAFON
  - Piston: SLA-400

### Standard Design Specification

#### Standard Material

1. Metallic material: S400, (JIS G 3101), S5000 (JIS G 4303:4300-4305)
2. Bearing material: PLAFON (Type A), PLAFON (Type B), Polymide PIA (Type C), SUS304 + PTFE Coating (Type A)
3. Rubber: CR rubber (JIS K 6386-08)
4. Painting: Zircnic paint

#### Standard Design Criteria

- **Friction Coefficient**
  - $\mu = 0.011$, $\mu = 0.02$, $\mu = 0.03$

- **Bearing Pressure Dependence of Friction Coefficient**
  - Type A: $\mu = 0.011$
  - Type B: $\mu = 0.02$
  - Type C: $\mu = 0.03$

#### Important Notes

- The friction coefficient cannot exceed the specified value.
- The bearing pressure should not exceed the maximum allowed pressure.
- The building should be designed to accommodate the specified friction coefficient.

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**Building Standards Act, Article 37 Item 2**

PILLAR seismically isolated sliding bearings have been approved by the Minister of Land Infrastructure and Transport based on the Building Standards Act, in accordance with the seismic isolation materials requirements of the Building Standards Act. Approval No.: MVI-BR-0341 Approval No.: MVI-BR-0342 Approval No.: MVI-BR-0293

**Building Standard Law, 37th Article**

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