



What is "Seismic Isolation (SI)"?

About JSSI

What is "Seismic Isolation (SI)"?

> A primer of SI
(PDF)

> Principle of SI

> SI Devices

> Information
related to SI

SI Devices

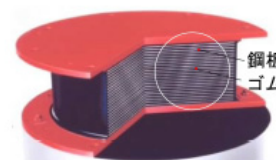
What kinds of Devices for seismic isolation used in buildings?

Generally, isolators and dampers are used. There are three types of isolators as shown below.

▶ Isolator

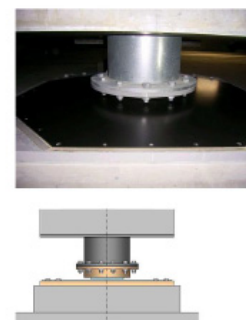
Elastomeric Isolator :

It consists of steel and rubber, it made of sandwiches of soft rubber sheets and hard steel plates as shown in the Photograph. It works as a bearing to sustain the weight of the building and is able to move the building laterally. Soft rubber reduces the building vibration to slow shaking, and hard steel plate contributes to sustain the weight of building.



Slider :

The slider has a coating of PTFE and a stainless steel plate finished with smooth surface as a mirror in the Photograph. It works as bearing to sustain the weight of the building and is able to move the building laterally on the surface of the plate with a certain amount of friction.



Rotating Ball Bearing :

It consists of ball bearings with retainers and rails or plates as shown in the Photograph. It works as a bearing to sustain the weight of the building and is able to move the building laterally without friction.



▶ Damper

Usually for a damper is used to suppress vibration, damper is used usually. Mainly three types of dampers are used as follows;

Steel damper :

It utilizes the elasto-plasticity property of steel. The hysteretic loop contributes to energy

dissipation. There are two types of steel dampers, one is square in section and other is round in section of the rods as shown in the Photograph.



Lead damper :

It utilizes the plasticity property of lead. The hysteretic loop contributes to energy dissipation. There are two types of lead dampers, one has a round section and a curved shape as shown in the Photograph and other has a cylindrical plug in core of the elastomeric isolator.



Oil damper :

It utilizes the viscous property of fluid. Oil or silicon are used as the fluid. Viscous resistance contributes to energy dissipation. Oil damper is a cylindrical shape as shown in the Photograph.

