Ideal Brain

Isolation System simply arranging on the floor

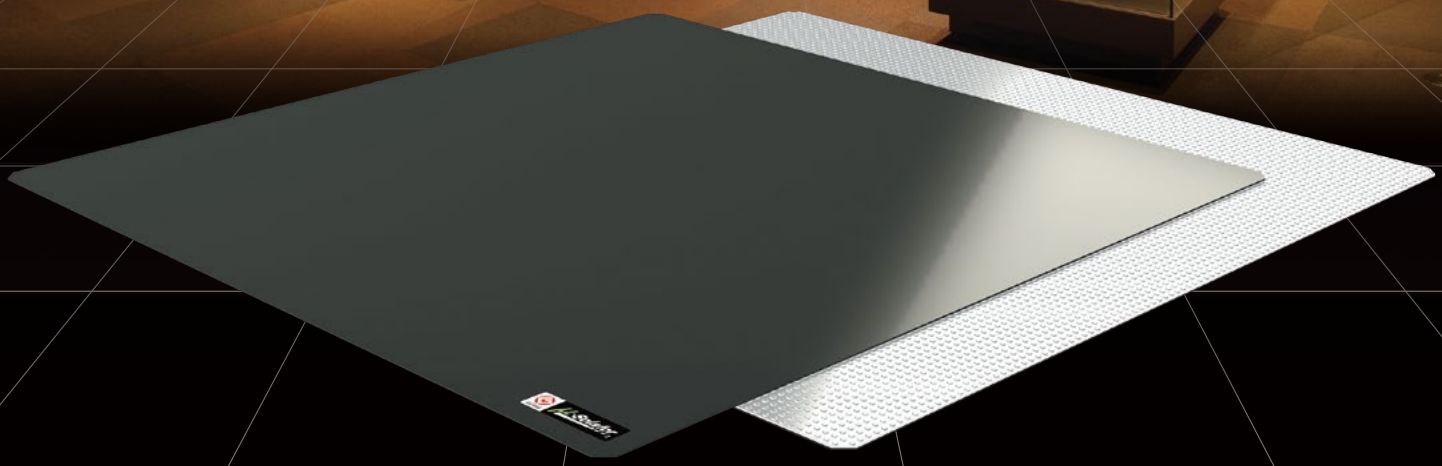
Isolator for Museum

Toyokan | Tokyo National Museum

μ-Solator is preserving national treasure from earthquake damage.

μ-Solator™

ミューソレーター



It's Only 3mm.

GOOD DESIGN AWARD 2016
GOLD AWARD

PATENTED

The Thinnest in the World.

Features of μ-Solator

1. In any earthquake, seismic intensity can be reduced to 100gal or less (seismic intensity 4)
2. 3mm thickness can keep the appearance of the object.
3. With the optimal friction factor of 10%, μ-Solator™ does not work unnecessarily in a daily life.

μ-Solator ミューソレーター TM

Isolator for Museum

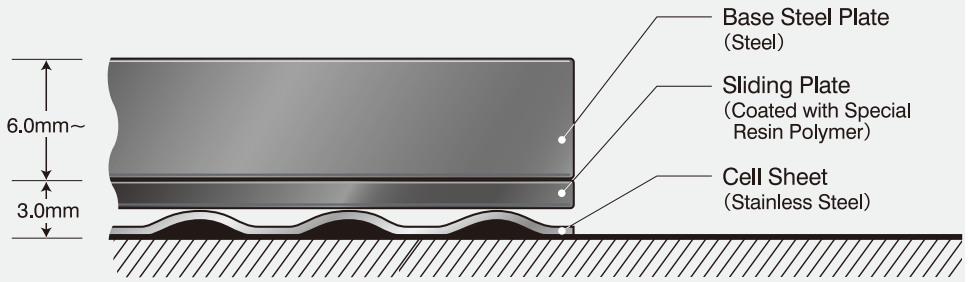
Most Simple Isolation Device

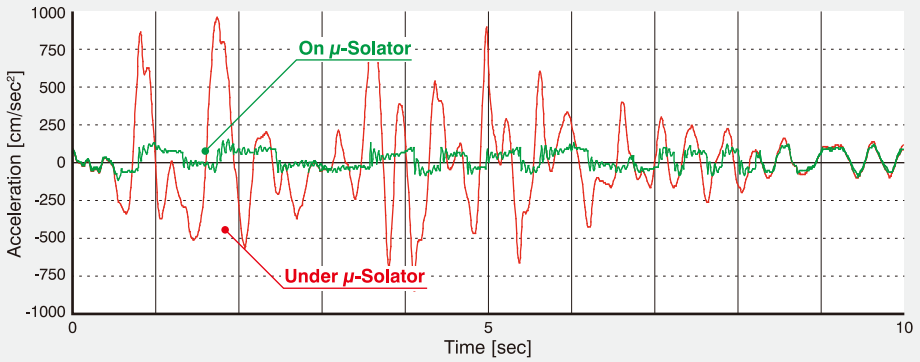
Isolation needs to be activated, without working in a normal situation, only in a large earthquake having an acceleration of 100cm/sec2 or more.

This is achieved by μ-Solator™ with the optimal friction factor of 10%.

3D Shaking Table Experiment

Combination of a plane surface and a curved surface creates a friction factor of 10%

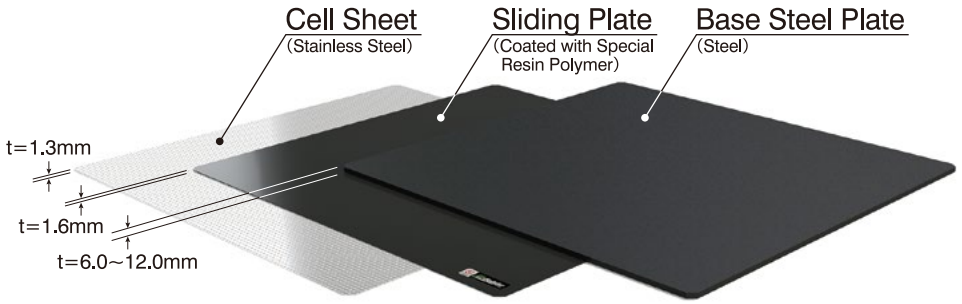




1.2 times level of the 1995 Southern Hyogo Prefecture Earthquake

Installation in a Museum

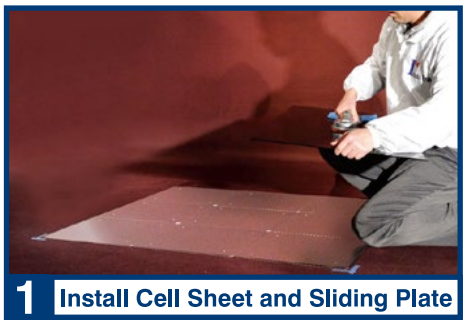
Standard Set and Specifications



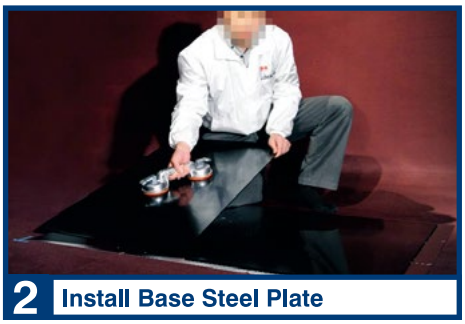
Items	Cell Sheet	Sliding Plate	Base Steel Plate
Size	500mm × 500mm t=1.3mm	500mm × 500mm t=1.6mm	Order made t=6.0~12.0mm
Weight	2kg	3kg	Less than 50kg
Material	Stainless Steel	Steel *Coated with Resin Polymer	Steel

Installation for Display Stand

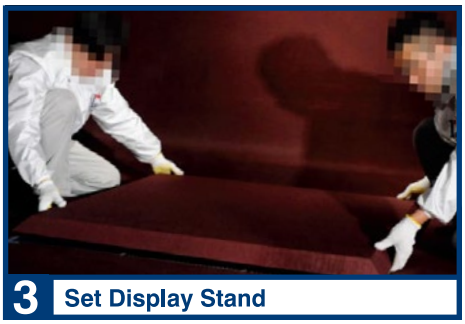
μ-Solator arranged only under the display stand can achieve Isolation at low cost. Compared with a conventional isolation system of this kind, with the thickness of the thinnest in the world, μ-Solator can keep the appearance thebject



1 Install Cell Sheet and Sliding Plate



2 Install Base Steel Plate

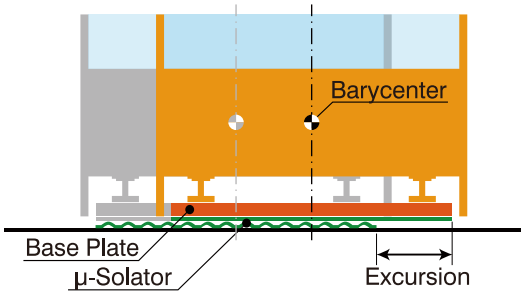


3 Set Display Stand

Complete National Treasure “Ashura statue”

μ-Solator™ is hidden under the display

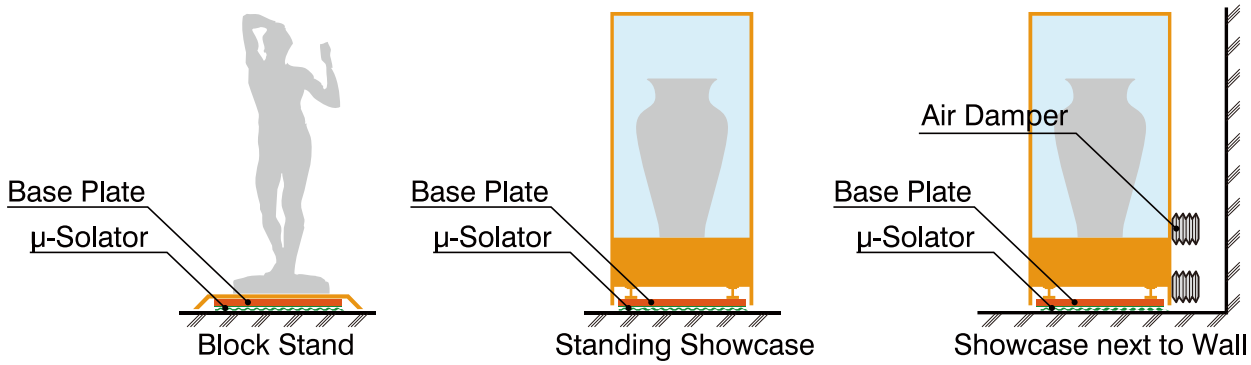
Setting Exhibits



When using μ-Solator for the display, a base steel plate shall be attached to μ-Solator for purposes below.

1. Stabilizing an action of the light object by functioning as a weight.
2. Preventing the sliding plate from being bended and from contacting the floor.

Elevation View of Exhibition Stands



Installation for Entire Rooms

Isolation can apply to an entire floor of the exhibition room and the storage room.

μ-Solator™ does not have a restriction from the ceiling height, accordingly Isolation can apply to almost any kind of rooms.

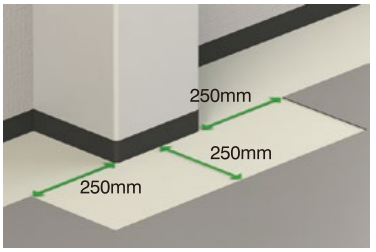
1 Install Cell Sheets

2 Install Sliding Plates

3 Lay Floor Covering

Complete !

Surrounding circumstances



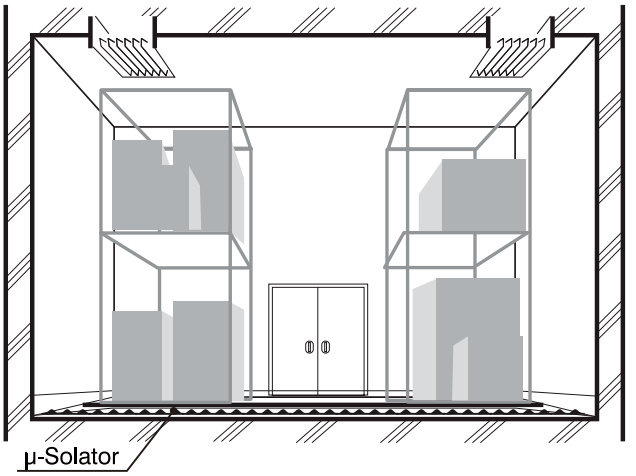
μ-Solator moves within the range of approximately 250mm during an earthquake, Therefore, μ-Solator™ shall be installed at a position separated from the wall and/or pillar at a distance of 250mm or more (rcommended distance) therebetween.

Unexpected earthquake

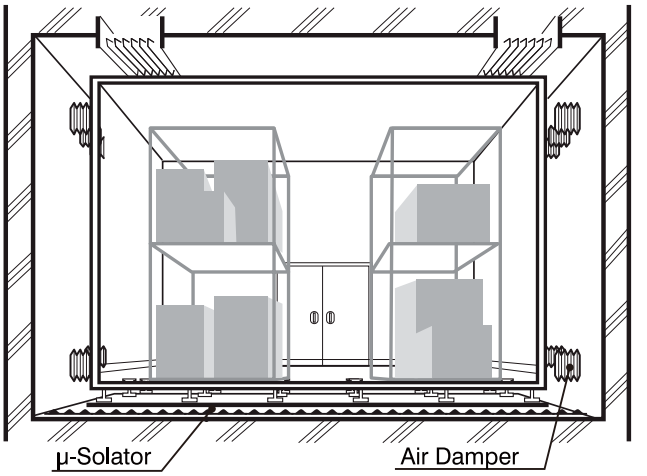
Air Damper

In the event that an unexpected earthquake occurs, an air-damper absorbs the shock and minimizes damage.

Elevation View of Entire Rooms



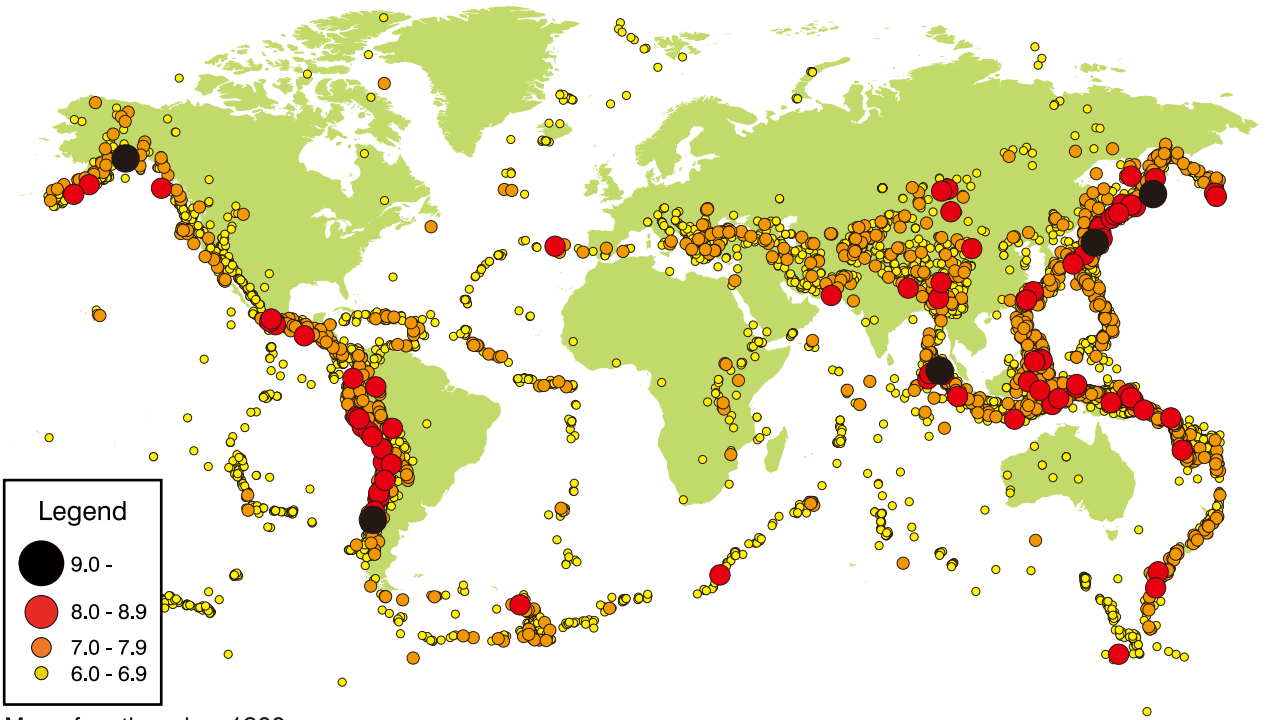
Unloading-on-Floor Type



Double-Wall Type

When does an earthquake occur ?

Earth is an active place and earthquakes are always happening somewhere.
Major earthquakes, greater than magnitude 7, happen more than once per month. "Great earthquakes", magnitude 8 and higher, occur about once a year.

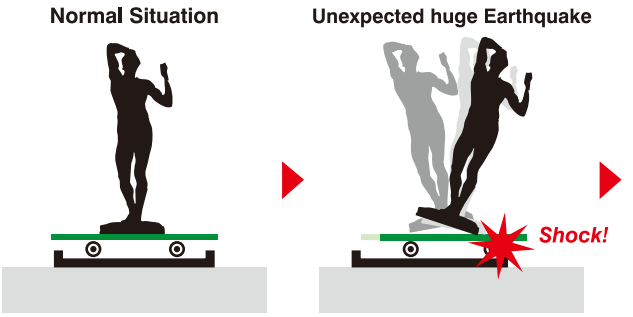


Map of earthquakes 1900 ~

μ-Solator design includes a “Fail-Safe” factor.

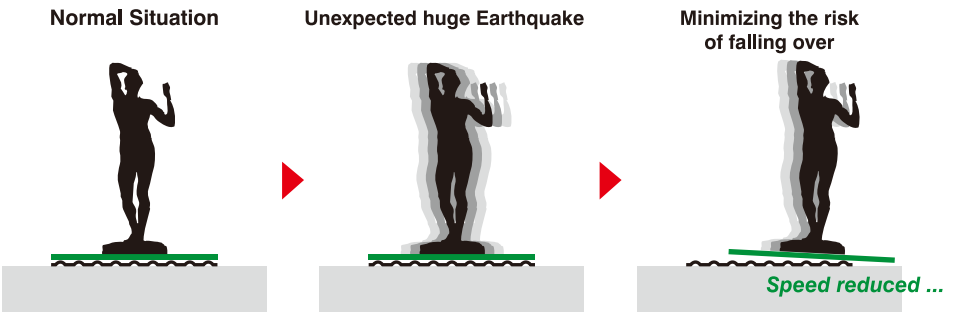
“The shake” has occurred beyond the scope of our assumption.

Conventional Isolator



In a conventional Isolator, shake exceeding the movable range results in increasing the risk of falling over and dropping.

μ-Solator



Even when μ-Solator™ exceeds the movable range, a small gap in a vertical direction of 1.3mm can minimize the risk of falling over although the acceleration speed slightly increases.

μ-Solator™
Isolator for Museum

Specifications

Isolation Mechanism	Sliding Isolation
Size	μ-Solator™ : 500mm × 500mm, t=3mm Base Steel Plate : 500mm × 500mm, t=6.0~12.0mm *Difgferent size can be treated as a special order.
Isolation Capacity	In any earthquake, seismic intensity can be reduced to 100gal or less (excluding movement in a vertical direction and pulse response).
Displacement Limits	±250mm (Recommended)
Load Limits	100 tons per m^2 (Concentrated limit is 1 ton per leg)
Maintenance	Maintenance Free
Warranty	1 year after delivery date
Note	*No warranty is provided for objects being placed on μ-Solator™. *No generations of zinc whiskers. *Specifications are subject to change without notice.
Patents	The μ-Solator™ products are protected by patents in the United States and elsewhere. US Patent Nos. 9,212,480 | 9,175,490

⚠ Notice

1. μ-Solator™ is the system that reduces horizontal vibrations causing a falling over by an earthquake. μ-Solator™ is not applicable to vibrations in a vertical direction by an earthquake, mechanical vibrations, and vibrations without causing a falling over. Those vibrations are out of scope of the performance of μ-Solator™.
2. μ-Solator™ is the system reducing the risk of falling over by an earthquake and therefore no damage is assured.
3. μ-Solator™ shall be surrounded by an operational space for not interfering with other objects during an earthquake and the operational space shall be empty. The performance of μ-Solator™ may deteriorate and may lose its function if μ-Solator™ moves beyond the operational space during an earthquake.
4. After a large earthquake has occurred, the situation of the object shall be checked. μ-Solator™ may have a residual displacement and, if the displacement is observed, please contact below.
5. Do not push the loaded object carelessly. The object may move suddenly.
6. Due to a defect of the base portion (free access floor, slab etc.) and obstacles therefrom, there may be cases where μ-Solator™ does not work.
7. When μ-Solator™ is installed on 6th floor or above, verification of the installation shall be carried out.
8. When μ-Solator™ is removed and reused, cleaning treatment is recommended (extra charge).
9. Please feel free to contact us if you have any questions.

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Delving into The Power of Nature.
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