Supply Records

Bridgestone's seismic isolation bearings are used in Japan as well as overseas. In Japan, they are widely used from Hokkaido to Okinawa in various applications, and are rated as tough seismic isolation bearings that can withstand even severe conditions.

Base-isolated System
Seismic isolation devices are installed at the base of buildings



High Rise Building
Island Tower Skyscraper (Fukuoka)
Design: Takenaka Corporation and Tsukasa Architectural Design Office JV
Construction: Takenaka Corporation and Matsumoto Group JV



Communication Facility
NTT Docomo Shikoku
Design: NTT Facilities
Construction: Taisei Corporation



School
Hokuriku Gakuen
Design: Kajima Corporation
Construction: Kajima Corporation



Hospital
Showa University Koto Toyosu Hospital
Design: AXS STATOW Inc.
Construction: Taisei Corporation

Mid-story Isolated Structural System
Seismic isolation devices are installed between the mid floors



Company's House
Company's House
Amitie Shin Osaka
Design: Shimizu Corporation
Construction: Shimizu Corporation



Government Office Building
Kotoku Ward Office
Design: Takenaka Corporation
Construction: Takenaka Corporation

Retrofit
Install seismic isolation devices in order to reinforce existing buildings



Important Cultural Property
Osaka City Central Public Hall
Design: Osaka City, Sakakura, Hirata, Aoyama, Shinnisetsu JV
Construction: Shimizu, Nishimatsu, Daitetsu JV

Examples of other applications

- Office building
- Research facility
- Computer centre
- Art gallery, museum
- Welfare facility for the elderly
- Factory (precision devices, chemical related)
- Warehouse (high-class items storage)
- Government office (public office, court etc.)
- Disaster prevention facility (police station, fire station)



High Rise Building
Capital Mark Tower
Design: Nikken Housing System, AXS STATOW Inc.
Construction: Kajima Corporation



Hospital
Osaka General Hospital of West Japan Railway Co..
Design: JR West Japan Consultants Company
Construction: Obayashi, Daitesu, Okumura JV



Important Cultural Property
Tokyo Station Marunouchi Station Building
Design: East Japan Railway Company Tokyo Construction Office, Tokyo Electrical Construction & System Integration Office, JR East Design Corporation, JR East Consultants Company
Construction: Tokyo Station Marunouchi Station Building Preservation & Restoration JV Company

Bridgestone's Sales and Support Organization

Bridgestone has been selling seismic isolation bearings for more than 40 years, and we have achieved about 75,000 units of total supply records until the end of 2024. We believe this is the track record of trust from our customers towards our company's persistent research and development on rubber.

We have sales offices all over Japan in order to respond to our customers' needs promptly, and have formed a strong support organization so our products can be effectively used.

For example, if you work on the design of the seismic isolation structure, we provide technical follow-up support by our engineers and LAP2+t※ free of charge. After delivery, we can provide aftersales service for inspection, and support including the maintenance of the products so they can perform as expected during earthquakes.

※Seismic Isolation Device Allocation Planning Support System

Introducing the Seismic Isolation Simulation Vehicle

Bridgestone was the first seismic isolation bearing manufacturer to introduce※ the seismic isolation simulation vehicle that can simulate the earthquake tremors felt in the apartment of a conventional fixed-base building and that of a seismic isolation building in order to get a better understanding of the effects of the seismic isolation system. Based on the difference of tremors one can realize the safety provided by the seismic isolation system. Our seismic isolation simulation vehicles go around Japan to help that more people can understand the safety of seismic isolation buildings.

※First seismic isolation bearing manufacturer to introduce the seismic isolation simulation vehicle among the member companies of JSSI (The Japan Society of Seismic Isolation)



Seismic Isolation Website

Bridgestone has launched a special website "Seismic Isolation Website" to understand the mechanism easily for people who are interested in seismic isolation. On this site, we have prepared comments from people living in apartments of seismic isolation buildings, so that everyone can really feel the usefulness of seismic isolation systems. We are planning to expand the contents gradually in the future.



https://www.bridgestone.co.jp/sc/menshin-web/

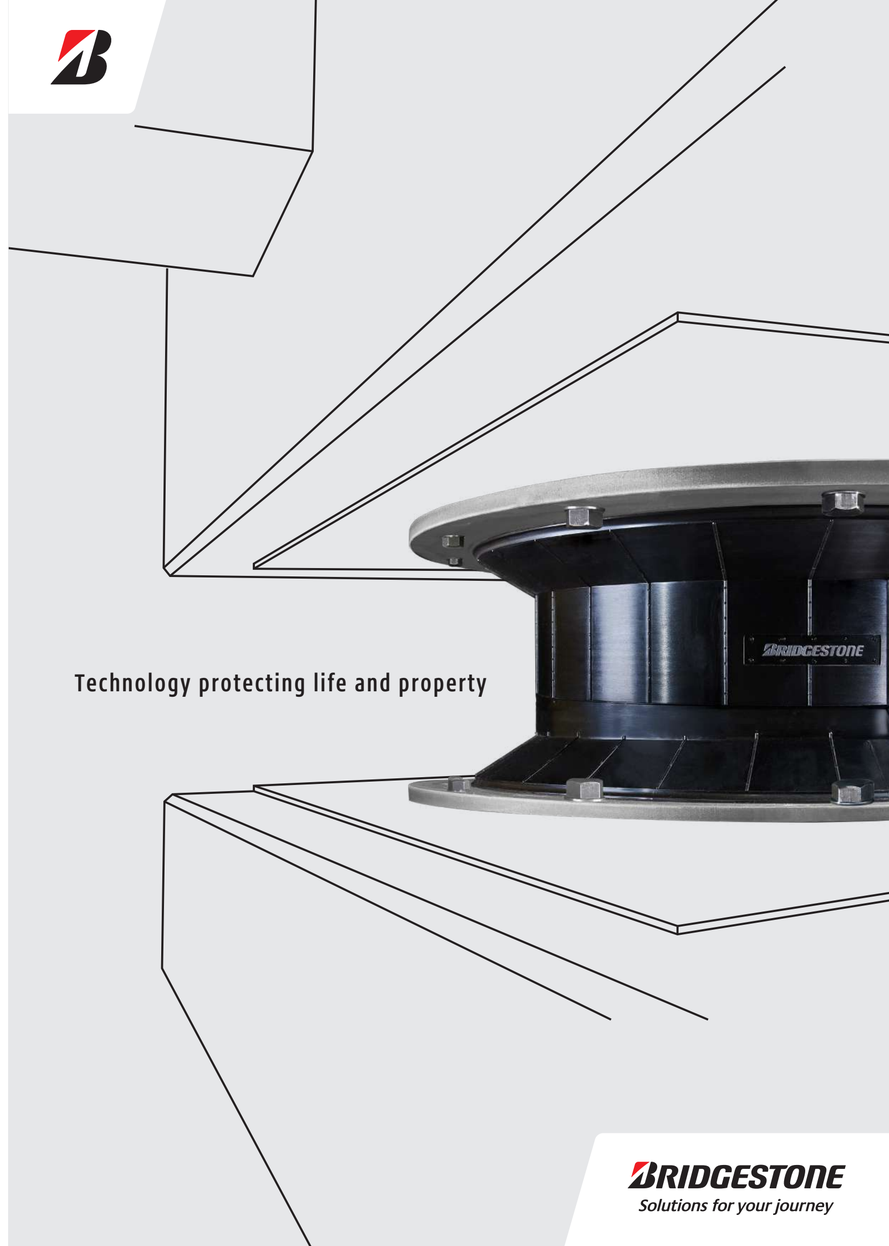
●Specifications and parameters may vary. If you need further information please contact Bridgestone Corporation or any of our sales offices.
●Contents of this catalogue are as of October 2025

Bridgestone Corporation Building & Industrial Solutions Business Planning Department
1 Kashio-cho, Totsuka-ku, Yokohama-shi, Kanagawa 244-8510, Japan
TEL:045-330-1540 MAIL:zzy310.menshin@bridgestone.com
URL: http://www.bridgestone.com/products/diversified/antiseismic_rubber/index.html
More information on seismic isolation https://www.bridgestone.co.jp/sc/menshin-web/

Bridgestone Diversified Products (China) Co. Ltd
Rm.1016 Genway Bldg.No.188 Wangdun Road, Suzhou Industrial Park,
Suzhou, Jiangsu 215028
TEL: +86-512-62581088 MAIL: sales.bsdc.suzhou@bridgestone.com

BRISA Bridgestone Sabanci Tyre Manufacturing and Trading INC.
Kısıklı Cad. Şehit Teğmen İsmail Moray Sok., No:2/1 34662 Altunizade, Istanbul, Turkey
Tel: +90 (216) 544 35 00 / 2192
MAIL : brisa.info@brisa.com.tr

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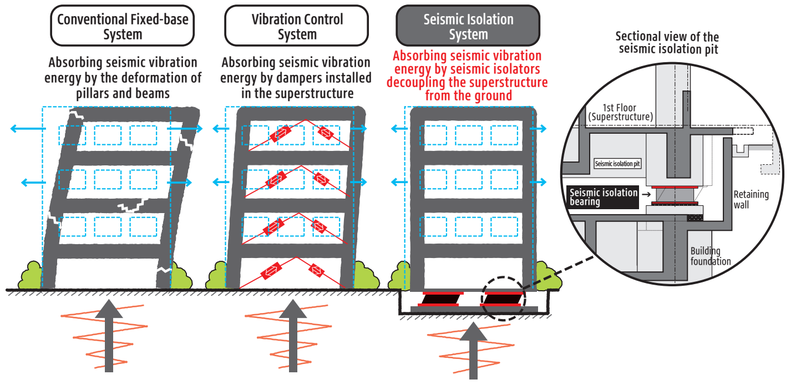


Technology protecting life and property

BRIDGESTONE
Solutions for your journey

Seismic Isolation Bearing (Seismic Isolator)

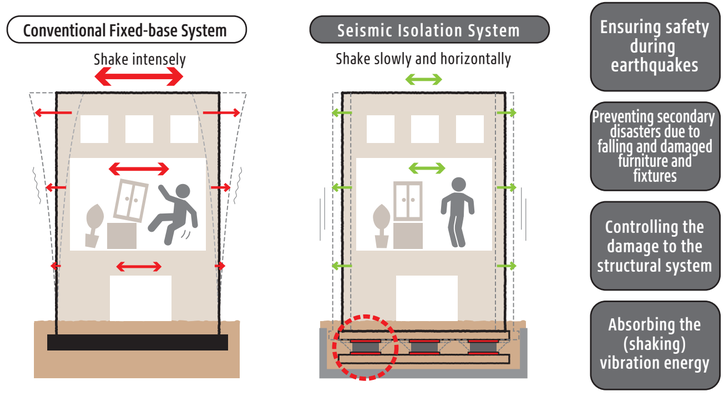
Seismic Isolation System the latest technology whose effectiveness is proven in major earthquakes.



The concept of conventional fixed-base and vibration control system is to absorb seismic vibration energy transmitted to the building superstructure. On the other hand, the seismic isolation system is designed to decouple the superstructure from the ground by seismic isolation devices to prevent the direct transmission of seismic vibration energy.

Merits of the Seismic Isolation System

The seismic isolation system prevents earthquake vibration energy from being directly transmitted to the building, thereby reducing structural damage and damage to interior contents. It also remains effective in protecting the building against aftershocks.



- Ensuring safety during earthquakes
- Preventing secondary disasters due to falling and damaged furniture and fixtures
- Controlling the damage to the structural system
- Absorbing the (shaking) vibration energy

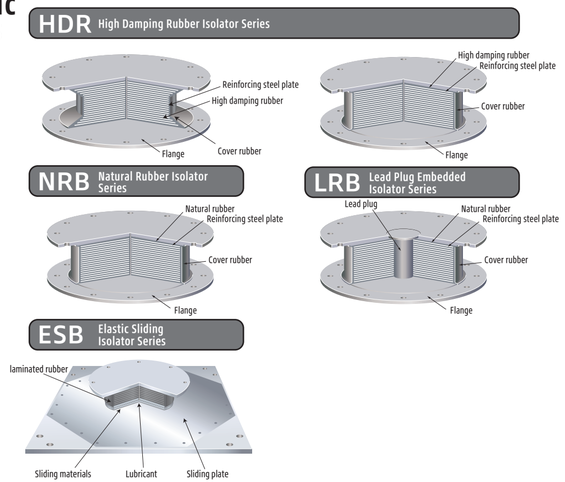
Features of Seismic Isolation Bearings

Seismic isolation bearings demonstrate high stiffness performance in vertical direction and softness in horizontal direction due to the alternate lamination of thin rubber layer and reinforcing steel plate. They are capable of supporting the building in vertical direction and absorbing the shaking of earthquakes in horizontal direction.

■The inner rubber is protected from ultraviolet light and ozone, that can cause rubber deterioration, by integrally molded with cover rubber resulting excellent weather resistance.

■The bearing can deform horizontally in massive earthquakes without separation or any other problems as the inner rubber layers and reinforcing steel plates are strongly bonded using Bridgestone's unique technology cultivated over many years.

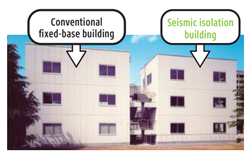
■Bridgestone has more than 40 years of experimental data regarding seismic isolation bearings, and our product line-up is the broadest in the industry. We always respond to customer requests as a leading seismic isolation bearing manufacturer.



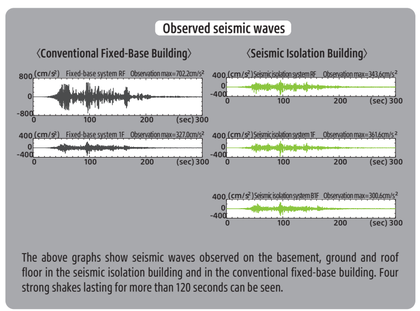
Proven Performance Example of a Seismic Isolation Building

In Tohoku University located at Aobayama, Sendai City of Miyagi Prefecture, there are two test buildings, constructed jointly by the university and Shimizu Corporation in 1986, one of them is a seismic isolation building, the other is a conventional fixed-base building with the same superstructure design. We would like to introduce the observed records of the Tohoku Region Pacific Coast Earthquake occurred on March 11, 2011.

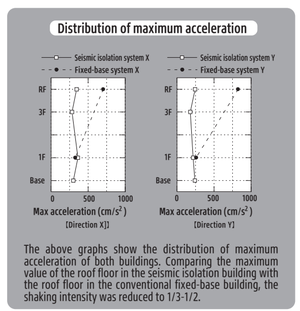
※ Both buildings are three-story RC buildings. Six high damping rubber isolators are installed in the seismic isolation building.



Tohoku University's seismic isolation test buildings.



The above graphs show seismic waves observed on the basement, ground and roof floor in the seismic isolation building and in the conventional fixed-base building. Four strong shakes lasting for more than 120 seconds can be seen.

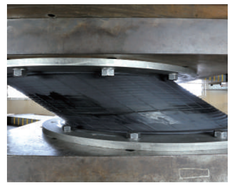


The above graphs show the distribution of maximum acceleration of both buildings. Comparing the maximum value of the roof floor in the seismic isolation building with the roof floor in the conventional fixed-base building, the shaking intensity was reduced to 1/3-1/2.

Source : Shimizu Corporation

Development

Bridgestone has accumulated over 40 years of R&D achievements regarding seismic isolation bearings and more than 80 years of know-how on rubber technology. The development and manufacturing technology of seismic isolation bearings are made up of three fields; material development technology represented by rubber compounding, seismic rubber bearing design technology based on various tests and analysis, and manufacturing technology utilizing rubber properties prediction method.



Quality Control

The seismic isolation bearings are produced at the Yokohama plant of Bridgestone. A wide range of sizes, from small diameter to large diameter, is manufactured at our factory, and we are able to produce seismic isolation bearing up to 1,800 mm diameter. We have the largest testing evaluation facility for seismic isolation bearings in Japan as well as the complete verification system.

Durability

The seismic isolation bearings of Bridgestone have durability of over 60 years※, and have the Minister of Land, Infrastructure and Transport certification. Their durability is improved by the technology of integral molding of the inner rubber with the special cover rubber on the surface that can suppress deterioration. This cover rubber is specially developed for seismic isolation bearings, and incorporates Bridgestone's rubber technology of over 80 years.

※determined based on heat acceleration aging test results



Cost / Asset Value

The construction cost of a seismic isolation building increases due to the necessity of a seismic isolation pit. However, the cost regarding the superstructure can be reduced due to the mitigation of seismic force. Generally speaking, the total construction cost is only a few percent higher than conventional buildings. However, if we think about the life cycle cost of a building and not only the initial cost, taking into consideration the overall running cost including safety, livability and preserving property, then seismic isolation buildings have plenty of merits. Recently, the asset value of seismic isolation buildings has increased as the safety of buildings has high impact on asset value.

Maintenance

Inspections are required for the future proper seismic isolation function in order to maintain the safety of the building. The following inspections are required and to be inspected by a certified technician (referring to Article 8 and 12 of the Japanese Construction Law).

1. Inspection at the completion of construction: to be executed when the building construction has been completed.
2. Periodical inspection: classified into two types.
   -Annual visual inspection of the seismic isolation pit and the outside of the building.
   -Inspection including measurement in the 5th, 10th year after the construction, and in every tenth year thereafter.
3. Emergency inspection: to be conducted immediately after a large earthquake.
4. Detailed inspection: to be conducted if abnormalities were found at a periodical or emergency inspection.

※ Please refer to the "Maintenance and Control Standard for Seismic Isolation Buildings (2022)" prepared by The Japan Society of Seismic Isolation.

