

June 11, 2009

TRI starts regular marketing of a seismic damper for wooden houses

Tokai Rubber Industries, Ltd. (TRI) (president: Tetsuo Naruse, head office: Komaki City, Aichi Prefecture) announced a full-scale marketing of a seismic damper for wooden houses called “TRC damper⁽¹⁾”, a new product for reducing damages from earthquakes to new houses and existing wooden houses. The TRC damper is a seismic vibration control equipment having a special viscoelastic rubber which absorbs seismic energy. It can reduce shaking and deformation of wooden houses to up to half, comparing to houses of conventional structure (seismic grade 1).

The TRC damper obtains the Evaluation of Building Disaster Prevention Techniques⁽²⁾ of the Japan Building Disaster Prevention Association. In addition to the bracing damper (TRC-30W), products suitable for renovation such as the corner damper (TRC-10S) that can be attached to allow openings in the wall are also available.

Furthermore, we provide a business support tool called “a simple analysis program” which enables an easy simulation of seismic effects of the TRC damper for our customer’s marketing activities. Being developed by our own technology, this tool enables a time history response analysis similar to the structural calculation of high-rise buildings and the simulation of seismic effects for each property.

In the field of building seismic dampers, TRI has already put the seismic dampers for mid-to-high-rise buildings (TRC1100, 2200 and 3000) and steel framed houses into practical use prior to the TRC dampers. Furthermore, we are manufacturing and selling vibration control equipment “multitype TMD” for houses that reduces shaking of buildings due to traffic vibration.

We will actively work on the realization of secure, safe and comfortable residential environment with our acquired seismic vibration countermeasure technology.

■ Features of the TRC dampers (TRC-30W and TRC-10S)

1. Its special viscoelastic rubber (patented product⁽³⁾) developed by our unique material development, which has high seismic vibration control performance and withstands environmental temperature changes, gives high and consistent performance at any time of year, day or night.
2. Restoring property of the special viscoelastic rubber gives continuous and consistent seismic vibration performance, making a significant contribution both during main quake and after quake.
3. Result of the accelerated deterioration tests assuming long-term use revealed the TRC damper has a service life of 60 years or more. Therefore, maintenance is not needed, resulting in no maintenance cost. The TRC damper can be used safely for a long period.

(Notes)

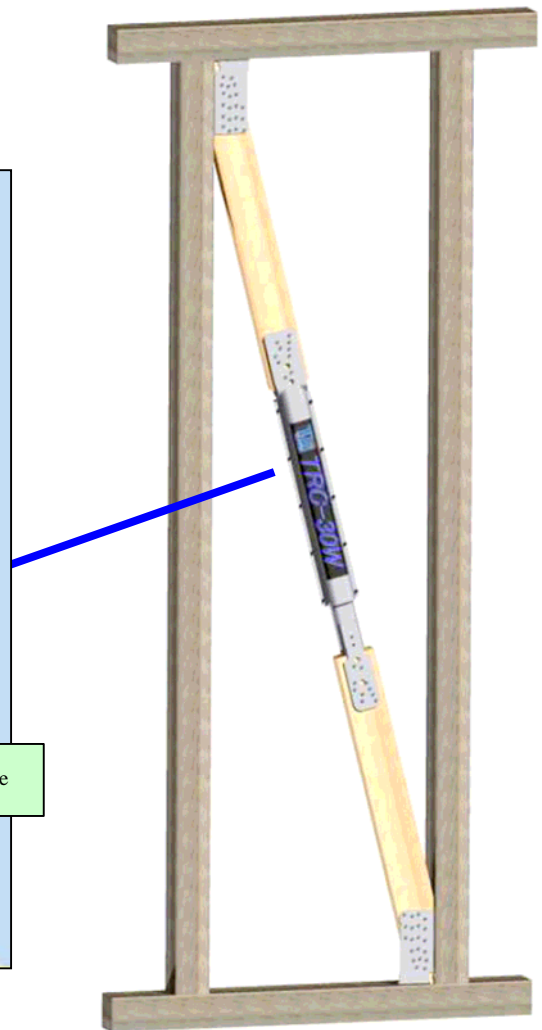
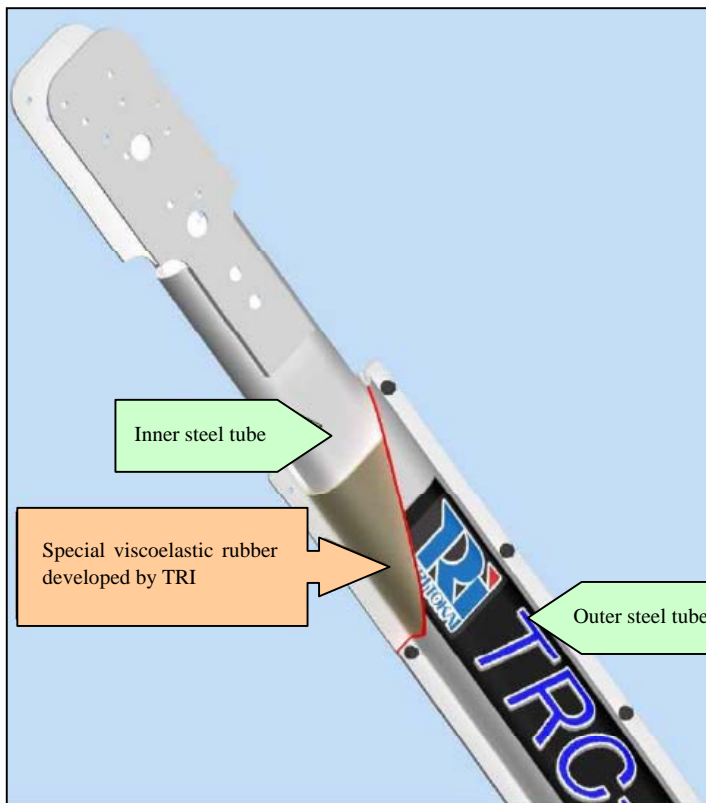
(1) The TRC damper is the registered trademark of Tokai Rubber Industries, Ltd.

(2) Evaluation number: DPA-Jyugi-28

(3) Patent No. 3885619

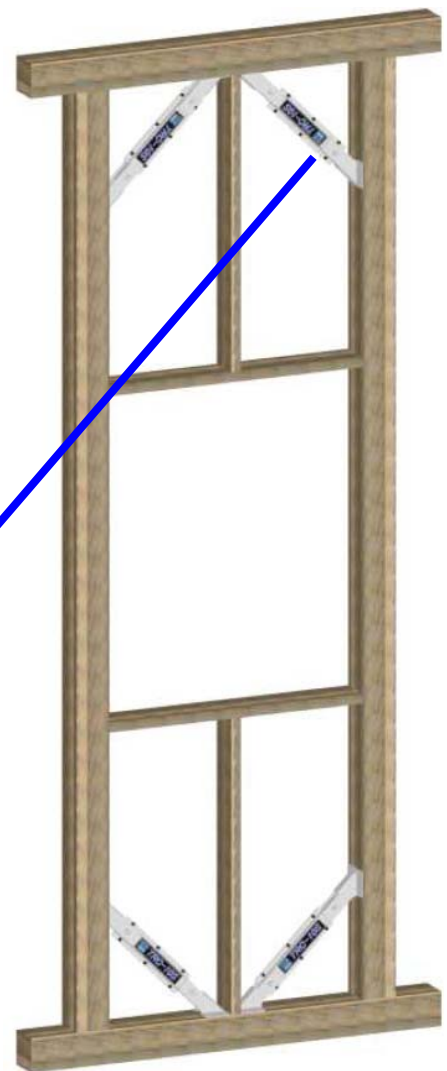
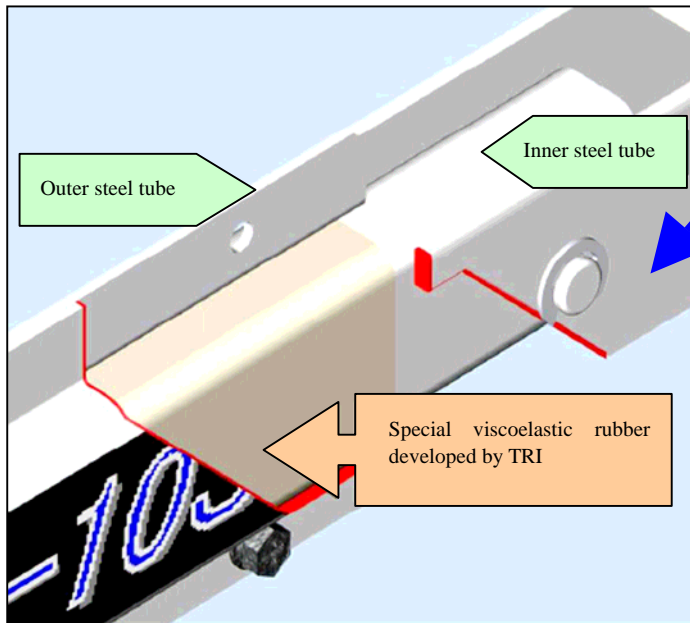
■ TRC damper application example

Bracing damper (TRC-30W)



■ TRC damper application example

Corner damper (TRC-10S)



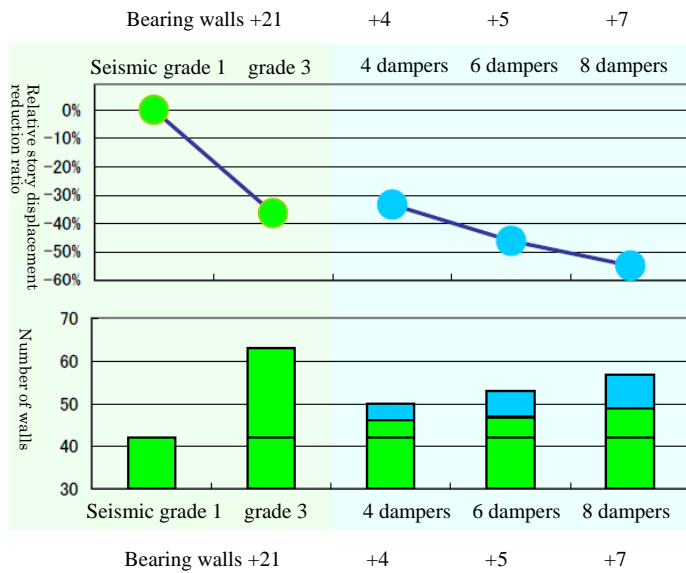
(4 dampers / 1 set)

■ Effects of the TRC dampers

Significant reduction of displacement (reduction of shaking and deformation of house) is expected by replacing a part of conventional bearing walls of a house with the TRC damper system.

The following is a result of displacement simulation using the “simple analysis program” where seismic waves equivalent to the intensity 6 upper level (BCJ-L2 waves) are applied to an earthquake-resistant house (seismic grade 1) equipped with the TRC dampers.

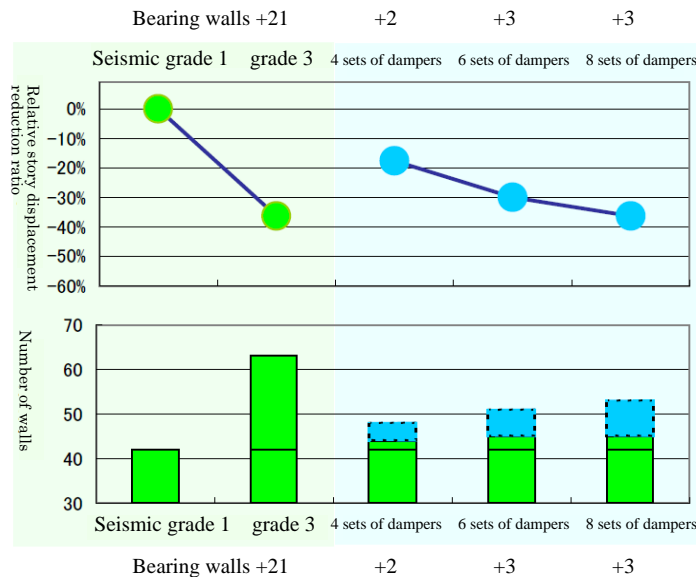
<Example of analysis: TRC-30W (bracing damper)>



Features

1. Shaking and deformation can be reduced to up to about half, comparing to a house of seismic grade 1.
2. Shaking and deformation can be reduced to equal or smaller with fewer walls comparing to a house of seismic grade 3.

<Example of analysis: TRC-10S (corner damper)>



Features

Shaking and deformation can be reduced to equal to those of a house of seismic grade 3 while allowing openings such as windows.

* Number of TRC-10S shown in the graph of the number of walls is indicated by broken lines as it can be installed to the openings.

TRC-10S can be installed in barriers of openings, window back, etc.