Murakoshi's Earthquake-proof latch series Product Information

Perfect Lock!

Peaceof

UR/KOSH



Safety Smooth +3"s" give you great Satisfaction



When it matters most, it's good to be prepared. Murakoshi's high-performance Earthquake-proof latch series is based on extensive experience in Japan.

During an Earthquake, the following dangers can occur:

•Kitchen doors violently swing open and drawers fly out causing unforeseen accidents and can result in injury from falling tableware, glassware, cookware, and cooking utensils.

Broken tableware and other fallen objects on the floor can result in injury.

Broken tableware and other fallen objects can also block escape routes causing further injury or death.

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Murakoshi's Earthquake-proof latch prevents these dangers and protects your family and belongings. Giving you peace of mind.

We offer a complete solution for cabinet & furniture doors and drawers.



Ο

Smart-Sensor auto-locks latch when earthquake intensity is sensed.

When an earthquake of Mercalli intensity VI or more occurs, the sensor senses the vibration and triggers the latch to automatically lock. During this time, the door or drawer will not open and the latch will not unlock for normal use.

Automatically unlocks latch when shaking stops!

When tremors stop, the sensor will automatically unlock the latch. The door can be opened and closed as usual without any additional unlocking process.

Currently only available in Japan. Can be used for various furniture applications!

Murakoshi offers a variety of latches that can be used on hinged doors, drawers, and sliding doors to keep you and your family safe when it matters most.

*Latches for drawers and sliding doors are currently only available in Japan.

Earthquake Intensity Scale	101
History of development	
Murakoshi's Reliable Techn	ology



the ground, installation surface, or weight of stored items etc.

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For Hinged Doors

$PFR_{\mathbb{B}}$ -TSA / $PFR_{\mathbb{B}}$ -TSA α

When an earthquake occurs, the latch sensor instantly detects the movement of the earthquake and prevents the hinged door from opening. When tremors stop, sensor automatically returns to its original position and door can resume normal use.

Stress-free and easy installation! Latch mounts on cabinets with ease.

- •Automatically locks when an earthquake of VI (MM) or more occurs and lock is released during normal settings.
- Door can be opened and closed as usual when tremors stop. No need to undergo any unlocking procedure.* *Latch will remain locked if cabinet contents are pressing on cabinet door due to earthquake.
- •Hassle-free latch does not interfere with normal use of moving contents in and out of cabinet.
- The catch will adjust automatically into the correct position.
- *Product performance may not be fully demonstrated due to the structure of the building, the ground, installation surface, or weight of stored items etc.





(Product features)

Retrofitted

Silent



〈Product name〉 • PFR_®-TSA (Earthquake-proof latch for hinged doors)

(Specification)

• 1 set per door • Latch affixed to top panel and catch Automatically adjusting catch affixed to door using screws • Automatically locks when an earth- • Drill quake occurs and lock is automati- • Ruler cally released under normal conditions

Summary of parts



Features

Inactive state (No earthquake)

Closed door

When the door is fully closed the latch will be in this position. In regular use the latch will rise and fall as the door is opened and closed. The catch will also adjust automatically so that it is in the correct position.



In the event of an earthquake (Tremors detected) Closed door

When an earthquake occurs the door will not open as the movement of the earthquake sensor will cause the lock mechanism to rotate and lock the latch in place. When the tremors stop the earthquake sensor will return to its original position meaning that the door can be opened and closed as usual without the need to undergo any unlocking procedure.



Open door

The tip of the latch is raised to its highest position as the lock mechanism is not fitted into the latch. The diagram below shows the door in an open position and the latch in its standby state.

(Extra tools required)

Screws

Pencil

Screwdriver



Open door

When large tremors occur , a situation may arise in which the contents of the furniture are left leaning against the door. In this situation the lock mechanism will lock the latch meaning the furniture's contents will not fall out. You can release the lock in this situation by pushing the slightly open door to fully close it.



Mounting measurements





Please read DISCLAIMER on the back cover of this catalog. Freak accident may occur in the case of mounting without following instructions in DISCLAIMER.



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for Catch : Binding Screws Size#6 x 0.63" L (included in set)

[Screwdriver Type] - #2 Phillips



*Plastic part of catch must be slid down when you mount them.

Mounting conditions



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PFR_{B} -TSA/PFR_B-TSA α How to Install / Release Instructions





Earthquake Intensity Scale 101

Seismic intensity	Modified Mercalli intensity scale	Human perception and reaction	
2	T or N		Felt by many people keeping quiet in buildings. Some people may be awoken. Hanging objects such as lamps swing slightly.
3	ШОСТИ		Felt by most people in buildings. Felt by some people walking. Many people are awoken. Dishes in cupboards may rattle. Electric wires swing slightly.
4	v		Most people are startled. Felt by most people walking. Most people are awoken. Hanging objects such as lamps swing significantly and dishes in cupboards rattle. Unstable ornaments may fall. Electric wires swing significantly. Those driving vehicles may notice the tremor.
Earthquake-proof latch locks the cabinet doors and drawers.			
Lower 5	VI		Many people are frightened and feel the need to hold onto something stable. Hanging objects such as lamps swing violently. Dishes in cupboards and items on bookshelves may fall. Many unstable ornaments fall. Unsecured furniture may move, and unstable furniture may topple over. In some cases,windows may break and fall. People notice electricity poles moving. Roads may sustain damage. *Doors and drawers are locked by earthquake-proof latch.
Upper 5	VI		Many people find it hard to move, walking difficult without holding onto something stable. Dishes in cupboards and items on bookshelves are more likely to fall. Unsecured furniture may topple over. Windows may breake on fall, unreinforced concrete-block walls may collapse, automobiles may stop due to the difficulty of continued movement.
Lower 6	VIII		It is difficult to remain standing. Many unsecured furniture moves and may topple over. Doors may become wedged shut. Wall tiles and windows may sustain damage and fall.
Upper 6	IX		It is impossible to remain standing or move without crawling. Most unsecured furniture moves, and is more likely to break and fall. Most unreinforced concrete-block walls collapse. Buildings are more likely to lean or collapse. Large cracks may form on the ground.
7	x ~ XII		It is impossible to remain standing or move without crawling. Most unsecured furniture moves, and topples over, or may even be thrown into the air. Wall tiles and windows are even more likely to break and fall. Reinforced concrete-block walls may collapse. Buildings are even more likely to lean or collapse. Large cracks may form on the ground.

Since 1995, we have been developing various latches with continuous improvement.

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The Great Hanshin Awaji Earthquake

1995 -



Developing new series with improved sensor.

Murakoshi's Earthquake-proof latch series is a result of our commitment to safety and quality improvement.

Since 1918, our technological strength is built upon many years of manufacturing experience.

In Japan, we experience many great earthquakes. Observation data of past earthquakes are used to analyze the dangers of cabinet doors swinging open and drawers jumping out. Our Earthquake-proof latch was developed in response to the 1995 Great Hanshin Earthquake. Since then, we have improved our latch development. A 3-directional vibration test machine is used to simulate earthquakes. This test plays a significant role in the safety and quality improvements of our latches.



Introducing our 3-directional vibration test machine for Earthquake-proof latch R&D.

Our earthquake simulation replicates seismic wave forms using observation data from powerful earthquakes provided by the Meteorological Agency and National Research Institute for Earth Science and Disaster Resilience in Japan.



•CCD cameras are used to monitor and confirm the operating status of the Earthquake-proof latch. • Examples of Japan earthquakes that have been simulated: Great Hanshin earthquake (1995) and Great East Japan earthquake (2011)

The earthquake simulation is available within the below weight and dimension Weight (lbs)= 220 or less (100kg or less) Size(in.)=78.7L x 78.7W (2,000 X 2,000mm)

Our Proactive Approach

Modern technology, cannot predict exactly when, where, and how big the next earthquake will be. That is why we perform extreme earthquake simulations on our latches to make sure they can withstand the next big guake.



- Our earthquake simulation is able to perform tests with:
- Observation data of powerful earthquakes in the past.
- •Anticipation data of powerful earthquakes in the near future.
- 3-directional vibration test machine (X, Y and Z directions).

For Quality Improvement

In order to prevent human error, we designed and produced fully automated assembly machines and inspection equipment in-house. This setup guarantees guality control our customers can trust.













DISCLAIMER

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