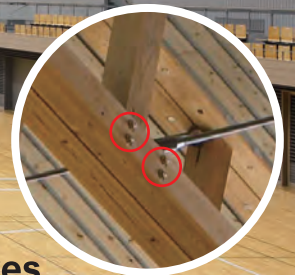
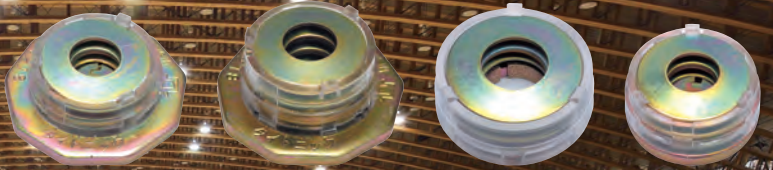


TIGHTNIK

タイトニク

A Washer follows the shrinkage of wood and not loosen.

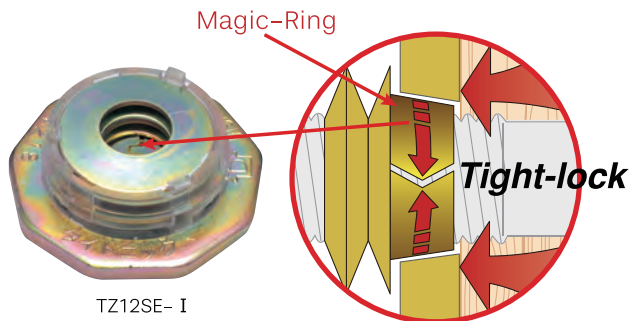


## Achievements of **Tightnik** PAT

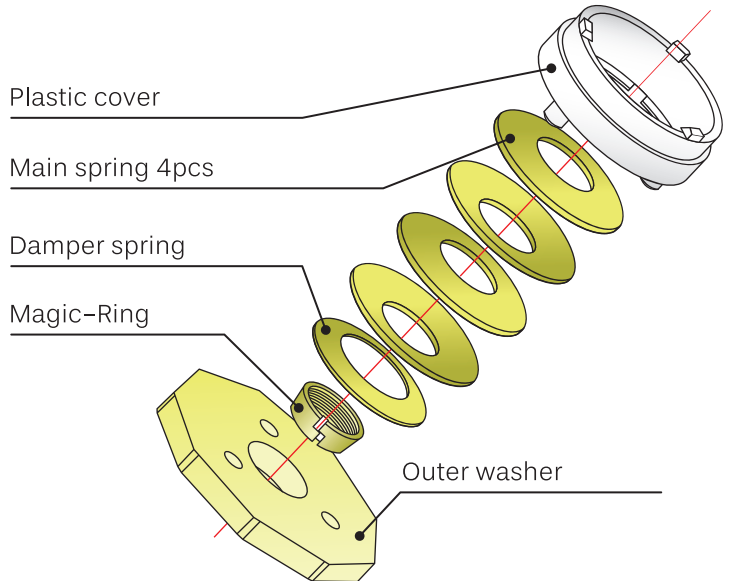
Structure made of solid cedar wood joined without using adhesives.

Tokorozawa Civic Gymnasium has the world' s largest wooden truss. It is built with **40,000 pieces** of our product, Tightnik, and 10,000 pieces of solid cedar wood.

### MECHANISM



### EXPLODED VIEW (Tightnik TZ12SE- I)



### PRODUCT FEATURES

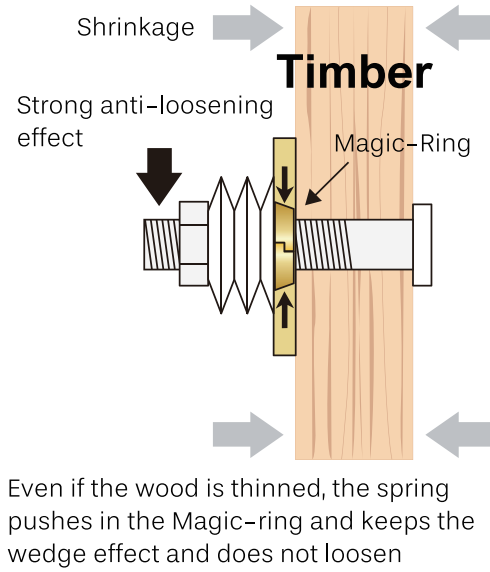
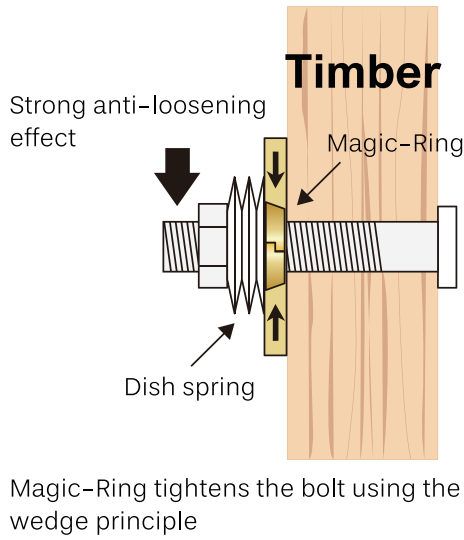
- Built-in springs follow the drying shrinkage of wood
- The washer does not loosen by "Magic-Ring" wedge effect
- Passed looseness evaluation test based on NAS3350
- Light tightening and no loosening. ~ Suitable for soft materials such as "wood", "rubber", "resin", "aluminum"
- Tightening torque 10Nm~30Nm



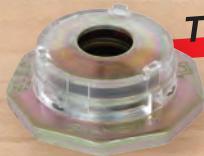
T.Kato Co., Ltd. Tokyo JAPAN  
<https://www.t-kato.co.jp/en/>



- It will be tightened following clearance generated by thinned wood.



## PRODUCT LINE



**TZ12SE-I**

Applicable Bolt : 12<sub>mm</sub>

---

Width for wood shrinkage : 4<sub>mm</sub>

---

Required screw length : 20<sub>mm</sub>

---

Borehole 25<sub>mm</sub>

---

Body dimensions : H 16<sub>mm</sub>, W 47<sub>mm</sub>



**TZ12ME-I**

Applicable Bolt : 12<sub>mm</sub>

---

Width for wood shrinkage : 6<sub>mm</sub>

---

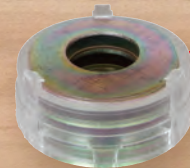
Required screw length : 23<sub>mm</sub>

---

Borehole 30<sub>mm</sub>

---

Body dimensions : H 20<sub>mm</sub>, W 47<sub>mm</sub>



**T-16ME-I**

Applicable Bolt : 16<sub>mm</sub>, 5/8<sub>in</sub>

---

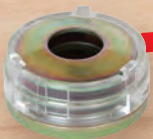
Width for wood shrinkage : 5<sub>mm</sub>

---

Required screw length : 25<sub>mm</sub>

---

Body dimensions : H 16<sub>mm</sub>, W 41<sub>mm</sub>



**TZ12SES-I**

Applicable Bolt : 12<sub>mm</sub>

---

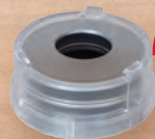
Width for wood shrinkage : 4<sub>mm</sub>

---

Required screw length : 20<sub>mm</sub>

---

Body dimensions : H 16<sub>mm</sub>, W 34<sub>mm</sub>



**TZ12SES-I-R**

Applicable Bolt : 12<sub>mm</sub>

---

Width for wood shrinkage : 4<sub>mm</sub>

---

Required screw length : 20<sub>mm</sub>

---

Body dimensions : H 16<sub>mm</sub>, W 34<sub>mm</sub>

