

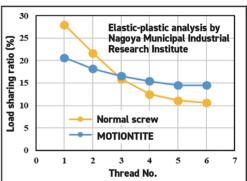
## High performance anti-loosening bolt

# MOTIONTITE®

#### Screw realizing reduction in weight and cost

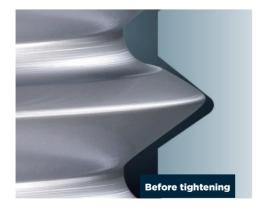
- Strong anti-loosening force exerted by just tightening normally!
- Realizing downsizing with high axial force and improvement in fatigue strength!
- Significant cost reduction with downsizing and unnecessity of loosening prevention!



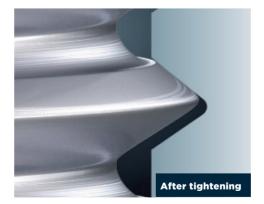


### **AVERAGED LOAD SHARING RATIO OF THREADS**

#### Elastic structure for absorbing vibration and shock







- 1. Contact with internal screw occurs gradually from thread top of external screw.
- 2. Axis is raised toward seat surface side (upward) as tightening torque is applied.
- 3. External screw and internal screw contact each other at flat surfaces.
- 4. Repulsive forces act on seat surface and thread surfaces, thereby generating high anti-loosening force.





## **Ten Excellent Performances**



Bilaterally asymmetric design of thread shape exerting high performances

- 1. Strong anti-loosening force tolerating Junker vibration test
- 2. Axial force rated one notch above enabling reduction in weight and cost
- 3. 1.2 times higher fatigue strength (which may vary depending on strength class / material)
- 4. Seizure prevention (even stainless screw does not cause seizure)
- 5. Halved variation of axial force (there is no difference when lubricant is applied)
- 6. Prevention of breaking off of screw head, prevention of slanted ingression, solution for uneven contact
- 7. Prevention of lowering of axial force due to elastic mutual action
- 8. No contamination and high resistance against high temperature (as large differences from adhesive)
- 9. No damage to seat surface and internal screw by equalizing load share ratio
- 10. The very same operability as normal screw (with quite smooth ingression)
  - Further, as another big feature of MOTIONTIE, its elastic structure permits defects of internal screw (for example, defective accuracy of squareness or occurrence of burr) to some extent.
  - Mechanical property of screw complies with ISO and retains high quality.
  - "MOTIONTITE HARD TYPE" with improved anti-loosening force is also available.
- \* Corresponds to M2-M16 coarse screw threads and fine screw threads.
- \* 1.0 to 1.2 times higher recommended tightening torque than normal screws.
- \* Already patented in 11 countries in the world.
- \* MOTIONTITE is a product jointly developed with Nagoya Municipal Industrial Research Institute.
- \* Specifications of products may be modified without notice.



INNOVATION **IN SCREWS!** 

