

ULTRA SURFACE TREATMENT FOR REDUCING COST AND WEIGHT



FRIX™

【Outline】

Ordinary self-tapping screw can achieve cost reduction because tapping cost is curtailed.

But it is not all fun. Actually, self-tapping consume given torque and lowers axial tension.

Besides, screw's friction coefficient is unstable, too.

FRIX009 and FRIX014 resolve these problems.

【Problem of Ordinary tapping screw】

~ Friction coefficient is unstable ~

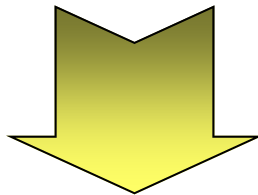
Initial axial tension differ in each fastening points because friction coefficient is unstable.

~ Low torque can produce only low axial tension ~

Ordinary screw's fastening by low torque can bring out at most low axial tension.

~ Different initial axial tension cause fastening liner caved ~

In the case that fastening object material is plastic, unstable axial tension may become higher and dent fastening liner.



【Special features of screw coated with FRIX】

PERFECT STABLE FRICTION COEFFICIENT

Stable friction coefficient increases stabilization of initial axial tension.

EFFICIENTLY BRINGING OUT HIGH AXIAL TENSION

Low friction coefficient can generate high axial tension.

【Reducing cost and weight】

You can reduce tapping cost without problems!

Coating with FRIX009 improves screw's axial tension significantly.

Tapping screw coated with FRIX009 obtains high axial tension equal to that of general machine screw.

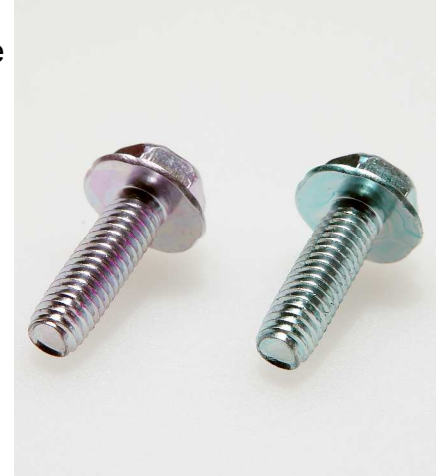
40% of weight reduction!!

Screw treated with FRIX009 is possible to provide high axial tension.

Therefore, FRIX009 is more effective in reducing the size and weight of screws.

In case of HEXAGON HEAD WITH WASHER HEAD, axial tension of M6X30 is equal to that of M5X30 coated with FRIX009.

6X30 8.69g/pc → 5X30 + FRIX009 5.26g/pc



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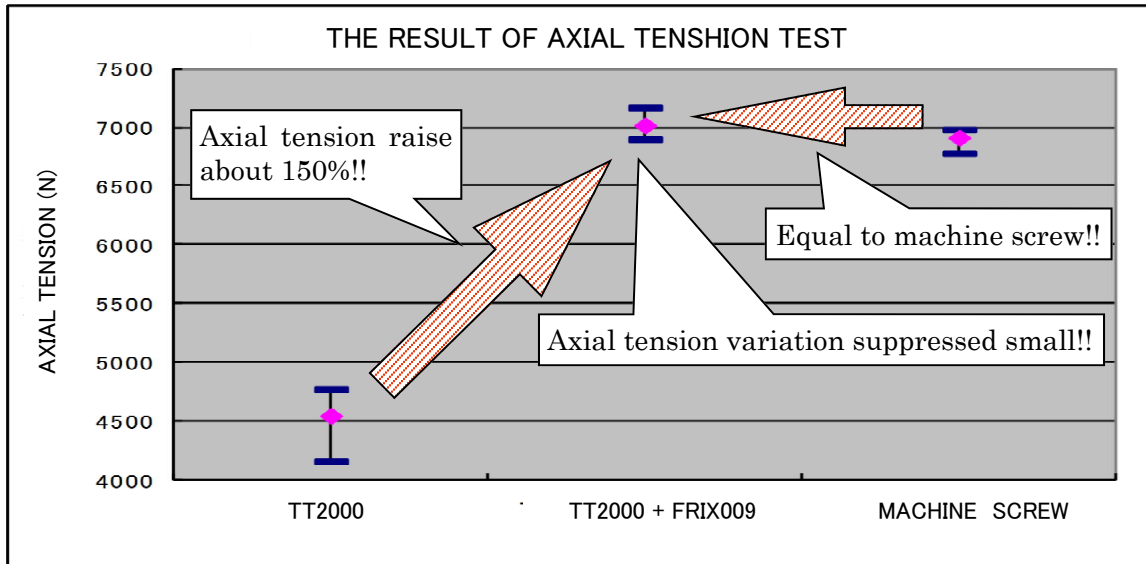
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Reducing cost (Axial tension test)

Please check this result that TAPTITE2000 without any coating and machine screw are screwed in aluminium die-cast at same torque.

TAPTITE2000 Φ5 coated with FRIX009 improve screw's axial tension as compared with conventional one. Thereby, same torque can generate axial tension equivalent to machine screw.

Please find reducing the dispersion of axial tension, too. Thanks to stable friction coefficient, stabilization of axial tension prevents fastening liner from breaking by too much axial tension.

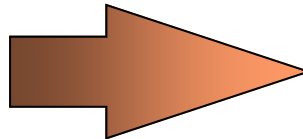


Reducing weight (Axial tension and torque test)

For getting axial tension 9600N

Zinc plating screw M6

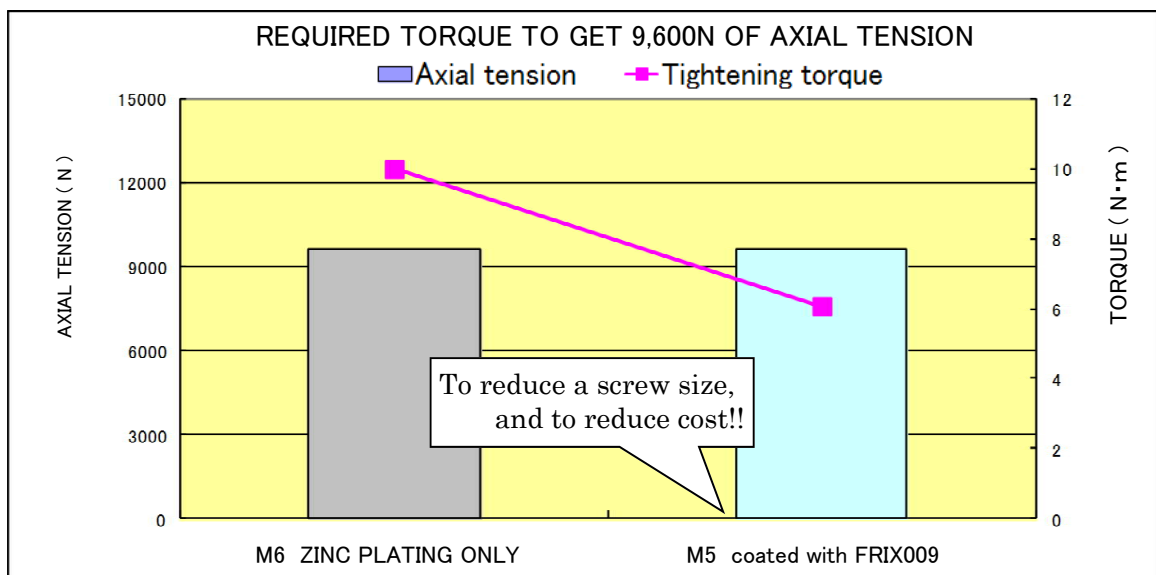
needs tightening torque 10N·m



Zinc plating screw M5 + FRIX009

needs tightening torque 6N·m

Generating same axial tension by low torque will enable reducing size of screw.
Reducing size of screw will lead weight reduction for final finished products.



Above mentioned data is just test result. and not guaranteed figure.