

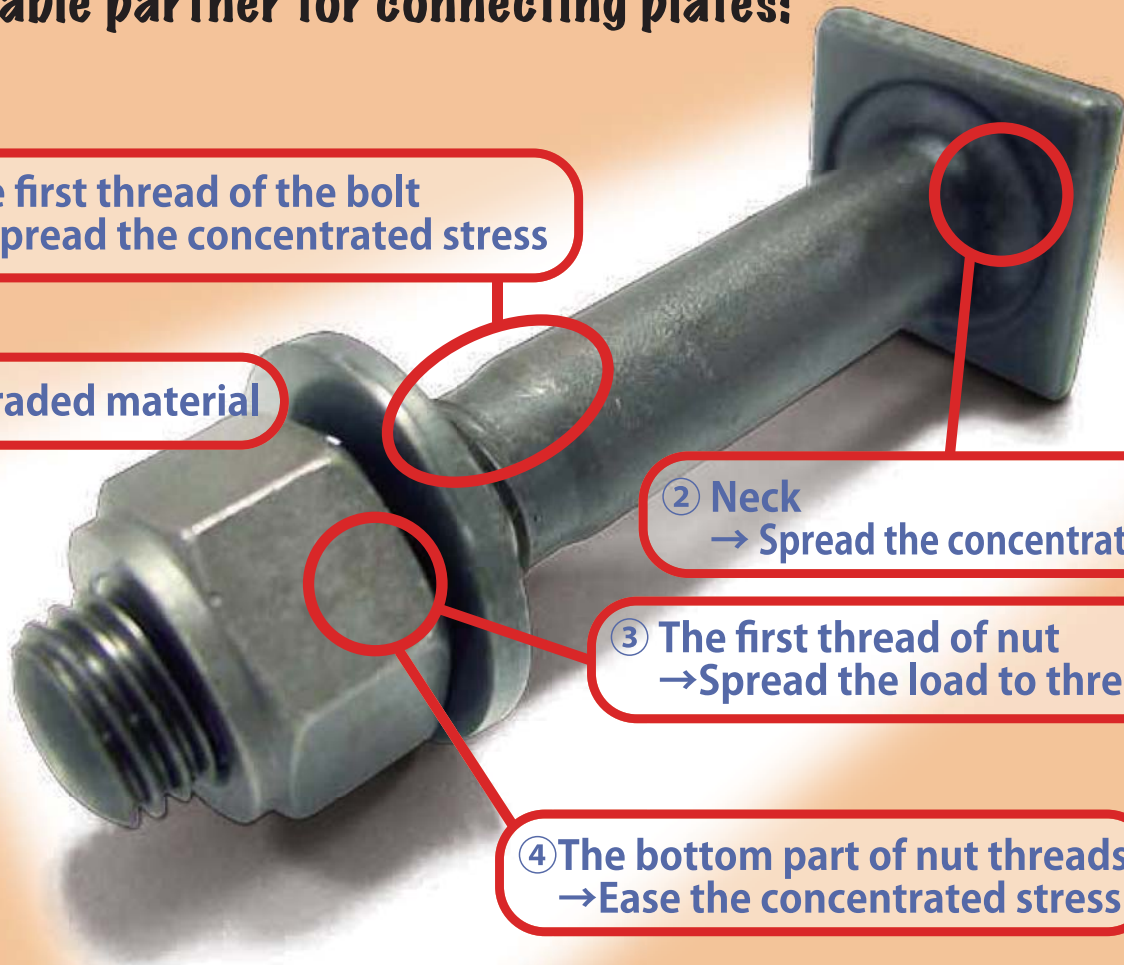


PATENTED
(No.4521196)

TST Bolts & TST-N Bolts

HIGH STRENGTH BOLTS FOR RAIL CONNECTION

Support the safety with reliable **TIGHTNESS!**
Reputable partner for connecting plates!



① The first thread of the bolt
→ Spread the concentrated stress

⑤ Upgraded material

② Neck
→ Spread the concentrated stress

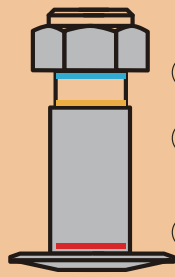
③ The first thread of nut
→ Spread the load to threads

④ The bottom part of nut threads
→ Ease the concentrated stress

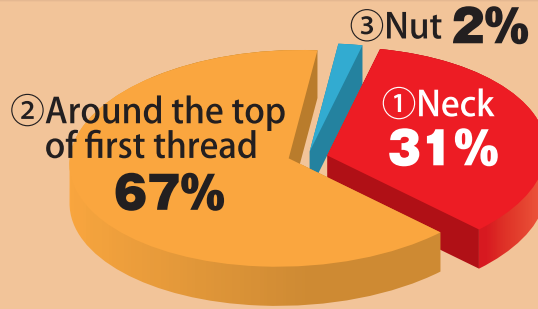
- Complete analysis of broken part!
- Ease the concentrated stress part!
- Realization of longlife!

Great reputation with its toughness!
Excellent support player for connecting rails

Rate of Bolt Damage for Existing Connecting Plate

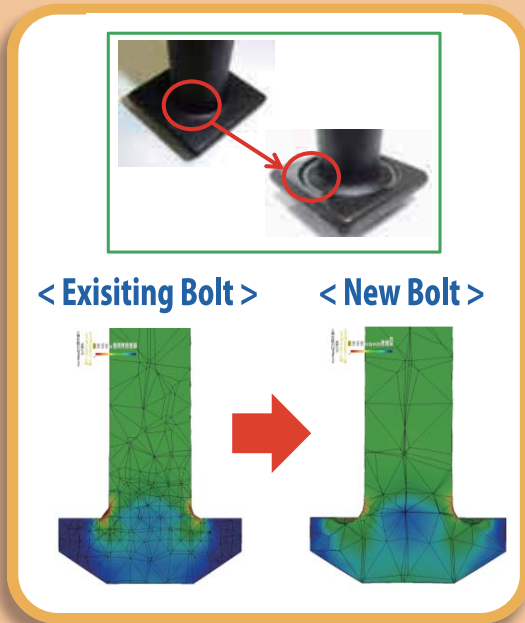


- ③ Nut
- ② Around the top of first thread
- ① Neck

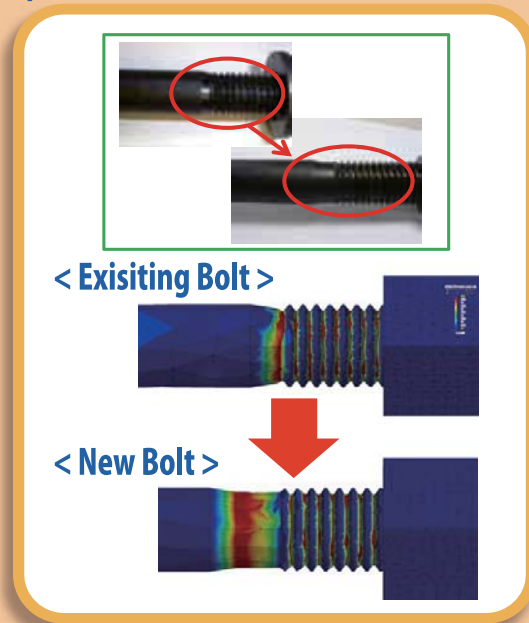


Improved Point, Verification Result by FEM Analysis

- ① Spread the concentrated stress by making the curve bigger under the neck



- ② Spread the load by improved thread part



After complete analysis of damaged part, we succeeded to reduce the stress on each part by up grading shapes, processing methods, material etc. As a result, longer lifetime bolt was completed. This is offered to whom are in trouble with breakage of bolts at early stage.

Specifications

- Bolt size : W3/4, M20, others
- Bolt length : 120, 135, 150, others
- Nut : General one, Hard Lock Nut, Space Lock Nut, others

*** Consult us for other sizes, nuts and specifications.**

Delivery Record

- TST Bolts (for Shinkansen)..... Central Japan Railway Company
- TST-N Bolts (for local train rail connecting).....Central Japan Railway Company, East Japan Railway Company ,West Japan Railway Company,Kyushu Railway Company, Shikoku Railway Company ,Tokyu Corporation, Nagoya Railroad Co., Ltd, Aomori Railway Co., Ltd., etc.

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