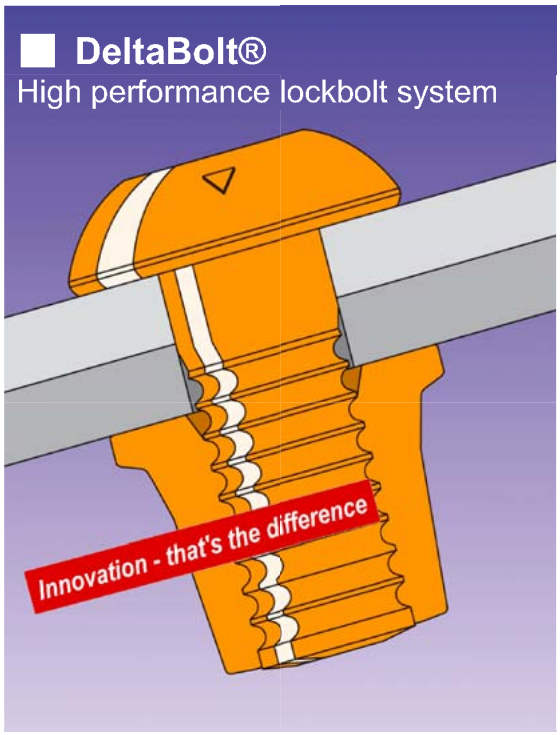
Focus

TITGEMEYER GTO



DeltaBolt®
High performance pin and collar fastening system designed and developed using 3D FEM modelling.

General description
Superior two part fastening system comprises of a pin and collar with defined breakneck groove.

Pin and collar features
- **vibration resistant, no loosening**
- **quiet and simple installation**
- **visual inspection**
- **no special operator skill required**

ISO DIN BSi British Standards

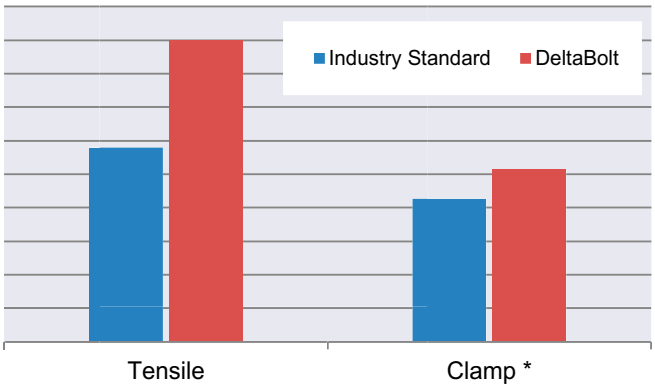
- **DIN/BS EN ISO 898-1**
- **DVS-EFB Merkblatt 3435-1**
- **DIN/BS EN ISO 2081**

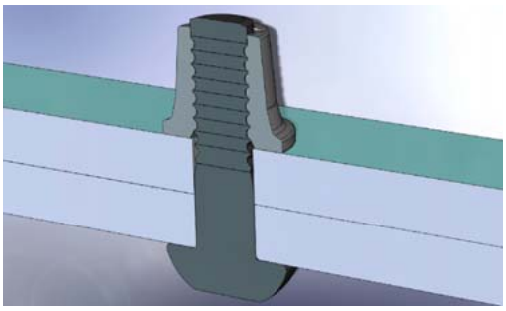
Superior strength

The increased performance predicted by FEM model simulation has been confirmed through extensive internal and external tests.

- Installed tensile strength
>50% more than industry standard

- Superior permanent clamp force applied to work-piece
- **>20% more than industry standard**

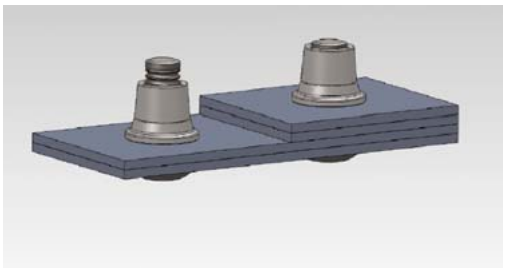




No special installation tooling

DeltaBolt® pins and collars can be installed using readily available industry standard tooling.

No tooling investment is required to benefit from the improved performance of DeltaBolt®.



The mark of quality

DeltaBolt® pins and collars feature Delta Δ marking that ensures DeltaBolt® quality.

Simple visual inspection before and after setting ensure safe and correct installation today and in the future.

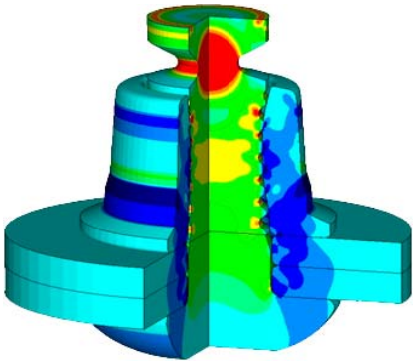
Focus brings you news and information from Titgemeyer (UK) Ltd
Contact us for further information on the products and services available from Titgemeyer Group

www.titgemeyer.co.uk

sales@titgemeyer.co.uk

DeltaBolt®

Innovation - that's the difference



FEM Analysis
Evaluation Parameters

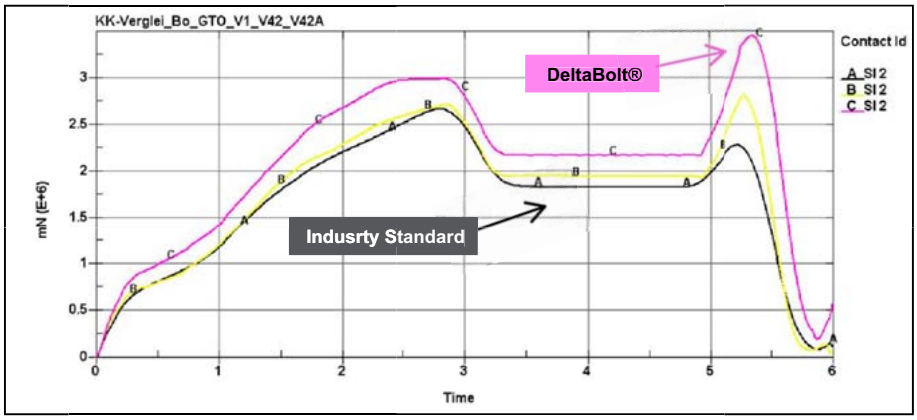
Installed tensile strength

Installed clamp load

Swaging load

3D finite element modelling

Finite element analysis was first developed in the early 1960's for the aerospace and nuclear industries.
The process involves creation of a geometric computer model, which is then divided into smaller parts known as elements that are interconnected.
The effect of stresses and strains on each small element is calculated by computer after boundary conditions such as material properties have been defined and the operational process (in this case swaging of the collar) has been programmed.
The results from each element are then combined to provide an overall solution for the DeltaBolt® pins and collars.
The FEM process allows material properties and geometry to be optimised prior to manufacture.



DeltaBolt® can be manufactured especially for you

Special head

Underhead step

Collar holding patch

Lockstud

Special collars

Multi-groove

DeltaBolt® can be used for many applications


Automotive


Train Construction


Automotive Seating


Construction


Commercial Vehicles

Titgemeyer (UK) Ltd - A2 Link One Industrial Park - Tipton - DY4 7BU
Tel: 0121-557-9777 Fax: 0121-557-4777 - sales@titgemeyer.co.uk - www.titgemeyer.co.uk