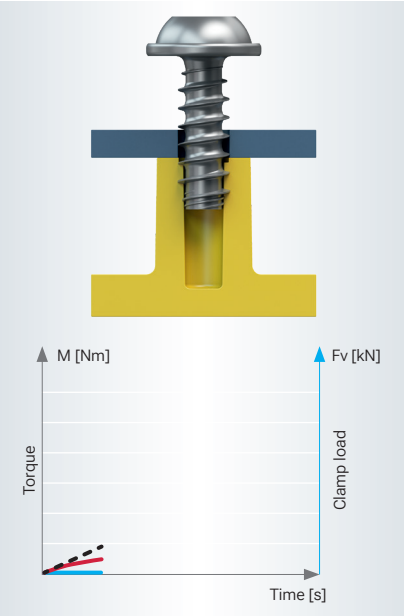
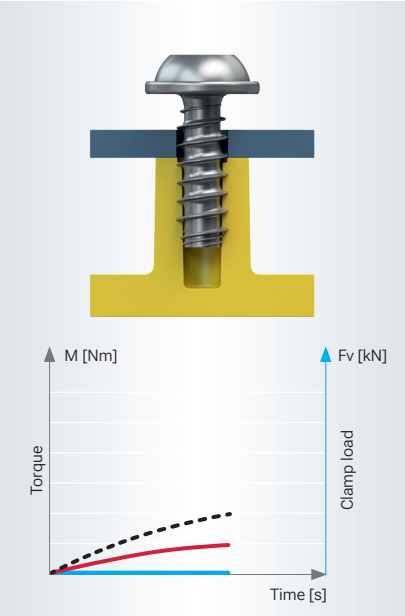
EJOT EVO PT®

The evolution of direct fastening into plastics

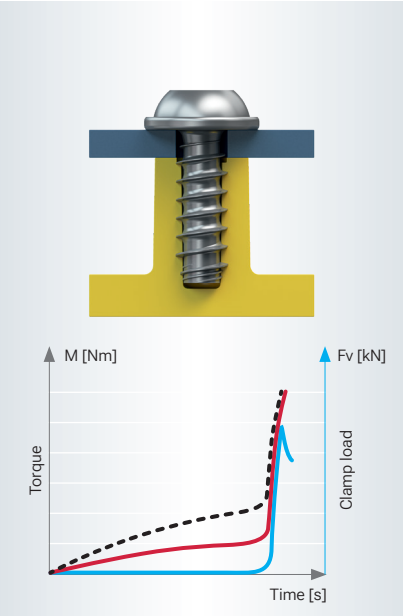
Direct fastening into plastics offers numerous advantages that positively impact various aspects of industrial assembly. By **eliminating** inserts, handling systems, screw locks, and complex core pins, the entire manufacturing process is significantly simplified. This not only reduces inspection efforts but also leads to significant **savings in cost, time and weight**. These benefits can be realized with the EVO PT® by direct fastening into thermoplastics. For this screw, EJOT has combined manufacturing and application expertise with new methods based on computer simulations. Overall, **direct fastening** with the EVO PT® enables more efficient and economical production as well as resource-saving implementation of the application in the project.



1 Application and forming of the first thread



2 Thread forming

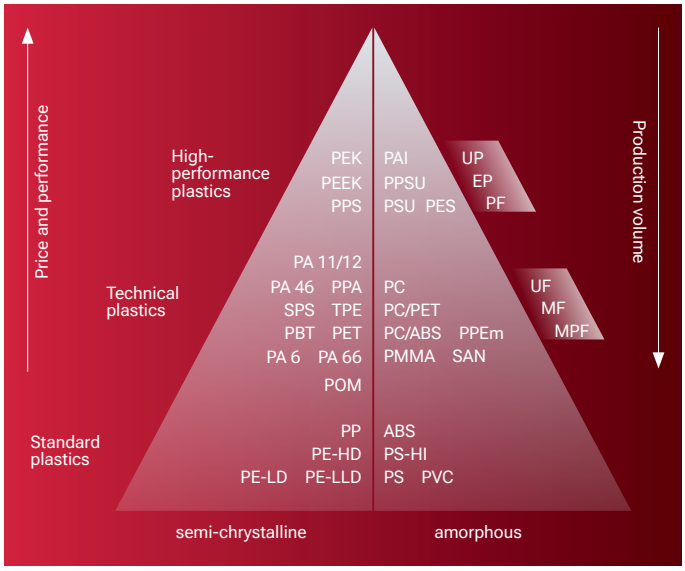


3 Final tightening

Conventional torque curve in Nm — Torque EVO PT® in Nm — Clamp load in kN

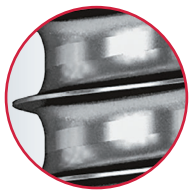
Features

- **Dynamically secure** – High self-locking capability and pull-out strength, backlash-free mating of screw and female thread
- **Releasable** – Recyclability, disassembly, repairability
- **Process reliability** – Wide installation window, reliable automated assembly even with large component tolerances
- **Customizable** – Screw adaptation to customer requirements (e.g. screw material, head shape, or surface)



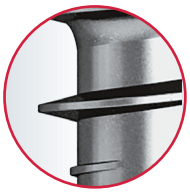
Direct fastening of all listed plastics with EJOT screws

Bringing it together.



Bionic contour

> High mechanical strength for demanding applications



Thread forming zone

> High assembly reliability due to enlarged installation window

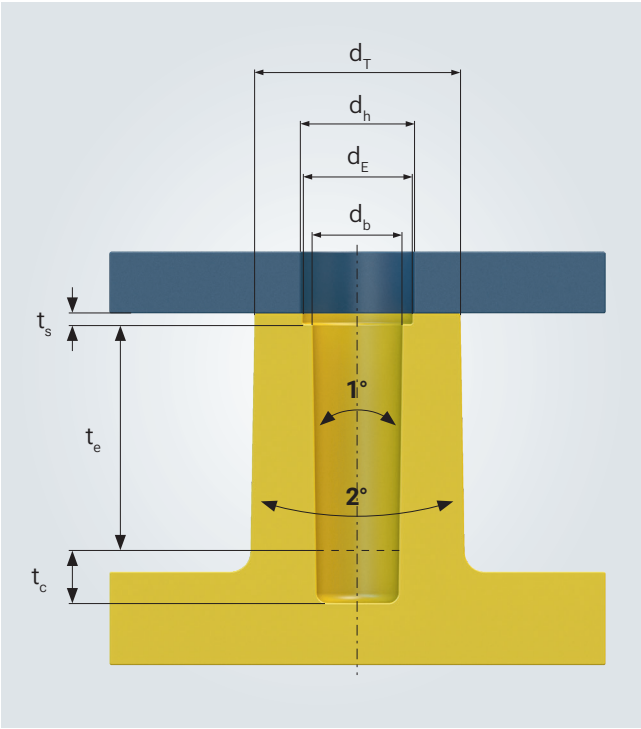
26° flank angle

> Excellent plastic forming

Lead thread

> Automatic centering of the screw in the screw hole
> Compensation for hole position tolerances

Design recommendation



Nominal diameter of the screw in mm: d_1

Counterbore diameter: $d_E = d_1 \times 1.05$

Hole diameter: $d_b = 0.85 \times d_1 \pm 0.05$ mm

Installation depth: $t_e = 2 \times d_1$ or deeper

External boss Ø: $d_T = 2 \times d_1$

Clearance hole Ø: $d_h = 1.05$ to $1.1 \times d_1$

Counterbore depth: $t_s = 0.1 \times d_1$

Hole depth allowance: $t_c = 0.5 \times d_1$

Digital service for optimized components

The digital calculation service EVO CALC® enables you to pre-calculate torques and clamp load forces, as well as clamp load relaxation under temperature and time. Additionally, EJOT provides an individual FEM-based component analysis, allowing you to save time and costs starting from the design phase of your component.

EVOCALC®

TOBI® DRIVE - SYSTEM

The high-performance screw drive system
www.tobidrive.com

> Secure hold without magnetic bits or vacuum systems
> Axial alignment of screw and bit
> Longer bit life due to enlarged contact area (up to 70 x higher)
> Reverse compatibility with standard internal hexalobular bits

More information at www.ejot.com/industry or please contact
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Bringing it together.

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