



# PENTADRILL

Flow forming screw for sheet metal

## Main Properties

- For direct mounting into steel or light alloy sheet metal without prehole.
- The flow forming tip heats up and softens the sheet metal momentarily. The forming of the hole and the rim starts in the heated material and the thread forming process follows.
- The betzer pentadrill screw is case hardened and tempered.

## Applications

- Car body
- Industrial gate
- E-Mobile battery cells

## Features

Head shaped for easy assembly

e.g. pan flange head with six-lobe recess

Metric thread

secure hold in the component due to the positive fit in the self-formed thread

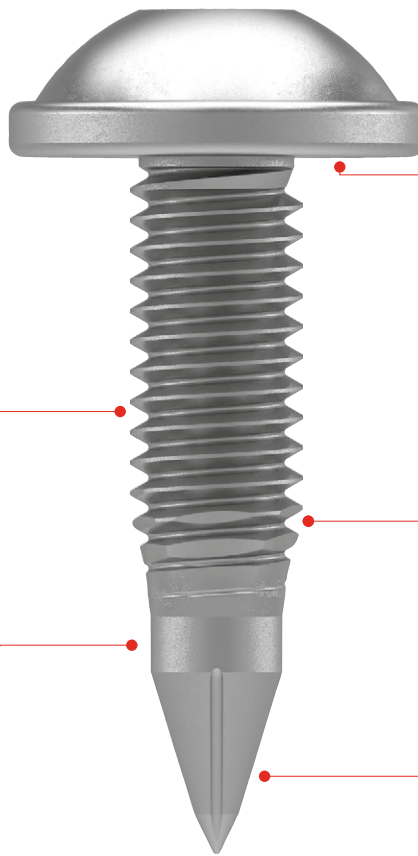
Cylindric shank section

enables rectangular positioning in the rim

Optional: groove under head for optimal head pressing

Pentagon flats to form the thread in the rim

Flow forming tip with special grooves to increase heat friction



## Economic Advantages

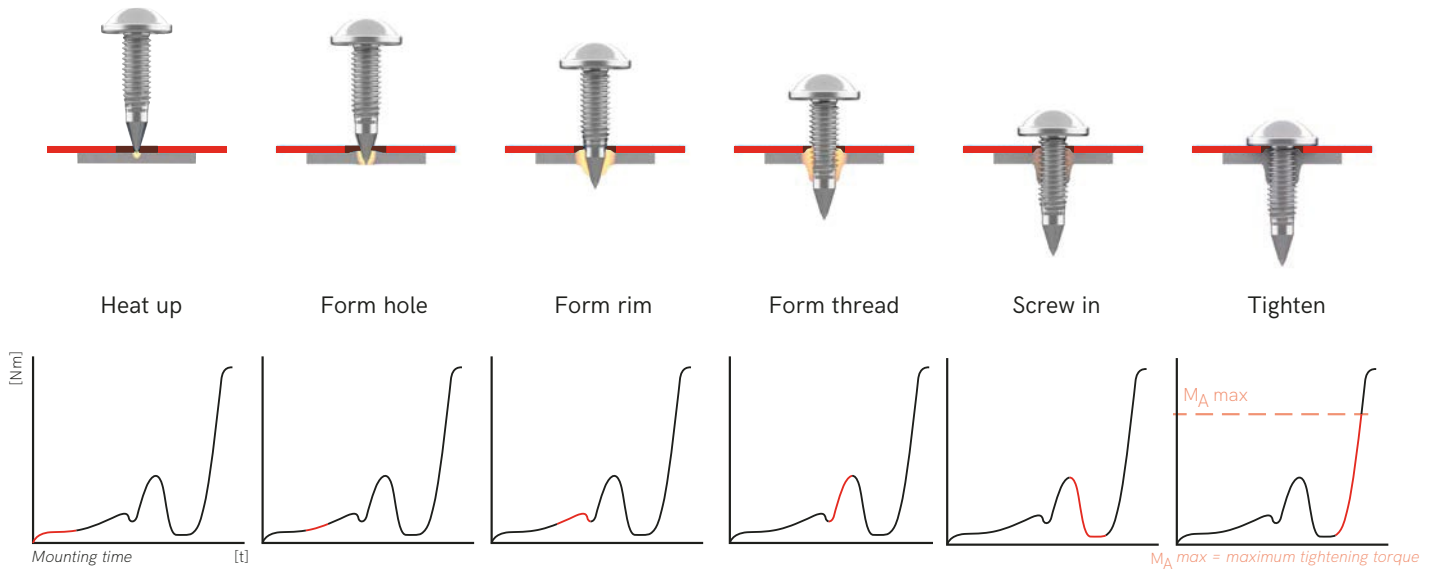
- Economized production sequence by direct mounting without stamping.
- No counternuts or other fasteners required. Reduced number of assembly components.
- Short assembly time when using high-speed screw drivers (approx. 3000 rpm).
- Reduced overall weight of the component or subassembly.



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## Assembly Process

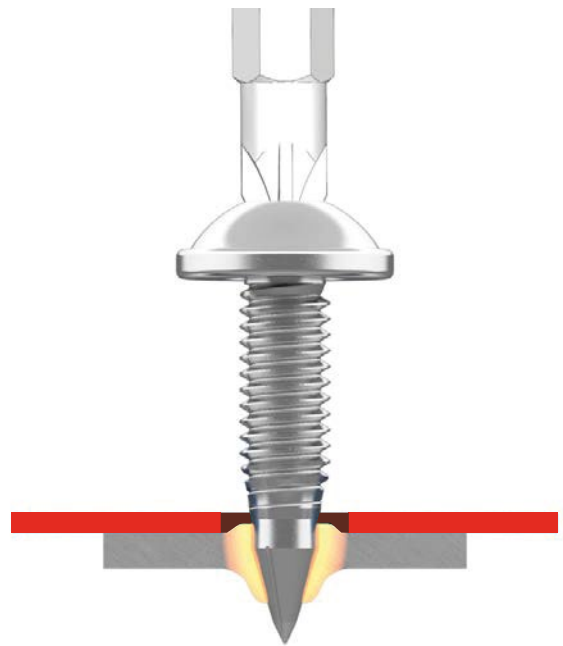


## Installation Instructions

- Use of high-speed screw drivers over 2000 rpm recommended.
- During assembly vertical pressure has to be exerted to heat up the sheet metal.
- The betzer pentadrill screw can be removed and retightened repeatedly.
- Subsequent screw fastening with metric screws possible.
- Especially suitable for automatic assembly.

## Specifications

- Sizes M3 to M6; Other diameters available upon request
- Material: case hardened steel
- Coating: mainly Zink flake coatings or ZnNi coatings
- Drive systems: can use any system
- Applications: thin sheet metals (Steel or aluminium) without prehole



Heating of the sheet metal with high-speed screw driver and vertical pressure (Example)