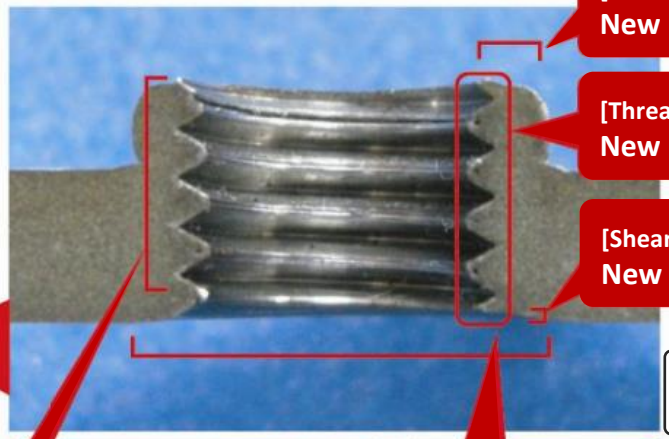
Minimal Sheardroop Burr Stamping Process

Quality requirement

- Tap: M8×1.25
  (effective thread ridge: more than 4 ridges)
- Burring hight: below 6.5mm
  (Original thickness 4.0mm inclusive)
- Thread ridge breakage torque:
  more than 35N-m

Conventional process・shape characteristics

Burring diameter was small and less volume against the original material thickness(4.0mm), therefore it caused large sheardroop and shorter straight length. Therefore less screw thread with reduced installation flat area.



[Wall thickness]
New process: approx. 2mm

[Thread ridge] Conventional method: less than 4 ridges
New method: More than 4 ridges

[Sheardroop volume] Conventional method: 1.6～1.8mm
New method: 0.5～0.7mm

Material: SPHE
Thickness: 14.0mm

[Length of straight before screw formation]
Conventional method: 4.2～4.4mm
New method: 5.3～5.5mm

[Sheardroop rounding area]
Conventional method: ϕ14
New method: ϕ12

Key Points

- For screw formation material, it is currently possible to use 4.0mm thickness product where conventionally it was 5.0mm.
  Material volume reduction and integration of nut.
- Kiya's new method secured required quality satisfaction due to control in press shear droop.
  Increase in thread ridges! Securing strength of screw! Installation surface expansion!