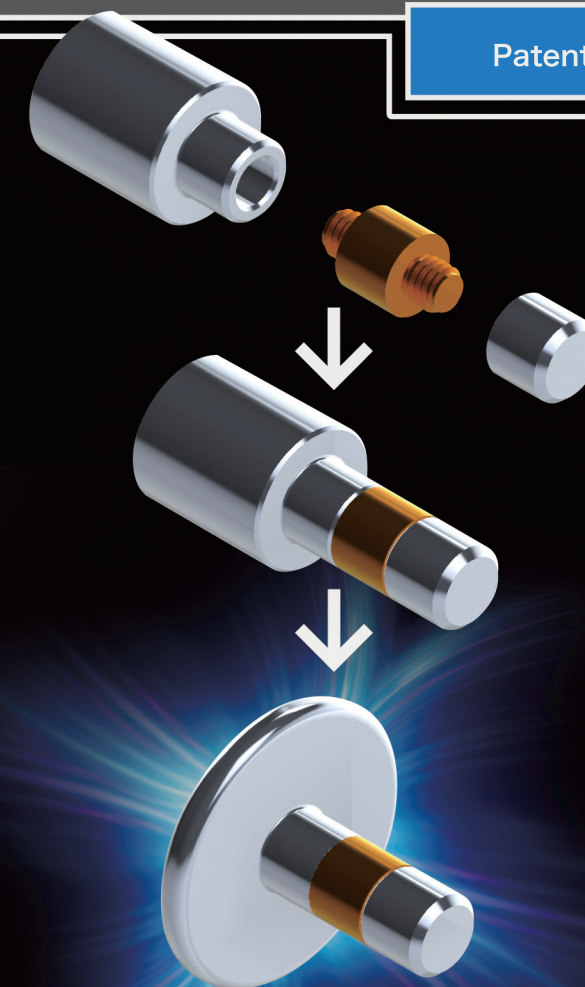


AKROSE™

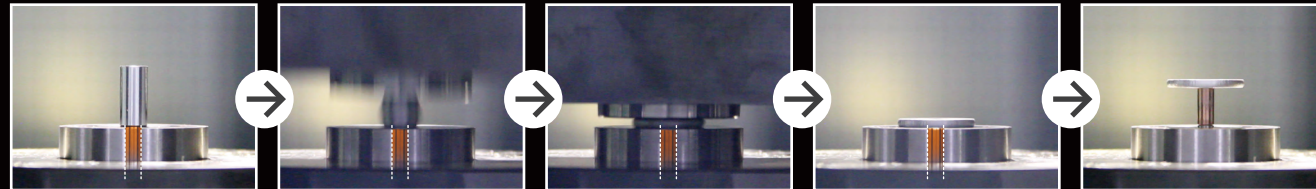
The Joining of Dissimilar Materials

Unique to NITTOSEIKO, AKROSE is the technology of tightly joining dissimilar materials by pressing them together after undergoing a cold-heading process.

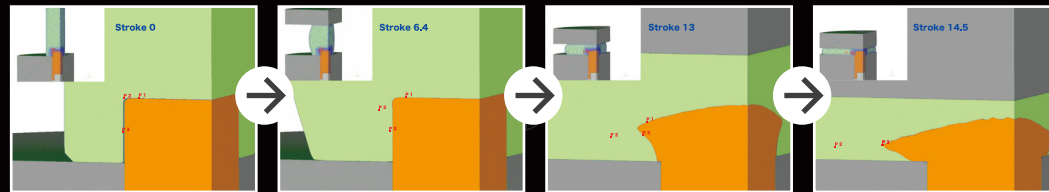
Patented in Japan



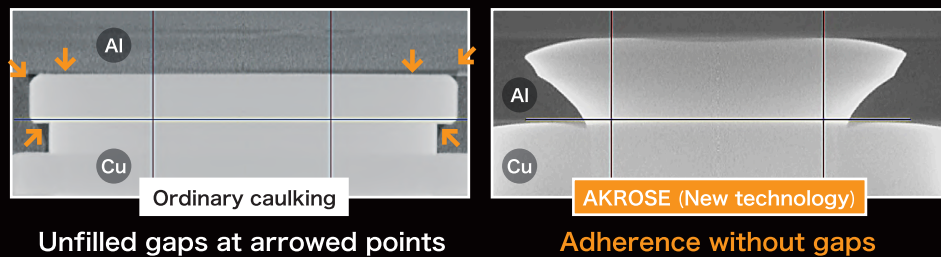
Pressing Sequence



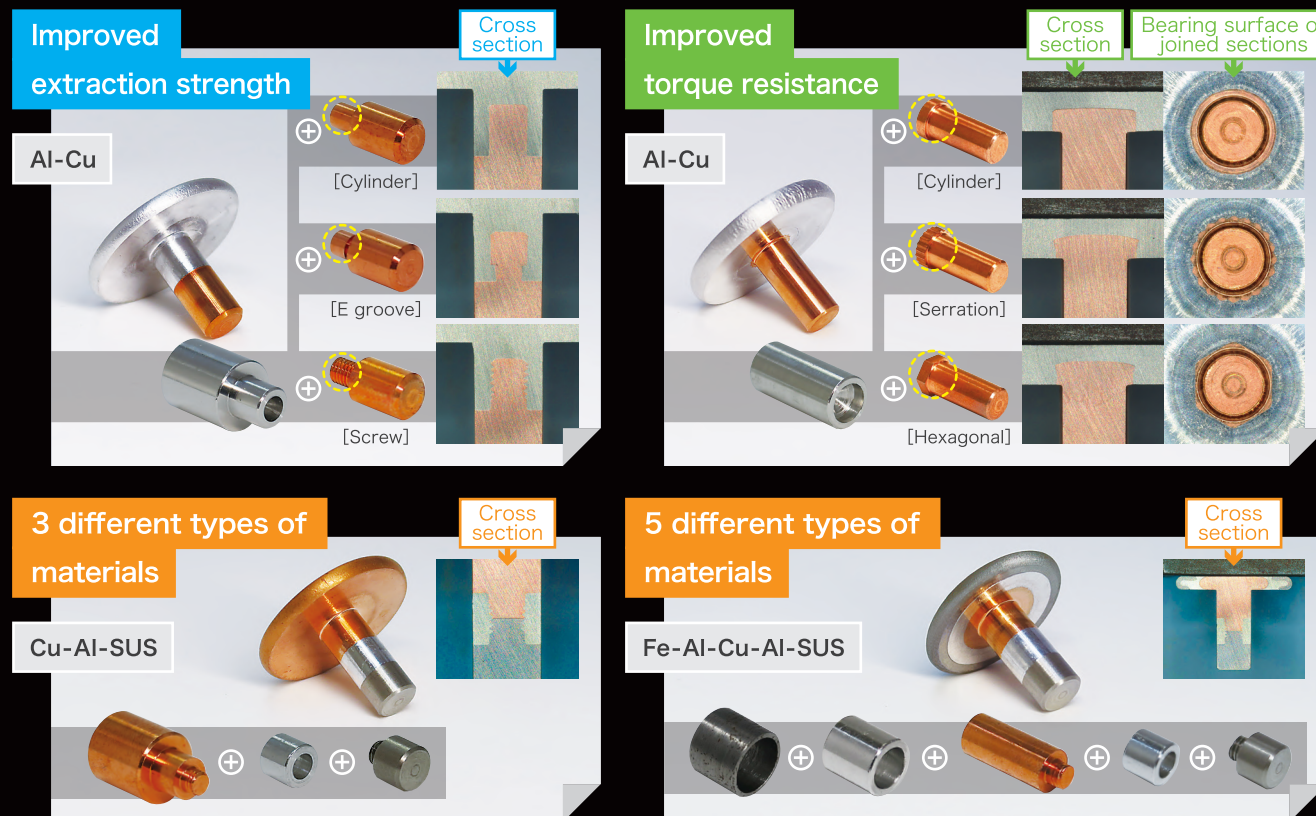
FEM Analysis



X-Ray CT (360 deg. Rotation)



Examples of joining



NITTOSEIKO CO.,LTD.

Fastener Division
Global Sales Section

Website : <https://www.nittoseiko.co.jp/en.html>



[Website]



[Inquiry Form]



Registered Scope
-Main Factory
-Yata Factory

NITTOSEIKO's cold-heading technology is an important contribution to the next generation of manufacturing

"Cold Heading" is the technology that distorts and then reshapes metal parts by pressing under normal temperature.

This process not only limits the amount of waste, but also helps maintain the strength of the material.

Furthermore, the process allows for high accuracy with less variation.

"AKROSE" is the new technology of tightly joining dissimilar materials using NITTOSEIKO's cold-heading technology which has evolved over decades of experience with development and production of industrial fasteners.



Applications

Automotive, Batteries, Appliances, Electronics, Infrastructures, etc.

Ordinary Joining Technologies and Their Weak Points



Mechanical Joining

- Caulking, etc.

- Lack of adhesion
- Requires preparaton of pilot holes
- Requires joints, thus more parts



Chemical Joining

- Adhesive Agents, etc.

- Lack of boding strength
- Lack of heat resistance
- Lack of long-term reliability



Metallurgical Joining

- Welding, etc.

- Deformaty and softening due to heat
- Danger from sparks and spatter during operation
- Embrittlement due to generation of intermetallic compounds



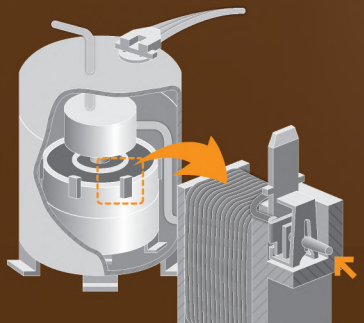
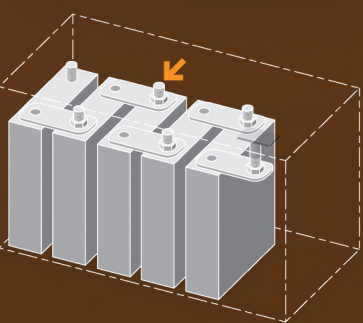
Batteries for Electric Vehicles



Compressors for Appliances



Fuses and Connectors



Great potential for metal-joining technology in various fields and industries.



AKROSE™
The Joining of Dissimilar Materials
Features

Allows for the joining of varoius materials

01
POINT

Allows for the joining of multiple materials

02
POINT

Allows for the joining of complex joint shapes

03
POINT

Provides tighter adhesion

04
POINT

Provides higher resistance to rotation at seam

05
POINT

Allows for reduction of environmental impact

06
POINT