

Hydrogen Connector of High-strength & Productivity - with New developed Iron-based Super-Alloy & 3D Printing -

3D-Printing of anti micro-crack and Super high density (99.9% or more)
: High-Strength , Anti-Hydrogen embrittlement (same as Bar material)



Our new developed Powder
Iron-based Super Alloy
now on Patent Application



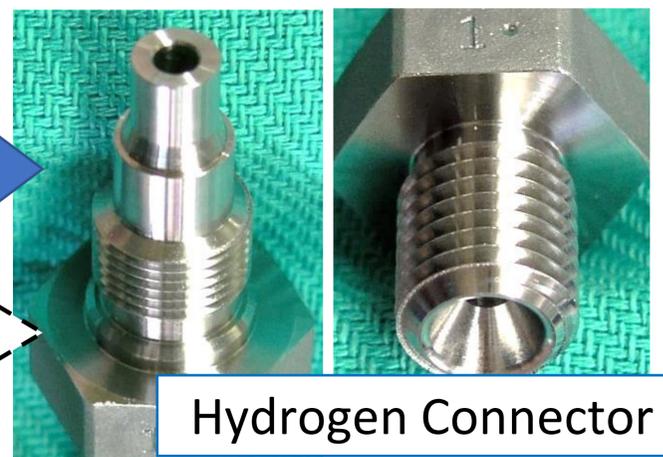
Finish Lathe of small
amount to remove



Conventional
Wrought
Bar Material

Reduce Total Cost
Unrestricted Shape
Stable Quality

High cost Lathe of large
amount to remove



Hydrogen Connector

MITSUCHI developed a Net-shaping method with 3D Printing and Iron-based Super-Alloy of SUH660 (A286) Modified, which has suitable property as High-Strength Joint used for High-Pressure or Liquefied Hydrogen Piping. This Development achieved to improve **Total Productivity and Fewer Designing Constraints**.

[Detail]

With mean compositions of SUH660 (A286) powder and the conventional 3D printing, Micro-Cracks occur in the 3D-printed product.

MITSUCHI identified the chemical compositions that suppress cracks, and, found the optimal laser Irradiation Conditions.

Mechanical Properties of the developed product achieved to be equivalent to that of Conventional Machined Products of Wrought Bar material.

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