

ELGILOY Small Diameter Pipe and Laser Processing

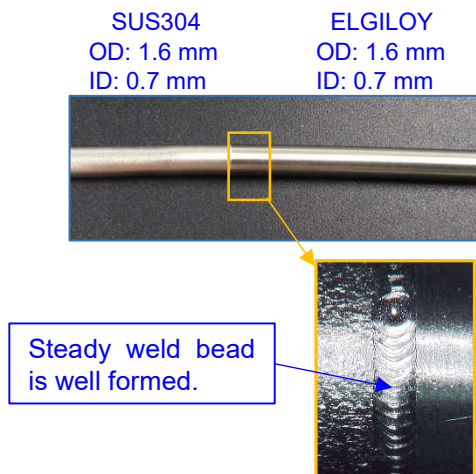
1. Processing of ELGILOY

ELGILOY, having toughness and hardness, can be processed in laser processing such as cutting or welding with stainless steel. Laser processing of ELGILOY should expand the applicable range of this material and lead to new product ideas.

2. Processing Samples of ELGILOY small-diameter pipe

- YAG laser welding sample

ELGILOY is welded with SUS304 by YAG laser. The tensile strength is 487 MPa which is the same with that of stainless steel. This combined component has the both properties of ELGILOY and SUS304.



- Fiber laser processing sample

The needle has obliquely tip cutting and drilling at the tip, spiral slitting at the body made by a fiber laser, which can be flexibly bent.



3. Specifications of laser processing machines

YAG Laser welding machine



- Welding penetration depth: 0.1 – 0.3 mm
- Laser spot diameter: 0.016 mm
- Processing axis: X, Y, and rotational axis
- Capable of continuous seam welding and micro spot welding

Fiber Laser machine



- Minimum work diameter: 0.3 mm
- Maximum work thickness: 0.5 mm
- Work shape: shaft
- Cutting width: 20 μm
- Accuracy: 50 μm

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