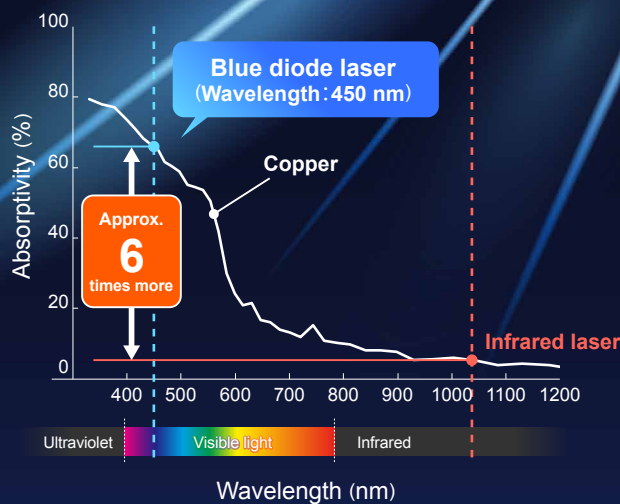




BLUE Diode Laser



- Absorptivity of copper is six times higher than Infrared laser

We are developing additive manufacturing and welding technology using blue diode laser.

Blue diode laser has higher absorptivity than Infrared laser, so it can process copper without spatter.

*Source: Spectral reflections of metals (NASA)

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Solution for EV with Blue diode laser

Expected to be applied to products that takes advantage of copper, excellent thermal and electrical conductivity.

Battery module

Inverter case

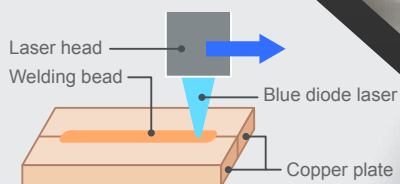
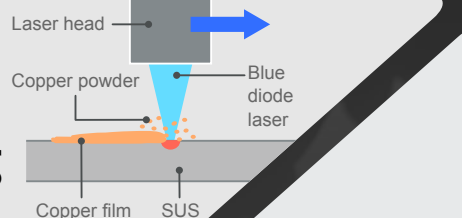
EV motor

Additive Manufacturing

Cooling sleeve

Substrate: SUS

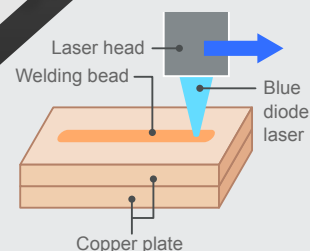
Metal powder: Copper



Flat plate Butt welding

Bus bar

Substrate: Copper (t = 3.0 mm)



Flat plate Lap welding

Bus bar

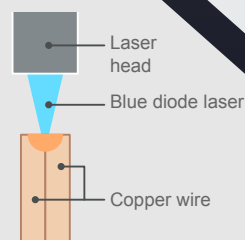
Substrate: Copper (t = 0.5 mm)

Laser process with Blue diode laser

Hairpin welding of copper wire

Copper wire in motor

Substrate: Copper (2 × 3.5 mm)



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