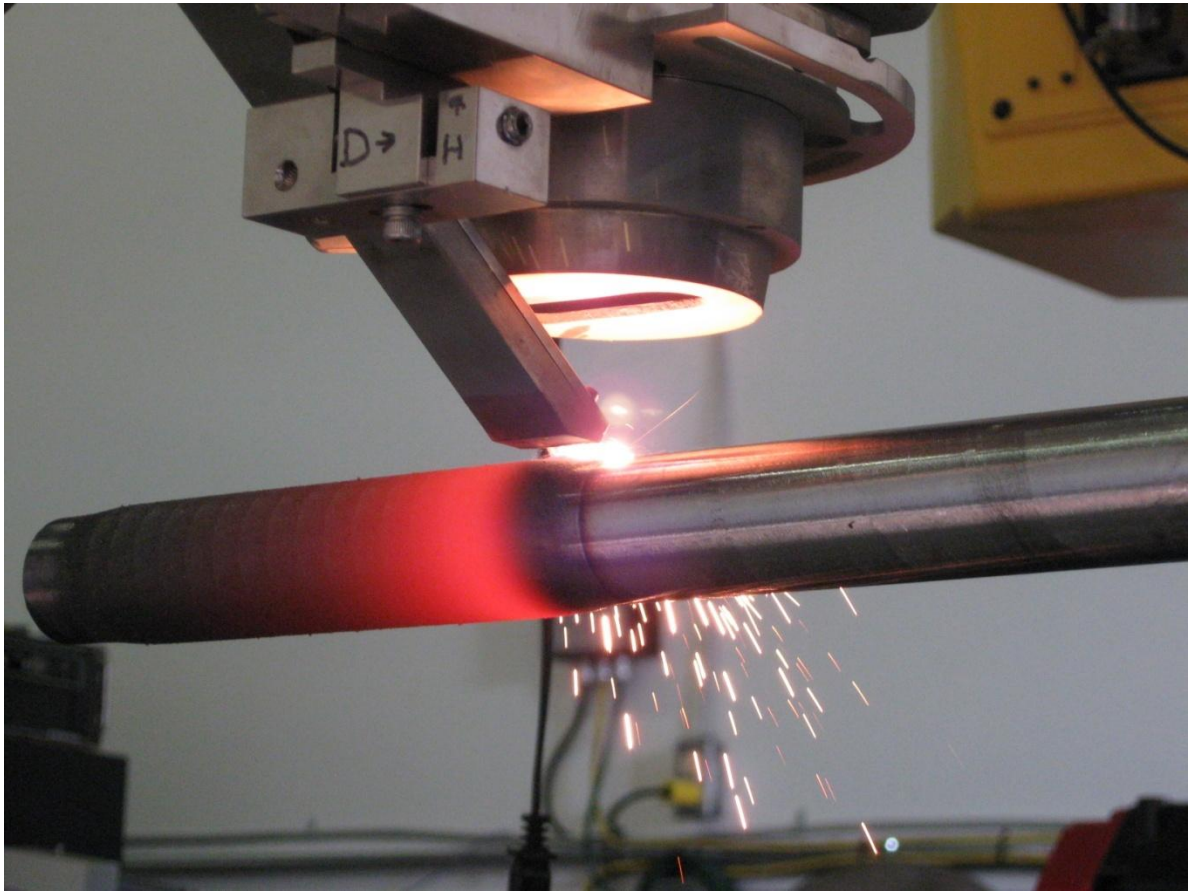
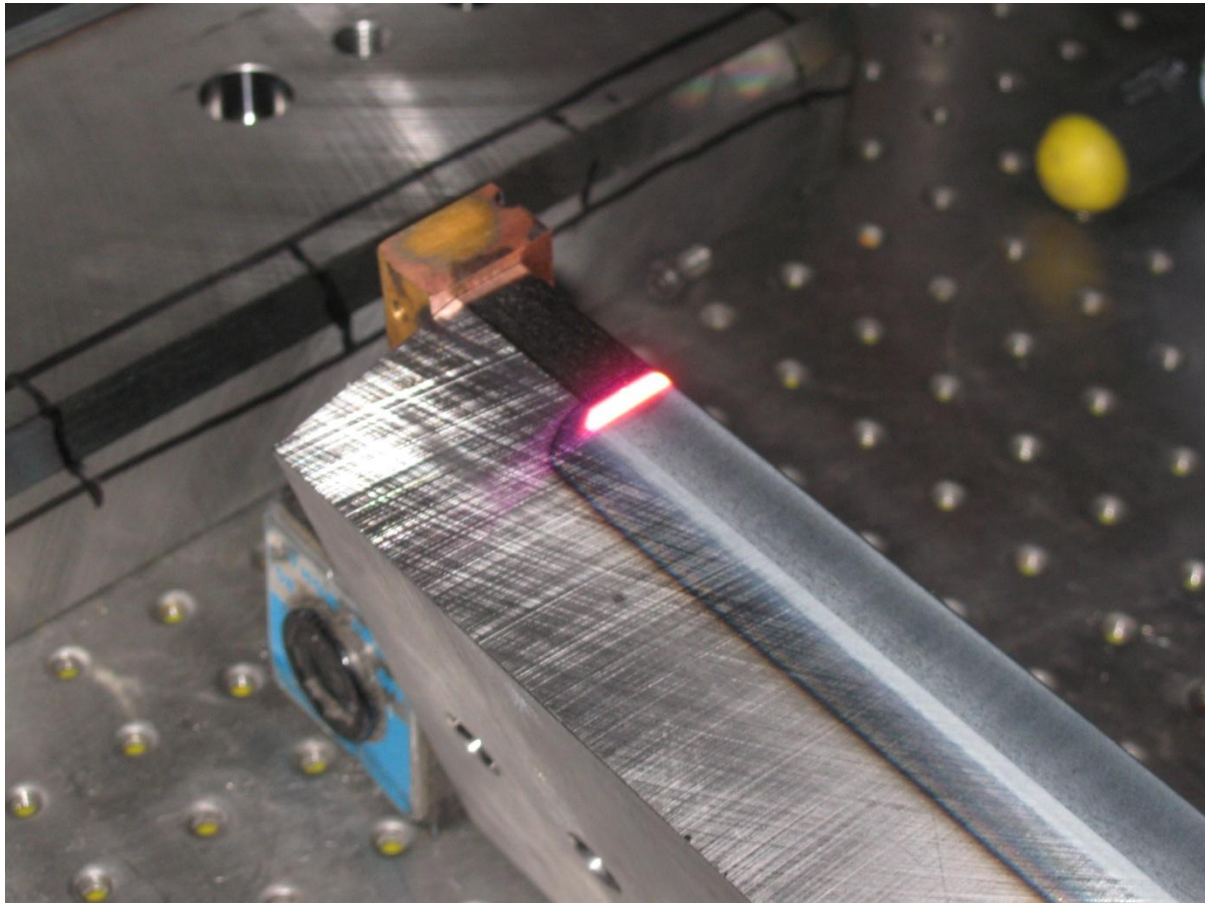
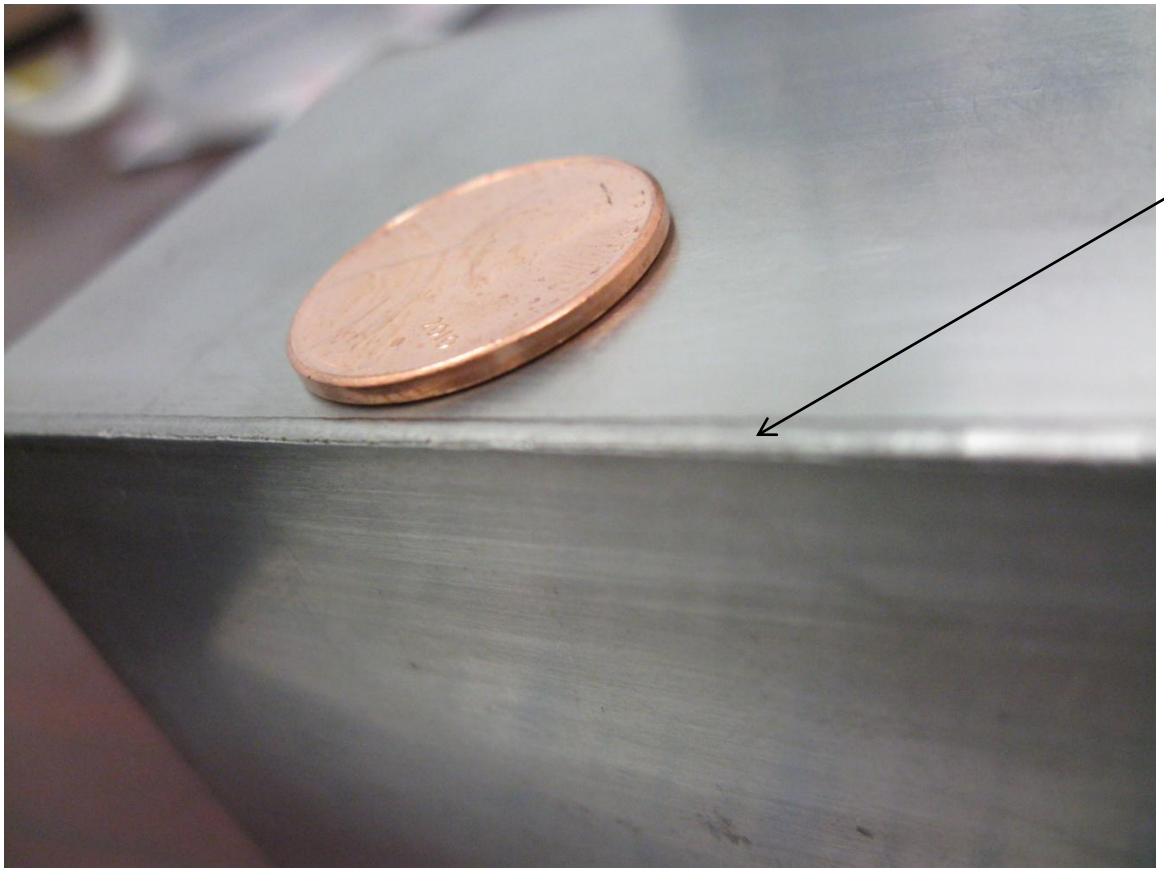


Laser Cladding – *Cladding is a process of overlay-welding on a base metal with a corrosion, erosion or wear resistant metal*. The heat source in this case is a diode laser. The diode laser has unique properties that allow it to melt or clad the thinnest possible layer of beneficial metal over a base metal. This welding process can be performed at the lowest amount of heat and distortion. Why make the whole piece out of expensive material, like nickel, which is at $15 a pound, when only the surface has to have this expensive material on it. There are tremendous benefits in all industries with emphasis on energy production [nuclear and coal] and oil and gas recovery.



Laser Heat-Treating – Heat treating makes steel harder and last longer. This is known as case hardening. The laser diode can perform this heating process so precisely that part distortion is eliminated or minimized significantly. This distortion typically cost more money than the actually heat treat process itself. Channellock tools, which you can find at box hardware stores, uses diode lasers, which founder developed the process for and installed to harden their pliers and wire cutters. Titanova is also a Tier II supplier for John Deere and CAT by supplying laser heat treating diesel pistons and drive train components respectively.



Laser Conduction Mode Welding *We can weld a beer can thick metal together without distortion.* The reason is the laser diode has a unique beam shape that allows high speed welding of distortion sensitive parts such a thin gauge metals. This is an enabling technology that allows customers to use thinner gauges, thus less material costs, without changing there upstream processes, which drops right to their bottom line.