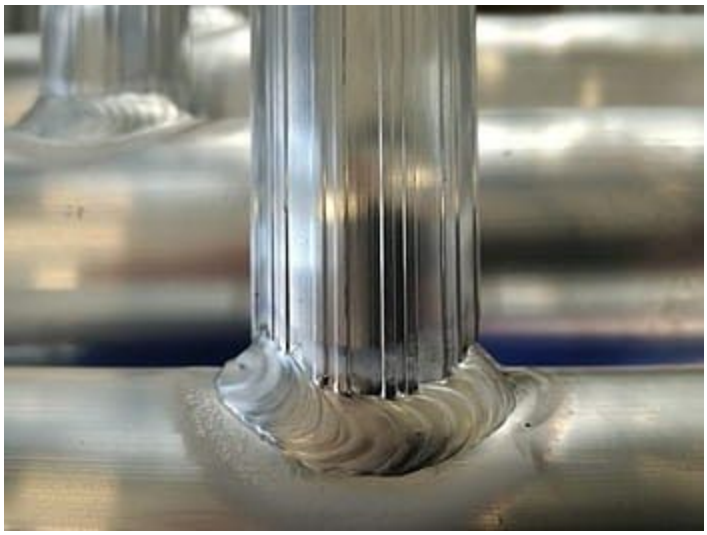
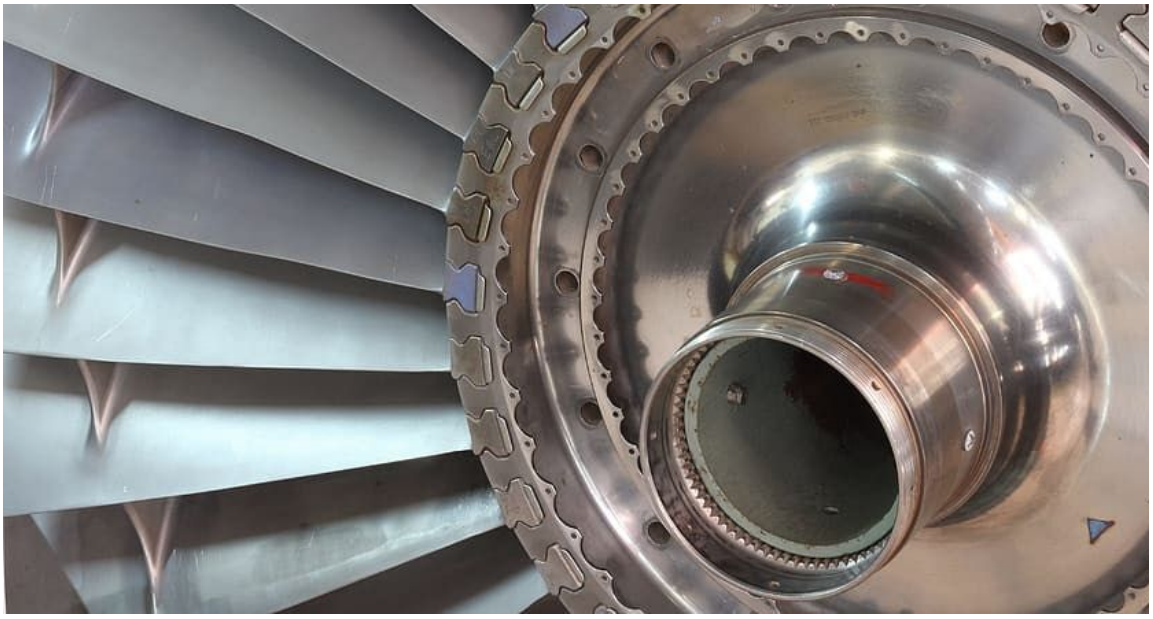
- **<u>GMAW (mig) Welding Aluminum</u>**
- Direct current electrode positive (**DCEP**), also known as reverse polarity, is used because it provides cleaning necessary to remove aluminum oxide from the base metal
- Argon is the shielding gas used and in the case of thicker aluminum an argon-helium mixture can be used

Because aluminum wire is not as strong as steel wire, a push-pull wire feed system is used to move the wire in order to prevent kinking or bending in the gun. A nylon liner must be installed in the combination cable to feed aluminum electrode wire

- The method used should be **Spray transfer** or **Pulsed spray transfer.**
- Spray transfer can be used only in flat position and for fillet welds only when in horizontal position



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- Pulsed spray transfer is used for out-of-position welds
  - High welding currents **(wire feed speed)** and high welding speeds are used to make high quality welds with small heat-affected zones
  - Short-circuit and Globular transfer methods are **not** recommended because poor penetration and fusion typically result
  - Preheating is usually not necessary when welding aluminum with GMAW as it can weaken the base metal, but it may be necessary for thick sections, in which case the preheat temperature should not exceed 300 degrees F