

Removal of Parts from Original Cast

Application Sheet #527

Description

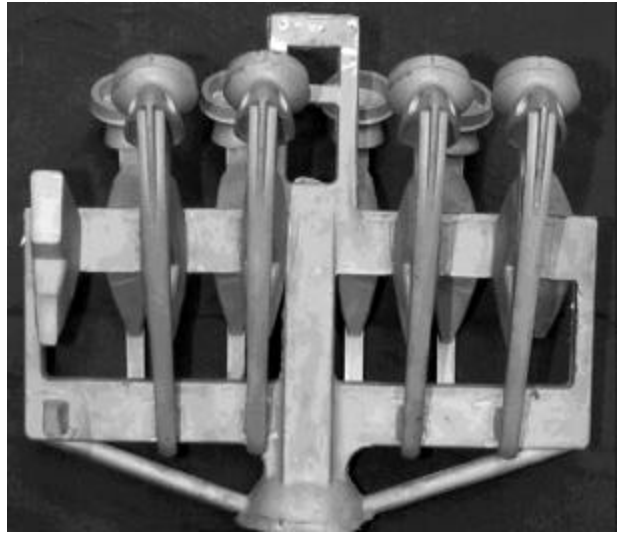
- Precision abrasive waterjet cutting for removing parts from their original cast.

Application

- Removing cast medical implants from their original cast (as shown).
- Removing cast single crystalline turbine blades from their original cast.
- Capable of a variety of shapes, sizes and complex angles.
- Integrated CAD/CAM to a five axis machine.

Process

- A CNC program is made to probe and find the parts on the casting to compensate for cast to cast variation.
- Part is held by casting material, inexpensive and easy fixturing.
- Removes individual parts without damaging other parts on the casting.
- Excess cast material can be recycled.
- Tolerance within ± 0.005 in



Material

- Virtually all materials, primarily aerospace and medical implant materials.

Cycle Time

- Often eliminates secondary processes to reduce overall cycle time.
- Actual cycle times will depend upon part geometry, material type, amount of material removed, feed rate and desired surface finish.
- Overall part throughput may increase by 100% or more.

Surface Finish

- Contingent upon a number of process variables including; material type, abrasive type and feed rates (typically 30-60 rms).

Machine Features and Benefits

- Available on the Huffman WJ-155 Waterjet System.
- Fully enclosed work envelope decreases noise level, water spillage, and creates a safe work environment for the operator.
- Waterjet process eliminates stress induced by conventional machining methods.
- Waterjet process eliminates the heat-affected zones and crystalline structure changes from conventional machining methods.
- Inexpensive tooling
- From design to production in one day.
- Reduced scrap rate with increased accuracy and repeatability.
- Safe and environmentally friendly waste reclamation system.

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