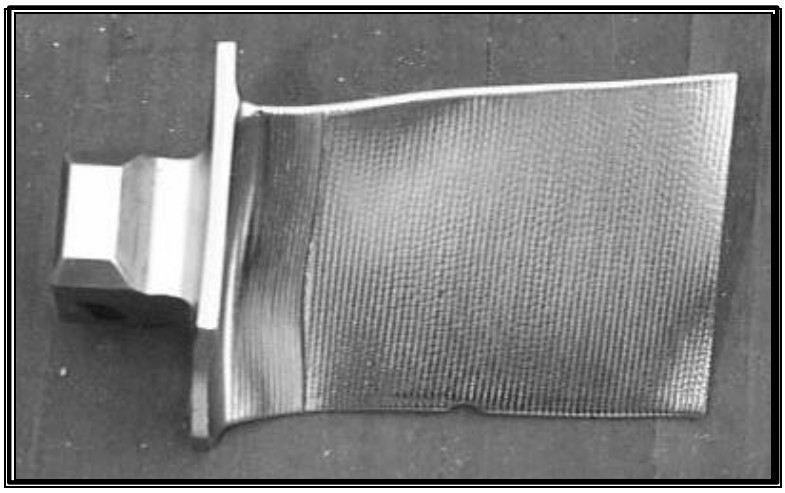
Forged Blade Waterjet Machining

Application Sheet #528

Description

- Precision abrasive waterjet cutting of forged blade platforms and tips to finished dimensions.



Application

- Precision abrasive waterjet cutting of airfoil blades from a pre or post-milled states (as shown).
- Capable of a variety of shapes , sizes and complex angles.
- Integrated CAD/CAM to a five axis machine.

Process

- A CAD model for each blade type is used to generate the finished airfoil shape.
- Part held by root or airfoil, inexpensive and easy fixturing.
- Tolerance within ±0.001 in
- Waterjet stream cuts to finished dimension in a single pass.

Material

- Virtually all materials, primarily aerospace materials.

Cycle Time

- Cycle times are considerably less than conventional milling methods. Actual cycle times will depend upon part geometry, material type, amount of material removed, feed rate and desired surface finish.
- Cycle times are typically two and a half (2.5) times faster than traditional methods (traditional method took seven minutes, the waterjet process took two minutes).

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.

Huffman Corporation
1050 Huffman Way • Clover, SC 29710
803-222-4561 • 803-222-7599 Fax
www.huffmancorp.com