Waterjet System Application

Blisk Production

Application #1

6" (152 mm) diameter aluminum
0.75" (19 mm) thick
24 blades
168" (4267 mm) tool path (outside cut, 3 cuts per airfoil, inside cut, 6 holes)

Application #2

48" (1219 mm) diameter titanium
10" (254 mm) thick
24 blades
1000" (25400 mm) tool path

Process

Remove 70% of blank material
Virtual simulation verification
Five-axis CAM programming
Statistical process control

Cycle Time

Less than two hours

Machine Features and Benefits

Huffman Five- and Six-Axis Waterjet Machining Systems
Eliminates more expensive "waffle" forgings
Reduce cost of forgings
High volumetric material removal
Low tool consumption
Reduced scrap
Cut in axial or radial direction
No heat-affected zones
Better use of expensive milling machines for finishing work
Up to six axes, including rotary wrist, provide contouring capability to cut between airfoils

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