



Laser System Application

# Blade Tip Repair

## Application

Refurbishing cell for the leading and trailing edges and tips of turbine or compressor blades. Blades are repaired and reused rather than discarded and replaced with new components.

## Process

Laser powder fusion welding with weld head heights of approximately 0.02" (0,51 mm) and weld head widths of approximately 0.06" to 0.075" (1,5 mm to 1,9 mm).

Number of passes determined by the amount of buildup required.

## Material

Titanium and high-nickel aerospace alloys.

## Cycle Time

Approximately one to three minutes per blade

## Machine Features and Benefits

Available on the HP-115, HW-185 and HC-205 series laser systems.

Laser powder fusion welding available on 3-, 4- or 5-axis configurations.

Vision system is integrated with the CNC to accommodate incoming part variation and minimize manual operation.

Simple setup and changeover to different parts.

High production rate.

Near net shaped welds minimize post-weld blend operations.

Minimal heat transfer reduces heat affected zones (HAZ) and cracking.

