

RMS SHIPS LARGE SUPER ALLOY TURBINE DISKS

By Robert Klova



RMS recently shipped two large super alloy power turbine disks to separate gas pipeline customers. These disks replaced Ingersoll-Rand and Dresser-Clark components that had exceeded their useful operating lives. (Note that, prior to replacing disks, RMS can perform a Remaining Life Analysis to determine whether replacement is truly necessary.) The approximately 40 inch, 1,600 pound forgings are among the largest super alloy disks used in turbomachinery.

The disks were carefully reverse engineered using techniques developed by RMS to insure 100% dimensional compatibility. As part of our engineering process, RMS investigated and ultimately upgraded both disks from alloy A286 to alloy IN901. For similar costs, we were able to supply a stronger alloy with fewer risk factors.

The RMS Quality Control Plan included special metallurgical requirements, and ultrasonic and fluorescent penetrant inspections to assure a level of quality equal to, or exceeding, that of the original manufacture. RMS Go / No-Go gaging for the fir-tree attachments, and detailed dimensional inspections assured correct as-manufactured dimensions. The disks were successfully assembled into overhauled rotors and shipped to our customers.

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