



Engineering Specification TES-006

Engineering Specification Name:

Critical Component NDT Specification

Issued By:

Engineering

Rev.: **R000**

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Page 1 of 2

Purpose: The purpose of this engineering standard is to define the approved methods for Non Destructive Testing (NDT) that need to be performed during the in-process and final inspection of machined critical components.

1.0 Scope:

- The Ultrasonic Testing criteria outlined in the document below is primarily for the detection of internal flaws in the material being machined. The process described is applicable only for the inspection of raw material stock used to machine critical components.
- The Florescent Penetrant Inspection (FPI) process described in this specification is applicable to the in-process and final inspection of fabricated critical components.
- Test Devices document, including drawings, will reference this specification and will explicitly outline any deviation from the standards outlined below.

2.0 Definitions:

2.1 Critical Component: Critical component are defined as components subject to rotational application (ex. turbine rotor, spin arbor, etc.). Exceptions may be allowed if either the customer instructs Test Devices to treat rotational components otherwise or Test Devices engineering determines a component is not critical.

3.0 Responsibility: It is the responsibility of Test Devices' engineering manager to ensure this standard is maintained and updated continuously.

4.0 Engineering Standard: The methods below defines the acceptable NDT testing methods approved by Test Devices' engineering department. Any alternate methods or deviation from the below mentioned standards must be requested and approved by Test Devices' engineering department before the alternate methods are applied.

APPROVALS		
Engineering	Hiro Endo, Engineering Manager	Date
Quality	David Woodford, VP, Quality & Business Operations	Date

Revision Log		
Revision	Summary of Changes	Rev. Date
Initial Issue		6/10/13

5.0 NDT method:

5.1 Ultrasonic Inspection:

Immersion ultrasonic inspect raw material per AMS 2630 or 2632 (Based on material thickness) at 5 MHz using a sensitivity level of A #3 flat bottom hole. All surfaces to have a minimum 125 finish. 0.10" stock to finish requirement for all features.

5.2 Florescent Penetrant Inspection (FPI):

FPI after final machining to ASTM E 1417, Type (1), method D, level 4. No defects allowed.

6.0 Reference Document:

None