

API Standard – 20D

Standard 20D is a service standard that addresses the qualification of Nondestructive Examination Services for Equipment used in the Petroleum and Natural Gas Industry. The goal of the standard is to:

- Support API product specifications / standards where 20D is specified
- Be utilized when contractually specified as a requirement for compliance
- Provide NDE service providers with a voluntary method to demonstrate their compliance to specified requirements

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General Overview

API 20D specifies requirements for the design, development and qualification of nondestructive examination methods used in the manufacturer of equipment for the petroleum and natural gas industries. This standard does not provide acceptance criteria.

The four NDE methods include:

- Magnetic Particle Testing
- Liquid Penetrant Testing
- Ultrasonic Testing
- Radiographic Testing

NDE Methods



Magnetic Particle
(Magnetic flux lines)



Liquid Penetrant
(Penetrant bleed out)



Ultrasonic
(Amplitude display)



Radiography
(Gamma source camera)

General Overview, Continued

This is applicable to suppliers providing nondestructive examination (NDE) services for equipment used in the oil and natural gas industries.

This standard is comprised of General requirements applicable to four NDT methods which require their own unique requirements summarized below in order as they appear within this standard.

General Requirements

Facility Requirements

- Proper inspection and safety equipment suitable to perform each inspection and in compliance with ISO 17025 or international equivalent.

Responsibilities & Duties

- Shall perform services in accordance with applicable standards.
- Shall control equipment, reports, and develop qualified procedures.

General Requirements, Continued

Personnel Qualification Requirements

- Provider shall staff qualified and certified inspectors in each method specified within the written practice.
- NDE provider shall have a written practice in accordance with requirements specified in ISO 9712, ASNT ACCP, or ASNT SNT-TC-1A (where TC-1A recommendations are considered as requirements not recommendations).

Quality

- Records shall be maintained for ten years after the date a procedure or qualification is no longer used.
- Proper equipment identification and calibration intervals shall be maintained.

NDE Specific Requirements

The following apply to each test method

- Applicable techniques for each method (i.e. visible, fluorescent, contact, immersion, gamma, x-ray)
- Calibration intervals (i.e. bi-annually, annual, daily, weekly)
- Procedure demonstration & requalification (i.e. quantitative quality indicators, flaw samples, reference standards, image quality indicators)
- Report information requirements (i.e. personnel certification level, equipment calibration information, results)

