

*Free Guide*

# NDT: Nondestructive Testing



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# What is a Nondestructive Testing certification?

An NDT certification shows that an employee is proficient in nondestructive testing – a method used to inspect, test, or evaluate materials, components, or assemblies for defects or discontinuities without causing damage to the original part.

Common types of nondestructive testing include:

- **Ultrasonic.** Uses high-frequency sound waves to detect internal flaws in materials or structures
- **Radiographic.** Utilizes X-rays or gamma rays to inspect the internal structure of objects
- **Magnetic particle.** Identifies surface and near-surface defects in ferromagnetic materials using magnetic fields
- **Eddy current.** Detects surface and subsurface flaws by inducing electrical currents in conductive materials
- **Visual penetrant.** Reveals surface-breaking defects by applying dye penetrant and then visually inspecting for indications

# Who needs a Nondestructive Testing certification?

NDT certifications are not universally mandatory, however they are valuable in industries in which the integrity of materials, components, or structures is especially important.

NDT is used in these industries in the following ways:

- **Aerospace.** To inspect aircraft components, engines, and structures
- **Automotive.** To examine welds, castings, and other critical parts
- **Oil and gas.** In the inspection of pipelines, pressure vessels, storage tanks, and other equipment
- **Construction.** For inspecting bridges, buildings, and other infrastructure
- **Manufacturing.** In processes, such as welding, casting, forging, and machining
- **Railway.** In the inspection of railway tracks, bridges, and rolling stock components
- **Medical.** For diagnostic imaging, such as X-rays and ultrasounds

## How to get a Nondestructive Testing certification

There is no singular body for NDT certifications. As such, various certification programs are offered by several organizations worldwide. Typically, the certification process involves attending courses or self-studying, then taking an exam. There may also be experience and education requirements.

Employees who pass their certifying body's exam will have earned their NDT certification. We'll take a closer look at several organizations offering NDT certification programs in the "Resources" section below.

# Renewal requirements for Nondestructive Testing certification

Validity periods and renewal requirements for NDT certifications will depend on the certifying body. Typically, they involved paying a fee and/or earning a certain number of professional development credits in areas related to NDT. Check with your certifying body for the full details.

## The benefits of NDT certification

NDT certifications offer several benefits to organizations. Some key advantages include the following.



### Enhanced quality assurance

NDT certification that personnel using NDT to detect defects have all the skills they need to perform their jobs effectively. This can lead to improved product quality, fewer rejections, and improved customer satisfaction.



## **Reduced costs**

Certified NDT professionals can help their organizations reduce or minimize material waste, rework, and downtime caused by undetected defects – a huge benefit to cost-saving initiatives. Additionally, NDT-certified employees can help organizations avoid costly liabilities associated with faulty products or equipment.



## **Regulatory compliance**

An NDT certification demonstrates compliance with industry standards and regulatory requirements, providing assurance to stakeholders, customers, and regulatory bodies. This helps organizations meet contractual obligations, mitigate risks, and maintain a competitive edge in the marketplace.

## **Challenges in earning an NDT certification**

NDT certifications may pose several challenges to individuals and organizations. They include the following.



## **Technical complexity**

Mastering NDT techniques requires a deep understanding of physics, materials science, and inspection methods, posing a challenge for candidates without prior technical background or experience.



## **Cost and time investment**

Earning an NDT certification means candidates – or their organizations – are required to pay for training courses, study materials, and examination fees, as well as commit to time for studying and practical training.



## **Exam rigor**

NDT certification exams are rigorous, and cover a wide range of topics with strict passing criteria. Candidates must demonstrate proficiency in theoretical knowledge, practical skills, and adherence to safety protocols – and must be fully prepared and dedicated to succeed.

# **Tips and strategies for preparing for NDT certification**

Here are a few tips for preparing for an NDT certification:

- Use the study guides provided by the certifying body
- Take practice exams or other online resources to prepare for the actual exam
- Gain practical experience through workshops, labs, and fieldwork to reinforce theoretical knowledge

**What are resources for Nondestructive Testing certification?**

For more information and guidance on NDT certification, you can refer to the following resources

**American Society for Nondestructive Testing (ASNT).** The [ASNT offers accreditation services, training courses, and exams for NDT](#). Its website contains a wealth of information for those looking to earn an NDT certification – or learn more about a certain type of NDT.

**American Welding Society (AWS).** The AWS offers several classroom courses for NDT. They include [“Introduction to NDT”](#) and [“The Science of Nondestructive Testing”](#).

**TWI Training.** [TWI offers several courses for NDT](#). These include conventional and advanced training, and a course for NDT in the aerospace industry. Visit its website to learn more.

**International Organization for Standardization (ISO).** ISO 9712 [sets standards for the qualification and certification of employees who use NDT](#) as part of their roles. It encompasses various methods of industrial NDT.

**Free industry skills matrices.** [AG5’s free skills matrices are pre-populated with skills and certifications](#) that employees working in specific industries may need, including NDT certifications. Visit our website to download and use them for free.

## **Skills management for Nondestructive Testing certification**

AG5 stores all certifications in the cloud, providing all authorized personnel with access to the right version of approved certifications. This helps you easily keep track of all data and documentation related to NDT certification across your organization.

Using AG5's skills management software, you can monitor the status of any type of certification that is relevant to your workforce, leveraging intuitive dashboards that provide you with a clear understanding of exactly what is needed to keep your employees skilled and safe.

[Book a demo](#)

## **FAQs about NDT certifications**

### **What is the scope of an NDT certification?**

NDT certifications encompass all types of NDT, including ultrasonic, radiographic, magnetic particle testing.

### **Is NDT certification mandatory?**

NDT certification is not mandatory, but is highly valuable in certain industries.

## **How long does it take to obtain an NDT certification?**

This varies depending on the certifying body and the individual, but the entire certification process typically takes a few months.

## **What are the cost considerations for NDT certification?**

Course fees, exam fees, and recertification fees are among the top cost considerations for NDT certification.

## **What is the validity period of an NDT certification?**

Validity periods for NDT certification vary, but are typically between three and five years.

## **Can an NDT certification be integrated with other management systems?**

Yes, an NDT certification can be integrated with quality management systems such as ISO 9001, ensuring NDT processes align with overall quality objectives and requirements.

## **How can you learn more about NDT certification?**

Visit the website of your chosen certifying body for NDT certification, or the website of one of the sources linked below.

## **Sources**

- [American Society for Nondestructive Testing \(ASNT\)](#)
- [American Welding Society \(AWS\)](#)
- [TWI Training](#)
- [International Organization for Standardization \(ISO\)](#)

## Author



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## Revisions

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