



Non-Destructive Testing (NDT)-

Overview of common NDT processes

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This text contains an overview of four common NDT processes.

We can also provide or organise weld repairs, please don't hesitate to contact us for further information.

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What Is Non-Destructive Testing (NDT)?

NDT are the processes in which a weldment, forging or casting can be inspected for faults without compromising the structure as Destructive testing (DT) requires.

This is done through several processes requiring high levels of training and certification for the test operator.

NDT plays a critical role in many industries globally and is of particular need in the; mining, automotive, power generation, aerospace and oil/gas industries.

Non-Destructive Testing ensures that parts, components and structures can be tested using cost effective and safe means.



NDT In Conjunction With Forging And Fabrication-

For a safe, dependable, long lasting product, suitable **forgings** and **fabrications** may need to be **tested** before and during use.

Many forged and fabricated parts require some form of **NDT** whether it be; Magnetic particle, dye penetrant, ultrasonic or simply visual inspection.

By having **N&L Blacksmithing** carry out your **Non-Destructive Testing** needs you're leaving in the hands of well trained experts with access to appropriate facilities.



NDT Processes and Functions-

Magnetic particle testing(MT)-

Ultrasonic testing (UT)-

Dye Penetrant testing(PT)-

Visual inspection(VT)-

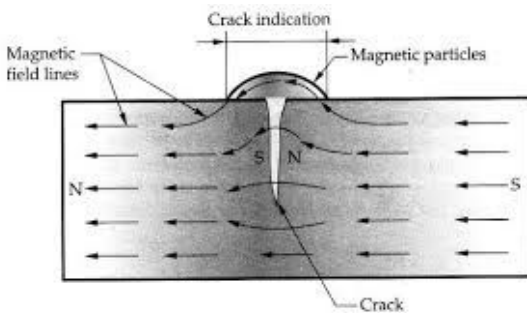


NDT Processes and Functions-

Magnetic particle testing

Magnetic particle testing is used on magnetic ferrous based materials to show surface defects up to $\frac{1}{4}$ inch deep into the material.

This is carried out by first cleaning the surface mechanically or chemically, then applying a magnetic flux to the workpiece which flows into any flaws, followed by applying dyed magnetic particles that are attracted to the flux thus showing any defects for an inspector to visually see.



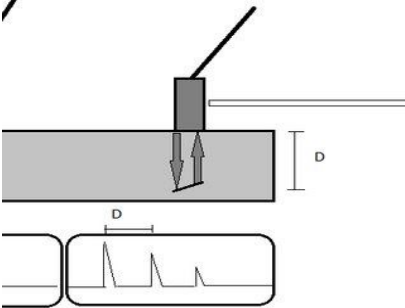


NDT Processes and Functions-

Ultrasonic testing

Ultrasonic testing is a process which uses sound waves to show what the internal structure of a component looks like.

This can be done to measure wall thicknesses for forged or fabricated rings, or pipes and well as detect any defects in the product.





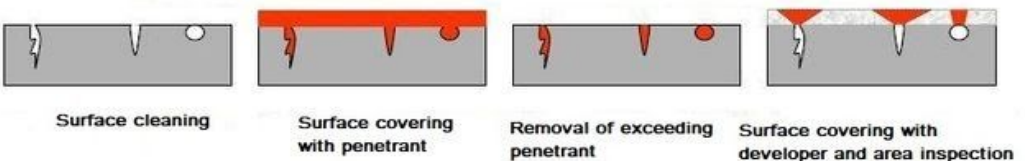
NDT Processes and Functions-

Dye penetrant testing-

Dye Penetrant testing is used on non porous materials and preferred when non ferrous or non magnetic materials are used, making Magnetic particle testing nonviable. It is commonly used for weld testing, forgings and castings.

A thin penetrant dye is applied to the surface of the item which must be thoroughly cleaned and allowed time to seep into any defects, then the surface is cleaned before an applicat is applied and allowed time to soak. Defects are then visually inspected.

Sequence of actions when performing penetrant testing



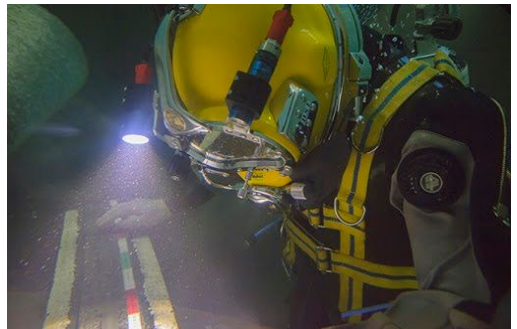


NDT Processes and Functions-

Visual inspection-

Visual inspection is carried out by means of inspection without using specialised equipment, instead relying on the inspector's senses (sight, touch, hearing) and knowledge of what defects are and look like.

This method is applied to all of our products at **N&L Blacksmithing** to ensure quality and piece of mind.





Additional Information

For specific product information, catalogues and inquiries
please contact us.

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