



20th WCNDT - Incheon

Friday 31st May 2024



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

BINDT
 THE BRITISH INSTITUTE OF
 NON-DESTRUCTIVE TESTING

Patrick Boulton
 Certification Engineer

MIDSUMMER HOUSE
 RIVERSIDE WAY, BEDFORD ROAD
 NORTHAMPTON NN1 5NX UK
 Tel: +44 (0)1604 438300
 Direct Line: +44 (0)1604 438263
 Mobile: +44 (0)7885 368694
 Fax: +44 (0)1604 438301
 Email: patrick.boulton@bindt.org
www.bindt.org





BINDT
 THE BRITISH INSTITUTE OF
 NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Presentation aims and objectives

Product Technology



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

Table 2: 9712-Min training days

Minimum training requirements / Days			
Method	Level 1	Level 2	Level 3
AT	5	8	5
ET	5	6	6
LT	5	9	6
MT	3	2	4
PT	3	2	3
RT	5	10	5
ST	2	3	2
TT	5	6	5
UT	8	10	5
VT	3	2	3



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

Table 2: ISO 9712

TRAINING TIMES

Based upon candidates possessing prior knowledge of materials and processes / AND mathematical skills.

Confirmed by screening of prior education.

If not the case, additional training would be required.



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

Background



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Remit from BINDT CMC

Approved!

Working group



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Specific material development



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



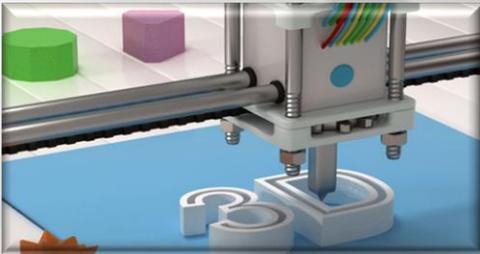
...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

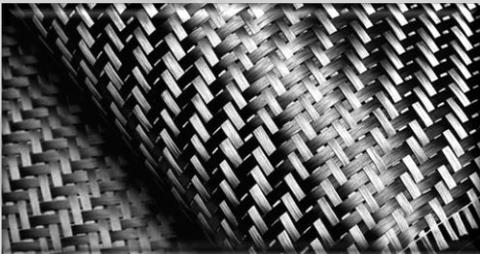
Industry led syllabus development



Metals



(AM) Additive
Manufacturing



Non-metals



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING

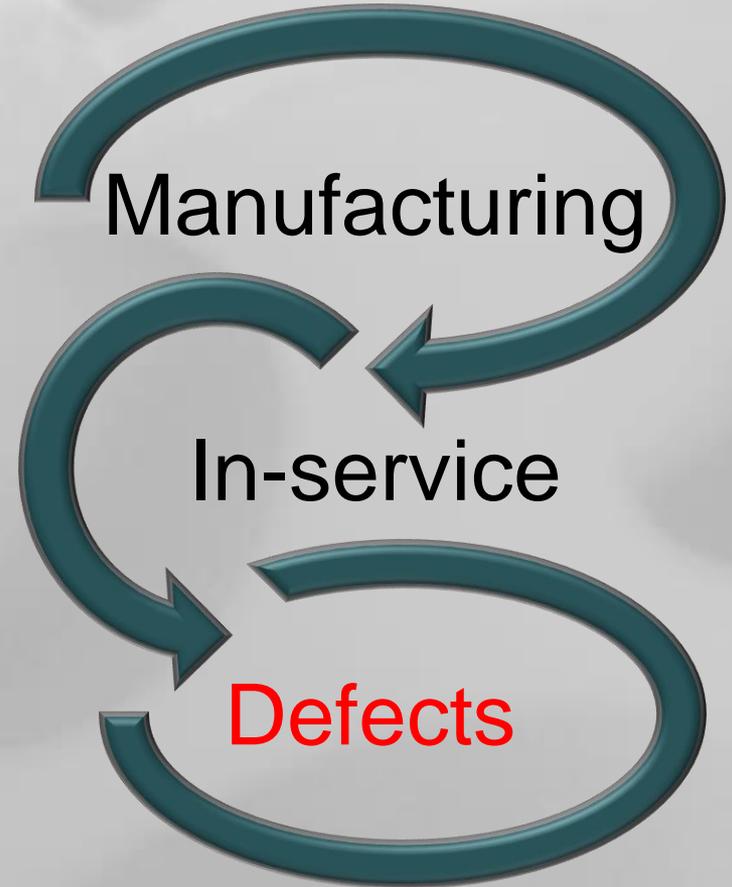


...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

Required knowledge

- Materials and products
- Fabrication process
- Likely in-service conditions
- Correct selection of NDT method & technique to reveal the required discontinuities



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



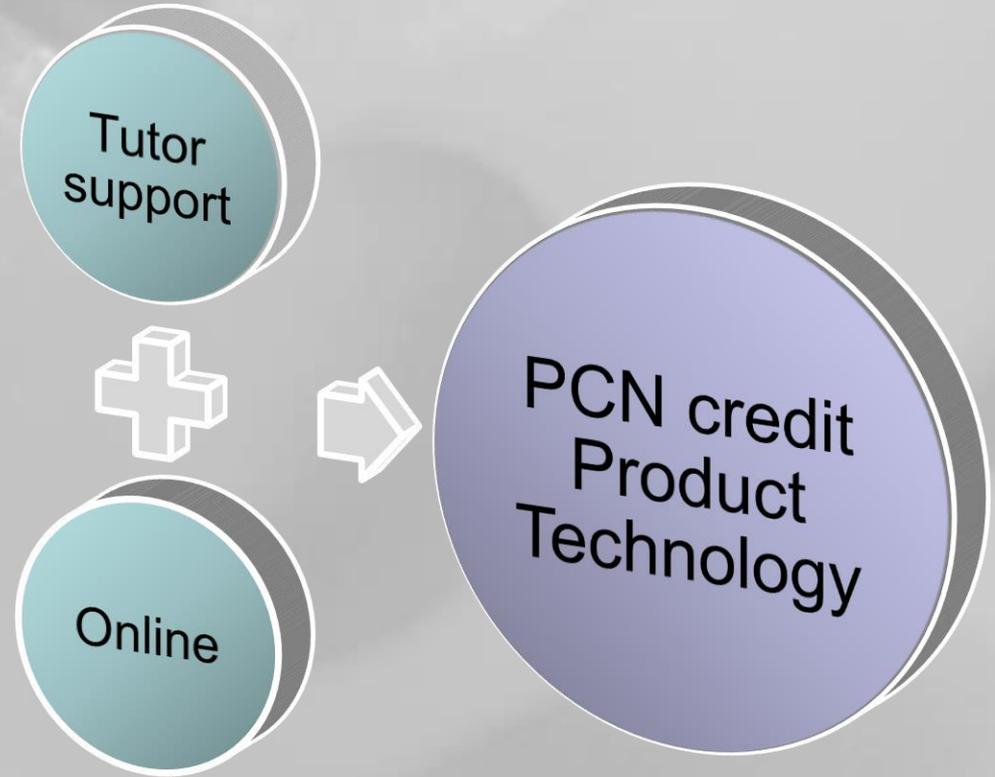
...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

Online self-study / Blended learning



Image credits - Microsoft.com



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

Partnership selection



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability



PAUL WILKINSON
Managing Director



CRAIG COUTTS
Technical Director



WILKINSON COUTTS ENGINEERING TRAINING

ASSET INTEGRITY AND PRESSURE EQUIPMENT TECHNICAL TRAINING



BI NDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Course material deployment



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Interactive: Videos / Reading / Quizzes

Objectives

01 To achieve PCN Certification 'Product technology.'

02 To gain a thorough understanding of Industrial Materials.

03 Apply the knowledge learned in this course in your career.

04 To enjoy the learning!

Objective 01

This course will guide you in the preparation to undertake the final course examination. Successful completion of the examination is required to be awarded this certification.

Objective 02

Knowledge of Materials and Processes for NDT Technology is vital to undertaking your role as an NDT practitioner. Remember the concepts learned in this course to become a well rounded practitioner in your career.

Objective 03

See if you can use the knowledge you gain to improve NDT practices, or to provide guidance to new NDT personal who may not have the same knowledge.

Objective 04

Learning can be fun. Don't see this has a 'something that just has to be done'. Try and enjoy the journey through the course. If you get overwhelmed, take a break. Short, sharp study sessions work best. Don't cram!



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Example imagery and interactive learning



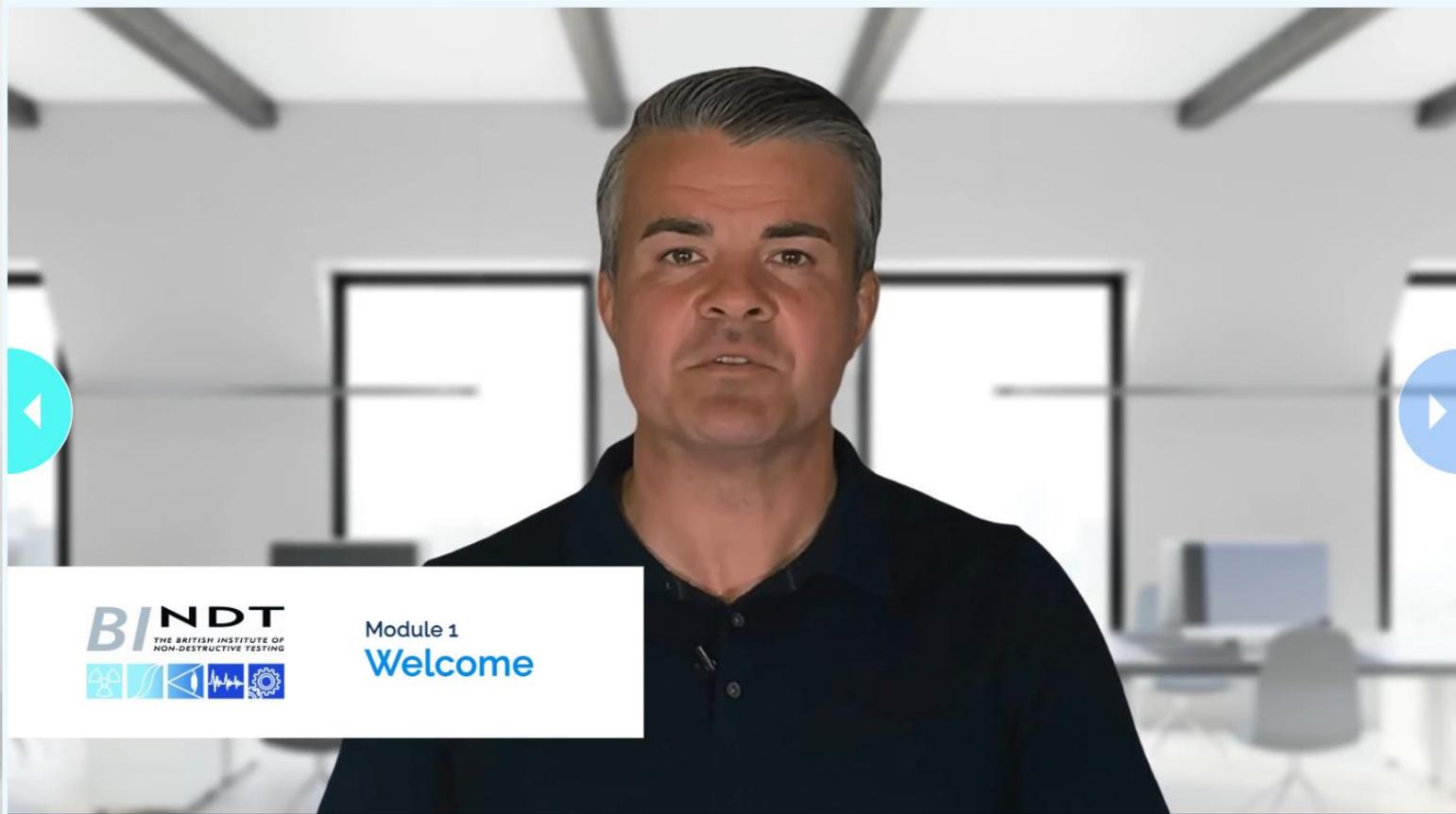
BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing

Video presentations



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Fresh / modern - up to date media



Module 1
Manufacturing
and materials



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Module 1

Engineering materials

The term '**engineering materials**' applies to a broad range of materials, primarily encompassing metals and solid plastics that exhibit adequate strength at ambient temperatures. The focus of this course will pertain to the above materials and the techniques employed to change them or modify their characteristics to enhance their practical application.

Select the forward arrow to continue.



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Module 1

Question 1

Let's see how much you have learned so far. Simply drag the images on the right on to the panel that you think it associates with then click submit to see if you're correct.



Extrusion



Casting



Forging



Rolling



Submit



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Module 1

Question 1

Let's see how much you have learned so far. Simply drag the images on the right on to the panel that you think it associates with then click submit to see if you're correct.

The interface features a central white star on a dark blue background. Four blue boxes are arranged around the star, each labeled with a manufacturing process: Casting (left), Extrusion (top), Forging (right), and Rolling (bottom). To the right of each box is a small image representing that process. Colored lines connect the images to the boxes: a yellow line from the top image to the Extrusion box, a green line from the right image to the Forging box, a red line from the bottom image to the Rolling box, and a white line from the left image to the Casting box. A blue rounded rectangle with the word "Submit" is located at the bottom center.



BI NDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING

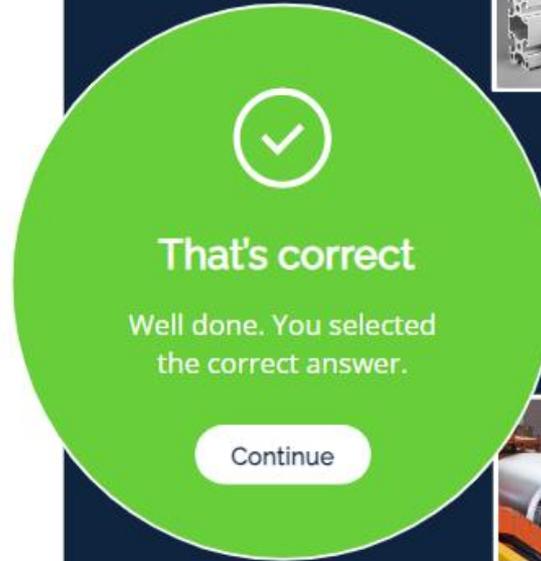


©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Drag and Drop Interaction

Let's see how much you have learned so far. Simply drag the images on the right on to the panel that you think it associates with then click submit to see if you're correct.



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Module 1

Multiple choice question 1

Which of the following terms would best describe metals and those plastics that are solids and have reasonable strength at room temperature?

Select your answer and then click Submit.

A

Manufacturing Metals

B

Engineering Materials

C

Metal Products

D

Manufacturing Materials

Submit



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

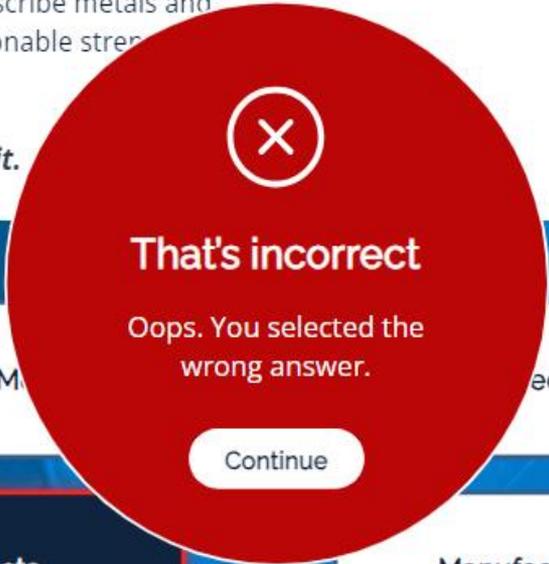
...engineering safety, integrity and reliability

Module 1

Multiple choice question 1

Which of the following terms would best describe metals and those plastics that are solids and have reasonable strength at room temperature?

Select your answer and then click Submit.



That's incorrect

Oops. You selected the wrong answer.

Continue

A

Manufacturing Materials

B

Engineering Materials

C

Metal Products

D

Manufacturing Materials

Submit



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Module 1

Quiz results data



Sorry. You didn't pass.

Your score **60%**

Passing score **80%**

[Retry Quiz](#)



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

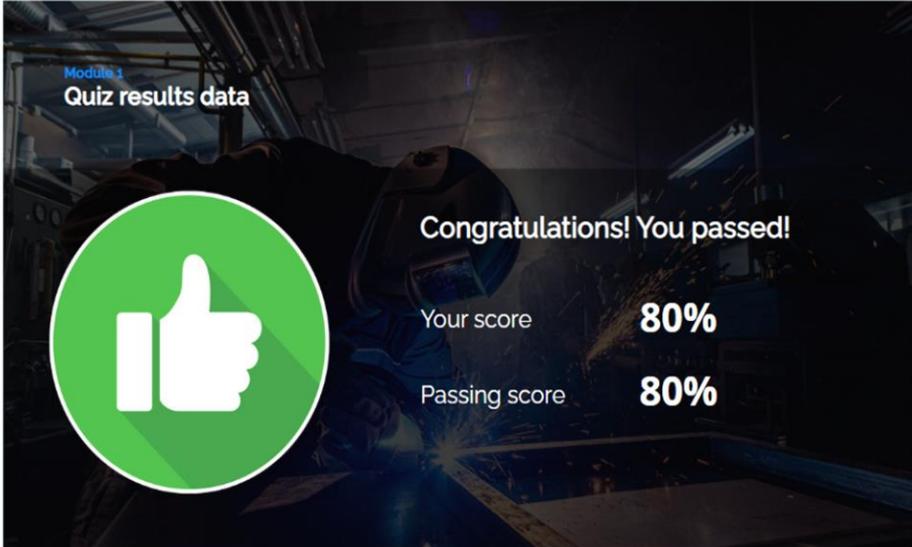
Let's see what you have learned so far. Answer the questions below to test your knowledge. You will need a pass score of 80% or more to continue.

Module 1
Quiz results data



Congratulations! You passed!

Your score	80%
Passing score	80%



CONTINUE



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Module 2 - Manufacturing Processes and Casting

START COURSE



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Module 3 - An Introduction to Non-Destructive Testing (NDT):

START COURSE



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

PW Paul Wilkinson

BINDT - Final Exam

START COURSE



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

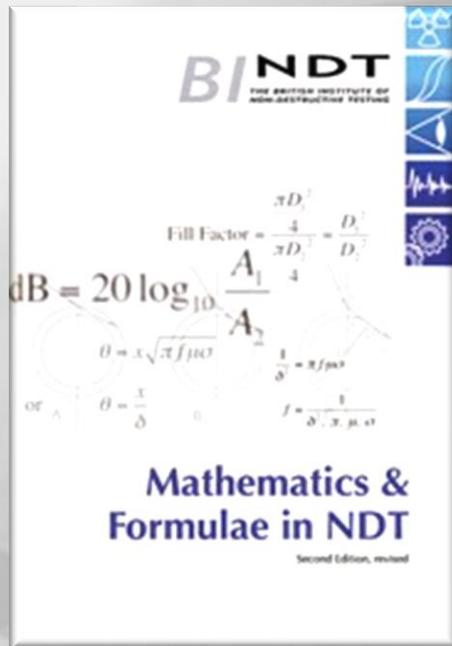
We need to consider additional ISO 9712:2022 requirements for:

Mathematical ability.

Candidates required to possess adequate knowledge for mathematics

Knowledge may be confirmed by appropriate screening of completed education.

If this is not the case, additional training on this matter may be required to be implemented by the certification body.



©The British Institute of Non-Destructive Testing

...engineering safety, integrity and reliability

Thank you for your time, any questions?



Patrick.boulton@bindt.org

Jennifer.cook@bindt.org

Image credits:

Microsoft office stock images.

BINDT PRODUCT TECHNOLOGY COURSE MATERIAL: ALL RIGHTS RESERVED.



BINDT
THE BRITISH INSTITUTE OF
NON-DESTRUCTIVE TESTING



...engineering safety, integrity and reliability

©The British Institute of Non-Destructive Testing