



# Non-Destructive Testing

NCCEF offers a wide range of non-destructive testing and evaluation techniques. These range from large state-of-the-art X-ray equipment with ultra high defect resolution to small hand held ultrasonic equipment for detecting delaminations in composite components.

Inspection of components can be carried out at NCCEF or in the field. Interpretation of the ultrasonic NDT results can be performed by ASNT and PCN Level 3 inspectors if required.

## Capabilities

- X-Ray Tomography
- Ultrasonic C-Scan
- Portable Phased Array Ultrasonic Examination
- Hand Held Ultrasonic NDT System
- Borescope (6mm diameter, 3m length)
- Active Pulsed Thermography System
- Laser Shearography System



# Non Destructive Capability

Equipment	Type	Fixed/Portable	Maximum Size or Weight of Sample	Main Uses
Metris X-tek 320kV Unit	X-Ray Tomography	Fixed	410mm x 410mm / 100kg 3µm pixel size	3D reconstruction of the internal structure of a sample
Xradia MicroXCT	X-Ray Tomography	Fixed	15kg capacity 40mm field of view / 25µm pixel size 0.65mm field of view / 0.4µm pixel size	3D reconstruction of the internal structure of a sample
Xradia NanoXCT	X-Ray Tomography	Fixed	0.5kg capacity 65µm field of view / 65nm pixel size 15µm field of view / 15nm pixel size	3D reconstruction of the internal structure of a sample
Metris X-tek XTH225	X-Ray Tomography	Fixed	15kg capacity 5mm field of view / 3µm pixel size 25mm field of view / 17µm pixel size	3D reconstruction of the internal structure of a sample
Rapiscan RTT20	X-Ray Tomography	Fixed	200mm diameter samples 1mm spatial resolution at 120 frames/sec	3D reconstruction of the internal structure of a sample
Midas Water Jet C-Scan	Through Transmission Ultrasonic	Fixed	2m x 2m flat or slightly curved panels	Spatial position, depth and size of defects in composite plates.
UltraPac II Immersion C-Scan System	Pulse Echo and Through Transmission Ultrasonic	Fixed	300mm x 300mm x 200mm	Spatial position, depth and size of defects in composite plates.
Olympus Omniscan MX	Phased Array Ultrasonic	Portable	Any size – dependent on time available and probe type.	Spatial position, depth and size of defects in metallic or composite components
Olympus Bondmaster 1000e+	Ultrasonic	Portable	Any size – dependent on time available and probe type.	Delaminations and disbands in composite samples
Olympus IPLEX LX Boroscope	Optical	Portable	3.5m length of reach for the endoscope with 130° articulation.	Surface defects and structure inside components
ThermoSensorik	Active Pulsed Thermography	Portable	1.5m x 1.5m surface - 15µm pixel size	Spatial position, depth and size of defects in metallic or composite components
Dantec Q800	Shearography	Portable	0.7m x 0.7m with 4 laser diode	Spatial position, depth and size of defects in composite plates.



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