

Nondestructive Inspection (NDI) Laboratory. FAC: 2112

CATCODE: 211153

OPR: AF/A4L

OCR: N/A

1.1. **Description.** This facility provides space for field level NDI of aircraft components. Optic, penetrant, magnetic, eddy current, ultrasonic, radiographic, infrared, ultraviolet, and spectrometric devices inspect materials and components for quality, integrity, properties, and dimensions without damaging them. This facility consists of testing facilities, equipment storage, supply storage, analysis and report offices, and laboratory space.

1.2. **Requirements Determination.** All bases required to have a full, nondestructive testing facility are authorized 370 m² (4,000 ft²) for a laboratory. Undergraduate pilot training (UPT) bases and bases with F-15s assigned are authorized space for an X-ray exposure room that can accommodate an entire aircraft. Consult TO 33B-1-1, *Nondestructive Inspection Methods, Basic Theory*, for additional and detailed NDI facility requirements. Contact OPR for the most current version of TO 33B-1-1.

1.3. **Scope Determination.** Space requirements depend on the size of required equipment and the working area required to perform the functions. Facilities at UPT bases require approximately 300 m² (3,200 ft²) and for F-15 bases, 490 m² (5,298 ft²), in addition to the space authorized in Table 1.1 of **CATCODE 211152**. Ensure the design includes sufficient space for the aircraft, provides specified clearances, and provides shielding in X-ray exposure rooms.

1.4. **Dimensions.** See paragraph 1.2 and 1.3 above.

1.5. **Design Considerations.** The facility requires air conditioning for storage of X-ray film and operation of the oil analysis spectrometer. The shop may be in any existing building that can be modified to provide air conditioning, adequate ceiling heights, and a room of 56 m² (600 ft²) or more for the X-ray exposure room. A lead shielded opening should be provided in the wall between the X-ray exposure room and the control room to allow for passage of X-ray equipment control cables.