National Aeronautics and Space Administration

Workmanship Training

Johnson Space Center

Special processes require special skills, knowledge and experienced application. For over 15 years, the NASA/JSC/Receiving, Inspection and Test Facility (RITF) has provided Agency-wide NASA Workmanship Standards compliance training, issuing more than 1200 to 1500 training completion certificates annually.

Workmanship Standards provide uniform engineering and technical requirements for processes, procedures, practices, and methods that have been endorsed as standard for NASA programs and projects.

Training services include "hands-on" training to NASA/contractor engineers, technicians, and inspectors in the areas of electrostatic discharge (ESD), soldering, surface mount technology (SMT), crimping, conformal coating, and fiber-optic terminations.

- Crimping
- Electrostatic discharge (ESD)
- Conformal coating
- Soldering
- Fiber Optic terminations
- Surface mount technology (SMT)

Available Workmanship Training Courses

Through-hole Soldering Instructors utilize lectures, demonstrations, and student application to develop required knowledge and skills for fabrication of stranded wire and component lead tinning component mounting and termination.	**40 hours**
Cable, Harness & Crimp Training/Inspection Required knowledge and skills for soldering and crimping stranded wires and cable fabrication and inspection.	**40 hours**
Conformal Coating & Staking Training/Inspection (Polymeric Application) Requires knowledge and skills for conformal coating and component and wire harness staking.	**24 hours**
Electrostatic Discharge Control (ESD) Control Training Levels 2 & 3 This course is designed for Engineers, Operators, Inspectors, Field Engineer Maintenance, Stockroom personnel, or any personnel needing access to ESD sensitive hardware on a regular basis; will require training every two (2) years, is a prerequisite for Level 3 training.	**4 hours**
Surface Mount (SM) Soldering Training/Inspection Instructors utilize lectures, demonstrations, and student application to develop required knowledge and skills for soldering techniques, component lead tinning, solder dispensing, and component mounting and inspection.	**40 hours**
Fiber Optic Terminations Training/Retraining Instructors utilize lectures, demonstrations, and student application to develop required knowledge and skills for fiber optic termination and fusion splicing.	**24 hours**
Lithium Battery Handling Familiarization Instructors utilize lectures and demonstrations about the hazards associated with lithium batteries.	**2 hours**
Wire Wrapping Instructors utilize lectures, demonstrations, and student application to develop required knowledge and skills for wire wrapping techniques, calibration, process control requirements, and inspection criteria.	**8 hours**
Torque & Safety Wire Inspection Instructors utilize lectures, demonstrations, and student application to develop the required knowledge and skills for Torque and Safety Wiring inspection criteria.	**Call for Information**
NASA Workmanship Standards Familiarization Instructors utilize lectures on through hole and surface mount soldering and inspections, cabling/harnessing/crimping, conformal coating/staking, and fiber optic terminations.	**8 hours**
Requirement for Soldered Electrical and Electronic Assemblies (IPC J-STD-001 E/S) Instructors utilize lecture, demonstrations, and student application to train students in wires and terminals, through hole technology, surface mount technology and inspection. Base course and Space Addendum are offered	**40 hours**

For the benefit of all

For more information:
https://www.nasa.gov/centers/johnson/partnerships/safety-risk-assessment-capabilities

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