

Wiring and Through-Hole Hand Soldering to ESA Specification ECSS-Q-ST-70-61

Fact Sheet E01

ASTA Technology UK Ltd

This ESA-approved course will review the latest revision of the ECSS-Q-ST-70-61 standard and is followed by an open book multiple choice test. The review of the standard will give an understanding of the contents of the specification and why they are important. The test is designed to develop your ability to navigate the standard and find the relevant information in an efficient manner.

The requirements in the standard are designed to ensure process consistency and acceptable workmanship standards resulting in the production of high reliability hand-soldered connections. ESA/ECSS specification ECSS-Q-ST-70-61 *High Reliability Assembly for Surface Mount and Through Hole Connections* forms the basis for this course.

The course also has a practical test. For inspectors the practical will be the QA inspection of others' PCB's and for operators, the practical will be building a PCB in accordance with the standard. Both are inspected by the instructor to ensure an understanding and an acceptable level of practical skills can be demonstrated in accordance with the standard.

All necessary tools and equipment are supplied, although delegates are welcome to bring their own hand tools if desired.

Course aims

- Requirements of ECSS specification ECSS-Q-ST-70-61 [restricted to wiring and THT]
- Review of printed circuit board design and construction to understand the weaknesses within
- Practical exercises in terminal and gold-plated contact soldering
- Practical exercises in through-hole printed circuit board assembly

Course content

- To review and understand the requirements of ESA/ECSS specifications ECSS-Q-ST-70-61 [wiring and THT]
- To identify the factors which influence the quality, reliability and performance of a solder joint.
- To develop correct hand-assembly methods and reliably produce joints to the standards demanded by ECSS-Q-ST-70-61 [wiring and THT]
- To develop the ability to examine and analyse faults associated with solder joints in accordance with ECSS-Q-ST-70-61 [wiring and THT]

Award

In accordance with ESA STR-258, an ESA approved, Category 3 Certificate, valid for 2 years, will be awarded on successful completion of the course for operators and a Category 2 Certificate, valid for 2 years will be awarded on successful completion for inspectors. The certificate will be restricted to hand soldering of wiring and THT.

Experience and pre-requisites

- Two years industrial soldering experience required for operators and two years industrial QA experience in through-hole technology, certified by the employer.
- Familiarity with electronic components and assembly processes for space electronics
- Good practical skills
- A positive attitude to high quality workmanship

Duration, schedule and fees 5 days – Please see the current Course Calendar for dates and fees.

Recertification

To renew certification for a further 2 years, a 3 - day recertification course E91 is available.

Enquiries are welcome – please use the website [contact form](#) for security.