

Hand Soldering Course to ECSS Specification ECSS-Q-ST-70-08

Fact Sheet E01

European Space Agency Training Centre (UK)

This ESA-approved course develops the practical skills and theoretical knowledge necessary to fulfil the task of ESA Soldering Operator for through-hole technology. These requirements 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-70-08 *Manual Soldering of High Reliability Electrical Connections* forms the basis for this course.

This fully-documented course is intended for Production Operators. Engineers from Quality Assurance, Design and Manufacturing also benefit from the course.

The course has practical hands-on experience at every opportunity. All necessary tools and equipment are supplied, although delegates are welcome to bring their own hand tools if desired.

Course content

- To review and understand the requirements of ESA/ECSS specifications ECSS-Q-ST-70-08
- 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-70-08
- To develop ability to examine and analyse faults associated with solder joints in accordance with ECSS-Q-ST-70-08

Course aims

- Requirements of ECSS specification ECSS-Q-ST-70-08
- 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

The course includes continuous assessment of the delegates' workmanship and concludes with a multi-choice question paper based on the ESA specification.

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.

Experience and pre-requisites

- One year industrial soldering experience required, certified by the employer.
- Familiarity with electronic components and assembly processes for space electronics
- Good practical skills
- A positive attitude to high quality workmanship

In accordance with ESA specification PSS-01-748, confirmation of Visual Acuity will be required.

Duration, schedule and fees

5 days – see the current Course Calendar for dates and fees.

Course content, duration, dates and venue are negotiable to meet the special requirements of small groups of delegates from individual clients. This course can be combined with other courses to create an integrated, cost effective training package.

Recertification

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

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

