Surface Mount Technology to ESA Specification ECSS-Q-ST-70-38

Fact Sheet E05 / E05+
ASTA Technology UK Ltd.

This ESA-approved course will review the latest revision of the ECSS-Q-ST-70-38 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-70-38 *High-reliability Soldering for Surface-Mount and Mixed Technology* 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 repairing and modifying their existing PCB's 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 they wish.

Course aims
- To review and understand the requirements of ESA Surface Mount Specification ECSS-Q-ST-70-38
- To develop the skills required for successful placement and hand soldering of leaded and leadless surface-mount components
- To become familiar with a range of reflow heat sources and their effect on the solderability of surface mount devices

Course content
A study of the requirements of ESA SMT Specification ECSS-Q-ST-70-38 * Passive and active SMCs * Substrates * Design of circuit layouts * Component placement and reflow methods * Inspection * Cleaning * Gold removal and pre-tinning * Practical work.

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.

Experience and pre-requisites
- Two years industrial soldering experience required for operators and two years industrial QA experience in surface-mount 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

The normal certification route for ECSS-Q-ST-70-38 standard involves first attending the E01 course to gain certification in ECSS-Q-ST-70-08 standard.

Anyone not holding an ESA Hand Soldering Certificate to ECSS-Q-ST-70-08 standard should take the E05+ course. This involves starting the course one day earlier.

Duration, schedule and fees
E05: 4 days;

E05+: 5 days;

Please see the current Course Calendar for dates and fees.

Recertification
To renew certification, a 2 - day recertification course E95 is available. To recertify in this standard and '-08 standard at the same time, a 3 - day recertification course E190 is available. Other combinations are also possible, please see the current Course Calendar or contact us.

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