

Fundamentals of Climatics Testing, ESS, and HALT/HASS


April 15-17, 2008 (9:00 - 17:00)

Angelantoni Industrie SpA
Località Cimacolle 464
06056 Massa Martana (Perugia) - Italy

Course Overview

Lectures and classroom discussion, supported by projected visuals and a factory visit. In addition to close hand examination and discussion of the test equipment, there will be a live HALT/HASS demonstration. Commencing with a review of the background of Climatics (specifically thermal) Testing and continuing into present day test, HALT/ESS/HASS requirements. Instructor Steve will spend several hours on multi-axis random vibration for HALT/ESS/HASS. In the remaining time he will (for each climatic environment) discuss the equipment and instrumentation required, test set-up, conduct of test and data recording. Humidity and Altitude (low pressure) testing, Solar Radiation, Acceleration, Explosive Atmosphere, Salt Fog, Rain, Sand and Dust, Fungus, Icing and Combined Environments will also be discussed, if these topics interest class members. At the time you register, please let us know which of these subjects interest you.

For detailed information visit <http://www.equipment-reliability.com/course2.htm>



Save \$100 or more
when you register by
Mar 14, 2008
(see back)

Visit http://www.equipment-reliability.com/regist_form.htm to register for this course.

How to register for this course

Course fee is € 2.300 per student. Payment in advance via check, VISA or Mastercard preferred credit cards or bank transfer (ask for transfer details).

For registration and payment received one month prior to course, deduct € 50. For three or more participants from an organization **and** payment received one month prior to course, deduct € 100 each.

Visit http://www.equipment-reliability.com/regist_form.htm to register for this course.

For whom intended

I need practical knowledge about Climatics Testing, HALT and HASS, measurement, analysis, designing for climatics. I need this knowledge because:

- I work in an environmental test lab. We perform climatic tests on prototype hardware.
- I design (ruggedize) products that must withstand storage + transport + normal and abnormal conditions. Then I send a prototype to our lab for testing. I really don't understand what our lab does. I'd better find out.
- I write contracts for procuring high-rel equipment. I need to understand Climatics, HALT, ESS and HASS.

(see more at <http://www.equipment-reliability.com/course2.htm>)

Steve Brenner



Steve has worked in environmental simulation and reliability testing for over 30 years, always involved with the latest techniques for verifying equipment integrity through testing. He's independently consulted in reliability testing since 1996. His client base includes American and European companies with mechanical and electronic products in almost every industry. Steve's experience includes the entire range of climatic and dynamic testing, including ESS, HALT, HASS and long term reliability testing. Further details at <http://www.equipment-reliability.com/consultants/brenner.htm>