



# New England HALT Labs, Inc.

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## HALT TEST SERVICES

HALT (Highly Accelerated Life Testing) is an accelerated reliability test method designed to precipitate failures in a products design by subjecting the product to stresses well beyond its intended operating limits. Overstressing = Accelerating Time. HALT is effective in identifying design margins and allows users to quickly isolate design problems and marginal components. Typical HALT tests are completed in a 3 to 5 day period, using a small number of samples. Conducting a HALT test will yield cost savings in orders of magnitude greater than traditional test approaches.

## HASS DEVELOPMENT

A combination of HASS profile development and proof of screen utilizing HALT results. The result is an effective screen that identifies process related defects while not removing appreciable life out of the screened product. HASS development is typically completed in a 5 to 7 day period using a sample size of 10-50 production units.

## HASS SERVICES

HASS (Highly Accelerated Stress Screening) is an accelerated screening process utilizing rapid thermal cycling combined with repetitive shock vibration technology. HASS is effective identifying process related defects that go undetected in traditional burn-in and ESS test methods. This allows companies to deliver reliable products and consequently a reduction in out of box failures and warranty costs. HASS profiles typically range from 2 to 4 hours as compared to 12 to 48 hour ESS/Burn-in, and is typically done on 100% of production units.

## FIXTURE DESIGN

Fixture design is a critical component to effective HASS execution. It's imperative that all samples receive identical amounts of thermal change and vibration response. A custom designed fixture that is tested in the HASS chamber prior to implementation will yield successful HASS results. New England HALT Labs has partnerships with companies that design and test custom fixtures.

## FAILURE ANALYSIS

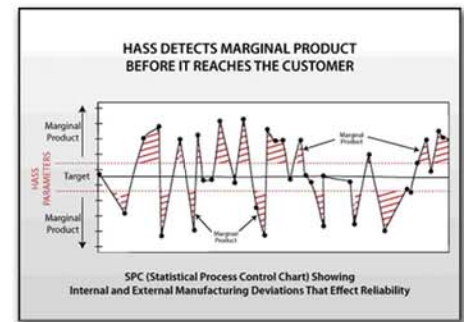
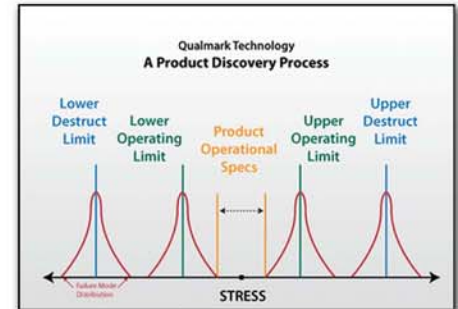
Failure Analysis is a vital process to be conducted following a HALT test. Root Cause Analysis and Corrective Action are key components in Failure Analysis. New England HALT Labs partners with a team of consultants that can guide you or take you through the complete Failure Analysis process.

## MTBF RELIABILITY PREDICTIONS

MTBF is a reliability prediction tool that estimates the Mean Time Between Failures of a system during operation. New England HALT Labs has partnerships with local consultants that perform MTBF predictions.

## DESIGN VERIFICATION TESTING

New England HALT Labs partners with other local test laboratories, providing the following test services: Temperature/Humidity, Thermal Shock, HAST, Electro-Dynamic Vibration, EMC and EMI testing.



H&S Technologies: Representing **Qualmark** & **ESPEC** in New England and Upstate NY since 1998.



**Qualmark** is the largest manufacturer of HALT/HASS testing chambers. Qualmark is both the technology and knowledge leader in HALT/HASS. Qualmarks Typhoon Series HALT/HASS chambers, and XLF-2 repetitive shock vibration table provide the lowest total cost of ownership (TCO) in the industry. Contact us for product information and pricing.

**ESPEC** is the largest environmental chamber manufacturer globally and provides the widest selection of environmental chambers. Quality and innovation are Espec's core values. Espec products range in size from bench-top to walk-in sized rooms. Technologies include Temperature/Humidity, Thermal Shock, HAST, Dust, Rain, Altitude, and Tensile test.