Nemko

Choose Scandinavian trust

HALT/HASS testing

Highly accelerated stress testing

Highly Accelerated Life Tests (HALT) and Highly Accelerated Stress Screens (HASS) are designed to be a faster and more efficient way of fault finding than traditional testing methods. With HALT/HASS you can speed up the design and testing phase of your product in development and reduce failures in the field or to consumer. With robust and reliable product design, the results are savings in both time and cost.

How is the test conducted?

The testing chamber combines extreme temperature cycling and repetetive shock and vibration for accelerated stress testing. Random vibrations up to 75gRMS in force (10-5,000 Hz) in 6 degrees of freedom (DOF) are applied during rapid temperature changes, from -100°C to 200°C. The thermal chamber's conditioning system has vacuum-jacketed liquid nitrogen cooling and nichrome wire heating, with ramp rates of 60-100˚C per minute

Is this type of test relevant for your product?

Many industries benefit from HALT/HASS testing to ensure the durability of critical products. For example, products being used in aerospace, in the maritime or offshore industries or components used in combustion engines, must be capable of surviving harsh conditions, including vibration, extreme temperatures and rapid temperature changes. These methods of testing would also be beneficial for most R & D departments regardless of the industry they belong to; stress testing prototypes will allow organizations to understand the weak points of the products earlier so these can be fixed or be replaced by other solutions early in the design phase. That way costly delays or re-design in a later stage will not need to occur.

HALT/HASS testing is designed to expose the possible failure modes and design flaws in a product. These weaknesses can be revealed in a matter of hours instead of the weeks compared to traditional reliability or qualification testing.

What type of errors or failures can these tests reveal?

1. Design failures

- Insufficient frequency margins
- Mounting points
- Material choice

2. Production errors

- Early life failure due to contamination
- Solder faults
- Latent faults

3. Components failures

- Board layout design
- Weight of board components

https://www.nemko.com
info@nemko.com
+47 22 96 03 30

Nemko

Choose Scandinavian trust