

Lessons Learned on Environmental Stress Screening – Methods and Material Selection

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Environmental Stress Screening (ESS) is meant to precipitate latent defects in assemblies and subsystems, and to ensure designs are robust against expected natural environments. On one program, excessive water caused mechanical seizures due to ice deposition and corrosion, which led to ESS failures during Proof of Manufacturing. The failures provided important lessons on understanding the dynamics of environmental tests and design considerations for stressing environments. Several additional examples of ESS challenges are woven through the analysis, to remind us to be keenly aware of expected exposure circumstances and their potential impacts.

Outline:

- Define test purpose
- Understand test environments
- Effect of Condensation
- Effect of Altitude
- Effect of Altitude and Condensation
- Tips for Success