

MULTI-ZONE CONTROL WITH HALT/HASS



Reliability From Uniformity

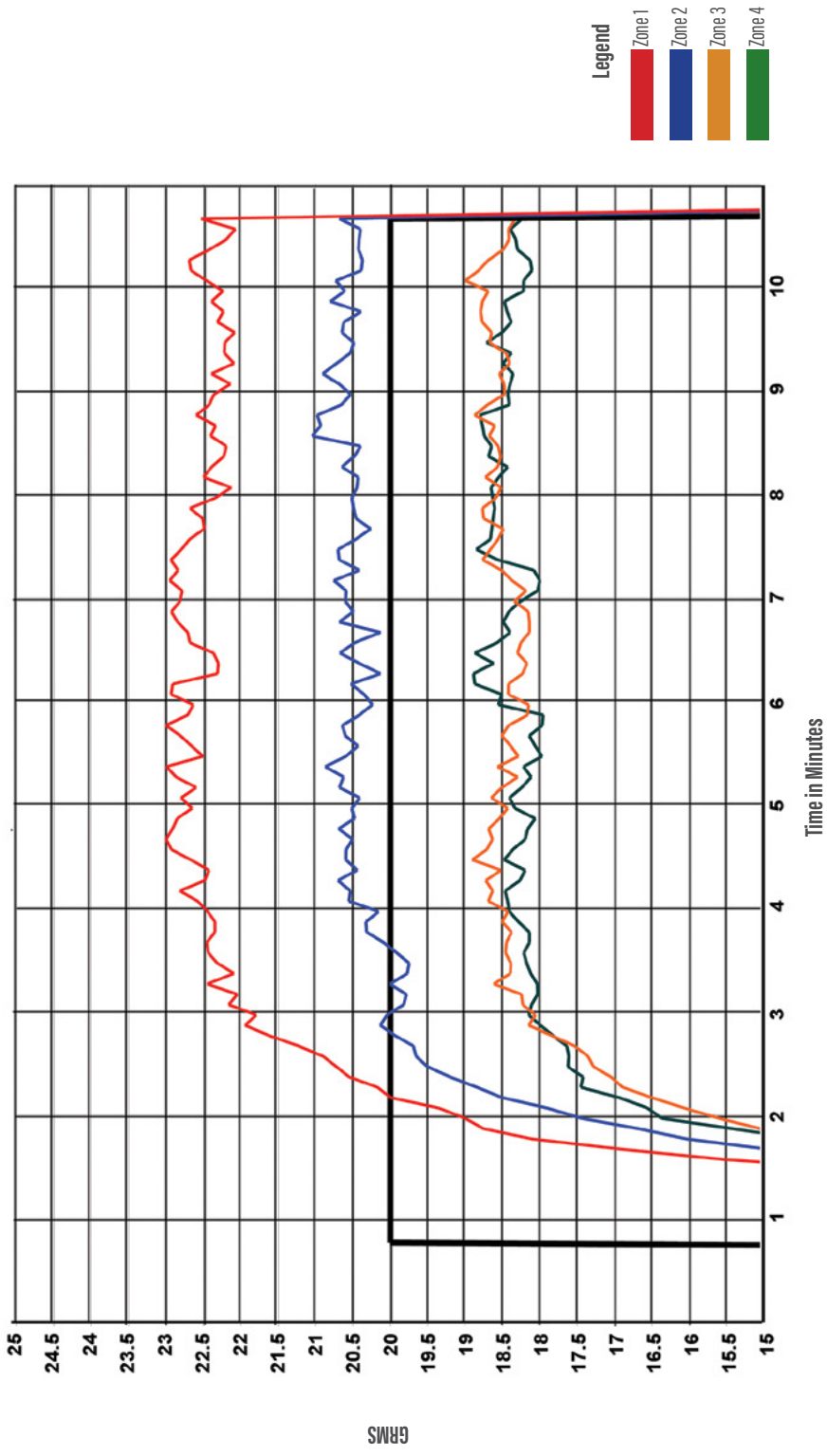
Get more reliable test results with your repetitive shock table by using Multi-Zone Control, our solution to a lack of table uniformity.

Because the vast majority of repetitive shock tables used in HALT (Highly Accelerated Life Testing) and HASS (Highly Accelerated Stress Screening), are not uniform, wide vibration variations and unreliable test results occur.

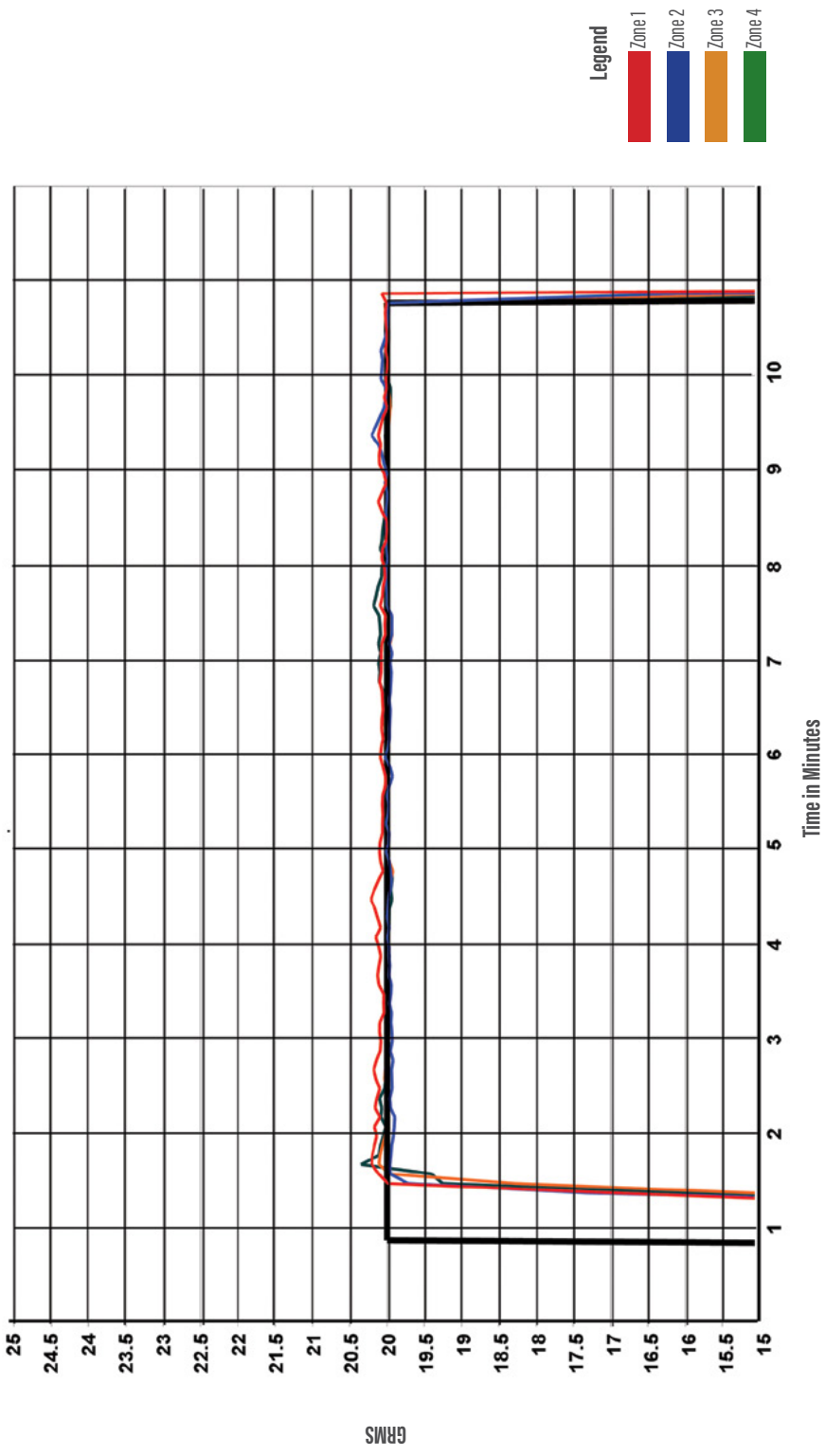
Multi-Zone Control is different.

This patented feature uniformly—and more effectively—tests products. As a result, you receive improved product reliability, reduced warranty and recall risks, as well as better-utilized company resources.

20 GRAMS SETPOINT WITH TYPICAL HALT TABLE



20 GRAMS SETPOINT WITH MULTI-ZONE CONTROL



MUTLI-ZONE CONTROL

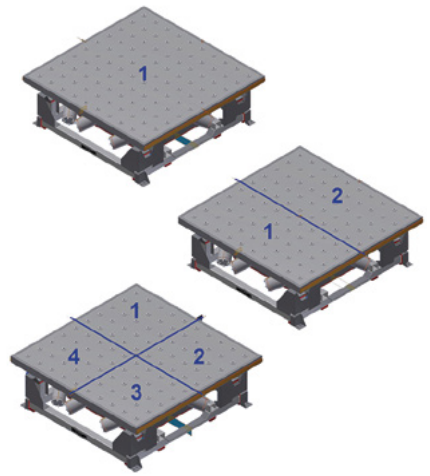
Not all repetitive shock tables are created equally

Repetitive shock tables, by nature, are not uniform across the entire table's surface, which, unfortunately, results in products being tested at different levels.

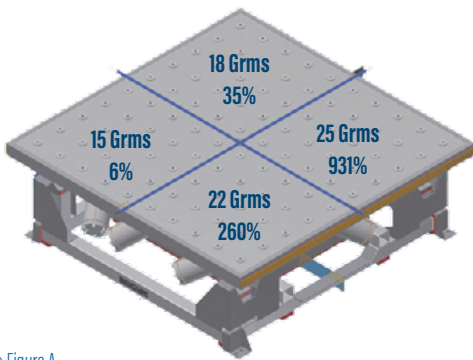
With a nominal setpoint of 20 Grms, it is common to have some products tested at levels as low as 15 Grms and others as high as 25 Grms, depending on their location on the table. Accumulated fatigue, because it is a non-linear, exponential function, can vary by 1,000%, even though the Grms levels vary only by 25%. Accumulated fatigue cannot be used to predict the end of life, but can show the relationship among different products and how fatigue affects them.

Multi-Zone Control is a patented* invention, exclusively available on Thermotron repetitive shock tables. Multi-Zone Control divides the table into 1, 2, or 4 zones. The AST-8800 control system controls each zone to a specific Grms-level. Table uniformity is within 0.2 Grms of each zone's setpoint after stabilization. This complete solution provides safe, effective vibration levels at each setpoint, resulting in superior uniformity for products under test.

Multi-Zone Control is available on new repetitive shock tables. Existing, conventional tables can be upgraded to have Multi-Zone Control with a field retrofit.



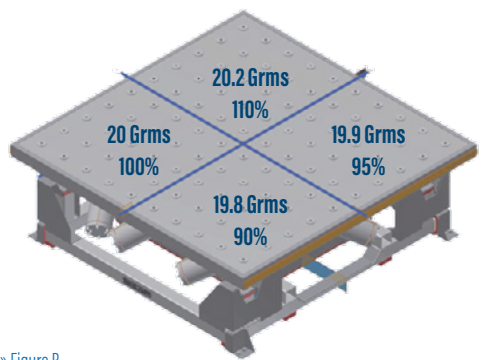
20 Grms with Typical HALT Table



» Figure A

With a setpoint of 20 Grms and a 25% deviation, Figure A's accumulated fatigue could range from 6% to 931% of the planned fatigue. The 6% may not be strong enough to screen out infant mortality issues, while 931% could take useful life out of the product.

20 Grms with Multi-Zone Control



» Figure B

Figure B shows a 20 Grms setpoint in every zone with the Multi-Zone Control option. The deviation from the setpoint is typically within 0.2 Grms after the table stabilizes. Over or under stressing products is not an issue with Multi-Zone Control.

Subject to change. Results can vary. Tests are not indicative of performance.

**US Patent: 9,377,375 | UK Patent: 2,502,196*

For more than 55 years, Thermotron has provided quality environmental test equipment. We've worked to establish a trusted reputation among our peers, and when people hear the name *Thermotron*, they have confidence in the testing of their own product. We've been building our name since 1962; now it's your turn.

**QUALITY. TRUST.
CONFIDENCE.**
— BUILD YOURS WITH A —
THERMOTRON.

T H E R M O T R O N . C O M

US: 291 Kollen Park Drive, Holland, Michigan 49423 | P: (616) 393-4580 | F: (616) 392-5643 | info@thermotron.com

UK: Winch Rd., Kent Science Park, Sittingbourne, Kent, ME9 8EF England | P: 01795 436333 | F: 01795 436777 | sales@thermotron.co.uk

©Thermotron Industries | August 2017 | Printed in USA | BS-200