



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

gh Package and Product Testing and Consulting, Inc.
4090 Thunderbird Lane
Fairfield, OH 45014

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field(s) of

TESTING

Refer to the accompanying Scope(s) of Accreditation for information regarding the types of tests to which this accreditation applies.

AT-1144

Certificate Number

ANAB Approval

Certificate Valid: 09/22/2014-10/11/2016
Version No. 001 Issued: 02/23/2015



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated January 2009*).



ANSI-ASQ National Accreditation Board

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

gh Package & Product Testing and Consulting, Inc.

4090 Thunderbird Lane, Fairfield, OH 45014

Perry Hock Phone: 513-870-0080

TESTING

Valid to: October 11, 2016

Certificate Number: AT-1144

I. Mechanical

FIELD OF TEST	PARAMETER / EQUIPMENT	EQUIPMENT CAPABILITY ²	METHODS AND TEST STANDARDS
Vibration / Shock Testing	Electro-Servo Hydraulic Vibration #1800-5 by Lansmont Corp. - Sine vibration - Random vibration	(2 to 300) Hz Random RMS (2 to 200) Hz Sine Weight capacity – up to either 2 000 lb or 10 000 lb (Depending on g-force level)	ASTM D4728, D4169, D3580, D999 ISTA 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1J, 1K, 2A, 2B, 2C, 3A, 3B, 3C, 3D, 3E, 3F, 3G, 3H, 3J, 4AB, Series 5 Mil-Std 810 FED-Spec 101C NMFTA Item 180, Item 181
Vibration / Shock Testing	Fixed Displacement Vibration by L.A.B. - Synchronous motion - Non-Sync motion - Vertical Linear motion 30° Out-of-phase motion	Up to 8 000 lb at 1 in displacement 100 rpm to 340 rpm (per chart from L.A.B.). Actual rpm dependent on test selection and intensities.	ASTM D999, D4169 ISTA 1A, 1B, 1C, 1D, 1E, 1F, 1J, 1K, 2A, 2B, 2C, 4AB NMFTA Item 180, Item 181 CFR 49-specific IATA, ICAO, IMDG
Vibration / Shock Testing	Electro-Mechanical Vibration by MB Ling Sine vibration - Vertical - Horizontal Random vibration - Vertical - Horizontal Shock pulse testing - Vertical - Horizontal	(5 to 2 000) Hz – limited by 1 in stroke (55 g's @ 2.3 lb to 5 g's @ 220 lb) (20 g's @ 8.2 lb to 5 g's @ 188 lb) (15 g's @ 37.2 lb to 5 g's @ 188 lb) (20 g's @ 8.2 lb to 5 g's @ 118 lb) (65 g's @ 19.7 lb to 15 g's @ 150 lb) (45 g's @ 4.9 lb to 15 g's @ 118 lb)	ASTM D4728, D4169, D3580, D999 ISTA 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1J, 1K, 2A, 2B, 2C, 3B, 3C, 3D, 3E, 3F, 3G, 3H, 3J, Series 5 Mil-Std 810 FED-Spec 101C NMFTA Item 180, Item 181



FIELD OF TEST	PARAMETER / EQUIPMENT	EQUIPMENT CAPABILITY ²	METHODS AND TEST STANDARDS
Vibration / Shock Testing	Lansmont Shock Test System	500 lb test mass 600 g's bare table (2 to 8) milliseconds with Dual-Mass shock amplifier	ASTM D4169, D5487, D3332, D6344 ISTA 1A, 1B, 1C, 1D, 1F, 1G, 1H, 2A, 2B, 2C, 3A, 3B, 4AB, Series 5
Vibration / Shock Testing	L.A.B. Inclined Impact Tester	4 000 lb capacity Maximum travel velocity (unassisted) -- 8 feet per second	ASTM D880, D4169, D5277, D6055, D6169, D6344 ISTA 1A, 1B, 1C, 1D, 1E, 1G, 1H, 1J, 1K, 2A, 2B, 2C, 3B, 3C, 3E, 3J, 4 AB & Series 5 Mil-Std 810 FED-Spec 101C NMFTA Item 180, Item 181
Vibration / Shock Testing	L.A.B. Swing Arm Drop Tester 10ft x 10ft drop pad	180 lb capacity 11 in minimum drop height 108 in maximum drop height	ASTM D4169, D5276 ISTA 1A, 1B, 1C, 1D, 1F, 1G, 1H, 1J, 1K, 2A, 2B, 2C, 3A, 3B, 3C, 3D, 3F, 3G, 4AB & Series 5 Mil-Std 810, FED-Spec 101C NMFTA Item 180, Item 181 CFR 49-specific IATA, ICAO, IMDG
Vibration / Shock Testing	Gaynes Split Leaf Drop Tester 10ft x 10ft drop pad	200 lb capacity 10 in minimum drop height 72 in maximum drop height	ASTM D4169, D5276 ISTA 1A, 1B, 1C, 1D, 1F, 1G, 1H, 1J, 1K, 2A, 2B, 2C, 3A, 3B, 3C, 3D, 3F, 3G, 4AB & Series 5 Mil-Std 810, FED-Spec 101C NMFTA Item 180, Item 181 CFR 49-specific IATA, ICAO, IMDG
Vibration / Shock Testing	Quick Release: L.A.B.	1 000 lb capacity	ASTM D6179, D5276 ISTA 1A, 1B, 1C, 1D, 1F, 1G, 1H, 1J, 1K, 2A, 2B, 2C, 3B, 3C, 3D, 3F, 3G, 4AB, Series 5 Mil-Std 810 FED-Spec 101C NMFTA Item 180, Item 181 CFR 49-specific IATA, ICAO, IMDG
Vibration / Shock Testing	Quick Release: Custom	8 000 lb capacity	ASTM D6179, D5276 ISTA 1A, 1B, 1C, 1D, 1F, 1G, 1H, 1J, 1K, 2A, 2B, 2C, 3B, 3C, 3D, 3F, 3G, 4AB, Series 5 Mil-Std 810 FED-Spec 101C NMFTA Item 180, Item 181 CFR 49-specific IATA, ICAO, IMDG



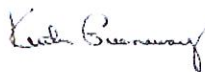
FIELD OF TEST	PARAMETER / EQUIPMENT	EQUIPMENT CAPABILITY ²	METHODS AND TEST STANDARDS
Vibration / Shock Testing	Data Acquisition – Test Partner 3 by Lansmont	Up to 1 000 g's depending on the accelerometer and amplifier Time (milliseconds) can be scaled as necessary up to 100 milliseconds	ASTM D1596, D3332, D4168, D5276, D5487, D6537
Temperature & Humidity Testing	Large Freezer	(- 40 to 140) °F (72 x 72) in double doors	ASTM D4332 ISTA 1A, 2A, 2B, 2C, 3A, 3B, 3C, 3E, 3F, 3G, 3H, 3J, 4AB & Series 5 and Std. 20-7E, Mil-Std 810 FED-Spec 101C CFR 49-specific IATA, ICAO
Temperature & Humidity Testing	Large Heat & Humidity Chamber	Ambient to 160 °F Humidity to 95 %RH depending on temperature (54 x 108) in door	ASTM D4332 ISTA 1A, 2A, 2B, 2C, 3A, 3B, 3C, 3E, 3F, 3G, 3H, 3J, 4AB & Series 5 and Std. 20-7E, Mil-Std 810, FED-Spec 101C
Temperature & Humidity Testing	Stack Chamber (Heat, Humidity or Cool)	Ambient to 140 °F Humidity to 95 %RH depending on temperature (38 x 78) in door	ASTM D4332; ISTA 1A, 2A, 2B, 2C, 3A, 3B, 3C, 3E, 3F, 3G, 3H, 3J, 4AB & Series 5, CFR 49-specific IATA, ICAO
Temperature & Humidity Testing	Small Freezer	(-10 °F) to ambient (26 x 78) in door	ASTM D4332 ISTA 1A, 1B, 1C, 1D, 1E, 1F, 1J, 1K, 2A, 2B, 2C, 3A, 3B, 4AB and Std 20-7E NMFTA Item 180 and Item 181 CFR 49-specific IATA, ICAO, IMDG
Temperature Testing	Large Temperature Chambers	(-25 to 200) °F	ASTM D4332; ISTA 1A, 2A, 2B, 2C, 3A, 3B, 3C, 3E, 3F, 3G, 3H, 3J, 4AB & Series 5 and Std. 20-7E, CFR 49-specific IATA, ICAO
Compression Testing	Emerson Apparatus Compression Machine	(0 to 45 000) lb @ 1 lb increments (60 x 72) in platens, expander platens available	ASTM D4169, D1185 ISTA 1C, 1D, 1F, 2A, 2B, 2C, 3B, 3C, 3E, 3F, 3H, 3J & Series 5 and Std. 20-7E CFR 49-specific



FIELD OF TEST	PARAMETER / EQUIPMENT	EQUIPMENT CAPABILITY ²	METHODS AND TEST STANDARDS
TAPPI Testing	Burst (Mullen) – B.F. Perkins and Son	(0 to 250) psi double-wall, corrugated	TAPPI T810 CFR 49-specific
TAPPI Testing	Com-Ten Tensile Compression*	(0 to 1 000) lb compression and tensile 1 lb increments	TAPPI T811, T472, T816, T839 ASTM D828, D642 ISTA 1C, 2A, 3C CFR 49-specific
TAPPI Testing	Caliper: TMI	(0 to 0.035) in	TAPPI T411 CFR 49-specific
TAPPI Testing	Scale: Acculab 200* Basis Weight	(0 to 200) g maximum, measures in grams or ounces	TAPPI T441, T410, ISO 535 CFR 49-specific ASTM D685
Torque Testing	Secure Pak Torque Tester	(0 to 50) in·lb @ 2 in·lb per division (0 to 6) Nm @ 0.2 Nm per division	ASTM D3474, D3810, D3668
Hydrostatic Pressure Testing	Pressure System Vacuum System	Up to 50 psi Down to (-30 in Hg)	CRF 49 § 178.605

Notes:

1. Asterisked "*" items indicate uncertainty values representing expanded uncertainties with a coverage factor of $k=2$ at a confidence level of approximately 95% are available upon request.
2. References to "g's" in capabilities represent gravitational force and not grams which is abbreviated "g".
3. This scope is formatted as part of a single document including the Certificate of Accreditation No. AT-1144.



Vice-President

