



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

APPLIED TECHNICAL SERVICES, INC.
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MECHANICAL

Valid To: April 30, 2018

Certificate Number: 1888.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following mechanical, metallurgical and environmental simulation tests on metallic and polymeric materials:¹

Test

Specification

Tensile Testing	ASTM E8, A370, B557, EN895, EN ISO 4136, ISO 6892
Brinell Hardness of Metallic Materials (10mm-3000kg, 1500kg, 1000kg, 500kg)	ASTM E10, A370, ISO 6506-1
Image Analysis	ASTM E1245, E562
Rockwell Hardness of Metallic Materials (15N, 30N, 45N, 15T, 30T, 45T, A, B, C)	ASTM E18, A370
Microhardness of Materials (HK-500g, 100g)(HV-1000g, 500g, 100g)	ASTM E384, E92-82(2003)e2, EN 1043-1, EN 1043-2, ISO 6507-1, EN ISO 9015-2
Leeb Hardness	ASTM A956
Notched Bar (Charpy) Impact	ASTM E23, A370, EN 10045-1, ISO 148-1
Bend Testing	ASTM E290, A370, EN910, EN ISO 5173
Fastener Testing, Tensile (Axial/Wedge), Proof	ASTM F606/F606M, SAE J429
Macroscopic and Microscopic Examination of Welds	EN 1321
Inclusion Evaluation	ASTM E45, E3
Microstructure of Graphite in Iron	ASTM A247
Grain Size	ASTM E112
IGA Susceptibility	ASTM A262
Metal and Oxide Coating Thickness	ASTM B487, B748 (SEM)
Coating Weight	ASTM A90
Anodizing Coating Weight	ASTM B137
Decarb Depth	ASTM E1077
Hydrogen Embrittlement	SAE J81, ASTM F519
Tape Adhesion	ASTM D3359, FLTM BI 106, GM 9502P ³ , ISO 2409
Specular Gloss	ASTM D523, ISO 2813
Color	ASTM D2244, ISO 7724
Pencil Hardness	ASTM D3363
Case Depth	SAE J423

Test

Immersion in Liquids (Paints & Varnishes)
Salt Spray

Coating Thickness
Impact
CASS
Filiform Corrosion
Humidity (Condensing)
Water Fog
Xenon Arc Weathering
U.V Fluorescent
Cyclic Salt Fog
Gravelometer
Taber Abrasion
Conical Mandrel
Flammability of Interior Materials
Fogging
Flammability of Clothing Textiles
Toy Safety: Flammability
Flammability of Plastic Materials
Temperature/Humidity Cycling
Failure Investigation
Izod Impact (Method A)
Rockwell Hardness, Plastics (HRR, HRM)
Flexural Properties
Vicat Softening Temperature
Compressive Properties
Compression Set
Tear Resistance
Heat Deflection Temperature
Environmental Conditioning of Plastics
Tensile Properties of Plastics
Durometer (Shore A & D)
Melt Flow
Coating Thickness (XRF method)
Acid Dissolution Testing of Anodic Coatings
Conductivity Measurement
Pacifier Testing
Rattle Testing
Small Parts Testing
 Toy Chests

Toy Chest Lids and Closures
 Sound Producing Toys
 Small Objects
 Accessible Edges

 Projections
 Accessible Points

 Wires or Rods

 Nails and Fasteners

Specification

ISO 2812-1, -2, -3, -4, -5
ASTM B117, FLTM BI 103, GM 4298P³,
DIN 50021, ISO 7253
ASTM D7091
ASTM D2794, EN ISO 9016, ISO 6272-1
ASTM B368
ISO 3665
ASTM D2247, D4585
ASTM D1735, GM 4465P³
ASTM G155, SAE J2527, J1885, J2412
ASTM G154, ISO 11507
ASTM G85, GM 9540P², SAE J1563
ASTM D3170, SAE J400
ASTM D4060
ASTM D522, ISO 6860, ISO 1519
FMVSS 302
DIN 75201, PV 3015
16 CFR 1610, ASTM D1230
EN-71: Part 2
UL 94
GM 9505P², IEC 68-2-30, BMW TS 308, PrV303
ATS Proc. 931, ASM HBK Vol.11
ASTM D256
ASTM D785; ISO 2039-2
ASTM D790; ISO 178
ASTM D1525; ISO 306
ASTM D695
ASTM D395
ASTM D624
ASTM D648; ISO 75-1
ASTM D618; ISO 291; ASTM D3045
ASTM D412, D638; ISO 527-1; DIN 53504
ASTM D2240; DIN 53505
ASTM D1238
ASTM B568
ASTM B680
ASTM E1004
16 CFR 1511
16 CFR 1510
16 CFR 1500, 16 CFR 1501
ASTM F834-08, , ASTM F963-16 Section 4.41,
8.27
ASTM F963-16 Section 8.27.1
ASTM F963-16 Section 4.5, 8.19
ASTM F963-16 Section 4.6
ASTM F963-16 Section 4.7,
16 CFR 1500.49
ASTM F963-16 Section 4.8
ASTM F963-16 Section 4.9,
16 CFR 1500.48
ASTM F963-16 Section 4.10,
8.12
ASTM F963-16 Section 4.11

<u>Test</u>	<u>Specification</u>
Small Parts Testing (cont.)	
Folding Mechanisms and Hinges	ASTM F963-16 Section 4.13,
Cords, Straps, and Elastics	ASTM F963-16 Section 4.14, 8.22
Stability and Overload Requirements	ASTM F963-16 Section 4.15, 8.15, 8.26
Confined Spaces	ASTM F963-16 Section 4.16
Wheels, Tires, and Axles	ASTM F963-16 Section 4.17, 8.11
Holes, Clearances, and Accessibility of Mechanisms	ASTM F963-16 Section 4.18
Simulated Protective Devices	ASTM F963-16 Section 4.19
Pacifiers	ASTM F963-16 Section 4.20
Toy Pacifiers	ASTM F963-16 Section 4.20.2
Projectile Toys	ASTM F963-16 Sections 4.21.2.3, 4.21.2.6, 4.21.3.3, 4.21.4
Teethers and Teething Toys	ASTM F963-16 Section 4.22
Rattles	ASTM F963-16 Section 4.23
Squeeze Toys	ASTM F963-16 Section 4.24
Battery Operated Toys	ASTM F963-16 Section 4.25, 8.17, 8.18, 8.19
Toys Intended to be Attached to a Crib or Playpen	ASTM F963-16 Section 4.26
Stuffed and Beanbag-Type Toys	ASTM F963-16 Section 4.27, 8.9.1
Toy Gun Marking	ASTM F963-16 Section 4.30
Certain Toys with Spherical Ends	ASTM F963-16 Section 4.32
Pompoms	ASTM F963-16 Section 4.35, 8.16
Hemispherical-Shaped Objects	ASTM F963-16 Section 4.36
Yo-Yo Elastic Tether Toys	ASTM F963-16 Section 4.37, 8.23
Magnets	ASTM F963-16 Section 4.38, 8.24, 8.25
Jaw Entrapment in Handles and Steering Wheels	ASTM F963-16 Section 4.39
Overload of Ride-On Toys and Toy Seats	ASTM-F963-16 Section 8.28
Toy Safety: Mechanical and Physical Properties	EN-71: Part 1 § 8.2–8.14, 8.16–8.20, 8.23, 8.24, 8.27, 8.28 (excluding earphones), 8.29–8.35
Small Balls and Marbles	ASTM F963-16 (Sections 4.33, 4.34), 16 CFR Part 1500.19
Shock & Vibration ¹	Customer Profiles
Single Axis, with Slip Table	MIL-STD-810; IEC 60068-2-27;
20 000 lbf shock	IEC 60068-2-31; 60068-2-64
12 000 lbf	
(5 to 2000) Hz	
Sine and Random	
2 in peak to peak	
Mechanical Testing of Bicycle Helmets	16 CFR 1203,
Seismic Testing	IEEE 344, GR-63-CORE, AC-156
Fatigue/Fracture Toughness	ASTM E1290, E1820, E399, E466, E468



Altitude Testing

MIL-STD-810, RTCA D0160

Weld and Braze Evaluation and Qualification

AMS-STD-1595; API 1104;
ASME Sec. III, VIII, IX;
AWS B2.1/B2.1M, B2.2/B2.2M , D1.1/D1.1M,
D1.2/D1.2M, D1.3/D1.3M, D1.4/D1.4M, AASHTO
AWS D1.5/D1.5M, D1.6/D1.6M, D1.9/D1.9M,
D9.1/D9.1M, D14.1/D14.1M, D14.3/D14.3M,
D14.4/D14.4M, D14.6/D14.6M, D15.1/D15.1M,
D17.1/D17.1M, D17.2/D17.2M, D17.3/D17.3M,
D3.6, D18.1/D18.1M; ISO 15614-1; BS EN287-1,
BS EN 288-8, BS EN 1418, BS EN 287-2
(Canceled 12/17/04)³, DIN-EN 15085-2, EN ISO
15613, EN ISO 15614-2, EN ISO 15614-8, EN ISO
15614-11, EN ISO 9606-1, EN ISO 9606-2, EN
ISO 9606-3, EN ISO 9606-4; MIL-STD-248D,
MIL-STD-1595A, MIL-STD-2219,
NAVSEA S9074-AQ-GIB-010/248;
NACE MR0175/ISO15156-1, 15156-2, 15156-3;

Electrical Testing

Test

Specification

Dielectric Strength
Insulation Resistance
Contact Resistance

MIL-STD-202G Method 301
MIL-STD-202G Method 302
MIL-STD-1344A Method 3004.1

¹The Consumer Product Safety Improvement Act (CPSIA) requires that every children's product subject to a federal consumer product safety requirement be tested by a Consumer Product Safety Commission (CPSC) accepted laboratory for compliance with the applicable federal children's product safety requirements. Accreditation by A2LA does not infer acceptance by the CPSC. Please verify this organization's acceptance status by using the CPSC's searchable database, located at <http://www.cpsc.gov/cgi-bin/labsearch/>.

²Tests also performed in accordance with customer and industry standards directly related to the above listed testing parameters.

³ This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.





Accredited Laboratory

A2LA has accredited

APPLIED TECHNICAL SERVICES, INC.

Marietta, GA

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. 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 8 January 2009).



Presented this 4th day of April 2016.

A handwritten signature in black ink, appearing to read "L. S. ...".

Senior Director of Quality and Communications
For the Accreditation Council
Certificate Number 1888.01
Valid to April 30, 2018
Revised January 15, 2018

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.