



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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MECHANICAL

Valid To: June 30, 2013

Certificate Number: 0018.04

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests or testing sections of specifications on the following products and materials: plastics, furniture, plastic furniture, pipes, hoses, valves & fittings, pressure vessels, rubber & rubber products, sporting goods, composites, and metals:

GENERAL TESTING

| <u>Method</u> | <u>Title</u> |
|------------------|---|
| ASTM B117 | Practice for Operating Salt Spray Apparatus |
| ASTM C165 | Method for Measuring Comprehensive Properties of Thermal Insulation |
| ASTM C665 (13.8) | Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing |
| ASTM C1104 | Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation |
| ASTM D257 | Test Methods for D-C Resistance or Conductance of Insulating Materials |
| ASTM G154 | Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials |
| MIL-STD 810 | Method 509 Salt Spray |
| MIL-STD 883 | Method 1011 Thermal Shock Method 2001 Constant Acceleration |

BICYCLE TESTING

| <u>Method</u> | <u>Title</u> |
|---------------|---|
| ASTM F2273 | Standard Test Methods for Bicycle Forks per the audit, approved for full test procedure (Sections 10.1 – 10.4) |
| ASTM F2711 | Standard Test Methods for Bicycle Frames, per the audit, approved for full test procedure |
| ASTM F2274 | Standard Specification for Condition 3 Bicycle Forks |
| EN 14766 | Mountain-bicycles – Safety requirements and test methods: Section 4.8.2 Frame and Front Fork Assembly – Impact Test (Falling Mass) Section 4.8.3 Frame and Front Fork Assembly – Impact Test (Falling Frame) Section 4.8.4 Frame – Fatigue Test with Pedaling Forces Section 4.8.5 Frame – Fatigue Test with Horizontal Forces Section 4.8.6 Frame – Fatigue Test with a Vertical Force Section 4.9.4 Front Fork – Static Bending Test Section 4.9.5 Front Fork – Rearward Impact Test Section 4.9.6 Front Fork – Bending Fatigue Test Section 4.9.7 Forks Intended For Use with Hub- or Disc-Brakes Section 4.10.1 Wheels and wheel/tyre assembly: Rotational Accuracy Section 4.10.3 Wheels and wheel/tyre assembly: Static Strength Test Section 4.10.4 Wheel Retention Section 4.10.5 Wheels – Quick Release Devices Section 4.13.6 Drive-System – Static Strength Test Section 4.13.7 Crank Assembly – Fatigue Tests |
| EN 14781 | Racing bicycles – Safety requirements and test methods: Section 4.8.2 Frame and Front Fork Assembly – Impact Test (Falling Mass) Section 4.8.3 Frame and Front Fork Assembly – Impact Test (Falling Frame) Section 4.8.4 Frame – Fatigue Test with Pedaling Forces Section 4.8.5 Frame – Fatigue Test with Horizontal Forces Section 4.9.4 Front Fork – Static Bending Test Section 4.9.5 Front Fork – Rearward Impact Test Section 4.9.6 Front Fork – Bending Fatigue Test Section 4.9.7 Forks Intended For Use with Hub- or Disc-Brakes Section 4.10.1 Wheels and wheel/tyre assembly: Rotational Accuracy Section 4.10.3 Wheels and wheel/tyre assembly: Static Strength Test Section 4.10.4 Wheel Retention Section 4.10.5 Wheels – Quick Release Devices Section 4.12.6 Drive-System – Static Strength Test Section 4.12.7 Crank Assembly – Fatigue Tests |
| EN 17464 | City and Trekking Bicycles – Safety requirements and test methods: Section 4.8.2 Frame and Front-Fork Assembly – Impact Test (Falling Mass) Section 4.8.3 Frame – Fatigue Test with Pedaling Forces Section 4.8.4 Frame – Fatigue Test with a Vertical Force Section 4.9.4 Front Fork – Static Bending Test Section 4.9.5 Front Fork – Rearward Impact Test Section 4.9.6 Front Fork – Bending Fatigue Test Section 4.9.7 Forks Intended For Use with Hub- or Disc-Brakes |

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|---------------------|---|
| EN 17464 (continue) | |
| Section 4.10.1 | Wheels and wheel/tyre assembly: Rotational Accuracy |
| Section 4.10.3 | Wheels and wheel/tyre assembly: Static Strength Test |
| Section 4.10.4 | Wheel Retention |
| Section 4.10.5 | Wheels – Quick Release Devices |
| Section 4.13.6 | Drive-System – Static Strength Test |
| Section 4.13.7 | Crank Assembly – Fatigue Tests |
| 16CFR1512.18 | Requirements for Bicycles |
| Section (c) | Handlebar Protective Cap and End Mounted Devices Test |
| Section (d)(2)(i) | Handle Brake Loading Test |
| Section (d)(2)(iii) | Handle Brake Rocking Test |
| Section (g) | Handlebar Stem Test |
| Section (h)(1) | Stem-Fork Clamp Test |
| Section (h)(2) | Handlebar Strength and Clamp Test |
| Section (j)(1) | Rim Test |
| Section (j)(2) | Front Hub Retention Test |
| Section (k)(1) | Fork Test |
| Section (k)(2) | Fork and Frame Assembly Test |
| Section (l) | Seat Adjustment Clamp and Load Test |
| Section (m) | Reflector Mount and Alignment Test |
| Section (q) | Sidewalk Bicycle Proof Test |

METALS TESTING

| <u>Method</u> | <u>Title</u> |
|---------------|---|
| ASTM B487 | Standard Test Method for Measurement of Metal and Oxide Coating Thickness by Microscopic Examination of a Cross Section |
| ASTM E3 | Method of Preparation of Metallographic Specimens |
| ASTM E8 | Test Method for Tension Testing of Metallic Materials |
| ASTM E18 | Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials |
| ASTM E340 | Test Method for Macroetching Metals and Alloys |
| ASTM E384 | Test Method for Microhardness of Materials |
| ASTM E407 | Practice for Microetching Metals and Alloys |

PLASTICS, ELASTOMERS, COMPOSITES, ADHESIVES TESTING

| <u>Method</u> | <u>Title</u> |
|---------------|---|
| ASTM D256 | Test Method for Determining the Pendulum Impact Resistance of Notch Specimens of Plastic |
| ASTM D412 | Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers |
| ASTM D543 | Test Method for Resistance of Plastics to Chemical Reagents |
| ASTM D638 | Test Method for Tensile Properties of Plastics |
| ASTM D648 | Test Method for Deflection Temperature of Plastics under Flexural Load |

| <u>Method</u> | <u>Title</u> |
|------------------|--|
| ASTM D695 | Test Method for Compressive Properties of Rigid Plastics |
| ASTM D790 | Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials |
| ASTM D792A | Test Methods for Density and Specific Gravity of Plastics by Displacement |
| ASTM D882 | Test Methods of Tensile Properties of Thin Plastic Sheet |
| ASTM D903 | Test Method for Peel or Stripping Strength of Adhesive Bonds |
| ASTM D1002 | Test Method for Apparent Shear Strength of Single Lap Joint Adhesively Bonded Metal Specimens by Tension Loading |
| ASTM D1238 | Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer |
| ASTM D1505 | Test Method for Density of Plastics by the Density Gradient Column Technique |
| ASTM D1603 | Test Method for Carbon Black in Olefin Plastics |
| ASTM D1623 | Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics |
| ASTM D1693 | Test Method for Environmental Stress Cracking of Ethylene Plastics |
| ASTM D1708 | Test Method for Tensile Properties of Plastics by Use of Microtensile Specimens |
| ASTM D1894 | Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheet |
| ASTM D2126 | Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging |
| ASTM D2240 | Test Method for Rubber Property – Durometer Hardness |
| ASTM D2290 (6.3) | Test Method for Apparent Tensile Strength of Ring or Tubular Plastics and Reinforced Plastics by Split Disk Method |
| ASTM D2990 | Test Method for Tensile, Compressive and Flexural Creep and Creep Rupture of Plastics |
| ASTM D4218 | Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique |
| ASTM D5630 | Standard Test Method for Ash Content in Plastics |

PLASTIC PIPE & FITTINGS

| <u>Method</u> | <u>Title</u> |
|---------------|---|
| AASHTO M-252 | Corrugated Polyethylene Drainage Pipe |
| AASHTO M-294 | Standard Specification for Polyethylene Pipe, 300- to 1500-mm diameter (Sizes 12” through 60”) |
| AASHTO T341 | Determination of Compression Capacity for Profile Wall Plastic Pipe by Stub Compression Loading |
| ASTM D1598 | Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure |
| ASTM D1599 | Test Method for Short– Time Hydraulic Failure Pressure of Plastic Pipe, Tubing and Fittings |
| ASTM D1784 | Specifications for Rigid PVC Compounds and CPVC Compounds |
| ASTM D1785 | Specification for PVC Plastic Pipe Schedules 40, 80 and 120 |
| ASTM D2122 | Test Method for Determining Dimensions of Thermal Pipe and Fittings |
| ASTM D2152 | Test Method for Adequacy of Fusion of Extruded PVC Pipe and Fittings by Acetone Immersion |
| ASTM D2241 | Specification for PVC Pressure Rated Pipe-SDR Series |
| ASTM D2412 | Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel–Plate |

| <u>Method</u> | <u>Title</u> |
|-----------------|--|
| ASTM D2444 | Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Failing Weight) |
| ASTM D2513 | Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings |
| ASTM D2837 | Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials |
| ASTM D2846 | Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems |
| ASTM D3034 | Specification for Type PSM PVC Sewer Pipe and Fittings |
| ASTM D3350 | Specification of Polyethylene Plastic Pipe and Fittings Materials |
| ASTM D3567 | Standard Practice for Determining Dimensions of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings |
| ASTM D3681 | Test Method for Resistance of Fiberglass Pipe in Deflected Position |
| ASTM D5397 | Standard Test Method for Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant Tensile Load Test |
| ASTM D5813 | Specification for Cured-In-Place Thermosetting Resin Sewer Pipe |
| ASTM F610 | Standard Test Method for Evaluating the Quality of Molded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings by the Heat Reversion Technique |
| ASTM F876 (7.9) | Specification for Crosslinked PEX Tubing |
| ASTM F1057 | Practice for Estimating the Quality of Extruded PVC Pipe by the Heat Reversion Technique |
| ASTM F1216 | Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin Impregnated Tube |
| ASTM F1336 | Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings |
| ASTM F1743 | Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP) |
| ASTM F2136 | Test Method for Notched, Constant Ligament-Stress (NCLS) Test to Determine Slow-Crack-Growth Resistance of HDPE Resins or HDPE Corrugated Pipe |
| ASTM F2160 | Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD) |
| ASTM F2634 | Standard Test Method for Laboratory Testing of Polyethylene (PE) Butt Fusion Joints using Tensile-Impact Method |
| AWWA | C900, C905, C906, C909 |
| FDOT (FM 5-572) | Florida Method of Test for Determining Slow Crack Growth Resistance of HDPE Corrugated Pipes, Designation FM 5-572 |
| FDOT (FM 5-573) | Florida Method of Test for Predicting the Crack Free Service Life of HDPE Corrugated Pipes, Designation FM 5-573 |
| PPI TR-3/08 | Pipe HDB Testing |

FLAMMABILITY

| <u>Method</u> | <u>Title</u> |
|---------------|--|
| ASTM D1929 | Test Method for Ignition Properties of Plastic |
| ASTM E681 | Concentration Limits of Flammability of Chemical ((UEL: UEL) |
| FMVSS: 302 | Flammability of Interior Materials-Automation |
| CA116 | Cigarette Test of Upholstered Furniture |
| CA117 | Flame and Smolder Resistance-Test of Furniture Components |

| <u>Method</u> | <u>Title</u> |
|---------------|---------------------------------------|
| 16 CFR 1610 | Flammability of Clothing and Textiles |

THERMAL

| <u>Method</u> | <u>Title</u> |
|-----------------|--|
| ASTM D3418 | Standard Test Method for Transition Temperatures of Polymers by Differential Scanning Calorimetry (DSC) |
| ASTM D3895 | Oxidative Induction Time for Polyolefins using DSC |
| ASTM E793 | Standard Test Method for Enthalpies of Fusion and Crystallization by Differential Scanning Calorimetry (DSC) |
| ASTM E794 | Test Method for Melting and Crystallization Temperatures by Thermal Analysis |
| ASTM E1131 | Standard Test Method for Compositional Analysis by Thermogravimetry |
| ASTM E1269 | Test Method for Determining Specific Heat Capacity by Differential Scanning Calorimetry |
| ASTM E1356 | Test Method for Glass Transition Temperatures by Differential Scanning Calorimetry or Differential Thermal Analysis (DSC only) |
| ASTM E1641 | Standard Test Method for Decomposition Kinetics by Thermogravimetry |
| FDOT (FM 5-574) | Florida Method of Test for Predicting the Oxidation Resistance of HDPE Corrugated Pipes Designation FM 5-574 |





World Class Accreditation

The American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

MICROBAC LABORATORIES, INC. HAUSER LABORATORIES DIVISION

Boulder, CO

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 23rd day of August 23, 2011.





President & CEO

For the Accreditation Council
Certificate Number 0018.04
Valid to June 30, 2013

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