



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY DETROIT - WARREN 11 MILE³
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CHEMICAL

Valid To: February 28, 2021

Certificate Number: 0098.14

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location above *as well as the satellite laboratory location listed below* to perform the following chemical tests and analysis on petroleum and petroleum products, plastics, rubbers, textiles, labels, gasket materials, metals, oxides, ceramics, paints, and paint products:

| Test Method | Test |
|---|--|
| Water Absorption | |
| ASTM D570 | Water Absorption of Plastic |
| ISO 62 | Plastics-Determination of Water Absorption |
| Ash | |
| ISO 3451-1 (Method A) | Ash Content, General Method |
| ISO 3451-2 (Method A) | Ash Content, Polyalkylene Tera |
| ISO 3451-3 (Method A) | Ash Content, Cellulose Acetate |
| ISO 3451-4 (Method A) | Ash Content, Polymides |
| ISO 3451-5 (Method A) | Ash Content, PVC |
| ASTM D5630 (Method B) | Ash Content of Thermoplastics |
| Thermal Analysis | |
| Differential Scanning Calorimetry, DSC | |
| ASTM D3418 | Transition Temperature of Polymers by DSC |
| ASTM E1356 | Glass Transition Temperature by DSC |
| GM 9094P (Inactive 2011) ¹ | Melting Point by Differential Scanning Calorimeter |
| ISO 11357-1 | Differential Scanning Calorimetry, DSC General Principles |
| ISO 11357-2 | Glass Transition Temperature by DSC |
| ISO 11357-3 | Transition Temperature of Polymers by DSC |
| ASTM D3895 | Oxidative Induction Time of Polyolefins by Thermal Analysis |
| Linear Thermal Expansion | |
| ASTM D696 | Coefficient of Linear Thermal Expansion of Plastics Between -30 °C and 30 °C |

| Test Method | Test |
|---------------------------------------|---|
| Thermogravimetry Analysis, TGA | |
| ASTM E1131 | Compositional Analysis by Thermogravimetry, TGA |
| ISO 11358 | Thermogravimetric Analysis, TGA, General Principles |
| Thermomechanical Analysis, TMA | |
| ISO 11359-1 | Thermomechanical Analysis, TMA, General Principles |
| ISO 11359-2 | Glass Transition Temp. and Coefficient of Thermal Expansion by TMA |
| Flammability | |
| ASTM D2859 | Ignition Characteristics of Finished Textile Floor Covering Materials |
| Chrysler MS JP 9-4 | Flammability |
| FMVSS 571.302 | Flammability of Interior Materials |
| GB 8410 | Flammability of Automotive Interior Materials |
| GMW3232 | Flammability |
| HES C206 / HES D6003 | Flammability |
| ISO 3795 | Flammability |
| MES CF 050 | Flammability |
| SAE J369 | Automotive Materials, Flammability |
| Toyota TSM0500G | Flammability |
| UL 94 HB | Flammability of Plastic Parts, Horizontal |
| UL 94 VO | Flammability of Plastic Parts, Vertical |
| ASTM D635 | Flammability, Rigid Plastics |
| VW TL1010 / DIN 75200 | Materials for Vehicle Interiors, Burning Behavior |

³This accreditation covers testing/calibration performed at the main laboratory listed above, and the following satellite laboratory listed below:

1920 Concept Dr.
Warren, MI 48091-1385

| Test(s): | Test Method(s): |
|--|--|
| Ash Content | ASTM D482; ISO 6245, ISO 3451 GM 9077P |
| Boron Carbide Analysis | ASTM C791 |
| Carbon & Sulfur in Iron, Nickel, and Cobalt Alloys | ASTM E1019 |
| Composition Analysis by Thermogravimetry (TGA) | ASTM E1131 |



| <u>Test(s):</u> | <u>Test Method(s):</u> |
|---|---|
| Cone Penetration of Lubricating Grease | ASTM D217; IP 50 |
| Cone Penetration of Lubricating Grease (1/4 & 1/2 Scale Cone) | ASTM D1403; IP 310; ISO 2137 |
| Effects of Liquids (Rubber) Mass Change Volume Change Dimensional Change Mass Change (One Side Only) Mass of Soluble Matter Tensile, Elongation, Hardness | ASTM D471 (Section 11) ASTM D471 (Section 12) ASTM D471 (Section 13) ASTM D471 (Section 14) ASTM D471 (Section 15) ASTM D471 (Section 16) |
| Failure Analysis | BPBL-063-04 FTIR (ASTM D3677, E204, E1252) SEM (ASTM E986, E1508) DSC (ASTM E794) TGA (ASTM E1131) TMA (ASTM E831) Melt Flow (D1238, ISO 1133-1) Surface Roughness Ford BA 003-01 Hardness ASTM D2240 (Shore A&D); ISO 868 Density (ISO 1183-1 Method A) |
| Flammability/Burning Rate | 49 CFR 571.302 (FMVSS 302); GM 9070P (Inactive) ¹ ; GMW 3232; ISO 3795; NES M0094; SAE J369; TSM 0500G; |
| Infrared (FTIR) Spectroscopy | ASTM D3677, E204, E1252 |
| Inductively Coupled Plasma (ICP-MS) Spectrometry | ASTM E2823 |
| Melting & Crystallization Temperature by Thermal Analysis (DSC) | ASTM E794 |
| Moisture Content of Polyamide (Karl Fischer) | ASTM D6869 |

| <u>Test(s):</u> | <u>Test Method(s):</u> |
|---|--|
| pH of Aqueous Solutions with Glass Electrode | ASTM E70; Chrysler LP-463KC-01-01A |
| Scanning Electron Microscopy (SEM) / (EDS) | ASTM E986, E1508 |
| Thermal Expansion by TMA | ASTM E831 |
| Thermal Oxidative Stability of Propylene (Biaxial Rotator) | ASTM D3012; GM 9059P (Inactive) ¹ ; GMW 14651 (Inactive) ¹ ; ISO 4577 |
| Transition Temperature by TMA | ASTM E1545 |
| Transition Temperatures of Polymers by Thermal Analysis | ASTM D3418 |
| Volatile Organic Compound (VOC) Analysis by GC/MS and HPLC | D5116: Small Chamber (GCMS / HPLC) PV 3942: Small Chamber (GCMS / HPLC) PHASE 1-5 D7706: Micro Chamber (GCMS / HPLC) CAN/ULC-S774-09: Dynamic Chamber Analysis (GCMS / HPLC) TPJLR.52.104: Micro Chamber (GCMS / HPLC) MES CF 080: Headspace (GCMS / HPLC) TSM0508G: BAG (GCMS / HPLC) NES MO 402: BAG (GCMS / HPLC) 01.12-L-10661: BAG (GCMS / HPLC) BZ 108-01: BAG (GCMS / HPLC) MS300-55: BAG (GCMS / HPLC) DWG No 00942 SNA000: : BAG (GCMS / HPLC) |
| Volatile Organic Compound (VOC) Analysis by HPLC | GMW15635: Thermodesorption (HPLC) FLTM BZ 156-01: Bottle HPLC |
| Volatile Organic Compound (VOC) Analysis by GCMS | FLTM BZ 157-01: Headspace GCMS GMW8081: Headspace (GCMS) VDA278: Thermodesorption (GCMS) GMW15634: Thermodesorption GCMS VDA 277: Headspace GC/MS |
| Formaldehyde by UV | PV3925 VDA 275 |
| Water Absorption of Plastics | ASTM D570; ISO 62 |

| <u>Test(s):</u> | <u>Test Method(s):</u> |
|---|-------------------------|
| Weight of Coating on Aluminum Coated Iron or Steel Articles | ASTM A428 |
| Weight of Coating on Anodically Coated Aluminum | ASTM B137; GMW 16250 |
| Weight of Coating on Zinc Coated Iron or Steel Articles | ASTM A90 |

¹This 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

ELEMENT MATERIALS TECHNOLOGY DETROIT – WARREN 11 MILE

Warren, MI

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *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 April 2017).



Presented this 28th day of August 2019.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0098.14 (Formerly 0038.08)
Valid to February 28, 2021
Revised December 18, 2020

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