



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ACT TEST SERVICES
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Hillsdale, MI 49242
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MECHANICAL

Valid To: November 30, 2020

Certificate Number: 2745.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on materials such as paint, electrocoat, sealers and adhesives, metal forming lubricants, metal substrates, phosphateability and compatibility:

| <u>Test Type / Test Capabilities²</u> | <u>Test Method(s)</u> |
|--|--|
| Abrasion | |
| Falling Sand | ASTM D968 (Method A); GMW15487 |
| Taber | ASTM D4060; Ford BN 108-02, BN 108-04; SAE J948 (Procedure 3); GMW3208 |
| Accelerated Corrosion | |
| Chipping Corrosion | FCA LP-463PB-52-01 |
| Cyclic Corrosion | Ford BI 123-01, BI 123-03, Ford 00.00-L-3190; Ford CETP 00.00-L-467 (Superseded 01/01/19); Ford TM 00.00-L-467; GM 9505P (Cycle J) ¹ (Superseded 12/01/10); GM 9540P ¹ (Superseded 03/01/10); GMW14124 (Cycle J), GMW14872; ISO 11997-1 (Cycle B); SAE J2334; Tesla TP-0000808 |
| Filiform Corrosion | ASTM D2803; GMW15287 |
| Scab Corrosion | GM 9511P ¹ (Superseded 12/01/10); GMW15288; IEEE (ANSI) C57.12.28 (Annex A), C57.12.31 (Annex A) |

Test Type / Test Capabilities²

Test Method(s)

Appearance

DOI

ACT WIL-0151

Gloss

ASTM D523

Multiangle Color

ACT WIL-0152;
SAE J1545

Phosphate (Macro), Crystal Size (Micro)

ACT WIL-0146

Visual for Color

ASTM D1729

Surface Appearance

FCA AS-10169<A>

Wavescan & Orange Peel (R, LW, SW,
Wa-We, Dullness)

ACT WIL-0151

Chemical Resistance

Fuel

GM 9500P¹ (Superseded 08/01/10);
GM 9501P¹ (Superseded 08/01/10), GMW14333
(*Except not calculating water content*)

Fluids

ASTM D1308;
Caterpillar MG1004-151;
FCA LP-463PB-31-01;
Ford BI 168-01;
GMW14334, GMW14701 (*Except Method 1*);
GMW15284;
IEC 60068-2-74
ASTM D5402

Solvent

Chip Resistance

Gravelometer

ASTM D3170;
Ford BI 157-06;
(Deviation: SAE J 400 Gravelometer);
GM 9508P¹ (Superseded 08/01/10);
GMW14700;
SAE J400

Coating Evaluation

Blisters

ASTM D714;
ISO 4628-2

Corrosion

ASTM D610;
FCA CS-Corrosion (Superseded 06/16/16);
FCA CS.00081;
GM 8101G¹ (Superseded 06/01/09);
GMW15356, GMW15357;
ISO 4628-3

Corrosion Creep Back

ASTM D1654;
Ford BI 169-01;
GM 9102P¹ (Superseded 12/01/10);
GMW15282;

Defect Rating

ISO 4628-8, ISO 17872
ASTM B537, D661;
ISO 4628-1, ISO 4628-4, ISO 4628-5

| <u>Test Type / Test Capabilities²</u> | <u>Test Method(s)</u> |
|--|---|
| Coating Thickness | ASTM D7091, B487; Ford BI 117-01; ISO 2808 (Sections 4.3, 5.3, 5.4.4.1, 5.5.7, 5.5.8) |
| Coating Weight Wet Strip | ACT WIL-0510; FCA LP-461J-126; ISO 3892 |
| PPG Thin Film X Ray Fluorescence | ACT WIL-338 (<i>Excluding Aluminum substrates</i>) ACT WIL-0144 |
| Compatibility Electrocoat | Ford BV 119-01; SAE J1969 |
| Lubricant | ACT WIL-0147; ASP Auto/Steel Partnership Sections 3 and 5-7; FCA LP-463NB-29-02, LP-463PB-63-01; Freightliner 49-00102; GMW16546, GMW16656; Nissan NNA Oil Approval Test; PPG QWI 0604.0 |
| Paint | ASTM D925 (Method A); FCA LP-463PB-59-01; GME8555 |
| Phosphate Sealer/Adhesive | Toyota TSH1109G ACT WIL-0149, WIL-0150, WIL-0337, WIL-0360, WIL-0511; FCA LP-463CB-12-02, LP-463CB-12-03, LP-463CB-12-04, LP-463NB-09-01; LP-463PB-59-02; GM3624M; 9901P ¹ (Inactive 03/01/11) |
| Silicone Contamination | FCA LP-463PB-13-01 |
| Cure Test | GM 9509P ¹ (Superseded 10/01/12); GMW15891 |
| Electrocoat (Ecoat) | Ford BI 120-01; GM 9535P ¹ (Superseded 08/01/13); GMW3008 (Section's 3.2.3.1, 3.2.3.2, 3.3.1.1, 3.3.1.2, 3.3.1.4, 3.3.1.6 and 3.3.4.2) |
| Electroplate Adhesion | ASTM B571 (Sections 4, 7, 8, 9) |

Test Type / Test Capabilities²

Test Method(s)

Environmental Cycling²

Temperature Range (-70 to 500) °C
Humidity Range (10 to 95) % RH ± 5 %
10% @ 60 °C; 25 °C @ 95% RH

FCA LP-463PB-22-01;
Ford BQ 104-07;
GM 9505P¹ (Cycles A, C, F, G, I, K, L, O)
(Superseded 12/01/10);
GMW14124 (Cycles A, C, F, G, I, J, K, L, O,
U, V, W)

Flexibility

Mandrel

ASTM D522

Gardner Impact

ASTM D2794;
ISO 6272-2

Hardness

Pencil

ASTM D3363;
ISO 15184

PACCAR Paint Performance

CMT0033 (*Except 9.26 and 9.29*)

Paint Adhesion

Dime Scrape
Loop Scrape
Pull-off Strength

GM 9506P¹ (Inactive 06/01/13)
ASTM D2197
ASTM D4541 (Method D, PATTI and E, Positest);
ISO 4624 (Method B)

Tape

ASTM D3359;
Ford BI 106-01;
GM 9071P¹ (Superseded 09/01/12);
GMW14829,
ISO 2409

Thumbnail

GM 9507P¹ (Inactive 06/01/11)

Scratch/Mar (5 Finger)

FCA LP-463DD-18-01, PF-11203 (Sections 4.2
and 4.3);
Ford BO162-01;
GMW14698

Salt Spray

Acetic Acid
Copper Accelerated Salt Spray (CASS)

ASTM G85 (Annex A1, A2 and A3)
ASTM B368;
GMW14458

Neutral (NSS)

ASTM B117;
Ford BI 103-01;
GM 4298P¹ (Superseded 12/01/10);
GMW3286;
ISO 9227;
JIS Z2371

Scanning Electron Microscopy (SEM)

ACT WIL-0145 (*Without EDS*)

Test Type / Test Capabilities²

Test Method(s)

Sealers/Adhesives

Paint Staining

Sag

Wash Resistance

FCA LP-463NB-09-01

Ford BV 118-01

Ford BV 116-01, BV 116-02;

BV 116-03;

GMW16700 Method B

Tensile (Up to 100 kN)²

Cross Lap

Lap Shear

T Peel

GM 9753P¹ (Inactive 03/01/11)

SAE J1523;

ISO 4587

ASTM D1876

UV Exposure

ASTM D4587, G154;

SAE J2020

Water Resistance

Cleveland Condensing Humidity

Condensing Humidity

Water Fog

Water Immersion

ASTM D4585/D4585M;

Ford BI 104-02;

ISO 6270-1

ASTM D2247

ASTM D1735;

GM 4465P¹ (Superseded 01/01/11);

GMW14729 (Option A)

ASTM D870;

Ford BI 104-01;

GME60410¹ (Superseded 1/26/09);

GMW14704;

ISO 2812-2

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.

²This laboratory also uses customer supplied specifications and/or methods directly related to the testing technologies and parameters listed above.



Accredited Laboratory

A2LA has accredited

ACT TEST SERVICES

Hillsdale, MI

for technical competence in the field of

Mechanical 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 22nd day of June 2019.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2745.01
Valid to November 30, 2020

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