



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Future Labs, LLC
124 Lone Wolf Drive, Madison, MS 39110

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Chemical and Mechanical Testing
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:

July 07, 2020

Issue Date:

July 03, 2022

Expiration Date:

August 31, 2024

Accreditation No.:

80918

Certificate No.:

L22-475

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjilabs.com



Certificate of Accreditation: Supplement

Future Labs, LLC

124 Lone Wolf Drive, Madison, MS 39110
 Contact Name: Mr. David Entrekin Phone: 601-855-7407

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical ^F	Thermoplastic Pavement Marking Material	Sampling Thermoplastic Pavement Marking Material	ASTM D7307 AASHTO T250 sec. 3	N/A
		Sample Meltdown & Preparation	ASTM D7308 AASHTO T250 sec. 4	N/A
		Binder Content	ASTM D4797 AASHTO T250 sec. 5 AASHTO M249 4.2 Table 1	15.01 % to 49.99% (± 0.01%)
		Glass Bead Content	ASTM D4797 AASHTO T250 sec. 6 AASHTO M249 4.2 Table 1	15.01 % to 59.99% (± 0.01%)
		Titanium Dioxide Determination	ASTM D5381 & D4764 AASHTO T250 sec. 9 AASHTO M249 sec. 4.2	Up to 24.99% (± 0.01%)
		Heavy Metal Content	ASTM F2617 & F2980	1 ppm to 1 999 ppm (± 1 ppm)
				Note: ppm ⇔ mg/kg
Mechanical ^F	Thermoplastic Pavement Marking Material and Glass Beads / Retroreflective Optics	Glass Bead Grading Analysis	ASTM D7681 & D7971 AASHTO T250 sec. 7 AASHTO PP74 AASHTO M249 sec. 3.1.4	Up to 99.99% (± 0.01%)
	Thermoplastic Pavement Marking Material	Drying Time / set time	AASHTO M249 sec. 4.3.2	Up to 15 minutes (± 1 minute)
		Reflectance, Color, Yellowness Index	ASTM D4960 ASTM E1349 ASTM E313 or D1925 AASHTO T250 sec. 8 AASHTO M249 sec. 4.3.1 & 4.3.7	((L*, YE or YI) 0.01 to 99.99 (± 0.01)
				(x, y) 0.0001 to 0.9999 (± 0.0001)
				(Y) 0.01% to 99.99% (± 0.01%)
				(a* or b*) (-)127.99 to (+)126.99 (± 0.01)
Flowability	AASHTO T250 sec. 11 AASHTO M249 sec. 4.3.6	0.01% to 49.99% (± 0.01%)		
Low Temperature Stress Resistance	AASHTO T 250 sec. 12 AASHTO M 249 sec. 4.3.3	Pass / Fail		



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Mechanical ^F	Thermoplastic Pavement Marking Material	Bond Strength	ASTM D4796 AASHTO T 250 sec. 13	1 psi to 1499 psi (± 1 psi)
		Impact Strength	ASTM D256 & D4812 & D8160 AASHTO T 250 sec. 14 AASHTO M 249 sec. 4.3.4	Up to 41.9 in-lb (± 0.1 in-lb)
		Ring & Ball Softening Point	ASTM D36 & E28 & D6493 AASHTO T 250 sec. 15 AASHTO M 249 sec.4.3.5	82 °C to 121 °C (± 1 °C)
		Specific Gravity	ASTM D792, Method A AASHTO T 250 sec. 16 AASHTO M 249 sec. 4.1	Up to 2.99 (± 0.01)
		Flowability (Percent Residue) Extended Heating	AASHTO T 250 sec. 17 AASHTO M 249 sec. 4.3.8	Up to 49.9% (± 0.1%)
		Ultraviolet Light and Condensate Exposure	ASTM G154 AASHTO T 250 sec. 18	N/A
		Hardness	ASTM D7735 & D2240 AASHTO T 250 sec. 19	Up to 99 (± 1)
		Flash Point	ASTM D92 - Modified AASHTO T 250 sec. 20	Up to 316°C (± 1°C)
	Glass Beads / Retroreflective Optics / Aggregate	Roundness / Shape	ASTM D7971 AASHTO R 98AASHTO T 346 sec. 6	Up to 99.99% (± 0.01%)
	Glass Beads / Retroreflective Optics	Refractive index	ASTM C1648, sec. 6 AASHTO T 346, sec. 7	1.41 to 1.59 (± 0.01)
		Flow Characteristics – Funnel / H ₂ SO ₄	AASHTO T 346, sec. 8 AASHTO M 247, sec 4.4	Pass or Fail
		Moisture Resistant Coating – Funnel / beaker	AASHTO T 346, sec. 9 AASHTO M 247, sec 4.4	Pass or Fail
		Flotation Test - Xylene	AASHTO T 346, sec. 10 AASHTO M 247, sec 4.4	Pass or Fail
		Adherence Coating Oven Test – Dansyl Chloride	AASHTO T 346, sec. 11 AASHTO M 247, sec 4.4	Pass or Fail
		Alternative Flotation Test – Hexadecane	AASHTO T 346, sec. 12 AASHTO M 247, sec 4.4	Pass or Fail



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Mechanical ^F	Glass Beads / Retroreflective Optics	Alternative Moisture Resistance Coating Test	AASHTO T 346, section 13 AASHTO M 247, sec 4.4	Pass or Fail
	Glass Beads / Retroreflective Optics	Alternative Adherence Test – Dansyl Chloride	AASHTO T 346, section 14 AASHTO M 247, sec 4.4	Pass or Fail

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this testing at its fixed location.

