PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

EMI Gage

28W144 Industrial Avenue, Suite #100, Lake Barrington, IL 60010

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

ISO/IEC 17025:2005

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 January 2009):

Calibration of Surface Roughness, Flick and Roundness

(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:

Initial Accreditation Date:	*Issue Date:*	*Accreditation No.:*	*Certificate No.:*
May 10, 2004	August 5, 2012	59244	L12-145

Tracy Szerszen
President/Operations Manager

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

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.pjlabs.com

Certificate of Accreditation: Supplement

EMI Gage
28W144 Industrial Avenue, Suite #100, Lake Barrington, IL 60010
Jeff Dax Phone: 847-277-7511

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

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Surface Texture R_a	0.005 µm to 1 mm	2 % of reading	Taylor Hobson 44 mm Ball 100 µin 3 Line Standard 2 µin Optical Flat ISO 3274-1998 ISO 4288-1998 ISO 11562
Surface Texture R_z	0.100 µm to 1 mm	5 % of reading	
Roundness - Out of Roundness	Up to 350 mm	5 nm	Gage Blocks/Optical Flat Taylor Hobson Flick and Hemisphere ASME B89.3.1
Roundness - Flick	1.0 µm to 2 mm	4 % of reading	Taylor Hobson 44 mm Ball 100 µin 3 Line Standard 2 µin Optical Flat ISO 3274-1998 ISO 4288-1998 ISO 11562 Gage Blocks/Optical Flat Taylor Hobson Flick and Hemisphere ASME B89.3.1

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represent the smallest measurement uncertainties attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is expressed at a confidence level of 95 % using a coverage factor *k* (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.