

International Accreditation Service, Inc.

CERTIFICATE OF ACCREDITATION

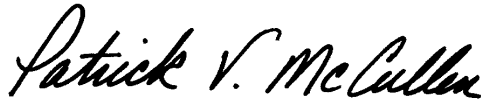
This is to signify that

ORANGE COUNTY CALIBRATIONS

1702 EAST SUNVIEW DRIVE
ORANGE, CALIFORNIA 92865

Calibration Laboratory CL-113
(Revised June 12, 2009)

has demonstrated compliance with the ANS/ISO/IEC Standard 17025:2005, *General criteria for the competence of testing and calibration laboratories*, and has been accredited commencing November 1, 2008, for the calibration discipline(s) listed in the approved scope of accreditation. The laboratory meets the IAS program requirements in the field of calibration.



Patrick V. McCullen
Vice President



C. P. Ramani, P.E.
President

(see attached scope of accreditation for measurement area or type of test, range or quantity, best measurement capability, technique reference, standard equipment or unique conditions)

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation, or revocation of accreditation. See the IAS *Accreditation Listings* on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 699-0541. Print Date: 06/12/2009 (page 1 only)

International Accreditation Service, Inc.

SCOPE OF ACCREDITATION

Orange County Calibrations CL-113

Orange County Calibrations
1702 East Sunview Drive
Orange, CA 92865

Ricky Goure
Owner
(714) 637-5100

MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY ¹ (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
<i>Mechanical</i>			
Force			
Load cells	Up to 100lbf	0.25%	ASTM Standard E 74, Class one weights
Compression	Up to 750,000lbf	1%	ASTM Standard E 4, Follow the force method
Tension	Up to 150,000lbf	1%	ASTM Standard E 4, Follow the force method

November 1, 2008
Commencement Date

C. P. Ramani
C. P. Ramani, P.E.
President

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MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY ¹ (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
<i>Mechanical</i> Rockwell hardness	HRA Scale HRB Scale HRC Scale HR15TW Scale HR30TW Scale HR45TW Scale HR15N Scale HR30N Scale HR45N Scale HRLW Scale HRMW Scale HREW Scale	1.8 HRA 1.8 HRBW 1.8 HRC 1.8 HR15TW 1.8 HR30TW 1.8 HR45TW 1.8 HR15N 1.8 HR30N 1.8 HR45N 1.8 HRLW 1.8 HRMW 1.8 HREW	ASTM Standard E 18, indirect verification
<i>Mechanical</i> Scale and balance	Up to 100lbs	See Note	Class one weights

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MEASUREMENT AREA	RANGE & RESOLUTION	BEST MEASUREMENT CAPABILITY ¹ (BMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
<i>Mechanical</i> Calipers	Up to 6"/0.001" >6 to 12"/0.0005"	650μ inches 1535 μ inches	Grade 0 gage blocks
Spring checker, LVDT, Linear transducers	Up to 20"/0.0001"	2653 μ inches	Grade 0 gage blocks, (16" and 20" grade AS1)
Micrometers	0-1"/0.0001" 2"-3"/0.0001"	116μ inches 150 μ inches	Grade 0 gage blocks Grade 0 gage blocks

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<i>Mechanical</i> Dial indicators – Mechanical Dial indicators – Electronic	0-1"/0.001" 0-4"/0.0001"	1200 μ inches 2100 μ inches	Grade 0 gage blocks Grade 0 gage blocks
Extensometer/Deflectometer/ Compressometer	Up to 1"	1% of reading	ASTM Standard E 83, Comparison to Class B-1 Extensometer

¹ "Best Measurement Capability" is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or of nearly ideal measuring instruments. Best Measurement Capabilities are expressed as uncertainties at approximately the 95% level of confidence, usually using a coverage factor of $k=2$. The measurement uncertainty of a specific calibration performed by the laboratory may be greater than the least uncertainty due to the behavior of the customer's device, to the environment (if the calibration is performed in the field), and to influences from the circumstances of the specific calibration.

NOTE: Calibration parameters are performed primarily on-site at customer locations. The uncertainty of scale/balance calibration is highly dependent on local conditions, such as scale resolution and sensitivity, scale cleanliness, local gravity, temperature and humidity, dust, vibration, etc.; therefore, any statement of uncertainty is misleading. The class of the best weights used by the laboratory is shown in the Technique column. Use of weights in combination, whether in the same class or different classes, will increase measurement uncertainty resulting from the additive effect of weight tolerances, as defined in ASTM E 617.

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