



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

BRAUN INTERTEC CORPORATION
11001 Hampshire Avenue South
Bloomington, MN 55438
Thorlief Stangebye Phone: 952 995 2000

CALIBRATION

Valid To: June 30, 2024

Certificate Number: 3940.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Concrete Air Meter ³ (Volumetric)	Up to 9 % of air in concrete	0.33 % of air in concrete	ASTM C173
Capping Jig ³ – (Alignment Device Perpendicularity Only)	(0 to 5)°	0.10°	ASTM C617
CBR Equipment ³ – Spacer Weights	Up to 6 in Up to 5 lb	0.0018 in 0.0070 lb	ASTM D1883
Compactor Gyratory ³ – Angle Height Rate Load	Up to 125° Up to 115 mm Up to 30 rpm Up to 800 kpa	0.019° 0.018 mm 0.50 rpm 7.0 kpa	AASHTO T312/T344
Compactor Marshall or Proctor ³ – Drop Weights Hammer Diameter	Up to 18 in Up to 10 lb Up to 150 mm	0.010 in 0.0070 lb 0.046 mm	ASTM D6926/D698/D1557

Parameter/Equipment	Range	CMC ² (±)	Comments
Conical Mold and Tamper ³ – Weight Diameters Height	Up to 200 g Up to 100 mm Up to 75 mm	0.31 g 0.046 mm 0.046 mm	ASTM C128
FAA Cylinder ³ – Volume	Up to 100 mL	0.13 mL	ASTM C1252
Flakiness Gauge ³ – Openings	Up to 2.0 in	0.0018 in	BS-812, MnDOT 1223
Flat & Elongated Jig ³ – Opening Ratio	Up to 2 in	0.0018 in	ASTM D4791
Flexural Strength Fixture ³ – Length	Up to 18 in	0.010 in	ASTM C78
LA Abrasion ³ – Rate	Up to 35 rpm	0.16 rpm	ASTM C131-C535
Dial Indicator ³	Up to 4 in	0.00019 in	Gage Blocks
Digital Indicator ³	Up to 0.5 in	0.00019 in	Gage Blocks
Liquid Limit Device and Groover ³ – Cup Radius Dimensions Rate	(52 to 56) mm Up to 150 mm Up to 2 rps	0.39 mm 0.046 mm 0.16 rps	rps = revolutions per second ASTM D4318
Marshall Breaking Head ³ – Radius	Up to 2 in	0.0032 in	ASTM D6927
Molds Beam ³ – Dimensions	Up to 18 in	0.010 in	ASTM C470

Parameter/Equipment	Range	CMC ² (±)	Comments
Molds CBR ³ – Dimensions Volume	Up to 120 mm Up to 3000 mL	0.046 mm 3.6 mL	ASTM D1883
Molds Cylinder ³ – Dimensions	Up to 12 in	0.0018 in	ASTM C470
Molds Gyratory ³ – Diameter	Up to 150 mm	0.017 mm	AASHTO T312
Molds Marshall ³ – Dimensions	Up to 6 in	0.0018 in	ASTM D6926
Molds Mortar Cube ³ – Dimensions	Up to 2 in	0.0018 in	ASTM C109
Molds Proctor ³ – Dimensions Volume	Up to 6 in Up to 3000 mL	0.0018 in 3.6 mL	ASTM D698/D1557
Molds R-Value Diameter Height	Up to 4 in Up to 6 in	0.00066 in 0.0018 in	ASTM D2844
Soil Cement Molds ³ – Dimensions	Up to 6 in	0.0018 in	ASTM D698
Steel Cylinder Molds ³ – Dimensions	Up to 12 in	0.0018 in	ASTM C470
Neoprene Retaining Cups ³ – Dimensions	Up to 6.5 in	0.0018 in	ASTM C1231
Proctor Straightedge ³ – Beveled Thickness	Up to 0.25 in	0.0018 in	ASTM D698/D1557

Parameter/Equipment	Range	CMC ² (±)	Comments
Proving Ring ³ – Indicated Load	Up to 1000 lb Up to 10 000 lb	1.3 lb 5.7 lb	ASTM D2166 ASTM D6927
Pycnometer ³ – Gravimetric	Up to 250 mL Up to 500 mL Up to 4000 mL	0.29 mL 0.77 mL 4.7 mL	ASTM D854 ASTM C128 ASTM D2041
Sand Cone Bulk Density ³ – Loose Density	Up to 100 lb/ft ³	0.22 lb/ft ³	ASTM D1556
Sand Cone and Plate ³ – Weight to fill	Up to 2000 g	3.5 g	ASTM D1556
Sand Equivalent ³ – Plunger Weight Misc Dimensions	Up to 1000 g Up to 400 mm	1.3 g 0.046 mm	ASTM D2419
Slump Cone and Rod ³ – Diameters Heights/Lengths	Up to 8 in Up to 24 in	0.0018 in 0.010 in	ASTM C143
Unit Weight Bucket ³ – Volume	Up to 15 000 mL	17 mL	ASTM C29/C138
Calipers ³ – Linearity ID Jaws Depth Step Squareness	Up to 12 in	0.00031 in 0.00031 in 0.00031 in 0.00031 in	Gage blocks and ring gage

II. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Concrete Air Meter ³ (Pressure Method)	Up to 10 % of air in concrete	0.27 % of air in concrete	ASTM C231
Pressure ³	(20 to 100) psi	0.45 psi	Pressure gage
Electronic Balance ³ – Field Scales General Purpose Analytical	(5 to 150) lb (10 to 30 000) g (10 to 200) g	0.092 lb 0.36 g 1.2 mg	Weights
Load Frame Concrete ³ – Indicated Load	(2000 to 50 000) lbf (50 000 to 500 000) lbf	57 lbf 1100 lbf	ASTM E4
Load Frame Consolidation ³ – Applied Load	(50 to 2000) lbf	1.3 lbf	ASTM E4
Load Frame Direct Shear ³ – Applied Load	(50 to 2000) lbf	1.3 lbf	ASTM D3080
Load Frame Marshall Stability ³ – Indicated Load	(200 to 10 000) lbf	5.7 lbf	ASTM E4
Load Frame R-Value – Applied Load	(200 to 10 000) lbf	5.7 lbf	ASTM D2844
Load Frame Triaxial ³ – Applied Load	(50 to 2000) lbf	1.3 lbf	ASTM D2850/D4767
Stressing Ram - Indicated Force	(20 000 to 400 000) lbf	3600 lbf	ASTM D1143
Vacuum System ³ - Absolute Pressure	(0 to 100) mmHg	2.3 mmHg	Digital Vacuum Gage

III. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature Indicators and Recorders ³	(-25 to 140) °C	0.28 °C	ASTM E644
Infrared Thermometers ³	(25 to 135) °C	3.0 °C Emissivity = 0.95	Blackbody target
Curing Room/Cabinet ³ – Temperature Humidity	(0 to 25) °C (20 to 95) % RH	0.28 °C 3.9 % RH	ASTM C511
Curing Tank ³ – Temperature	(0 to 25) °C	0.28 °C	ASTM C511
Evaporation ³ – Oven	(0 to 50) ml/hr	0.015 ml/hr	ASTM C88
Temperature ³ – Oven	(0 to 300) °F	2.4 °F	ASTM D2216
Humidity ³ – Indicators and Recorders	(20 to 95) % RH	3.9 % RH	Temperature humidity standard

IV. Time and Frequency

Parameter/Equipment	Range	CMC ² (±)	Comments
Timer ³ – Digital/Mechanical	(10 to 3600) sec	0.30 sec	NIST publication 960-12 direct comparison

¹ This laboratory offers commercial calibration services and field calibration service.

² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement (A2LA Cert. No. 3940.01) Revised 3/20/2024



that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

³ Field calibration service is available for this calibration and this laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.





Accredited Laboratory

A2LA has accredited

BRAUN INTERTEC CORPORATION

Bloomington, MN

for technical competence in the field of

Calibration

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 laboratory also meets R205 – Specific Requirements: Calibration Laboratory Accreditation Program. 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 11th day of April 2022.

A blue ink signature of a person, likely the Vice President of Accreditation Services, written over a horizontal line.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3940.01
Valid to June 30, 2024
Revised March 20, 2024

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.



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