



# CERTIFICATE OF ACCREDITATION

## ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

**BYK - Gardner**  
**c/o BYK-Gardner USA**  
**9104 Guilford Road**  
**Columbia, MD 21046, USA**

has been assessed by ANAB and meets the requirements of international standard

## ISO/IEC 17025:2017

while demonstrating technical competence in the fields of

## CALIBRATION AND TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

AC-1534

Certificate Number

  
ANAB Approval

Certificate Valid Through: 04/28/2021  
Version No. 030 Issued: 03/20/2020



This laboratory 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 (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



**ANSI National Accreditation Board**

**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**BYK – Gardner**

Dr. Ing Torsten Gruhn, 17025 Quality Manager

Torsten.Gruhn@altana.com

Phone: +49 (8171) 3493 341

This scope applies to the following locations:

**Headquarter**

**c/o BYK – Gardner GmbH**

Lausitzerstr.8, 82538 Geretsried, Germany

**Headquarter USA**

**c/o BYK–Gardner USA**

9104 Guilford Rd., Columbia, MD 21046, USA

**BYK-Gardner Service Point Spain**

**c/o Actega Artística S.A**

Calle Balmes 8, Suite: 3º 2ª, 08291 Ripollet, Spain

**BYK–Gardner Service Point France**

**c/o Eckart France S.A.S.**

31 Rue Amilcar Cipriani 93400, Saint Ouen, France

**BYK-Gardner Service Point China**

**c/o BYK (Tongling) Co., Ltd. Shanghai Branch**

Block 6A, Building A, No 88 Hong Cao Road,

Xuhui District, Shanghai 200233, P.R China

**BYK-Gardner Service Point UK and Ireland**

**c/o BYK Additives Ltd**

450 Bath Road, Longford, Heathrow, UB7 0EB, United Kingdom

**BYK-Gardner Service Point South Latin America**

**c/o MAST COMERCIAL E IMPORTADORA LTDA**

Rua Itaporanga, 340-B, Bairro Paraiso, Santo André – SP, 09190-640, Brazil

**BYK-Gardner Service Point Japan**

**c/o TETSUTANI CO., LTD**

Chuo-ku, Osaka, Tokui cho 2-2-2, Japan



# ANSI National Accreditation Board

**BYK-Gardner Service Point Austria, Hungary, Slovenia**  
**c/o FRIEDRICH W. BLOCH GmbH**  
 Wagramerstrasse 201, 1210 Vienna, Austria

**BYK-Gardner Service Point India**  
**c/o BYK India Pvt Ltd**  
 Elantas Beck India Ltd compound  
 147, Mumbai-Pune Road, Pimpri, Pune – 411018, India

**BYK-Gardner Headquarter PTE**  
**c/o BYK USA dba Paul N. Gardner**  
 316 N.E. First Street  
 Pompano Beach, FL 33060-6608, USA

## CALIBRATION AND TESTING

Valid to: **April 28, 2021**

Certificate Number: **AC-1534**

### CALIBRATION

#### Length – Dimensional metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Digital Film Thickness units <sup>1,3</sup>	(0 to 100) $\mu\text{m}$ (>100 to 250) $\mu\text{m}$ (>250 to 3 000) $\mu\text{m}$	2.9 $\mu\text{m}$ 4.6 $\mu\text{m}$ 11 $\mu\text{m}$	Certified Shims	All
Digital Film Thickness micro-Tri-gloss <sup>1,3</sup>	(0 to 100) $\mu\text{m}$ (>100 to 250) $\mu\text{m}$ (>250 to 3 000) $\mu\text{m}$	9.9 $\mu\text{m}$ 11 $\mu\text{m}$ 15 $\mu\text{m}$	Certified Shims	All
Film Thickness Shims	(0 to 100) $\mu\text{m}$ (>100 to 250) $\mu\text{m}$ (>250 to 3 000) $\mu\text{m}$	0.4 $\mu\text{m}$ 0.6 $\mu\text{m}$ 0.8 $\mu\text{m}$	Micrometer	Geretsried, Germany Pompano Beach, FL
Adhesion Tape Test Roller Length Weight Hardness, Shore A	(1 to 150) mm (1 to 3 000) gr (70 to 90) Duro	0.1 mm 1.2 gr 1.8 Duro	Vernier Caliper Scale Durometer	Geretsried, Germany Pompano Beach, FL

**Mass and Mass Related**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Density Cups <sup>3</sup>	(8 to 101) ml	0.1 % of reading	Scale, Timer, Thermometer	Columbia, MD Pompano Beach, FL Geretsried, Germany
Kinematic Viscosity <sup>3,4</sup> Ford Cups DIN Cups ISO Cups Zahn Cups	(10 to 100) sec	2.5 % of elapsed time 2 % of elapsed time 2 % of elapsed time 2 % of elapsed time	Thermometer, Timer, Certified Oil	Columbia, MD Pompano Beach, FL Geretsried, Germany
Rotational Viscosity <sup>3</sup>	(1 to 106 000 000) cP (40 to 141) KU	0.14 cP 0.53 KU	Thermometer, Certified Oil	Columbia, MD Geretsried, Germany

**Photometry and Radiometry**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Gloss <sup>1,2</sup>	(0 to 10) GU (>10 to 94) GU (>94 to 100) GU	0.21 GU 0.61 GU 0.41 GU	Gloss Standards	All
Color / Spectrophotometer <sup>1,2</sup>	(0 to 400) units	0.21 dE*(CIELab) 0.21 dE*(CIELCH) 0.21 dE*(CIE94)	White and Color Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Clarity <sup>1,2,6</sup>	(0 to 100) %	0.2 %	Clarity Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India

**Photometry and Radiometry**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Transmission <sup>1,2,6</sup>	(0 to 50) % (>50 to 100) %	0.37 % 0.07 %	Transmission Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Haze <sup>1,2,6</sup>	(0.1 to 1) % (>1 to 10) % (>10 to 100) %	0.1 % 0.1 % 0.2 %	Haze Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Wavescan / DOI <sup>1,2</sup>	(0 to 99) units	1.7 units	Orange Peel Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Optical Radiation – Illuminance <sup>1,3</sup>	(50 to 200) fc (540 to 2 200) lx	10.9 fc 117 lx	Spectroradiometer	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France
Optical Radiation - Color Temperature <sup>1,3</sup>	(2 250 to 3 500) K (3 800 to 4 350) K (6 300 to 6 700) K	55 K 74 K 82 K	Spectroradiometer	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France



Thermodynamic

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment	Locations <sup>5</sup>
Thermocouple Simulation <sup>3</sup>	Type K (0 to 500) °C	0.9 °C	Universal Calibrator	Columbia, MD Geretsried, Germany Vienna, Austria Shanghai, P.R China
Temperature	(5 to 50) °C	0.65 °C	Temperature Chamber	Geretsried, Germany Pompano Beach, FL
Humidity	(30 to 80) %RH	1.8 %RH	Temperature Chamber	Geretsried, Germany Pompano Beach, FL
Dewpoint	(10 to 30) °C	Calculated from temperature and humidity	Calculated from temperature and humidity	Geretsried, Germany Pompano Beach, FL

TESTING

Dimensional

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Digital Film Thickness units <sup>1,3</sup>	(0 to 100) μm (>100 to 250) μm (>250 to 3 000) μm	2.9 μm 4.6 μm 11 μm	Certified Shims BYK-Gardner working instructions Customer defined procedures	All
Digital Film Thickness micro-Tri-gloss <sup>1,3</sup>	(0 to 100) μm (>100 to 250) μm (>250 to 3 000) μm	9.9 μm 11 μm 15 μm	Certified Shims BYK-Gardner working instructions Customer defined procedures	All
Film Thickness Shims	(0 to 100) μm (>100 to 250) μm (>250 to 3 000) μm	0.4 μm 0.6 μm 0.8 μm	Micrometer BYK-Gardner working instructions Customer defined procedures	Geretsried, Germany Pompano Beach, FL



# ANSI National Accreditation Board

## Dimensional

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Adhesion Tape Test Roller Length Weight Hardness, Shore A	(1 to 150) mm (1 to 3 000) gr (70 to 90) Duro	0.1 mm 1.2 g 1.8 Duro	Vernier Caliper Scale Durometer BYK-Gardner working instructions Customer defined procedures	Geretsried, Germany Pompano Beach, FL

## Mechanical

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Density Cups <sup>3</sup>	(8 to 101) ml	0.1 % of reading	Scale, Timer, Thermometer	Columbia, MD Pompano Beach, FL Geretsried, Germany
Kinematic Viscosity <sup>3,4</sup> Ford Cups DIN Cups ISO Cups Zahn Cups	(10 to 100) sec	2.5 % of elapsed time 2 % of elapsed time 2 % of elapsed time 2 % of elapsed time	Thermometer, Timer, Certified Oil	Columbia, MD Pompano Beach, FL Geretsried, Germany
Rotational Viscosity <sup>3</sup>	(1 to 106 000 000) cP (40 to 141) KU	0.14 cP 0.53 KU	Thermometer, Certified Oil	Columbia, MD Geretsried, Germany

## Optical

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Gloss <sup>1,2</sup>	(0 to 10) GU (>10 to 94) GU (>94 to 100) GU	0.21 GU 0.61 GU 0.41 GU	Gloss Standards	All



**Optical**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Color / Spectrophotometer <sup>1,2</sup>	(0 to 400) units	0.21 dE*(CIELab) 0.21 dE*(CIELCH) 0.21 dE*(CIE94)	White and Color Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Clarity <sup>1,2,6</sup>	(0 to 100) %	0.2 %	Clarity Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Transmission <sup>1,2,6</sup>	(0 to 50) % (>50 to 100) %	0.37 % 0.07 %	Transmission Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Haze <sup>1,2,6</sup>	(0.1 to 1) % (>1 to 10) % (>10 to 100) %	0.1 % 0.1 % 0.2 %	Haze Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India



**Optical**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment	Locations <sup>5</sup>
Wavescan / DOI <sup>1,2</sup>	(0 to 99) units	1.7 units	Orange Peel Standards	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France Shanghai, P.R China Longford, UK Santo André, Brazil Osaka, Japan Vienna, Austria Pune, India
Optical Radiation – Illuminance <sup>1,3</sup>	(50 to 200) fc (540 to 2 200) lx	10.9 fc 117 lx	Spectroradiometer	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France
Optical Radiation - Color Temperature <sup>1,3</sup>	(2 250 to 3 500) K (3 800 to 4 350) K (6 300 to 6 700) K	55 K 74 K 82 K	Spectroradiometer	Columbia, MD Geretsried, Germany Ripollet, Spain Saint Ouen, France

**Thermal**

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment	Locations <sup>5</sup>
Thermocouple Simulation <sup>3</sup>	Type K (0 to 500) °C	0.9 °C	Universal Calibrator	Columbia, MD Geretsried, Germany Vienna, Austria Shanghai, P.R China
Temperature	(5 to 50) °C	0.65 °C	Temperature Chamber	Geretsried, Germany Pompano Beach, FL
Humidity	(30 to 80) %RH	1.8 %RH	Temperature Chamber	Geretsried, Germany Pompano Beach, FL
Dewpoint	(10 to 30) °C	Calculated from temperature and humidity	Calculated from temperature and humidity	Geretsried, Germany Pompano Beach, FL

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ( $k=2$ ), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration/testing services are available for this parameter; based on strict protocols, the same uncertainties are achieved on-site.
2. Applies to both instruments and standards (standards can only be calibrated in-laboratory)
3. Applies to instruments only
4. Drain time of certified calibration oil
5. The capabilities of all sites are identical using same procedures and equipment, under the same environment conditions.
6. Unit-less measure expressed as a percentage.
7. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1534.



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Vice President

