



Management Procedure 2597
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Calibration Procedure

DeFelsko Corporation

PosiTector GLS Calibration

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1 Introduction and UUC Performance Requirements

1.1 This procedure describes the calibration of PosiTector GLS Probes with the following ranges:

Table 1-1 Measurement Ranges

Angle	Measurement Range
20	0-2000
60	0-1000
85	0-160

1.2 The probe being calibrated will be referred to as the UUC (unit-under-calibration).

2 Measurement Standards and Support Equipment Performance Requirements

2.1 The UUC is calibrated against traceable reference Gloss standards with the specifications list below.

Table 2-1 Actual Equipment Specifications

Equipment Generic Name	Range	Accuracy	Manufacturer/Model #'s Applicable
Gloss Calibration Tile	0 - 100	± 0.59 GU*	AMECal HG3, SG185, SG160 and SSUD

*0.69 GU at 20 & 85°

Caution: The instructions in this Calibration Procedure relate specifically to the equipment and conditions listed in Section 2. If other equipment is substituted, the information and instructions must be interpreted accordingly.

Table 2-2 Calibration Environmental and Warm Up Requirements

Measurement Standards & Support Equipment Environmental Requirements:	Temperature: $23 \pm 5^{\circ}\text{C}$ Relative Humidity: Less Than 95%
Measurement Standards & Support Equipment Warm-up and Stabilization Requirements:	Not required

3 Preliminary Operations

Note: Review the entire document before starting the calibration process.

3.1 Visually inspect the UUC for:

- Damage
- Wear
- Burrs

- 3.2 Verify the reference standards are clean. If necessary clean with canned air or wash with warm water and detergent then rinse with distilled water.
- 3.3 Verify the calibration tile paired with the UUT is clean. If necessary clean the tile using a DeFelsko approved lens cleaning wipe. Clean by wiping an untouched portion of the wipe in one direction across the tile. Repeat the process using untouched or unused portions of the wipe until the tile is clean and there are no spots or haze left from cleaning solution evaporating.

Note: Do not use alcohol or unapproved cleaning wipes as these may leave a residue that can affect the readings.

- 3.4 Verify the UUT base is clean and does not have any damage before placing it on the calibration tile or reference standards.
- 3.5 Power on the UUT while its calibration tile is attached and verify the automatic calibration performed to the tile passes.

4 Calibration Process

Note: Whenever the test requirement is not met, verify the results of each test and take corrective action before proceeding.

- 4.1 Review the Performance Requirements Table 5-1
- 4.2 Place the UUT in the center of the first reference standard making sure the measurement directions of the reference standard and UUT are the same.
- 4.3 Make a reading and record the results of all the angles as necessary.
- 4.4 Repeat for all the reference standards.

5 Performance Requirements

Note: The technician shall collect the data needed to complete columns C – F of the table below. Do not write in this procedure.

Table 5-1 Performance Requirements and Calibration Data

Angle	Nominal value (GU)	Reference Value (GU)	Reading (GU)	Min. Reading Allowed ^① (GU)	Max. Reading Allowed ^② (GU)
A	B	C	D	E	F
20	98				
60	10				
60	20				
60	50				
60	98				

85	20				
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① Calculation: $C - 1.0 \text{ GU}$

② Calculation: $C + 1.0 \text{ GU}$

