

# twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

## Estándares de Calibración

DF-A1

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## Certified Coated Metal Plates & Certified Polystyrene Blocks

Certified coated metal plates and polystyrene blocks are ideal for verifying the accuracy and operation of coating thickness gages and are an important component in fulfilling both ISO and in-house quality control requirements.

Many organizations require verification of gage accuracy at the test site each time a coating thickness gage is put into service and at frequent intervals during use. Ideal for this purpose, DeFelsko certified coating thickness standards have measured values traceable to a National Metrology Institution.

Used to verify the accuracy and operation of any Type 1 (mechanical) and Type 2 (electronic) magnetic, eddy-current or ultrasonic coating thickness gage  
Ideal for use in the calibration lab, in the field or on the factory floor

Standards with steel or aluminum substrates consist of 4 plates mounted in a protective binder

Polystyrene thickness standards consist of 4 blocks supplied in a rugged acrylic storage box

Individually serialized for traceability to NIST or PTB - includes a Certificate of Calibration

Certified and labeled in both Metric and Imperial units

Zero Plates available for both Certified Coated Metal Plates and Certified Polystyrene Blocks.



Certified Coated Metal Plates



Polystyrene Blocks

## Specifications & Ordering Guide

### Certified Coated Metal Plates

Select the Standard that most closely matches the measuring range of your gage.

Order Code	Ideal for	Approximate Thickness				Coating/ Substrate	Accuracy
		Plate 1	Plate 2	Plate 3	Plate 4		
S1	PosiTector 6000 F, FS, FRS, FN, FNS, FNRS, FXS*, FNDS PosiTest F & FM	0	75 µm 3 mils	250 µm 10 mils	1500 µm 60 mils	Epoxy on Steel (Ferrous)	± 0.43 µm ± 0.017 mil
S2	PosiTector 6000 F0S, F45S, F90S, F90ES PosiTest DFT Ferrous & Combo	0	75 µm 3 mils	250 µm 10 mils	1000 µm 40 mils		
S3	PosiTest G & GM PosiPen A, B & C	0	15 µm 0.6 mils	40 µm 1.6 mils	100 µm 4 mils		
S4	PosiTector 6000 FXS*	0	75 µm 3 mils	1000 µm 40 mils	1900 µm 75 mils		
A1	PosiTector 6000 N, NS, NRS, FN, FNS, FNRS, FNDS	0	75 µm 3 mils	250 µm 10 mils	1500 µm 60 mils	Epoxy on Aluminum (Non-Ferrous)	± 0.43 µm ± 0.017 mil
A2	PosiTector 6000 NAS, N0S, N45S, N90S PosiTest DFT Combo	0	75 µm 3 mils	250 µm 10 mils	500 µm 20 mils		
A3	PosiTector 100B, 200, 200B	75 µm 3 mils	125 µm 5 mils	250 µm 10 mils	500 µm 20 mils		

\*PosiTector FXS probes with a range of 0-1500 µm (0-60 mils) and Serial Numbers <361485 should use the S1 Standard.

All certified standards are supplied with a Certificate of Calibration traceable to NIST or PTB.

Plate Diameter: 38 mm (1.5") Measurement Diameter: 25 mm (1")

## Certified Polystyrene Blocks

Select the Standard that most closely matches the measuring range of your gage.

Order Code	Ideal for	Approximate Thickness				Accuracy
		Block 1	Block 2	Block 3	Block 4	
P1	PosiTector 6000 FT, FTS, NTS, FNFS, FTRS PosiTector 200 D	375 $\mu$ m 15 mils	2 mm 80 mils	4.5 mm 185 mils	6.5 mm 250 mils	$\pm (2.5 \mu\text{m} + 0.05\% \text{ of thickness})$ $\pm (0.1 \text{ mil} + 0.05\% \text{ of thickness})$
P2	PosiTector 6000 FHS, FJS, NHS, EOC	2.5 mm 100 mils	6.5 mm 250 mils	13 mm 500 mils	19 mm 750 mils	
P3	PosiTector 100 C	375 $\mu$ m 15 mils	1.5 mm 60 mils	2.5 mm 100 mils	4.5 mm 185 mils	
P4	PosiTector 100 D	1.5 mm 60 mils	2.5 mm 100 mils	4.5 mm 185 mils	6.5 mm 250 mils	
P5	PosiTector 6000 FKS, NKS	1.5 mm 60 mils	2.5 mm 100 mils	6.5 mm 250 mils	12 mm 480 mils	
P6	PosiTector 200 C	375 $\mu$ m 15 mils	1.5 mm 60 mils	2.5 mm 100 mils	3 mm 125 mils	
P7	PosiTector 6000 FHXS	1.5 mm 60 mils	4.5 mm 185 mils	6.5 mm 250 mils	9.5 mm 375 mils	
P8	PosiTector 6000 FNFS, FLS	13 mm 500 mils	13 mm 500 mils	13 mm 500 mils	19 mm 750 mils	

All certified standards are supplied with a Certificate of Calibration traceable to NIST or PTB.

**P1-P7 Blocks:** 38 x 70 mm (1.5" x 2.75") **P8 Blocks:** 76 x 76 mm (3.0" x 3.0")

## Plastic Shims

Certified Plastic Shims (foils) provide an economical alternative to coated metal plates. They have a reduced accuracy of  $\pm 2 \mu\text{m}$  ( $\pm 0.08 \text{ mil}$ ). A coating thickness gage measures shim thickness when this shim is placed over a smooth metal surface (zero plate).

Non-Certified Plastic Shims (foils) provide a quick operational check of the instrument and they allow the user to perform practice measurements when placed over metal.

Alternatively, they can be placed over an uncoated metal substrate. They are not suitable for use with magnetic pull-off gages.

Shims overview:

- Simulate a coating over a particular substrate material or shape. Gage performance can be conveniently verified on a regular basis as required by some international test methods
- For use with all Type 2, electronic coating thickness gages
- Protects the probe from damage or premature wear when placed over hot or abrasive surfaces
- Can be placed on top of soft or tacky coating films to obtain thickness measurements without the gage probe depressing the coating film
- Dimensions: 3 x 8 cm (1 x 3 inches)

## Specifications & Ordering

- Certified shims provide an economical alternative to Coated Metal Plates but have a reduced accuracy
- Each shim is packaged in a protective sleeve
- Certificate of Calibration showing traceability to NIST is included with each shim or set of shims
- Certified and labeled in both Metric and Imperial units



## Non-Certified Plastic Shims

- Provide a quick operational check of the instrument by allowing the user to perform practice measurements
- Can be used to protect the probe when measuring on tacky, rough or hot surfaces
- Labeled in both Metric and Imperial units



Certified Plastic Shims are available in the following thicknesses (all thicknesses are approximate):

Order Code	Approximate Thickness	Color	Accuracy
CS1	25 µm (1 mil)	Orange	±2 µm (±0.08 mil)
CS2	50 µm (2 mil)	Red	
CS3	75 µm (3 mil)	Green	
CS5	125 µm (5 mil)	Blue	
CS10	250 µm (10 mil)	Brown	
CS20	500 µm (20 mil)	Yellow	
CS40	1000 µm (40 mil)	White	
CS60	1500 µm (60 mil)	Black	
CSS	Complete set of 8		

Available as a set of 5 (below):

Approximate Thickness	Color	Order Code
25 µm (1 mil)	Orange	± 20%
50 µm (2 mil)	Red	± 10%
75 µm (3 mil)	Blue	± 5%
125 µm (5 mil)	Brown	± 5%
250 µm (10 mil)	Yellow	± 5%

Note: While DeFelsko inspects non-certified plastic shims to ensure they are within the nominal stated accuracy, they are not traceable to any national or international standard.

## Zero Plates

### Order Guide

Order Code	Ideal for	Type	Plate Size
STDZSTL	PosiTector 6000 F, FS, FRS, FN, FNS, FNRS, FXS, FNDS, F microprobes PosiTest DFT Ferrous Combo	Steel	Small Disk Diameter: 38 mm (1.5")
STDZALM	PosiTector 6000 N, NS, NAS, NRS, FN, FNS, FNRS, FNDS, N microprobes PosiTest DFT Combo	Aluminum	Small Disk Diameter: 38 mm (1.5")
STDZSTLM	PosiTector 6000 FT, FTS, FTRS, FNTS, FKS, FHXS probes	Steel	Medium Square 100 mm x 100 mm x 6 mm (4" x 4" x 0.25")
STDZALMM	PosiTector 6000 FNTS, NKS probes	Aluminum	Medium Square 100 mm x 100 mm x 6 mm (4" x 4" x 0.25")
STDZSTL	PosiTector 6000 FLS, FJS, FNGS probes	Steel	Large Square 180 mm x 180 mm x 6 mm (7" x 7" x 0.25")



## **What are zero plates used for?**

### Use with Certified Coated Metal Standards

Coated Metal Standards for magnetic and eddy current gages usually include an uncoated zero plate. The first gage measurement is taken on the zero plate to verify that the gage measures zero correctly. If not, electronic gages can usually be adjusted to "0" on the zero plate. After this adjustment is performed, the gage should measure within tolerance on the coated standards.

### Use with certified and non-certified plastic shims and polystyrene blocks

A zero plate provides a convenient base onto which plastic shims and polystyrene blocks can be placed for verification purposes. Check zero, adjust to "0" if necessary, then place the shim/block on the zero plate and measure.

### Substitute as a base for materials without a substrate

Zero plates can be used to provide a substrate where none exists. Large sheets of material such as paper, plastic, fabric and rubber can be measured with a coating thickness gage by placing the material over the zero plate. This is useful when the measured item is too large to access with a micrometer or other device. For example the screen printing industry uses zero plates to measure the thickness of a the "substrate" being printed.



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LLÁMANOS

**+52(81) 8115-1400 / +52 (81) 8173-4300**

LADA Sin Costo:

**01 800 087 43 75**

E-mail:

**ventas@twilight.mx**

[www.twilight.mx](http://www.twilight.mx)



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