



National Bureau of Standards

Certificate

Standard Reference Material 1365a

Certified Coating Thickness Calibration Standard

(Nickel on Steel)

This Standard Reference Material (SRM) consists of four 30 x 30 mm coating thickness plates that are designed for calibrating thickness gages of the magnetic type used to measure thicknesses of nickel on steel. The coatings have the magnetic properties of a Watts nickel electrodeposit free of iron and the steel substrates have the magnetic properties of AISI 1010 steel.

The thickness values given for the coatings are certified to be within 5% of the true thicknesses. The card on which the plates are mounted consists of a steel sheet sandwiched between two cardboard layers. This gives the appearance to most instruments of an infinitely thick substrate, and removal of the plates from the card may change the response and calibration of some types of coating thickness gages.

The nominal coating thicknesses for this SRM are:

Plate 1	3 μm	(0.1 mil)
Plate 2	9 μm	(0.4 mil)
Plate 3	15 μm	(0.6 mil)
Plate 4	20 μm	(0.8 mil)

The certified coating thicknesses are printed on the card.

The coating thicknesses were determined from measurements made by x-ray fluorescence techniques utilizing NBS master standards. To further ensure accuracy, the thickness of one of every 25 plates is determined by gravimetric procedures.

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Office of Standard Reference Materials