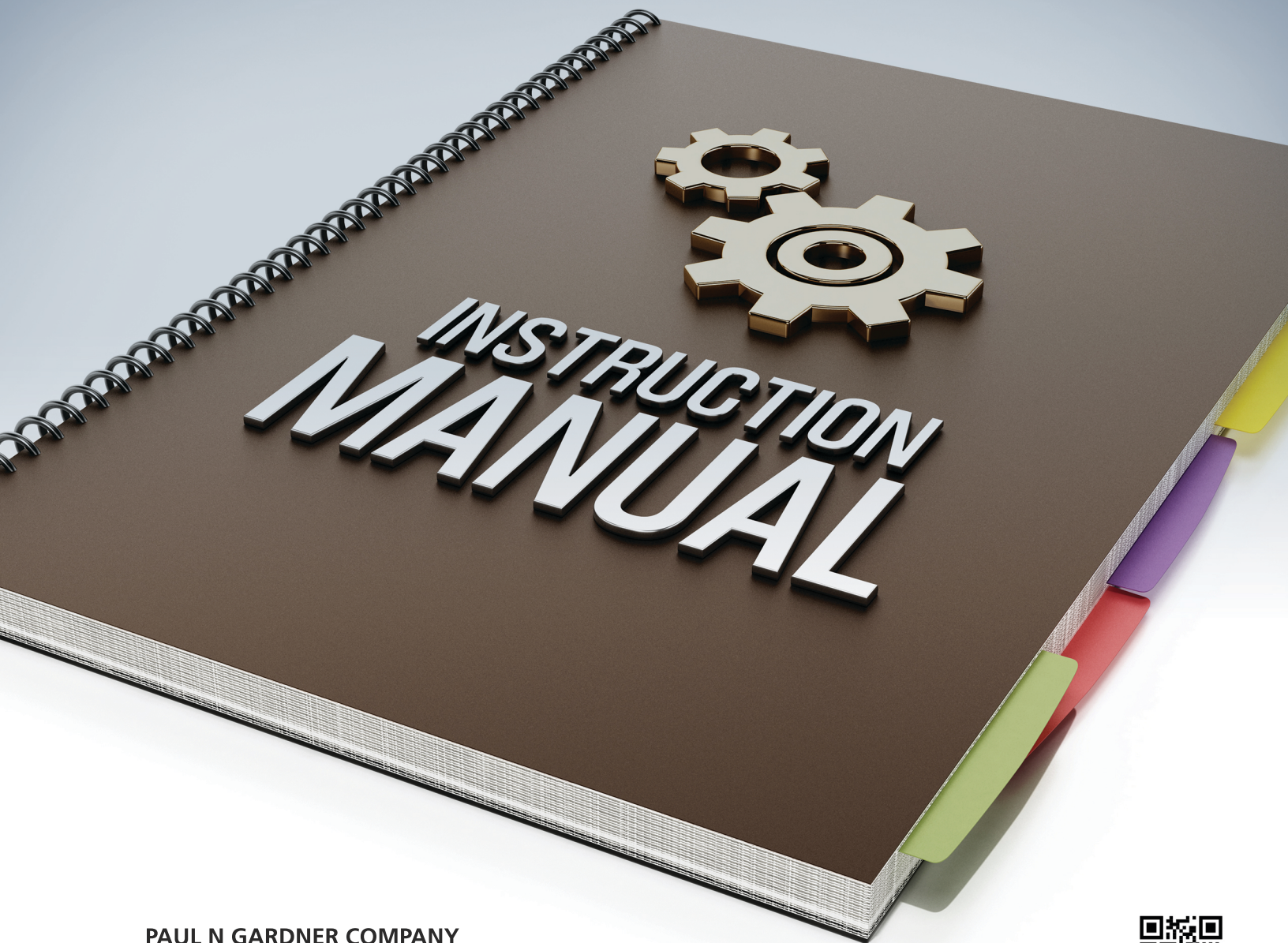




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INSTRUCTIONS

GARDCO DISTRIBUTED PRODUCTS





TECHNICAL DATA

S700

FILM THICKNESS STANDARDS

FILM THICKNESS STANDARDS

Uses

The best and only reliable means of calibration or checking the accuracy of thickness gages is by the use of FILM THICKNESS STANDARDS. An optico-mechanical gage such as the Paint Inspection Gage, if set up correctly, will not be subject to appreciable calibration change except by gradual wear of cutters and guide studs. On the other hand, "surface proximity gages", magnetic, inductance, or eddy current types generally require calibration before any series of measurements - and often frequently within a series of measurements, especially if the surfaces are variable in type and structural thickness.

STANDARDS ARE A FUNDAMENTAL REQUIREMENT FOR RELIABLE THICKNESS MEASUREMENT.

Description

Plastic Film Standards: All plastic film standards are supplied as individual chips, measuring 2 x 3 inches. Plastic materials are polyester and acetate in the thin set (1-10 mils) and unplasticized vinyl in the thick set (10-60 mils) . Each set contains six chips of the following nominal film thicknesses:

Thin set: 0.5, 1.0, 3.0, 5.0, 1.5, 10 mils

Thick set: 10, 20, 30, 40, 50, 60 mils

Each film is also identifiable by its distinctive color.

NonCertified Standards: Nominal and "Best Average" thicknesses of plastic films are printed on the package labels. The "Best Average" values are the results of approximately 100 sample measurements on the film batch. The thickness of individual film specimens is not certified.

Certified Standards: Certified films are measured for thickness at the center of each individual piece. The measurement is taken as the mean of three replicate determinations. The certified thickness is printed in bright tape on the edge of each film piece. A Certification Statement accompanies each film set.

Calibration Procedures

Operating instructions for measuring instruments will normally include calibration procedures. In the absence of written procedures, the user is advised to contact the instrument manufacturer. In general, proximity type instruments are most reliably calibrated for a given measurement by selecting two standard films which "bracket" (one above, one below) the expected film thickness to be measured. By first causing the instrument to read both standards correctly over a bare surface (the same or similar to the coated one), the unknown reading can then be made. Of course, the narrower the range between the two standards the lesser are the possibilities of errors due to instrumental nonlinearities. An optico-mechanical gage may be calibrated by the owner following a simple verification procedure on a standard test panel. If observed thicknesses deviate from "true" values, a calibration curve can be drawn to specify necessary corrections. Restoration of "zero" correction, if desired, will usually require attention by the manufacturer's shop to reestablish precise alignment.

**Special
Features**

The basic standards used for calibrating our measurement instruments are class A+ chromium carbide gage blocks (+0.000004" -0.000002" precision) with individual certifications traceable to the National Institute of Standards and Technology. Thickness readings on our precision thickness micrometer are made to the nearest 0.00005 inches (0.05 mils) .

**Ordering
Information**

The following types and grades of film thickness standards are supplied:

- S701 Plastic Film Standards, nonprecision, 1-10 mils;
nominal 0.5, 1, 3, 5, 7.5, 10 mils.
- S702 Plastic Film Standards, nonprecision, 10-60 mils;
nominal 10, 20, 30, 40, 50, 60 mils.
- S751 Plastic Film Standards, precision certified; 1-10 mils;
nominal 0.5, 1, 3, 5, 7.5, 10 mils.
- S752 Plastic Film Standards, precision certified; 10-60 mils;
nominal 10, 20, 30, 40, 50, 60 mils.

MICRO-METRICS PRODUCTS SUMMARY

PAINT INSPECTION GAGE

A precision tool for inspection and thickness measurement (ASTM D4138) of single or multiple coats on any substrate, and for microscopic observation and measurement of substrate and film defects. Uses illuminated 50-power microscope with measuring reticle, and mounts tungsten carbide cutting tips for precise incision of the work surface. Available in machined aluminum or molded polycarbonate plastic, in rectangular or cylindrical configurations.

MICROGROOVER

A portable high-speed rotary grinder with miniature cutting bits for precisely measurable incisions. Permits the Paint Inspection Gage to be used on coating systems difficult to incise with cutting tips. Greatly improves measurability on concrete coatings, painted drywall, elastomer coatings, and any system of very hard or soft materials.

PENCIL HARDNESS GAGE

Permanently holds all pencil leads in the configuration required to perform ASTM D3363 Pencil Hardness Test, which is the simplest and most generally accepted and understood paint film hardness test.

POCKET IMPACT TESTER

A machinist's automatic centerpunch with calibrated spring loading for standardized triggering force levels. Impact damage observed and measured with the Paint Inspection Gage yields results similar to those from the much more massive laboratory Gardner Impact Tester.

THICKNESS STANDARDS

Supplied in thickness ranges of 1-10 mils and 10-60 mils in either non-certified or certified grades. Packaged in sets of six pieces in a calling-card-sized plastic folder. Essential for performance verification of indirect (magnetic or eddy current) type gages and micrometers, and for precision comparison with Paint Inspection Gage results.