

State of Nevada  
Department of Transportation  
Materials and Testing Division

## METHOD OF FIELD TESTING SPRAY APPLIED PAINT FILMS

## SCOPE

This method describes the procedure to determine the thickness of field applied sprayed paint films.

## SUMMARY OF METHOD

A paint film is applied to a test panel by means of a spraying machine.

The thickness of the dried film is measured by means of a calibrated magnetic film thickness gauge.

## A. APPARATUS

1. Test Panels: Any smooth, planar mild steel material with the following minimum dimensions:

Width: 3 inches  
Length: 6 inches  
Thickness: 0.02 inch

For field use, the test panels will be supplied by Headquarter's Laboratory.

2. Mikrotest Coating Thickness Gauge-Model F/M: Capable of measuring non-magnetic coatings from 0-40 mils on a (steel) ferrous base.
3. Calibration shim set.

## B. PROCEDURE

1. Secure a test panel of the type described in Section A.
2. Select non-magnetic thickness shims in the expected thickness range to be measured.
3. Wipe the test panel with alcohol or suitable organic solvent or wash with soap and water and rinse with water to remove grease, fingerprints and organic material. Wipe dry with a suitable absorbent material free of grease and oils.
4. Handle test panel by edges to prevent recontamination. Repeat Step 3 if test panel is accidentally recontaminated.
5. Inspect the magnetic gauge tip to assure that the magnetic tip is clean and free of contaminants which could affect gauge readings.
6. Take readings in areas free of vibration, electrical or magnetic fields.

7. Zero magnetic gauge with uncoated test panel. Record the zero value.
8. Measure thickness shims in the expected thickness range to be measured on the test panel.
  - a. One thickness shim could be used, provided all measurements are below the thickness shim value.
  - b. However, for greater accuracy, use at least two thickness shims.
9. Subtract zero value from measured thickness shim value and future measurements.
10. Compare gauge value with thickness shim value. Return magnetic gauge to Headquarters for recalibration when corrected thickness shim values vary by more than 10% of the indicated value and tolerances.
11. Apply a uniform film by running the paint equipment over the test panel at a uniform speed with the glass bead applicator off.
12. Remove the coated test panel and air-dry the paint film for a minimum of 10 minutes in a horizontal position in a dust-free environment.
13. Make sure that the coating is dry prior to taking coating thickness measurements with the magnetic gauge.
14. Make measurements at least one (1) inch (25 mm) away from any edge or corner.
15. Take a minimum of three readings across the test panel and average the results.
16. Report the following information:

Average thickness reading  
Instrument model and serial number  
Location of test (route, direction and position)  
Date of test  
Name of operator  
Unit number of striping truck

REFERENCES

ASTM D609  
ASTM D823  
ASTM D1186