

MATERIALS / PAINTS

FNHA-2-J-001.06

DRY FILM THICKNESS (EDDY CURRENT GAUGE)**1. SCOPE**

This procedure is used for the non-destructive measurement of non-conductive paint films on ferrous substrates.

1.1 This test is not applicable to coatings that will readily be deformable under the load of the measuring instrument.

NOTE: This is the preferred method to be used for shop and field inspection where an accurate portable instrument is required.

2. REFERENCE STANDARDS

ASTM D1400 - Measurement of Dry Film Thickness.

3. MATERIALS & EQUIPMENT

3.1 Positector® 2000 or equivalent. Consult ASTM for a list of gauges.

3.2 Non-conductive measured shims about equal to the expected film thickness requiring measurement.

3.3 Unpainted panel or part identical to the coated item to be measured for gauge calibration.

4. PROCEDURE

4.1 Make sure the coating is dry and hard enough to accurately measure.

4.2 Following any recommended gauge warm up, calibrate using shims and unpainted part or panel per manufacturer's instructions.

4.3 Take several measurements and record. All readings must be made in areas free of vibration, electrical or magnetic fields.

NOTE: It is recommended that the average thickness of at least three film readings be used for lab panels or small parts. The number of readings should increase with part size.

For field or large part measurements, the recommended minimum is twelve random scattered determinations for every 100 FT² of surface area. Film thickness determinations should not be made in areas where repeated coats of paint are required to reach places difficult to cover.

5. REPORT

5.1 Report the high, low and average reading on panels and parts.

5.2 For field measurements, report the same high, low and average reading but define the sections, parts or locations where film build readings were obtained.

5.3 Film thickness is acceptable if the total number of readings meet the following:

- A. Less than specification - 10% maximum.
- B. More than specification - 20% maximum.
- C. The average is within specification.

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					 NEW HOLLAND			ENGINEERING SPECIFICATION		
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MATERIALS / PAINTS

FNHA-2-J-001.06

DRY FILM THICKNESS (MAGNETIC MEASURING GAUGES)**1. SCOPE**

This specification covers the use of magnetic pull-off gauges (Method A) and magnetic flux gauges (Method B) for non-destructive measurement of non-conductive paint films on ferrous substrates.

1.1 This test is not applicable to coatings that will readily be deformable under the load of the measuring instrument.

NOTE: The electrical magnetic flux type gauge (Method B) is used primarily in the laboratory where gauge portability is not a factor. The Type A instruments are mainly used for portable applications when a higher degree of accuracy is not required.

2. REFERENCE STANDARDS

ASTM D1400 - Measurement of Dry Film Thickness.

3. MATERIALS & EQUIPMENT

3.1 Tinsley, Elcometer III, Microtest FIM or equivalent for Method A.

Elcometer 101, GE Type B Gauge or equivalent for Method B.

These instruments may use separate or unit confined probes and may be mechanically or electrically operated.

3.2 Non-conductive, measured shims about equal to the expected film thickness requiring measurement.

NOTE: See ASTM 1186 for a more complete listing of gauges.

3.3 Unpainted panel or part identical to the coated item to be measured for gauge calibration.

4. PROCEDURE

4.1 Make sure the coating is dry and hard enough to accurately measure.

4.2 Calibrate the gauge using the shims and unpainted part or panel per manufacturer's instructions.

4.3 Take several measurements and record. All readings must be made in areas free of vibration, electrical or magnetic fields.

NOTE: It is recommended that the average thickness of at least three film readings be used for lab panels or small parts. The number of readings should increase with part size.

For field or large part measurements, the recommended minimum is twelve random scattered determinations for every 100 FT² of surface area. Film thickness determinations should not be made in areas where repeated coats of paint are required to reach places difficult to cover.

5. REPORT

5.1 Report the high, low and average reading on panels and parts.

5.2 For field measurements, report the same high, low and average reading but define the sections, parts or locations where film build readings were obtained.

5.3 Film thickness is acceptable if the total number of readings meet the following:

- A. Less than specification - 10% maximum.
- B. More than specification - 20% maximum.
- C. The average is within specification.

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