

5.16.45 DETERMINATION OF DRY PAINT FILM THICKNESS WITH THE MAGNETIC GAUGE
(Kansas Test Method KT-45)

a. SCOPE

This procedure covers nondestructive measurement of the dry film thickness of paints applied over ferrous base materials.

b. APPARATUS

b.1. Film Thickness Gauge (Magnetic).

b.2. Calibration Standard.

c. PROCEDURE

Dry film thickness determinations can be made with a magnetic gauge as follows:

c.1. Girder Webs: Select a 10 ft (3 m) length of web, full depth of the girder. Take a minimum of 10 random group readings of the primer and average these to establish a mean film thickness for the area. (A group reading is the average of 3 individual readings taken within a 1/2 in (13 mm) diameter circle.)

After the finish coat has been applied, the procedure is to be repeated, in a random manner, over the same section of web to determine a mean thickness of the two paint coats. The difference between the two means will establish the thickness of the paint coat.

c.2. Flanges: Select a 10 ft (3 m) length of flange and take a minimum of 5 group readings and proceed as for girder webs.

c.3. Stiffeners: Take a minimum of 3 group readings per stiffener and proceed as for girder webs.

NOTE: The numbers of ten, five and three group readings are minimums to be taken. Greater accuracy is obtained as the number of group readings is increased.

Repeat the dry film thickness determination over as many areas as necessary to assure specification compliance.

d. CAUTIONS

d.1. Magnetic gauges should be calibrated at least once each day in the position and for the thickness that the gauge will be measuring.

d.2. Readings should not be taken within 2 in (50 mm) of a fillet weld, the edge of the plate or other abrupt changes in configuration.

d.3. This inspection technique does not eliminate the need for a good visual inspection. All painting should be visually inspected to locate omissions, runs, mudcaking, dry spray or other unacceptable work.

e. RECORDING

All individual gauge readings, locations at which the readings were taken and the averages shall be recorded in a bound field book. The inspector's name and the date on which the readings were taken shall also be recorded in the field book.