

**DETERMINATION OF THE QUANTITY OF CARBON CONTAMINATION
ON COLD ROLLED STEEL SURFACES****Application**

This procedure is used to determine the quantity of carbonaceous material on steel surfaces.

Apparatus Required**Power Washer**

The power washer consists of an elongated tank with nozzles on both of the long sides. A pump recirculates the solution from the bottom of the tank through the spray nozzles at the specified pressure as required. The power washer shall be constructed so as to meet the following parameters:

- . Nozzle pressure: 62 - 76 kPa.
- . Nozzle distance from test panel: 15 - 20 cm.
- . Number of nozzles: 12 nozzles minimum on each side, distributed for maximum coverage of the sample. The distance between adjacent nozzles should be 15 cm.
- . Nozzle type: Full jet number 6.5 (manufactured by Spraying Systems Co., Wheaton, IL), or equivalent.

Note: A detailed print (Drawing number STD 7048) of a typical power washer unit can be obtained from Parker Division, Oxy Metal Industries Corporation, Madison Heights, MI.

Rubber Gloves

Any laboratory quality acid resistant rubber gloves.

Filter Paper

Grade 934 AH, 5.5 cm - Whatman, Inc., or equivalent.

Hydrochloric Acid

Reagent grade.

Porcelain Crucible

5 mL capacity Coors No. 23003 - VWR Scientific; Curtin Matheson Scientific, or equivalent.

Oven

Recirculating oven capable of maintaining a temperature of 260 - 280 °C.

Date	Action	Revisions
2001 04 30	Revised	Editorial – no technical change A. Cockman
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Carbon Determinator

Leco CS 46, EC12 or equivalent. (Equipment utilizing infrared detectors is recommended for improved accuracy.)

Caution: Equipment must have adequate acid collection traps to prevent damage to the instrumentation. Consult the equipment supplier for information regarding individual pieces of apparatus.

Vapor Degreaser (Method B Only)

T 48E from Phillips Manufacturing Co., Detroit, MI or equivalent. Smaller units suitable for the test panels are acceptable.

Conditioning and Test Conditions

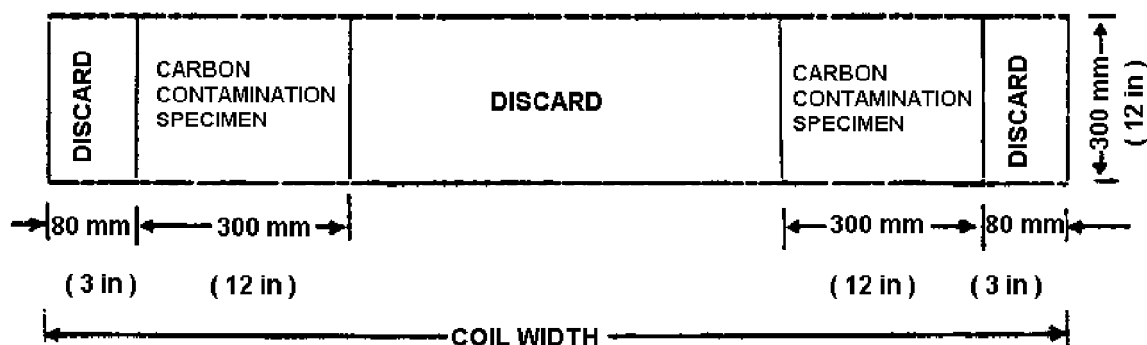
All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

Method A - Power Wash Method

1. A sample 300 mm by coil width, shall be obtained from that part of the coil (with a few inside laps removed) which corresponds to the eye of the coil in anneal. Specimens shall be obtained from this sample as shown in the following illustration and evaluated for surface carbon. The sample must be free from rust, adhesives, crayon or felt pen marks, or any contaminants which may contain carbon (excluding normal protective oils).

Illustration



Note: Carbon contamination specimen may be taken from either side of the coil width.