Kentucky Method 64-103-05
Revised 1/4/05
Supersedes 64-103-03
Dated 2/7/03

PREPARATION AND TESTING OF WELD SPECIMENS
(Qualifying Shielded Metal Arc Welders)

1. SCOPE: This method covers the procedures used in the preparation and testing of welding specimens submitted to the Division of Materials for the purpose of qualifying shielded metal arc welders by the guided bend test.

2. APPARATUS:

   2.1. band saw

   2.2. milling machine or shaper

   2.3. belt sander

   2.4. guided-bend test jig per AWS (American Welding Society) D.1.5 (1.5 inch diameter plunger).

3. PREPARATION OF SPECIMEN: Guided bend test specimens shall be prepared by cutting the test plate to form specimens rectangular in cross section. All cuts will be made perpendicular to the path of welded material with a band saw. One-inch sections will be cut from each side of the test plate and will be discarded. Two test specimens 1.5 inch wide will then be taken from the sides of the test plate. The remaining middle section will be discarded. The back up plate shall be removed flush with the base metal. Flame cutting, milling machine, or shaper may be used for the removal of the major portion of the backing, providing at least 1/8" of its thickness is left to be removed by machining or grinding. The final surface should be smooth with no apparent scratches or gouges. Always grind or machine lengthwise on the specimen. The edges of the test specimen shall be rounded a maximum of 1/8" radius with a file. Air cool and do not water quench. In the finished specimen, the weld area and base metal shall be the same dimensions.

4. TESTING PROCEDURE: Each specimen shall receive a guided bend test in a jig per AWS D.1.5. Any convenient means may be used to move the plunger member with relation to the die member. The specimen shall be placed on the die member of the jig with the weld at midspan. Face bend specimens shall be placed with the face toward the gap. Root bend specimens shall be placed with the root of the weld directed toward the gap. The plunger shall force the specimen into the die until the specimen becomes U-shaped. The fillet weld test specimens shall receive two root bends. The groove weld test specimens shall receive one face and one root bend.

5. TEST RESULTS REQUIRED: The convex surface of the specimen shall be examined for the appearance of cracks or other open discontinuities. Any specimen, in which a crack or other open discontinuity exceeding 1/8 inch measured in any direction is present after the bending, shall be considered as having failed. Cracks occurring on the corners of the specimen during testing shall not be considered.

APPROVED _____
Director
DIVISION OF MATERIALS

DATE _____1/4/05_____

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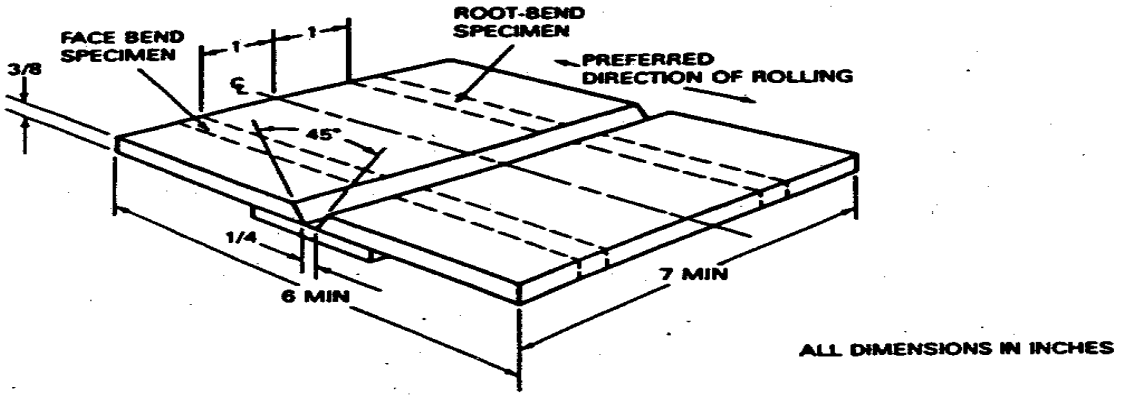
Attachment

Km10305.doc

Groove Weld Test Plate — Welder Qualification



Fillet Weld Root-Bend Test Plate — Welder Qualification