

NOTICE  
OF CHANGE

NOT MEASUREMENT SENSITIVE

MIL-STD-1946A(MR)  
Notice 1  
5 January 1990

MILITARY STANDARD  
WELDING OF ALUMINUM ALLOY ARMOR

TO ALL HOLDERS OF MIL-STD-1946A(MR):

1. THE FOLLOWING PAGES OF MIL-STD-1946A(MR) HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
23	5 January 1990	23	7 June 1989
24	7 June 1989	24	REPRINTED WITHOUT CHANGE

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-1946A(MR) will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the military standard is completely revised or canceled.

Custodian:

Army - MR

Preparing activity:

Army - MR

Review activities:

Army - AR, AT

Project THJM - A274

User activities:

Army - MI, ME



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- (4) The location of the center of the impact is less than  $330 \pm 25$  mm ( $13 \pm 1$  inches) from the top or bottom of the test sample and excessive cracking occurs including cracks extending to the closest end of the sample.
- (5) Excessive cracking is developed on a corner joint sample by a third impact when more than two impacts are required.
- (6) Excessive cracking is developed on a flat weldment by a second impact when more than one impact is required.
- (7) Should the material forming part of the weld joint design fail in shear a "No Test" condition will be rendered on the welding procedure and a recommendation will be made to redesign the joint and to submit the redesigned joint for testing.

10.15 Evaluation of results. The maximum allowable accumulative total length of weld, fusion zone, or heat-affected zone cracking on both the impact side and on the opposite side, caused by a fair impact shall be 305 mm (12 inches). Cracking in excess of 305 mm (12 inches) shall be considered excessive cracking and failure. Cracks in the armor parallel to the weld and within 3.2 mm (1/8 inch) of the edge of the weld will be considered in the total cracking. Cracking of the weld area shall govern, however, if the total length of cracking in the weld area meets the acceptable limits and 305 mm (12 inches) of cracking occurs in an area greater than 1/8 inch from the weld, a "NO TEST" condition shall result (see paragraph 10.14). Cracking of the armor (plate, forging, extrusion) greater than 3.2 mm (1/8 inch) from the weld area shall not be a reason for rejection of the welding procedure. A fair impact shall be recorded when the test projectile impacts the target at 0° obliquity within the prescribed dimensional limits from the proper direction at a striking velocity less than the minimum required by the test, and excessive weld cracking occurs. Such an impact will be cause for rejection. In addition a fair impact shall be recorded when the projectile strikes the target at 0° obliquity within the prescribed dimensional limits from the proper direction at a striking velocity greater than the maximum required by the test; and no excessive weld cracking occurs.

10.16 Retest samples.

10.16.1 "No test" result. An additional test sample shall be provided by the manufacturer when firing results are inconclusive because of "no test" impacts.

10.16.2 Welding procedure rejection. When a supplier requests a retest of his product after an initial rejection, he shall submit two samples for firing tests. The test sample shall be prepared by the revised welding procedure and shall be marked in accordance with paragraph 5.4.2. Failure of either one of the retest specimens shall be cause for rejection of the welding procedure represented.

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10.17 Documentation of test data. The Government ballistic test agency will record round by round data and prepare a firing record.

10.18 Disposition of test specimens. Ballistic test specimens are the property of the contractor. Arrangements shall be made at the time the specimens are submitted by the contractor to have them returned at his expense at the conclusion of the ballistic tests or to authorize, in writing, the scrapping of the specimens by the proving ground making the tests.