

This document has been approved for public release and sale; its distribution is unlimited.

MIL-F-18251C  
 AMENDMENT - 2  
 12 June 1970  
 SUPERSEDING  
 Amendment - 1  
 26 January 1968

MILITARY SPECIFICATION  
 FLUXES, WELDING, SUBMERGED ARC PROCESS  
 CARBON AND LOW-ALLOY STEEL APPLICATION

This amendment forms a part of Military Specification MIL-F-18251C, 24 October 1967, and is mandatory for use by all Departments and Agencies of the Department of Defense.

Page 1

‡ 1.2: Under "Type" add "MIL-F4".

Page 2

‡ Add as 3.4.1.4:

"3.4.1.4 Type MIL-F4. The flux shall contain a minimum of 19 percent fluorspar by weight and a maximum of 9 percent silicon (combined as oxide or silicates) by weight."

Page 3

‡ Table I, add the following new flux type:

Table I - Mechanical properties

Type of flux	Type of electrode (MIL-E-18193)	Ultimate tensile strength as-welded	Yield strength (0.2 percent offset) as-welded and stress-relieved	Elongation (as-welded, stress-relieved) percent in 2 inches	Charpy-V notch impact test stress-relieved	
					Energy (ft./lbs)	Test temperature °F.
"MIL-F4	MIL-B1	P.S.I. minimum 60,000	P.S.I. minimum 45,000	Minimum 25	Minimum 60	Minus 20

‡ 4.1: Delete and substitute:

"4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements."

✓ CHANGES FROM PREVIOUS ISSUE. THE OUTSIDE MARGINS OF THIS DOCUMENT HAVE BEEN MARKED "‡" TO INDICATE WHERE CHANGES (DELETIONS, ADDITIONS, ETC.) FROM THE PREVIOUS ISSUE HAVE BEEN MADE. THIS HAS BEEN DONE AS A CONVENIENCE ONLY AND THE GOVERNMENT ASSUMES NO LIABILITY WHATSOEVER FOR ANY INACCURACIES IN THESE NOTATIONS. BIDDERS AND CONTRACTORS ARE CAUTIONED TO EVALUATE THE REQUIREMENTS OF THIS DOCUMENT BASED ON THE ENTIRE CONTENT AS-WRITTEN IRRESPECTIVE OF THE MARGINAL NOTATIONS AND RELATIONSHIP TO THE LAST PREVIOUS ISSUE.

FSC 3439

MIL-F-18251C  
AMENDMENT-2

Page 5

\* Add as 5.2:

\* "5.2 Use of polystyrene (loose-fill) material.

"5.2.1 For domestic shipment and early use and level C packing. Unless otherwise approved by the procuring activity (see 6.2), use of polystyrene (loose-fill) material for domestic shipment and early use and level C packing applications such as cushioning, filler and dunnage is prohibited. When approved, exterior containers shall be marked and labelled as follows:

## CAUTION

Contents cushioned, etc. with polystyrene (loose-fill) material.  
Not to be taken aboard ship.  
Remove and discard loose-fill material before shipboard storage.  
If required, recushion with cellulosic material.

"5.2.2 For level A packing. Use of polystyrene (loose-fill) material is prohibited for level A packing applications such as cushioning, filler and dunnage."

\* Add as 6.1.5:

"6.1.5 Type MIL-F4. This is a neutral flux designed to be used with alloy electrodes on multiple pass welding where very high impact properties are required."

Page 6

\* 6.2, add as "(g)":

"(g) Use of polystyrene (loose-fill) material (see 5.2)."

\* Add as 6.4:

"6.4 A list of fluxes covered under this specification equivalent to fluxes covered by MIL-F-18251B follows:

<u>Classification</u> <u>under MIL-F-18251B</u>	<u>Equivalent type</u> <sup>1/</sup> <u>under MIL-F-18251C</u>
<u>TYPE</u>	<u>TYPE</u>
MIL-A760	MIL-F1-but has a lower minimum manganese content requirement and an additional impact test requirement.
MIL-781	Deleted
-----	MIL-F2-new
MIL-A840	MIL-F3-but has an additional impact test requirement
-----	MIL-F4-New

<sup>1/</sup> For applications requiring MIL-F-18251C, the requirements of these types preclude the use of flux procured to MIL-F-18251B without testing to upgrade."

Page 7

Figure 1: Delete and substitute the attached figure.

## Custodians:

Army - WC  
Navy - SH  
Air Force - 11

## Review activities:

Army - WC  
Navy - SH, AS  
Air Force - 11

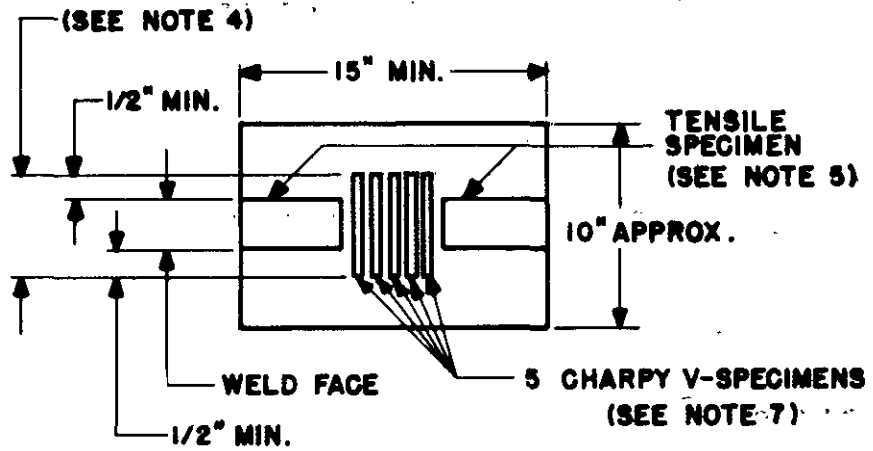
## User activities:

Army - EL, ME  
Navy - OS

## Preparing activity:

Navy - SH  
(Project 3439-0176)

Page 2  
of 3 pages



LAYOUT OF TEST PLATE

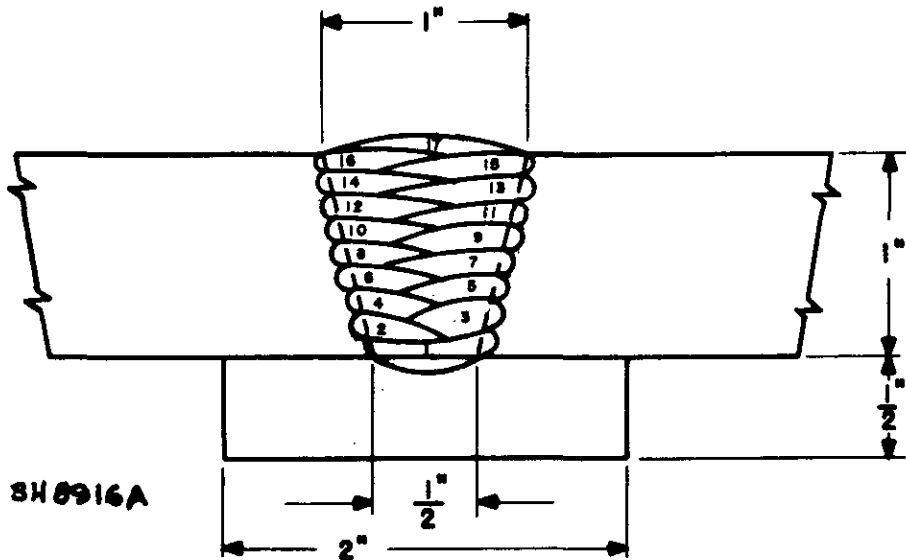


Figure 1 - Groove weld test plate. p. te

