

NOTICE OF CHANGE

INCH-POUND

MIL-STD-792E (SH)

Notice 2

20 January 1993

**MILITARY STANDARD**  
**IDENTIFICATION MARKING REQUIREMENTS**  
**FOR SPECIAL PURPOSE COMPONENTS**

TO ALL HOLDERS OF MIL-STD-792E(SH)

1. THE FOLLOWING PAGES OF MIL-STD-792E(SH) HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
3	20 January 1993	3	23 October 1992
4	20 January 1993	4	23 October 1992

2. RETAIN THIS NOTICE PAGE AND INSERT BEFORE THE TABLE OF CONTENTS.
3. HOLDERS OF MIL-STD-792E(SH) WILL VERIFY THAT THE PAGE CHANGES INDICATED ABOVE HAVE BEEN ENTERED. THE NOTICE PAGE WILL BE RETAINED AS A CHECK LIST. 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 CANCELLED.

Preparing Activity:  
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## 4. GENERAL REQUIREMENTS

4.1 Permanent marking methods. The following methods shall be used for permanent identification on components, component parts or piping, subject to the limitations as specified in 5.9 and 5.10:

- Type I - Vibrating marking tool
- Type II - Electrochemical etch
- Type III - Raised markings
- Type IV - Nameplates
- Type V - Die stamping
- Type VI - Special marking
- Type VII - Engrave marking
- Type VIII - Laser engraving
- Type IX - Dot matrix marking

4.2 Temporary marking methods. Any method as specified in 4.1 acceptable for permanent identification by this standard is acceptable for temporary marking, subject to the limitations as specified in 5.11. In addition, the following methods may also be used subject to the limitations as specified in 5.11:

- Type A - Fluid or solid marking materials
- Type B - Removable tape
- Type C - Removable tag
- Type D - Scribe mark
- Type E - Center punch
- Type F - Fabric tip marking pen

4.3 Exceptions to the permanent or temporary marking methods described herein must be submitted to NAVSEA or its authorized representative for approval.

## 5. DETAILED REQUIREMENTS

5.1 Type I, vibrating marking tools. Vibrating tools shall be fitted with a carbide marking point, or equivalent, and shall be adjusted to provide a legible shallow rounded impression not exceeding 0.010 inch in depth. The marking tool tip minimum radius shall be 0.005 inch. The minimum character size scribed by the marking tool shall be approximately 3/32 inch high to insure legibility. The marking tool tips shall not be cadmium plated.

5.2 Type II, electrochemical etching. The electrolyte used shall be compatible with the base material to be marked. Electrolyte containing total halogens, sulfur and lead in excess of 250 parts per million (p/m) each shall not be used. Certified test results shall be submitted with each batch or mix of electrolyte to establish compliance with this limit. The certified test report shall also identify the analysis method(s) utilized. Etching shall be covered by a written procedure which includes as a minimum the specification of the electrolyte and cleaning methods. This procedure shall be made available to the authorized representative of NAVSEA concerned upon request. The depth of marking by electrochemical etching should be approximately 0.0005 inch deep or greater.

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5.3 Type III, raised markings. Raised identification markings that are cast or forged integrally with the part are acceptable.

5.4 Type IV, nameplates. The method of attaching nameplates to parts shall be indicated on applicable drawings and shall minimize stress concentrations. Nameplates, where welded, shall be welded in accordance with the requirements of the applicable equipment specification.

5.5 Type V, die stamping. Die stamping can induce residual stresses in base materials and therefore is not a preferred marking method. To reduce the effects of residual stresses in base material caused by application of die stamping, the following additional requirements shall be met:

- (a) Only round bottom, low stress die stamps in accordance with 3.4 shall be used. Impression depths shall not exceed 0.010 inch.
- (b) The marking shall be applied as specified in 5.9.5

5.6 Type VI, special marking. For certain marking applications, such as the serializing of internal component parts, the use of marking tools not permitted by the above requirements may simplify marking procedures and may not adversely affect the integrity of the parts where such markings are applied in areas of low stress. Any special marking applications that take exception to the requirements of this standard shall be specifically indicated on the applicable design drawings or in the applicable fabrication procedures and shall be submitted to the authorized representative of NAVSEA for approval prior to use.

5.7 Type VII, engrave marking. Engraved characters shall be restricted to the following dimensional limitations; maximum depth - 0.010 inch, minimum depth - 0.004 inch and minimum root radius - 0.005 inch.

5.8 Type VIII, laser engraving. Laser engraved characters shall have a nominal depth of 0.001 to 0.003 inch deep, but a maximum depth of the characters shall be no greater than 0.005 inch. The procedure for calibration shall be approved by the command or agency concerned. The procedures for user activities are as follows:

- (a) User activities are advised that variability exists among different laser engraving machines in producing controlled depth and contour of engraved marks.
- (b) Each user activity shall have a formal qualification procedure for the laser engraving machine. The qualification procedure must demonstrate that the laser engraving machine will provide the intended engraving characteristics, that is, size, depth, and round bottom contour, for each material to be engraved. The qualification procedure shall be approved by the appropriate command or agency concerned.

5.8.1 Type IX, dot matrix marking. The depth of the marking shall be nominally 0.001 to 0.002 inch and no deeper than 0.004 inch. Dot matrix marking shall have a 135° included angle nominally and a minimum tip radius of 0.015 inch. For each material to be marked, the minimum tool force necessary to obtain characters of nominal depth shall be used. The marking tool tips shall not be cadmium plated. Type IX marking may be used as a substitute for type I marking where vibrating tool marking is allowed. Where Type IX is used as a substitute for Type I, the tip radius and depth requirements for Type I shall apply.

### 5.9 Limitations on identification marking.

5.9.1 Electric arc marking pencils shall not be used for any marking applications.