

MIL-S-70703  
AMENDMENT 2  
18 March 1988  
SUPERSEDING  
AMENDMENT 1  
7 July 1987

MILITARY SPECIFICATION

STRAND CAST STEEL, CARBON AND  
ALLOY, FOR PROJECTILE APPLICATIONS

This amendment forms a part of Military specification MIL-S-70703 dated 12 January 1987, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

\*1.1, add the following sentence:

"In instances where specific requirements of existing material specifications or material notes on drawings are more restrictive than requirements of this specification, the more restrictive requirements shall apply."

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\*3.2.2.3, delete and substitute:

"3.2.2.3 Center segregation (finished product). The maximum permitted center segregation shall be equal to macroetch standard C3 of ASTM E381. In instances where the strand cast section does not result in a circular segregation pattern an alternative macroetch standard may be substituted for C3. The alternative macroetch standard shall be mutually agreed upon between the steel producer, steel purchaser and the Government procuring office. It will be the responsibility of the steel producer to establish alternative standards and provide 1X photographs of same to the steel purchaser and the Government technical agency."

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\*3.4.1, delete and substitute:

"3.4.1 Macroetch samples, sulphur prints and samples. All macroetch samples or sulphur prints and corresponding samples shall be retained for at least six months or until released by purchaser. In no event shall the purchaser release samples or sulphur prints before the heat of steel represented by samples or sulphur prints has been fabricated into projectile components."

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\*4.2.4, delete and substitute:

"4.2.4 Sulphur printing: For as-cast macroetch samples, sulphur printing may be substituted for ASTM E381 macroetching provided written procedures are available for review by the cognizant Government technical representative."

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\*4.5, add the following sentence:

"Finished product macroetch sections shall be examined microscopically to differentiate between segregation and voids/porosity when uncertainty exists concerning the nature of the macroetch condition."

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4.6.6, add after last sentence: "(See 6.4)"

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Section 6, add a new paragraph as follows:

"6.4 DI ratios. The munitions manufacturer should review the requirements of paragraph 4.6.6 to determine that the specified D.I. ratios will assure purchase of steel capable of consistently being heat treated to end item mechanical property requirements. The review should take into consideration the hardenability of the grade of steel selected for use, the heat treatment equipment and procedures being used and supplemental chemical and hardenability requirements imposed by the munitions manufacturer on the steel supplier. It is the responsibility of the munitions manufacturer to specify more restrictive D.I. transition material ratios when the munitions manufacturer determines a more restrictive chemical analysis variation for transition material is required."

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