METRIC

DOD-STD-1371B(SH)
1 November 1977
SUPERSEDING
MIL-STD-1371A(SHIPS)
17 May 1973

MILITARY STANDARD

INSPECTION PROCEDURE FOR USE OF ANAEROBIC THREAD LOCKING COMPOUNDS WITH STUDS

This Military Standard is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 This standard provides an inspection procedure to assure that studs installed with an anaerobic thread locking compound have achieved the necessary backout resistance.

2. REFERENCED DOCUMENTS

GOVERNMENTAL

MILITARY

MIL-S-22473 - Sealing, Locking, and Retaining Compounds; Single-Component.

(Copies of specifications, standards, drawings,and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. GENERAL REQUIREMENT

3.1 Application of anaerobic compounds, as specified in MIL-S-22473 used as a method for locking threaded fasteners, shall be in accordance with the anaerobic compound manufacturer's recommended procedures.

4. INSPECTION PROCEDURE

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein.

4.2 Each organization shall maintain an inspection system to assure the Naval Sea Systems Command or its authorized representative that all of the requirements of this standard are being met wherever anaerobic compounds are used for locking threaded fasteners.

4.3 Stud installation inspection.

4.3.1 Inspection of fastener locking effectiveness of anaerobic compounds, after manufacturer recommended setting period, shall be in accordance with the following:

(a) Witness installation and removal through a distance of three threads beyond the locking element of previously unused nut (annular plastic ring locking element type) on two studs in each joint bolt circle containing more than three studs. Studs selected shall be located 180 degrees apart or as close thereto as possible. Only one stud shall be examined in applications having three studs or less.

(b) The assembly shall be accepted if no turning motion of the studs is observed during nut installation or removal. Also, the assembly shall be accepted if a slight initial turning motion (up to 1/4 turn) of the studs is observed, and no further turning motion of the studs is observed, during nut installation or removal. Studs shall not be restrained from turning during the test by any method other than the locking compound in the set end of the stud.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Ship Engineering Center, SEC 6124, Department of the Navy, Washington, DC 20362 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

(Note: A small initial turning of the set stud represents a breaking or powdering of the locking compound which actually increases resistance to any further turning motion.)

(c) Each stud assembly shall be rejected if the requirements for acceptance of 4.3.1(b) are not met. If one assembly is rejected, all studs in that bolt circle shall be similarly checked (steps (a) and (b)). All rejected studs shall be removed and cleaned in accordance with the manufacturer's recommended procedures, reinstalled, and re-inspected.

(1) Re-inspection shall consist of selecting two of the reinstalled studs, if four or more studs require reinstallation, or one stud if less than four studs require reinstallation and performing steps (a), (b), and (c).

(d) If assembly is accepted after step (b), each stud in the bolt circle shall be permanently marked (scribe or electro-etched) on the exposed end with a line oriented radially in relation to the center of the bolt circle.

4.4 Joint assembly inspection.

4.4.1 Joint assembly shall be completed and final torque applied:

(a) The position of the orientation line shall be noted on the studs. If the orientation line position indicates that studs have not turned more than 1/4 turn, the joint assembly shall be accepted.

(b) If the orientation line position indicates one or more studs have turned more than 1/4 turn, the joint shall be rejected, the joint disassembled, and the studs which failed shall be removed and cleaned in accordance with the manufacturer's recommended procedures, reinstalled, and re-inspected.

(1) Re-inspection of the stud shall consist of performing steps (a), (b), and (c) of 4.3.1.

(c) Re-inspection of the joint assembly shall consist of steps (a) and (b) of 4.4.1.

(d) Removal and reinstallation procedure shall be repeated until the orientation line shows that studs have not turned more than 1/4 turn during final torquing.

Preparing activity:
Navy - SH
(Project 8030-NO64)