

FED. SUP CLASS
53GPREVIEWER: AT, AV, EL, IS, MI, MU, NSA, 11
USER: GL, MC, ME, OS, YD

RING LOCKED STUDS FOR TAPPED HOLES SHALL BE SUBJECT TO THE FOLLOWING LIMITATIONS AND USAGE:

1. STUDS USED AS STRUCTURAL FASTENERS ARE INTENDED TO BE LOADED PREDOMINATELY IN TENSION. STRUCTURAL JOINTS CARRYING SHEAR LOADS SHOULD BE DESIGNED TO PRECLUDE SUBJECTING THE STUDS TO SHEAR LOADS.
2. NUT END THREAD OF STUDS UNDER .250 DIAMETER SHOULD NOT BE DRILLED FOR COTTER PINS.
3. STUDS WHICH ARE INSTALLED IN THE STRUCTURE SHALL BE INSTALLED IN A POSITIVE MANNER AS SPECIFIED IN MSS1995 TO ELIMINATE THE POSSIBILITY OF THEIR ROTATION DISPLACEMENT WHEN INSTALLING OR REMOVING THE MATING UNIT. INSTALLATION OR REMOVAL SHALL BE ACCOMPLISHED WITHOUT INJURY TO THE PARENT MATERIAL TO PERMIT REPLACEMENT BY AN IDENTICAL STUD AND LOCKRING.
4. RING LOCKED STUDS MAY BE USED TO PROVIDE HIGHER STRENGTH CAPABILITIES IN RELATIVELY LOW STRENGTH STRUCTURAL MATERIALS. THESE MATERIALS ARE REFERRED TO AS THE "PARENT MATERIAL" WITH RESPECT TO THIS STANDARD.
5. IN THE PROCESS OF MAKING A DESIGN SELECTION OF STUDS IN STRUCTURAL APPLICATIONS IT IS NECESSARY THAT THE PROPER DEGREE OF CONSIDERATION BE GIVEN TO THE AXIAL LOAD CARRYING CAPABILITIES OF THE INSTALLED STUD IN THE SPECIFIC PARENT MATERIAL.

THE AXIAL LOAD CAPABILITY (RESISTANCE TO PULLOUT) OF AN INSTALLED STUD IS THE PRODUCT OF THE SHEAR ENGAGEMENT AREA OF THE STUD END THREAD AND THE SHEAR ULTIMATE STRESS OF THE PARENT MATERIAL.

- (a) THE SHEAR ULTIMATE STRESS (f_{su}) FOR MOST MATERIALS IS LISTED IN MIL HANDBOOK 5.
- (b) THE SHEAR ENGAGEMENT AREAS OF THE STUD END THREADS ARE LISTED IN MIL-S-45909.
- (c) SHEAR ENGAGEMENT AREA IS THE ASSEMBLED DIMENSIONAL VALUE FOR THE OVERALL ENGAGED AREA OF MATING THREAD MEMBERS. IT DOES NOT REPRESENT A DIMENSION OF EITHER OF THE MEMBERS IN AN UNASSEMBLED CONDITION.

THIS IS A DESIGN STANDARD. NOT USED AS A PART NUMBER.

P.A. Other Cust	WC 82 AT	TITLE STUD, LOCKED IN - RING LOCKED, SERRATED, DESIGN AND USAGE LIMITATIONS FOR	MILITARY STANDARD MS 51999
PROCUREMENT SPECIFICATION NOT APPLICABLE	SUPERSEDES:	SHEET 1 OF 1	

DD FORM 672-1 (Coordinated)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

This military standard is mandatory for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

APPROVED 12 DEC 1967 REVISED