



AEROSPACE STANDARD

AS6416™

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Bolts, Screws, Studs, and Nuts, Definitions for Design, Testing and Procurement

RATIONALE

This document establishes basic terms and definitions applicable to procurement requirements for fasteners (bolts, screws, studs, nuts, and other threaded parts).

1. SCOPE

This SAE Aerospace Standard provides definitions for terms and requirements used in SAE AS procurement specifications for fasteners (bolts, screws, studs, nuts, and other threaded parts).

2. REFERENCES

There are no referenced publications specified herein.

3. DEFINITIONS

BURR: A rough edge or ridge left on the metal due to cutting, grinding, piercing, or blanking operation. See also **TIGHT BURR**.

COLD ROLLING (or COLD WORKING): Forming material below the recrystallation temperature.

CRACK: Rupture in the material which may extend in any direction and which may be intercrystalline or transcrystalline in character.

DEFECT: Any non-conformance of the unit or the product with specified requirements.

DEFECTIVE: A unit of the product which contains one or more defects.

DISCONTINUITY: An interruption in the normal physical structure or configuration of a part such as a lap, seam, inclusion, crack, machining tear, or stringer.

FINISHED PART: A part ready for use, inclusive of any possible treatments and/or surface coatings, as specified on the part drawing.

HEAT PATTERN: A discernible difference in etched appearance between the head and the shank caused by plastic forming of the head.

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INCLUSION: Non-metallic particles originating from the material making process. They may exist as discrete particles or strings of particles extending longitudinally.

LAP: Surface imperfection caused by folding over metal fins or sharp corners and then rolling or forging them into the surface. See part drawing or procurement specification for allowable lap depth and minimum condition for rateable laps.

MACHINING TEAR: A pattern of short jagged individual cracks, generally at right angles to the direction of machining, frequently the result of improperly set cutting tools, or dull cutting tools.

NON-CONFORMANCE: A departure from a specified requirement for any characteristic.

NON-CONFORMING UNIT: A unit of the product that has one or more non-conformances.

PART DRAWING (OR PART STANDARD): Document specifying all the requirements for the part, i.e., metallurgical, geometrical and dimensional, mechanical properties and testing, ND inspection, etc.

PRODUCTION INSPECTION LOT: All finished parts of the same part number, made from a single heat of alloy, heat treated at the same time to the same specified condition, produced as one continuous run, and submitted for manufacturer's inspection at the same time.

ROOM TEMPERATURE: Ambient temperature (approximately 68 °F).

SEAM: Longitudinal surface imperfection in the form of an unwelded, open fold in the material.

SIMPLE RANDOM SAMPLING: The taking of n items from a population of N items in such a way that all possible combinations of n items have the same probability of being chosen.

STRINGER: A solid non-metallic impurity in the metal bar, often the result of an inclusion that has been extended during the rolling process.

TIGHT BURR: A burr closely compacted and binding in the periphery of a part without loose ends and is within the dimensional limits of the part.

4. NOTES

4.1 Revision Indicator

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