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British Standard Aerospace Series : Specification for

## Procurement of alloy steel bolts, metric, with a minimum tensile strength of 1 100 MPa

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Série aérospatiale. Spécification relative à l'approvisionnement des boulons en acier spécial, métriques, avec une résistance à la traction minimale de 1 100 MPa

Luft- und Raumfahrt-Reihe. Spezifikation für den Ankauf der Legierstahlschrauben, metrisch, mit einer Mindestzugfestigkeit von 1 100 MPa

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The following BSI references relate to the work on this standard: Committee reference ACE/12 Draft for comment 78/80581 DC

**Contents**

	Page		Page
Foreword	3	6.3.2.2 Retest procedure	11
<b>Specification</b>		6.3.2.2.1 Non-destructive tests	11
1. Scope	3	6.3.2.2.2 Destructive tests	11
2. References	3	7. Delivery requirements	11
3. Field of application	3	7.1 Packing, packaging and labelling	11
4. Definitions	3	7.1.1 Prevention of damage	11
5. Technical requirements and test methods	4	7.1.2 Unit package	11
5.1 Materials	5	7.1.3 Labelling	11
5.2 Dimensions	5	8. Responsibility for inspection	11
5.2.1 Threads	5	9. Inspection test report	11
5.3 Manufacturing	5	<b>Appendix</b>	
5.3.1 Forging	5	A. Minimum tensile and tension fatigue test loads for thread sizes M8 × 1.25, M10 × 1.5 and M12 × 1.5	20
5.3.2 Heat treatment	5	<b>Tables</b>	
5.3.3 Removal of surface contamination	5	1. Qualification approval testing requirements for bolt samples	12
5.3.4 Head to shank fillet	6	2. Summary of tests: qualification and production acceptance	13
5.3.5 Threads	6	3. Surface discontinuities and contamination	14
5.3.6 Surface texture	6	4. Minimum tensile and double shear loads for qualification approval and production acceptance tests	14
5.3.7 Surface protection	6	5. Qualification approval and production acceptance values for tension fatigue test	15
5.4 Mechanical properties	6	6. Thread discontinuities. Maximum depth and permissible faults	15
5.4.1 Tensile strength	6	7. Classification of defects	16
5.4.2 Shear strength	7	8. Sampling data visual and dimensional characteristics (sample size ( <i>n</i> ) and acceptance number (AC) for AQL 0.065, 1.0, 2.5 and 4.0)	16
5.4.3 Hardness	7	9. Mechanical and metallurgical characteristics sample size ( <i>n</i> ) and acceptance number (AC)	17
5.4.4 Fatigue strength	7	10. Distortion in fillet area	18
5.5 Metallurgical properties	7	<b>Figures</b>	
5.5.1 Head to shank grain flow and fillet work effect	8	1. Head structure and grain flow	17
5.5.2 Thread grain flow and work effect	8	2. Distortion in fillet area	18
5.5.3 Overheating, carburization, decarburization, nitrogenization or intergranular oxidation	8	3. Grain flow in thread	18
5.5.4 Discontinuities	9	4. Non-permissible laps, seams and surface irregularities	19
5.6 Product identification	10	5. Permissible laps, seams and surface irregularities	19
6. Quality assurance and product qualification test requirements and approvals	10	6. Crest lap imperfections	19
6.1 Quality assurance approval	10	7. Metallurgical specimens	20
6.2 Product qualification testing approval	10		
6.3 Classification of tests	10		
6.3.1 Product qualification approval tests	10		
6.3.1.1 Qualification approval test samples	10		
6.3.2 Production acceptance tests	10		
6.3.2.1 Production acceptance test sampling	10		
6.3.2.1.1 Non-destructive tests: visual and dimensional	10		
6.3.2.1.2 Non-destructive tests: metallurgical	10		
6.3.2.1.3 Destructive tests	10		

## Foreword

This British Standard is intended for use in conjunction with those 'A' series British Standard aerospace specifications in which conformity to this standard is a specific requirement.

It may also be applicable to other aerospace metric threaded fasteners if required by the relevant specification, drawing, contract or order.

This standard invokes

- (a) quality assurance approval of the manufacturer, and
- (b) product qualification testing approval.

Appendix A is included in this standard to provide information on the minimum tensile and tension fatigue test loads for thread sizes M8 × 1.25, M10 × 1.5 and M12 × 1.5. When there is no further requirement for these sizes appendix A will be deleted by amendment.

## 1. Scope

This British Standard specifies the performance and manufacturing requirements for forged bolts made of alloy steel heat treated to produce a minimum tensile strength of 1100 MPa.

This standard invokes product qualification testing requirements and quality assurance approval procedures for the manufacture of aerospace standard parts, thus making it mandatory that bolts supplied in accordance with this standard are restricted to suppliers who can demonstrate conformance to these requirements.

It is mandatory that bolts produced in accordance with this British Standard have forged heads and threads rolled after heat treatment. Cold working of the underhead fillet radius is mandatory except as specified herein (see 5.3.4).

## 2. References

This standard makes reference to the following standards publications.

- BS 427 Method for Vickers hardness test
- BS 891 Method for Rockwell hardness test
- BS 1134 Method for the assessment of surface texture  
Part 1 Method and instrumentation
- BS 6001 Sampling procedures and tables for inspection by attributes
- BS ..... \* Fasteners test method: metric
- BS M 35 Magnetic particle flaw detection of materials and components

## 3. Field of application

This British Standard is intended primarily to be used in conjunction with bolt standards of minimum tensile strength level 1100 MPa. It may however be used as the procurement document for special bolts of compatible configurations of this tensile strength level as long as this British Standard is specified on the bolt drawing or purchase order.

## 4. Definitions

For the purposes of this British Standard the following definitions apply.

**4.1 production lot.** Finished bolts fabricated by the same process from a single material cast and which have the same basic part number and diameter, heat treated together, to the same specified condition and produced as one continuous run.

**4.2 inspection lot.** Bolts from a single production lot, of the same part number which completely defines the bolt.

### 4.3 discontinuities

**4.3.1 crack.** A rupture in the material which may extend in any direction and which may be intercrystalline or transcrystalline in character.

\*In course of preparation.