SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

SAE AMS2362 | REV. C

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Superseding AMS2362B

Stress-Rupture Properties of Castings

RATIONALE

AMS2362C has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE

This specification establishes a procedure for designating minimum stress-rupture property requirements of castings by means of this AMS number and a series of dash numbers.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, or www.astm.org.

ASTM E 8	Tension Testing of Metallic Materials
ASTM E 139	Conducting Creep, Creep-Rupture, and Stress Rupture Tests of Metallic Materials

3. TECHNICAL REQUIREMENTS

3.1 Stress-Rupture Test Specimens

Shall be machined from a representative casting or castings, unless separately cast specimens are specified. Testing shall be performed in the thermal condition required by the material specification. Specimens shall be of standard proportions, in accordance with ASTM E 8 with 0.250 inch (6.35 mm) nominal diameter in the reduced parallel gage section, except that if the thickness of the casting is insufficient to provide such specimens, they may be of a smaller size, as agreed upon by purchaser and vendor. For round specimens smaller than subsize, gauge length shall be four times the test specimen diameter. For nonround specimens smaller than subsize, a gauge length of 4.5 times the square root of the cross sectional area is recommended for determination of elongation, but ductility measurements shall be taken for information only.

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SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AMS2362C

3.1.1 Specimen Location

When property requirements are designated by the procedure of this specification, the location(s) in the casting to which the designated property requirements apply shall be as shown on the purchaser's drawing and as follows:

3.1.1.1 When the property-limit dash-number designations of 3.2 apply to a specific area or areas, the designation of 3.2 may be used alone or with the final two-letter designation "DR" to indicate that the drawing shows the location(s) from which specimens shall be taken.

3.1.1.2 Property requirements for specimens from non-specific locations in castings may be designated as in 3.2, using one of the following two-letter suffixes as applicable:

-AO = Requirements apply to all areas of the casting
-GR = Requirements apply to all areas except near gate, sprue, and riser locations

3.2 Stress-Rupture Property Requirements

Shall be designated by AMS 2362, followed by four groups of one to four digits indicating, in successive order, the temperature in Fahrenheit or Celsius degrees, the axial stress in 1 ksi or in 1 MPa, the minimum time to rupture in hours, and the minimum elongation in 4D, in percent. Designations of stress shall be assumed to be in inch/pound units unless "AMS 2362" is followed by "(SI)". When there is no requirement for a particular property, an "X" shall replace the figures for that property. Testing shall be performed in accordance with ASTM E139, unless otherwise required by purchaser.

3.2.1 Examples

3.2.1.1 In U.S. Conventional units, AMS 2362-1800-22-23-5 shall designate that the test is to be conducted at 1800 °F and that the requirements are as shown in Table 1:

TABLE 1 -

Property	Value
Axial Stress	22 ksi
Time to Rupture, min	23 hours
Elongation in 4D, min	5%

3.2.1.2 In SI units, AMS 2362(SI)-982-152-23-5 shall designate that the test is to be conducted at 982 °C and that the requirements are as shown in Table 2:

TABLE 2 -

Property	Value
Axial Stress	152 MPa
Time to Rupture	23 hours
Elongation in 4D, min	5%

4. QUALITY ASSURANCE PROVISIONS

Not applicable.

5. PREPARATION FOR DELIVERY

Not applicable.

6. ACKNOWLEDGMENT

A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.