ISO 7961:2021 (E)

Aerospace — Bolts — Test methods

Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

4 Tests

4.1 Tensile test at ambient temperature
4.1.1 Apparatus
4.1.2 Procedure
4.2 Double shear test
4.2.1 Apparatus
4.2.2 Procedure
4.3 Tension fatigue test
4.3.1 Apparatus
4.3.2 Procedure
4.3.2.1 Installation
4.3.2.2 Test conditions
4.3.2.2.1 Torque
4.3.2.2.2 Load level
4.3.2.2.3 Frequency
4.4 Stress durability test of ambient temperature
4.4.1 Apparatus
4.4.1.1 For torque or elongation loading
4.4.1.2 For external loading
4.4.2 Procedure
4.5 Inspection for grinding burns
4.5.1 Procedure
4.5.1.1 Clean
4.5.1.2 Wetting test
4.5.1.3 “Nital” etch
4.5.1.4 Rinse
4.5.1.5 Bleaching
4.5.1.6 Rinse
4.5.1.7 Neutralization
4.5.1.7.1 General
4.5.1.7.2 Ammonia solution
4.5.1.7.3 Soda solution
4.5.1.8 Rinse
4.5.1.9 Dry
4.5.1.10 Examine for grinding burns
4.5.1.11 De#embrittle
4.6 Tensile test at elevated temperature
4.6.1 Apparatus
4.6.2 Procedure
4.7 Stress relaxation test at elevated temperature
4.7.1 Apparatus
4.7.2 Procedure
4.8 Stress corrosion test
4.8.1 Apparatus
4.8.2 Procedure
4.9 Stress rupture test at elevated temperature
4.9.1 Apparatus

4.9.2 Procedure

5 Test validity

6 Test reports

Annex A (normative) Calibration of apparatus

Annex B (normative) Test reports

Annex C (informative) Formulae

C.1 Estimated torque to induce specified load
C.2 Estimated elongation to induce specified load

Page count: 17