

1. INTRODUCTION

- 1.1 **Purpose.** This document provides a procedure for the testing of a product of a specific manufacturer to a National Aerospace Standard. Such tests are conducted to verify design and fabrication techniques of a product to the requirements of the standard drawing and the procurement specification. Compliance of a product as indicated by this testing does not eliminate the acceptance test requirements, nor does it relieve the manufacturer of the responsibility of conducting additional tests when so required by a contractor.
- 1.2 **Scope.** This document provides the framework, concepts and practices for testing products to NAS specifications and standard drawings.
- 1.3 **Agreement.** The manufacturer of a part, to be tested in accordance with a National Aerospace Standard, shall sign the Blanket Consent Agreement and return it to the Aerospace Company for which the testing is performed. (See Figure 1 for suggested format.)

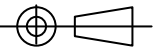
2. RESPONSIBILITY FOR TESTING

- 2.1 **Manufacturer**
- 2.1.1 It is the responsibility of the product manufacturer to perform the tests. Such tests may be performed at the manufacturer's plant or an independent laboratory with facilities acceptable to the contractor.
- 2.1.2 The manufacturer shall furnish to the contractor the following information in writing: (1) name and address of plant or test facility, (2) list and description of proposed testing equipment which shall include the equipment name and manufacturer and the applicable model or serial number, (3) equipment accuracy, limits, and latest date and place of calibration and frequency of calibration, (4) a test program or specification and the applicable specification paragraph for which the equipment will be used, (5) a set of drawings depicting the configuration of the parts to be submitted for testing, (6) a list cross referencing the manufacturer's part numbers to the NAS part numbers, (7) a comprehensive description of the manufacturer's quality control system, and (8) reasonable evidence (limited test data or comparison to a similar satisfactory part) that the product to be tested has a good chance of meeting the specification requirements.
- 2.1.3 Where environmental, fatigue or other extended tests are required, the equipment shall be sufficiently instrumented to record and/or indicate the number of test cycles or any stoppage or discontinuities.
- 2.1.4 Costs of all samples and testing expenses shall be assessed as negotiated between the manufacturer and the contractor.
- 2.2 The contractor shall be responsible for providing the necessary witnesses, establishing test dates and times, approving test facilities, and securing signatures on test reports.

3. PROCEDURE

- 3.1 The manufacturer desiring to test a product to National Aerospace Standards shall apply in writing to the contractor giving the number and date of the NAS Drawing. The contractor and the potential manufacturer will arrange to have the tests conducted.
- 3.2 The contractor shall determine the acceptability of the test facility, whether it be the manufacturer's or an independent laboratory, on the basis of data submitted by the manufacturer or by a facilities survey.

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THIRD ANGLE PROJECTION		CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 2
PROCUREMENT SPECIFICATION NONE	TITLE RECOMMENDED QUALIFICATION TEST PROCEDURE FOR COMPLIANCE WITH NAS SPECIFICATIONS AND STANDARD DRAWINGS		CLASSIFICATION STANDARD PRACTICE NAS1495



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- 3.3 The witnesses shall consist of at least the following: A member of the contractor's Quality Control or Inspection Department and one engineer. Quality Control or Inspection personnel need not be present during the actual testing. However, a facility survey must have been made, and the test samples selected and adequately identified. Written approval by the Quality Control or Inspection personnel, making the survey of the facility, shall be presented prior to any testing. All witnesses shall be thoroughly experienced in testing practices and the type of part to be tested.
- 3.4 Tests shall be conducted in accordance with the requirements of the applicable specification. Test fixtures and jigs shall be in accordance with the details of the specification. Any changes or modifications of the test fixtures necessary to meet the specification shall be approved by the contractor prior to the start of the test program.
- 3.4.1 The testing of a product, manufactured by a licensee, shall be the same as that required of the licensor.
- 3.5 Test parts shall be selected at random from a production run, where applicable. If the parts are new and have not been made in production, all materials and details of manufacturing procedures shall be recorded so that subsequently manufactured parts are produced accordingly.
- 3.5.1 Parts shall be adequately identified. Marking of the parts shall be done at the time of selection for testing to assure that the parts are those originally selected.
- 3.6 When environmental, fatigue, or other extended tests are required, the witnesses should observe the beginning of the test, monitor it occasionally over the test period and finally be present when the test is concluded so that parts can be inspected and test results accurately evaluated.
- 3.7 In cases where a product is tested and fails to pass, retesting of the product shall not be performed until satisfactory evidence is furnished that all the defects responsible for the failure have been corrected.
- 3.8 The data shall be recorded and test reports prepared as follows:
- 3.8.1 All recording of test data on the Test Summary Sheets shall be witnessed by one or more of the witnessing group present to assure that the data is accurately entered. Test Summary Sheets shall be in accordance with MIL-HDBK-831. Test Summary Sheets shall be approved prior to the testing.
- 3.8.2 A reproducible copy of the completed Test Summary Sheets shall be supplied by the manufacturer after being signed by the manufacturer or laboratory representative, and one or preferably all of the witnesses.
- 3.8.3 The title page shall include (1) date of report, (2) test report number, (3) NAS Specification or Standard Drawing title, number and date, (4) name and address of manufacturer, (5) name and address of testing laboratory, if different from manufacturer.
- 3.8.4 An abstract page (single page) which summarizes the results of the test i.e., noting the number of specimens that passed or failed and any other pertinent data, shall be included in the test report.
- 3.8.5 The basic section of the report shall contain a reference to the specific specification paragraph applicable to the test, the test equipment name and manufacturer, date of calibration, if applicable, and summary of the Test Summary Sheets showing specification requirements.
- 3.8.6 A general section shall be included which contains the details of the entire program i.e. procedures, set-ups, tests, method of sampling, data tabulation (Test Summary Sheets), notation relative to stoppages, presence of witnesses at the test site, etc.
- 3.8.7 Adequate use shall be made of photographs, sketches or other visual aids to insure there are no information gaps in the report.
- 3.8.8 A cross reference between manufacturer's part numbers and NAS part numbers shall be included in the report.

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