



NATO INTERNATIONAL STAFF - DEFENCE INVESTMENT DIVISION

**ALLIED
ENVIRONMENTAL
CONDITIONS
AND TEST
PUBLICATION**

**AECTP-200
(EDITION 4)**

ENVIRONMENTAL CONDITIONS

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NORTH ATLANTIC TREATY ORGANIZATION


NATO STANDARDIZATION AGENCY

NATO LETTER OF PROMULGATION

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1. AECTP-200 (Edition 4) – ENVIRONMENTAL CONDITIONS is a non-classified NATO publication. The Agreement of Nations to use this publication is recorded in STANAG 4370.

2. AECTP-200(Edition 4) is effective upon receipt. It supersedes AECTP-200 Edition 3 which shall be destroyed in accordance with local procedures for the destruction of documents.



Juan A. MORENO
Vice Admiral, ESP(N)
Director, NATO Standardization Agency

ALLIED ENVIRONMENTAL CONDITIONS AND TEST PUBLICATIONS

AECTP-200 – Comprising 230,240,250

ENVIRONMENTAL CONDITIONS

AECTP-200 is one of five documents included in STANAG 4370. It provides characteristics and data on environmental conditions for operational events and scenarios that influence the design of defence materiel. Although it is not practicable to provide data to cover all circumstances, AECTP-200 is considered to include the most relevant environmental conditions.

AECTP-200 comprises of AECTP-230 series of leaflets on Climatic Conditions, AECTP-240 series of leaflets on Mechanical Conditions and AECTP-250 series of leaflets on Electrical/Electromagnetic Conditions.

AECTP-200 is to be used in conjunction with the four other AECTPs included in STANAG 4370. They are: AECTP-100 Environmental Guidelines for Defence Materiel, AECTP-300 Climatic Environmental Tests, AECTP-400 Mechanical Environmental Tests, and AECTP-500 Electrical Environmental Tests.

An important application of AECTP-200 is for users to confirm that the key environmental conditions within project specific environmental requirement documents have been addressed correctly. In particular, when used in conjunction with the other AECTPs, the environmental characteristics and data contained in AECTP-200 should facilitate the development of a comprehensive and cost effective set of environmental tests and assessments.

The data presented in AECTP-200 are intended for use during the specification process but also are to be considered when extended life is under focus. Refer to AECTP-600 for guidance.

When possible, the use of measured data to develop test severities is recommended. For many environment conditions AECTP-200 provides advice on the derivation of test levels from measured data.

AECTP-200 does not address abnormal environments arising from accidental or hostile conditions, or nuclear effects.

ENVIRONMENTAL CONDITIONS

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INTRODUCTION

1. PURPOSE

- 1.1 The purpose of AECTP-200 is to provide characteristics and data on climatic, mechanical and electrical/electromagnetic environments, and also guidance on the application of the data.

2. SCOPE

- 2.1 AECTP-200 describes environmental conditions and data that have been compiled from established sources within NATO countries. Where possible the potential damaging effects of these conditions on defence materiel are also identified. Advice is given on the selection of suitable test methods. For mechanical conditions, guidance is also given on the determination and validation of environmental test severities from actual measured data.
- 2.2 AECTP-200 does not address environments arising from accident or hostile conditions, or nuclear effects.
- 2.3 The purpose of the AECTP-230 series of leaflets is to present characteristics and data samples of natural and induced climatic conditions that influence the design of materiel. For the purpose of this document, induced climatic conditions are the ambient environmental conditions resulting from the modification of the natural climatic conditions due to the structure in which, or on which, the materiel is utilised.
- 2.4 The purpose of the AECTP-240 series of leaflets is to present characteristics, data samples and sources for mechanical conditions, particularly vibration and shock that influence the design of defence materiel. The information is amplified and extended by the identification of potential damaging effects of these conditions on defence materiel and also by providing advice on the selection of suitable test methods. Guidance is also given on the determination and validation of environmental test severities from actual measured data.
- 2.5 The environmental conditions within the AECTP-250 series of leaflets are under development and it is intended that they will be included in a subsequent edition of this AECTP. The structure and contents of 250 will be in a similar form to those of 230 and 240.

3. APPLICATION

- 3.1 The characteristics and data contained in AECTP-200 should be used, where possible, in the preparation of national requirement documents for defence materiel to be procured for NATO forces. It should be used in conjunction with measured data for deriving the appropriate conditions for specific defence materiel and as the basis for determining environmental design and test criteria.

RELATED SOURCES OF INFORMATION

INTRODUCTION

1. This document comprises sets of document references. The documents are considered to contain related sources of information and data to that included in AECTP-200. The content of these documents provides, in particular applications, additional material to that in AECTP-200 that might be of benefit when compiling environmental descriptions and test specifications.
2. The references to the documents have been submitted by the members of the Task Group on Environmental Conditions and Test Procedures and are grouped according to their country of origin. NATO references are listed first. The references will be reviewed and appropriate additional references will be included in future editions of this AECTP.

NATO

1. Allied Administrative Publications 6 (AAP-6) "NATO Glossary of Terms and Definitions".
2. "Glossary of Terms and Definitions for general use within AC/310".
3. STANAG 4242 - Vibration Tests for Munitions Carried in Tracked Vehicles.
4. Allied Environmental Conditions Publication 1 (AEC-1) "Mechanical Environmental Conditions".

FRANCE

1. GAM-EG-13 Basic Environmental Test Procedures + Annexes.
Custodian: Laboratoire de Recherches Balistiques et Aérodynamiques
2. CIN-EG01 Guidelines for Accounting for the Environment in Military Programmes
Custodian: Laboratoire de Recherches Balistiques et Aérodynamiques

GERMANY

1. Bauvorschrift fuer Schiffe der Bundeswehr: BV 0430 Schocksicherheit
BV 0440 Vibrationssicherheit

Custodian: BWB - PAS 90

Comment: This document is included to cover the needs of the German Navy.

UNITED KINGDOM

1. Defence Standard 00-35 Environmental Handbook for Defence Materiel.

Custodian: Defence Ordnance Safety Group, Ministry of Defence

UNITED STATES

1. Military Standard 810 Department of Defence Test Method Standard for Environmental Engineering Considerations and Laboratory Tests.

Custodian: US Army Developmental Test Command
2. IES Recommended Practice 012.1 - Handbook Dynamic Data Acquisition and Analysis

Custodian: Institute of Environmental Sciences and Technology
3. International Test Operations Procedure (ITOP) 1-2-601 – Laboratory Vibration Schedules.

Custodian: US Army Developmental Test Command
4. International Test Operations Procedure (ITOP) 1-1-050 - Development of Laboratory Vibration Test Schedules.

Custodian: US Army Developmental Test Command