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Nota di contenuto	ACCELERATED RELIABILITY AND DURABILI TYTESTING TECHNOLOGY; Contents; Preface; About the Author; Chapter 1: Introduction; 1.1 THE PURPOSE OF ACCELERATED TESTING (AT); 1.2 THE CURRENT SITUATION IN AT; 1.3 FINANCIAL ASSESSMENT OF THE RISKS INVOLVED IN CREATING A TESTING PROGRAM; 1.4 COMMON PRINCIPLES OF ART AND ADT; 1.5 THE LEVEL OF USEFULNESS OF ART AND ADT; EXERCISES; Chapter 2: Accelerated Reliability Testing as a Component of an Interdisciplinary System of Systems Approach; 2.1 CURRENT PRACTICE IN RELIABILITY, MAINTAINABILITY, AND QUALITY 2.2 A DESCRIPTION OF THE PRODUCT/PROCESS RELIABILITY AND DURABILITY AS THE COMPONENTS OF THE INTERDISCIPLINARY SOS APPROACH2.3 THE COLLECTION AND ANALYSIS OF FAILURE AND USAGE DATA FROM THE FIELD; 2.4 FIELD INPUT INFLUENCES; 2.5 SAFETY PROBLEMS AS A COMPONENT OF THE FIELD SITUATION; 2.6 HUMAN FACTORS AS A COMPONENT OF THE FIELD SITUATION; 2.7 THE INTERCONNECTION OF QUALITY AND RELIABILITY; 2.8 THE STRATEGY TO INTEGRATE QUALITY WITH RELIABILITY; 2.9 THE PLACE OF ART/ADT IN HIGH QUALITY, RELIABILITY, MAINTAINABILITY, AND DURABILITY; EXERCISES

Chapter 3: The Basic Concepts of Accelerated Reliability and Durability Testing3.1 DEVELOPING AN ACCURATE SIMULATION OF THE FIELD SITUATION AS THE BASIC COMPONENT OF SUCCESSFUL ACCELERATED RELIABILITY TESTING (ART) AND ACCELERATED DURABILITY TESTING (ADT); 3.2 CONCEPTUAL METHODOLOGY FOR THE SUBSTANTIATIONOF A REPRESENTATIVE REGION FOR AN ACCURATE SIMULATION OF THE FIELD CONDITIONS; 3.3 BASIC PROCEDURES OF ART AND ADT; 3.4 ART AND LCC; EXERCISES; Chapter 4: Accelerated Reliability and Durability Testing Methodology; 4.1 ANALYSIS OF THE CURRENT SITUATION; 4.2 PHILOSOPHY OF ART/ADT
4.3 ART/ADT METHODOLOGY AS A COMBINATION OF DIFFERENT TYPES OF TESTING4.4 ACCELERATED MULTIPLE ENVIRONMENTAL TESTING; 4.5 ACCELERATED CORROSION TESTING; 4.6 TECHNOLOGY OF ADVANCED VIBRATION TESTING; 4.7 FIELD RELIABILITY TESTING; 4.8 TRENDS IN THE DEVELOPMENT OF ART/ADT TECHNOLOGY; EXERCISES; Chapter 5: Equipment for Accelerated Reliability (Durability) Testing Technology;
5.1 ANALYSIS OF THE CURRENT SITUATION WITH EQUIPMENT FOR ACCELERATED RELIABILITY (DURABILITY) TESTING; 5.2 COMBINED EQUIPMENT FOR ART/ADT AS A COMBINATION (INTEGRATION) OF EQUIPMENT FOR DIFFERENT TYPES OF TESTING
5.3 CONSIDERATION OF COMPONENTS FOR ART/ADT AND COMBINED (INTEGRATED) EQUIPMENT TESTING5.4 EQUIPMENT FOR MECHANICAL TESTING; 5.5 EQUIPMENT FOR MULTI-ENVIRONMENTAL TESTING AND ITS COMPONENTS; 5.6 EQUIPMENT FOR ELECTRICAL TESTING; EXERCISES; Chapter 6: Accelerated Reliability and Durability Testing as a Source of Initial Information for Accurate Quality, Reliability, Maintainability, and Durability Prediction and Accelerated Product Development; 6.1 ABOUT ACCURATE PREDICTION OF QUALITY, RELIABILITY, DURABILITY AND MAINTAINABILITY
6.2 THE STRATEGY FOR ACCURATE PREDICTION OF RELIABILITY, DURABILITY, MAINTAINABILITY AND QUALITY, AND ACCELERATED PRODUCT DEVELOPMENT

Sommario/riassunto

Learn how ART and ADT can reduce cost, time, product recalls, and customer complaints This book provides engineers with the techniques and tools they need to use accelerated reliability testing (ART) and accelerated durability testing (ADT) as key factors to accurately predict a product's quality, reliability, durability, and maintainability during a given time, such as service life or warranty period. It covers new ideas and offers a unique approach to accurate simulation and integration of field inputs, safety, and human factors, as well as accelerated product development, as components