ISO 18249:2015-05 (E)

Non-destructive testing - Acoustic emission testing - Specific methodology and general evaluation criteria for testing of fibre-reinforced polymers

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Personnel qualification 3

5 Acoustic emission sources and acoustic behaviour 3
5.1 Acoustic emission source mechanisms 3
5.2 Wave propagation and attenuation characterization 3
5.3 Test temperature 4
5.4 Source location 4
5.5 Analysis of acoustic emission from fibre-reinforced polymers 5

6 Instrumentation and monitoring guidelines 5
6.1 Instrumentation 5
6.2 Sensors 6
6.3 Sensor location and spacing 6
6.4 Sensor coupling and mounting 6
6.5 Detection and evaluation threshold 6
6.6 Application of load 7
6.7 Graphs for real-time monitoring 7

7 Specific methodology 7
7.1 Size of component 7
7.2 Testing of specimens 8
7.3 Testing of components and structures 8
7.3.1 Preliminary information 8
7.3.2 Test preparation 8
7.3.3 Load profiles 9
7.3.4 Written test procedure 11
7.3.5 Evaluation criteria 12
7.3.6 Stop criteria 15
7.3.7 Health monitoring 16

8 Interpretation of acoustic emission test results/source mechanisms 16

9 Report 16

Bibliography 18