DIN EN ISO 14126:2024-03 (E)

Fibre-reinforced plastic composites - Determination of compressive properties in the in-plane direction (ISO 14126:2023)

Contents

Page

European foreword 4

Foreword 5

Introduction 6

1 Scope 7

2 Normative references 7

3 Termsanddefinitions 8

4 Principle 9

5 Apparatus 10
5.1 Test machine 10
5.1.1 General 10
5.1.2 Speed of testing 10
5.1.3 Load measurement 10
5.2 Strain measurement 10
5.3 Micrometer 11
5.4 Loading fixtures 11
5.4.1 General 11
5.4.2 Method 1: Shear loading 11
5.4.3 Method 2: Combined loading 13

6 Test specimens 14
6.1 Shape and dimensions 14
6.1.1 Type A specimen 14
6.1.2 Type B specimen 15
6.2 Preparation 16
6.2.1 General 16
6.2.2 End-tab material 16
6.2.3 Application of end tabs to specimens 16
6.2.4 Machining the specimens 16
6.3 Checking specimen quality 16
6.4 Anisotropy 17

7 Number of test specimens 17

8 Conditioning 17

9 Procedures 17

10 Expression of results 19
10.1 Compressive strength calculation 19
10.2 Compressive modulus calculation 19
10.3 Compressive failure strain calculation 20
10.4 Statistical parameters 20
10.5 Significant figures 20

11 Precision 20

12 Test report 21

Annex A (normative) Alignment of specimen and loading train 22

Annex B (normative) Specimen preparation 23

Annex C (informative)Compressionfixturesformethod1 25

Annex D (informative)Compressionfixturesformethod2 27

Annex E (informative) Euler buckling criteria 31

Annex F (informative) Predicted tab length 32

Annex G (informative) Recommendations for strain and bending measurements using digital image correlation (DIC) 33

Bibliography 36