ISO 527-1:2012-02 (E)

Plastics - Determination of tensile properties - Part 1: General principles

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 2

4 Principle and methods 5
4.1 Principle 5
4.2 Method 6

5 Apparatus 6
5.1 Testing machine 6
5.2 Devices for measuring width and thickness of the test specimens 9

6 Test specimens 9
6.1 Shape and dimensions 9
6.2 Preparation of specimens 9
6.3 Gauge marks 10
6.4 Checking the test specimens 10
6.5 Anisotropy 10

7 Number of test specimens 10

8 Conditioning 11

9 Procedure 11
9.1 Test atmosphere 11
9.2 Dimensions of test specimen 11
9.3 Gripping 11
9.4 Prestresses 12
9.5 Setting of extensometers 12
9.6 Test speed 12
9.7 Recording of data 13

10 Calculation and expression of results 13
10.1 Stress 13
10.2 Strain 13
10.3 Tensile modulus 14
10.4 Poisson's ratio 15
10.5 Statistical parameters 16
10.6 Significantfigures 16

11 Precision 16

12 Test report 16

Annex A (informative) Determination of strain at yield 18

Annex B (informative) Extensometer accuracy for the determination of Poisson's ratio 20

Annex C (normative) Calibration requirements for the determination of the tensile modulus 21

Bibliography 23