

DIN EN ISO 178:2019-08 (E)

Plastics - Determination of flexural properties (ISO 178:2019)

Contents		Page
European foreword		4
Foreword		5
1	Scope	6
2	Normative references	6
3	Terms, definitions and symbols	7
4	Principle	10
5	Test machine	10
5.1	General	10
5.2	Test speed	11
5.3	Supports and loading edge	11
5.4	Force- and deflection-measuring systems	11
5.4.1	Introductory remarks	11
5.4.2	Definition of precision and accuracy requirements	11
5.4.3	Deflection measurement	13
5.5	Equipment for measuring the width and thickness of the test specimens	14
6	Test specimens	14
6.1	Shape and dimensions	14
6.1.1	General	14
6.1.2	Preferred specimen type	14
6.1.3	Other test specimens	15
6.2	Anisotropic materials	15
6.3	Preparation of test specimens	16
6.3.1	From moulding, extrusion and casting compounds	16
6.3.2	From sheets	16
6.4	Specimen inspection	16
6.5	Number of test specimens	17
7	Atmosphere for conditioning and testing	17
8	Procedure	17
9	Calculation and expression of results	21
9.1	Flexural stress	21
9.2	Flexural strain	21
9.3	Flexural modulus	21
9.4	Statistical parameters	22
9.5	Significant figures	22
10	Precision	22
11	Test report	22
Annex A (informative)	Precision statement	24
Annex B (informative)	Influence of changes in test speed on the measured values of flexural properties	26
Annex C (normative)	Compliance correction for Type III-tests	27
Annex D (informative)	Relation between tensile and flexural modulus: Theoretical expectations and experimental observations	29
Bibliography		30