

# DIN EN ISO 178:2019-08 (E)

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

---

<b>Contents</b>		<b>Page</b>
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