

DIN EN ISO 13802:2026-03 (E)

Plastics - Verification of pendulum impact-testing machines - Charpy, Izod and tensile impact-testing (ISO 13802:2025)

Contents	Page
Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Measurement instruments.....	3
5 Description of a pendulum impact-testing machine.....	4
5.1 Types of pendulum impact-testing machines.....	4
5.2 Pendulum impact testing machine components.....	4
6 Procedure for verification and inspection of a pendulum impact-testing machine.....	5
6.1 Machine design and manufacturer.....	5
6.2 Machine frame field verification.....	5
6.2.1 General.....	5
6.2.2 Installation.....	5
6.2.3 Levelness.....	6
6.2.4 Axial play of the pendulum bearings.....	6
6.2.5 Radial play of the pendulum bearings.....	6
6.2.6 Mechanism for holding and releasing the pendulum.....	6
6.2.7 Free hanging position.....	6
6.2.8 Contact between specimen and striking edge (Izod/Charpy).....	6
6.2.9 Potential energy, E	6
6.2.10 Pendulum length, L_p	7
6.2.11 Impact length, L_I	8
6.2.12 Velocity of the pendulum at instant of impact, v_1	8
6.3 Charpy testing machines.....	9
6.4 Izod testing machines.....	10
6.5 Tensile impact testing machines.....	11
6.6 Energy indicating system.....	12
6.6.1 Types of scale.....	12
6.6.2 Verification of analogue indicating equipment.....	12
6.6.3 Error in the indicated absorbed energy, W_i , on analogue indicating systems.....	12
6.6.4 Verification of digital indicating equipment.....	13
6.7 Losses due to friction.....	13
6.7.1 Types of loss.....	13
6.7.2 Determination of the loss due to friction in the pointer.....	13
6.7.3 Determination of losses due to air resistance and friction in the pendulum bearings.....	14
6.7.4 Calculation of the total energy lost due to friction.....	14
6.7.5 Maximum permissible losses due to friction.....	14
7 Frequency of verification.....	16
8 Verification report.....	16
Annex A (normative) Design requirements for Charpy machines.....	17
Annex B (normative) Design requirements for Izod machines.....	20
Annex C (normative) Design requirements for tensile impact machines.....	23
Annex D (informative) Ratio of frame mass to pendulum mass.....	28
Annex E (informative) Deceleration of pendulum during impact.....	31
Annex F (informative) Gauge plate for verification of Charpy impact pendulums.....	33