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Laminate floor coverings — Determination of impact resistance

*Revêtements de sol stratifiés — Détermination de la résistance aux
chocs*

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Foreword

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ISO 24335 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

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Laminate floor coverings — Determination of impact resistance

1 Scope

This International Standard specifies how to determine the impact resistance of laminate floor covering elements. The test described measures the ability of the surface layer to withstand impact from both small and large objects dropped on the floor covering. The testing is destructive by means of the impact on the surface layer from one small and one larger steel ball simulating different scenarios. The force of the small steel ball and the drop height of the larger steel ball are used to define the ability for a laminate floor covering element to withstand impact.

The precision of the method is not known. When interlaboratory data becomes available, a precision statement will be added in subsequent revisions.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

3 Apparatus

3.1 Conditioning chamber, in accordance with ISO 291, with a standard atmosphere of $(23 \pm 2)^\circ\text{C}$ and relative humidity $(50 \pm 5)\%$.

3.2 Polyethylene foam, thickness $(2 \pm 0,5)$ mm, density (35 ± 5) kg/m³.

3.3 Small-diameter ball apparatus

3.3.1 Impact tester, consisting of an impact bolt with a 5 mm steel ball mounted at one end, which is projected once against the surface under test by the release of a compression spring.

The spring compression force before release can be adjusted continuously from 0 N to 90 N by means of a force-setting barrel (see Figure 1).

The newton-metre (N·m) scale also provided on the tester is only to be used for orientation, as the introduction of a non-linear scale involves relatively great inaccuracies.

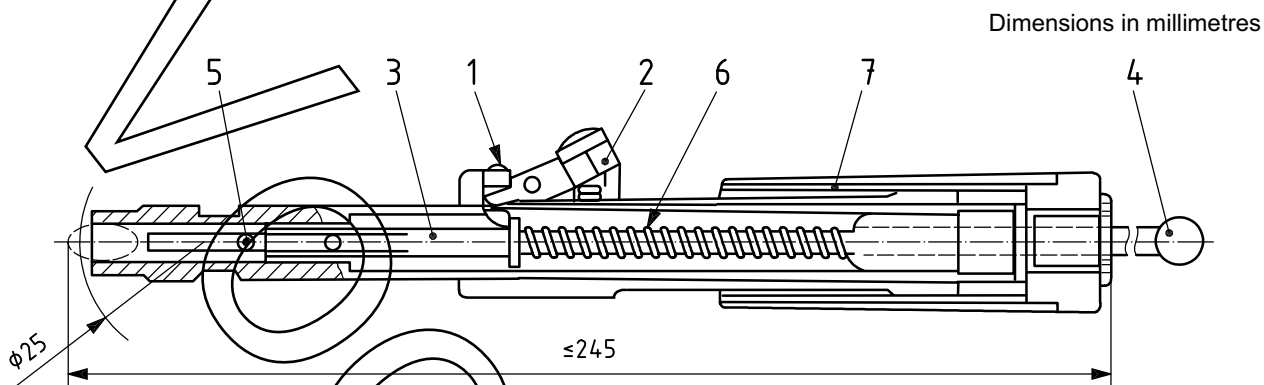
The compression spring is 100 mm long when released and has a constant of $(1\,962 \pm 50)$ N/m. It is compressed by drawing back the impact bolt and is held in the loaded position by a retainer which engages in the bolt. It is released to deliver the impact blow by a release unit that withdraws the retainer.

3.3.2 Force-producing arrangement, (for example, a scale-pan and weights) capable of being suspended from the impact bolt to exert a compressive force on the spring.

3.3.3 Support fixture, which clamps to the shaft of the impact tester and provides a convenient mounting of sufficient mass for the tester to be held at right angles to the surface of the specimen and to avoid recoil following the release of the impact bolt (see Figure 2).

3.3.4 Steel plate, having dimensions of approximately 300 mm × 300 mm × 50 mm.

3.3.5 Contrast medium, e.g. graphite, talcum, or solution of dye in alcohol, to contrast with the colour of the surface layer of the element under test.



Key

- 1 retainer
- 2 release lever
- 3 impact bolt
- 4 knob
- 5 steel ball
- 6 compression spring
- 7 force-setting barrel (housing)

Figure 1 — Impact tester (shown with spring compressed)

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