



ISO 3386-1

Polymeric materials, cellular flexible — Determination of stress-strain characteristics in compression —

**Part 1:
Low-density materials**

Matériaux polymères alvéolaires souples — Détermination de la caractéristique de contrainte-déformation relative en compression —

Partie 1: Matériaux à basse masse volumique

**Third edition
2025-07**



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This third edition cancels and replaces the second edition (ISO 3386-1:1986), which has been revised. It also incorporates the Amendment ISO 3386-1:1986/Amd 1:2010.

The main changes are as follows:

- revision of the text in the Scope, [Clause 2](#) and [3](#);
- addition of a schematic representation of the test procedure in [Clause 6](#);

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The compression stress/strain characteristics is a measure of the load-bearing properties of the material, though not necessarily of its capacity to sustain a long-term load.

The compression stress/strain characteristics differs from the indentation hardness characteristics (as determined in accordance with ISO 2439), which are known to be influenced by the thickness and the tensile properties of the flexible cellular material under test, by the shape of the compression plate and by the shape and size of the test piece.

This document specifies a method for low-density materials and differs from part 2 in the following ways:

- It is mainly concerned with materials of density up to 250 kg/m³;
- Requires a compression stress value for a compression of 40%;
- It permits the use of a cylindrical test piece.