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AMENDMENT 1
2007-02-01

Plastics — Determination of dynamic mechanical properties —

Part 7: Torsional vibration — Non-resonance method

AMENDMENT 1

Plastiques — Détermination des propriétés mécaniques dynamiques —

Partie 7: Vibration en torsion — Méthode hors résonance

AMENDEMENT 1

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to ISO 6721-7:1996 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

Plastics — Determination of dynamic mechanical properties —

Part 7: Torsional vibration — Non-resonance method

AMENDMENT 1

Page 1, Clause 1

Replace the first paragraph by the following (grey shading indicates new text):

"This part of ISO 6721 describes a torsional, non-resonance method for determining the components of the shear complex modulus G^* of solid polymers in the form of bars or rods at frequencies typically in the range 0,001 Hz to 100 Hz. Higher-frequency measurements can be made, but significant errors may be obtained in the dynamic properties measured (see 10.2.1 and 10.2.2). The method is suitable for measuring dynamic storage moduli ranging from about 10 MPa, which is typical of values obtained for stiff rubbers, to values of about 10 GPa which are representative of fibre-reinforced plastics. Although materials with moduli less than 10 MPa may be studied, more accurate measurements of their dynamic properties can be made using simple shear (see ISO 6721-6) or torsional deformations of thin layers between parallel plates."

Page 3, Subclause 9.5

Replace Note 4 by the following paragraph (grey shading indicates new text):

"If the maximum shear strain within the specimen exceeds the limit for linear behaviour, then the derived dynamic properties will depend on the magnitude of the applied displacement. The limiting strain varies with the composition of the polymer and the temperature, and is typically in the region of 0,2 % for glassy plastics. The dynamic strain range for linear behaviour can be explored by varying the dynamic displacement amplitude at a constant frequency and recording any change in dynamic stiffness with strain amplitude. A low frequency should be used for this purpose to minimize any temperature increase caused by mechanical loss. However, it should be noted that, because of the non-uniform strain in the specimen in this test, the onset of non-linear behaviour will be less apparent than in tests where the strain distribution is uniform. If non-linear behaviour is detected in the strain range of interest, the dynamic strain limit shall be recorded in the test report."

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