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Plastics — Preparation of test specimens of thermoplastic materials using mouldless technologies —

Part 1: General principles, and laser sintering of test specimens

Plastiques — Préparation des éprouvettes de matériaux thermoplastiques par des techniques sans moule —

Partie 1: Principes généraux, et frittage laser des éprouvettes

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Foreword

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ISO 27547-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

ISO 27547 consists of the following part, under the general title *Plastics — Preparation of test specimens of thermoplastic materials using mouldless technologies*:

— *Part 1: General principles, and laser sintering of test specimens*

Further parts are planned covering other mouldless technologies.

Introduction

Many factors in a mouldless specimen-preparation process can influence the properties of the test specimens prepared and hence the measured values obtained when the specimens are used in a test method. The mechanical properties of such specimens are in fact strongly dependent on the conditions of the process used to prepare the specimens. Exact definition of each of the main parameters of the process is a basic requirement for reproducible operating conditions.

It is important in defining specimen-preparation conditions to consider any influence the conditions could have on the properties to be determined. Specimens prepared by mouldless techniques could show differences in molecular morphology (as with crystalline and semicrystalline polymers), differences in powder morphology (after undergoing a sintering process, for instance), differences in thermal history and differences in thickness of the layers used to prepare the specimen. Each of these will have to be controlled to avoid differences in the values of the properties measured.