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Plastics — Thermoplastic polyurethanes for moulding and extrusion —

Part 1: Designation system and basis for specifications

Plastiques — Polyuréthannes thermoplastiques pour moulage et extrusion —

Partie 1: Système de désignation et base de spécifications

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Designation system **2**
4.1 General 2
4.2 Data block 1 3
4.3 Data block 2 3
4.4 Data block 3 4
4.5 Data Block 4 5
4.5.1 General 5
4.5.2 Hardness 5
4.5.3 Tensile modulus of elasticity 6
4.6 Data block 5 6
5 Examples of designations **7**
Bibliography **8**

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This second edition cancels and replaces the first edition (ISO 16365-1:2014), which has been technically revised.

The main changes are as follows:

— the range of hardness Shore A in Table 4 has been modified.

A list of all parts in the ISO 16365 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document is based on the ISO 1043 series and ISO 11469.

The types of thermoplastic polyurethane are differentiated from each other by a classification system based on appropriate levels of the designatory properties:

a) hardness;

b) tensile modulus of elasticity (optional);

and on information about the alternating hard and soft segments in the main chain, the intended application and/or method of processing, important properties, additives, colour, fillers and reinforcing materials.

In order to specify a thermoplastic elastomer for a particular application or reproducible processing, additional requirements are given in data block 5 (see 4.1 and 4.6).

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Plastics — Thermoplastic polyurethanes for moulding and extrusion —

Part 1:
Designation system and basis for specifications

1 Scope

This document establishes a system of designation for thermoplastic polyurethane elastomers.

The designation system can be used as the basis for specifications.

The designation system is applicable to all thermoplastic polyurethane elastomers. It applies to materials ready for normal use in the form of powder, granules or pellets, unmodified or modified by colourants, fillers or other additives, etc.

This document does not intend to imply that materials having the same designation give necessarily the same performance. This document does not provide engineering data, performance data, or data on processing conditions which might be required to specify a material for a particular application and/or method of processing.

NOTE If such additional properties are required, they can be determined according to the test methods specified in ISO 16365-2, if suitable.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 527 (all parts), *Plastics — Determination of tensile properties*

ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness)*

ISO 1043-4, *Plastics — Symbols and abbreviated terms — Part 4: Flame retardants*

ISO 18064, *Thermoplastic elastomers — Nomenclature and abbreviated terms*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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