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Plastics — Thermoplastic polyester (TP) moulding and extrusion materials —

Part 1: Designation system and basis for specification

Plastiques — Matériaux polyesters thermoplastiques (TP) pour moulage et extrusion —

Partie 1: Système de désignation et base de spécification

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 20028-1:2017), which has been technically revised to introduce a new designation system.

The revised designation system is published under a new ISO number, as many existing documents refer to ISO 7792-1. If the existing ISO 7792-1 would be replaced by the new designation system, these documents would refer to the incorrect designation system.

A list of all parts in the ISO 20028 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

ISO 7792-1 is complex and does not fit with daily practice anymore. In practice, ISO 1043 and ISO 11469 are, in combination, “improperly” being used as a designation system for, for example, marking. The aim of this revision is to add an information about flame retardant in the second position of the second block and to connect more to ISO 1043 and ISO 11469, where the first two blocks are used for generic identification and marking of products.

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Plastics — Thermoplastic polyester (TP) moulding and extrusion materials —

Part 1: Designation system and basis for specification

1 Scope

This document establishes a system of designation for thermoplastic polyester (TP) material, which can be used as the basis for specifications. It covers polyester homopolymers for moulding and extrusion based on poly(ethylene terephthalate) (PET), poly(butylene terephthalate) (PBT), poly(cyclohexylenedimethylene terephthalate) (PCT), poly(ethylene naphthalate) (PEN), poly(butylene naphthalates) (PBN) and other TP-types and copolyesters of various compositions for moulding and extrusion.

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

a) viscosity number;

b) tensile modulus of elasticity;

and on information about the intended application and/or method of processing, important properties, additives, colorants, fillers and reinforcing materials.

This designation system is applicable to thermoplastic polyester homopolymers and copolymers. It applies to materials ready for normal use in the form of powder, granules or pellets, unmodified or modified by colorants, fillers and other additives. This document does not apply to the saturated polyester/ester and polyether/ester thermoplastic elastomers covered by ISO 20029.

It is not intended 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 can be required to specify a material. If such additional properties are required, they are intended to be determined in accordance with the test methods specified in ISO 20028-2, if suitable.

In order to designate a thermoplastic polyester material to meet particular specifications, the requirements are to be given in data block 5 (see 4.1).

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 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

ISO 1043-2, *Plastics — Symbols and abbreviated terms — Part 2: Fillers and reinforcing materials*

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

ISO 1628-5, *Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers — Part 5: Thermoplastic polyester (TP) homopolymers and copolymers*

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