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Standard Specification for Polypropylene Injection and Extrusion Materials Using ISO Protocol and Methodology[1]

This standard is issued under the fixed designation D 5857; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

This material specification is intended to provide a call out system for polypropylene utilizing specimen preparation procedures and test method based on ISO standards.

This specification is not intended for the determination of the suitability of performance of materials in the final application. Selection of these materials is to be made by personnel with expertise in the plastics field in which the environment, inherent properties of the materials, performance of the parts, part design, manufacturing process, and economics are considered.

1. Scope*

1.1 This specification covers polypropylene materials suitable for injection molding and extrusion. Polymers consist of polypropylene homopolymers, polypropylene copolymers, and polypropylene-elastomer compounds produced with or without the addition of impact modifiers (ethylene-propylene rubber, polyisobutylene rubber, and butyl rubber, and so forth), colorants, stabilizers, lubricants, fillers, or reinforcements.

1.2 This specification allows for the use of those polypropylene materials that can be recycled, reconstituted, and reground, provided that the following conditions are met:

1.2.1 The requirements as stated in this specification and other ISO guidelines pertaining to these types of materials are met, and

1.2.2 The material has not been modified in any way to alter its conformance to food contact regulations or similar requirements.

1.3 The proportions of recycled, reconstituted, and regrind material used, as well as the nature and the amount of any contaminant, cannot be practically covered in this specification. It is the responsibility of the supplier and buyer of recycled, reconstituted, and regrind materials to ensure compliance.

NOTE 1—The properties included in this specification are those required to identify the compositions covered. There may be other requirements necessary to identify particular characteristics important to specific applications. These will be designated by using the suffixes given in Section 5.

1.4 The properties included in this classification system are those required to identify the compositions covered. There may be other requirements necessary to identify particular characteristics important to specialized applications. These may be specified by using the suffixes as given in Section 5 and those in Classification System D 4000.

1.5 This classification system and specification are intended to provide a means of calling out polypropylene materials used in the fabrication of end items or parts. It is not intended for the selection of materials. Material selection should be made by those having expertise in the plastic field after careful consideration of the design and the performance required of the part, the environment to which it will be exposed, the fabrication process to be employed, the costs involved, and the inherent properties of the material other than those covered by this standard.

1.6 The values stated in SI units are to be regarded as the standard.

1.7 The following precautionary caveat pertains only to the test methods portion, Section 13, of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

NOTE 2—This specification is similar to both ISO 1873-1 and ISO 1873-2, but to different degrees. This specification resembles ISO 1873-1

[1] This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials.

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***A Summary of Changes section appears at the end of this standard.**

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