



Designation: D6288 – 23

Standard Practice for Separation and Washing of Recycled Plastics Prior to Testing¹

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1. Scope*

1.1 This practice describes a procedure for separating recycled plastics based on their color and a procedure for washing dirty, ground plastic, which results in separation of light materials (density $<1.00 \text{ g/cm}^3$). This practice is not intended to represent generic washing procedures used in the plastics recycling industry. The described procedures are solely for preparation of plastic samples for use in other analytical tests. The procedure includes a room temperature wash step to facilitate separation of paper (for example, labels) followed by washing at an elevated temperature.

NOTE 1—Although not presented as a quantitative method, the procedure presented in this practice may be used to provide quantitative results. The user assumes the responsibility to verify the reproducibility of quantitative results.

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

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

NOTE 2—There is no known ISO equivalent to this standard.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

D883 Terminology Relating to Plastics

¹ This practice is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.95 on Recycled Plastics.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

D1600 Terminology for Abbreviated Terms Relating to Plastics

D3030 Test Method for Volatile Matter (Including Water) of Vinyl Chloride Resins

D5814 Practice for Determination of Contamination in Recycled Poly(Ethylene Terephthalate) (PET) Flakes and Chips Using a Plaque Test

D5991 Practice for Separation and Identification of Poly(Vinyl Chloride) (PVC) Contamination in Poly(Ethylene Terephthalate) (PET) Flake

E2251 Specification for Liquid-in-Glass ASTM Thermometers with Low-Hazard Precision Liquids

3. Terminology

3.1 *Definitions*—For definitions of terms that appear in this specification relating to plastics, refer to Terminology D883. For abbreviations that appear in the specification, refer to Terminology D1600.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *light material, n*—materials with densities less than 1.00 g/cm^3 .

4. Summary

4.1 Different colored plastic materials are readily distinguished by visual inspection of a sample.

4.2 Labels, glue residues and other plastics may absorb the dyes used in some procedures for identifying contaminants or these other contaminants may exhibit interfering fluorescence. Consequently, a standard procedure is provided for washing the plastic prior to examination by these tests.

4.3 This practice utilizes a room temperature wash step to facilitate separation of paper followed by washing at an elevated temperature to permit separation of plastics and other contaminants based on densities. The room temperature wash step effectively removes labels without activating some adhesives.

NOTE 3—The dye and fluorescence tests that may require plastic washed by this procedure are specifically designed to detect poly(vinyl chloride) (PVC) contamination.

4.4 Washed recycled plastic materials are then used for tests such as those described in Practices D5814 or D5991.

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