



Designation: D7388 – 23

Standard Specification for Engine Coolant Grade 1,3-Propanediol (PDO)¹

This standard is issued under the fixed designation D7388; 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.

1. Scope*

1.1 This specification covers engine coolant grade 1,3-propanediol (PDO).

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this 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.*

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

D1122 Test Method for Relative Density of Engine Coolant Concentrates and Engine Coolants By The Hydrometer

D1123 Test Methods for Water in Engine Coolant Concentrate by the Karl Fischer Reagent Method

D1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D1287 Test Method for pH of Engine Coolants and Antirusts

D1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products

D3634 Test Method for Trace Chloride Ion in Engine Coolants

D4052 Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter

D5827 Test Method for Analysis of Engine Coolant for Chloride and Other Anions by Ion Chromatography

D5931 Test Method for Density and Relative Density of Engine Coolant Concentrates and Aqueous Engine Coolants by Digital Density Meter

D6130 Test Method for Determination of Silicon and Other Elements in Engine Coolant by Inductively Coupled Plasma-Atomic Emission Spectroscopy

D7515 Test Method for Purity of 1,3-Propanediol (Gas Chromatographic Method)

E202 Test Methods for Analysis of Ethylene Glycols and Propylene Glycols

E300 Practice for Sampling Industrial Chemicals

3. Requirements

3.1 Engine coolant grade 1,3-propanediol shall conform to the chemical and physical property requirements in **Table 1**.

4. Sampling

4.1 Sample 1,3-propanediol in accordance with the appropriate sections of Practice **E300** for liquid samples.

5. Packaging, Package Marking, and Transportation

5.1 The packaging, labeling, and transportation of commercial quantities shall conform to applicable federal, state, and local regulations. Conformance is the responsibility of the manufacturer and the shipper.

6. Keywords

6.1 engine coolant; glycol; 1,3-propanediol; PDO

¹ This specification is under the jurisdiction of ASTM Committee **D15** on Engine Coolants and Related Fluids and is the direct responsibility of Subcommittee **D15.07** on Specifications.

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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.