



Designation: D 6210 – 98a03

Standard Specification for Fully-Formulated ~~Ethylene-Glycol-Base~~ Glycol Base Engine Coolant for Heavy-Duty Engines¹

This standard is issued under the fixed designation D 6210; 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 the requirements for ~~a fully-formulated ethylene-glycol-base coolant~~ glycol base coolants for cooling systems of heavy-duty engines. When concentrates are used at 40 to 60 % ~~ethylene-glycol~~ glycol concentration by volume in water of suitable quality, (see Appendix X1), or when prediluted ~~ethylene-glycol~~ glycol base engine coolants (50 % volume, % minimum) are used without further dilution, ~~it they~~ they will function effectively during both winter and summer to provide protection against corrosion, cavitation, freezing, and boiling.

1.2 This specification is intended to cover the requirements for engine coolants prepared from virgin or recycled ethylene or propylene glycol.

~~1.3 Both concentrated and prediluted products are covered~~

1.3 The coolants governed by this specification: are categorized as follows:

<u>Coolant Type</u>	<u>Description</u>
I-FF	Ethylene glycol base concentrate
II-FF	Propylene glycol base concentrate
III-FF	Ethylene glycol predilute (50 vol %)
IV-FF	Propylene glycol predilute (50 vol %)

1.4 Coolant concentrates meeting this specification do not require any addition of Supplemental Coolant Additive (SCA) until the first maintenance interval when a maintenance does of SCA is required to continue protection in certain heavy duty engine cooling systems, particularly those of the wet cylinder liner-in-block design. The SCA additions are defined by and are the primary responsibility of the engine manufacturer or vehicle manufacturer. If they provide no instructions, follow the SCA supplier's instructions.

1.5 This specification does not cover extended service interval coolants.

1.6 The values stated in SI units are to be regarded as standard. The values given in parentheses are for information only.

1.7 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*

¹ This specification is under the jurisdiction of ASTM Committee D15 on Engine Coolants and is the direct responsibility of Subcommittee D15.07 on Specifications. Current edition approved April May 10, 2003. Published July 2003. Originally approved in 1998. ~~Published December 1998.~~ Last previous edition approved in 1998 as D 6210 - 98a.