



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA COMMERCIAL ITEM DESCRIPTION (PCID)

PCID 1076
Eff. 3/14/25

ANTI FREEZE

(This item description supersedes PCID effective date 3/8/17)

This Pennsylvania Commercial Item Description covers requirements for anti freeze intended for use in heavy duty industrial type equipment. Product shall conform to the following requirements unless otherwise specified in the Invitation-to-Bid proposal or Purchase Order.

1.0 Classification: The anti freezes shall be of the following types:

Type I – Fully Formulated, Inorganic Acid Technology (IAT), 50-50, Pre-Diluted Antifreeze containing Nitrate

Type II – Extended Life Coolant, Organic Acid Technology (OAT), 50-50, Pre-Diluted Extended Life Nitrite Free Antifreeze with 600,000 mile life performance

Type III – Extended Life Coolant, Nitrited Organic Acid Technology (NOAT), 50-50, Pre-Diluted Extended Life Nitrite Antifreeze with 750,000-mile life performance

2.0 Requirements

2.1 Premix Materials – the anti freeze covered by this specification shall be of the following Materials:

- 50% virgin ethylene glycol in accordance with **ASTM D-6210 – TMC RP329A** specifications
- Redistilled ethylene glycol is not acceptable
- Poor quality glycol recovered from “glycol bottoms” or other sources are not acceptable
- Awarded vendors shall supply written certification that the glycol is 100% virgin stock and meets **ASTM D-6210 – TMC RP329A** specifications for each batch mixed

2.2 Purified Water – Purified water (i.e., distilled, deionized), approximately 45% of the total finished product. Chemical properties not to exceed:

- | | |
|--------------------------------|---------|
| • Calcium as Ca | 15 ppm |
| • Chlorides as Cl | 40 ppm |
| • Sulfates as SO ₄ | 59 ppm |
| • Total Dissolved Solids (TDS) | 170 ppm |

2.3 Additives

- Penray Technologies compatible with Pencool 3000 coolant additives (SCA), no substitute, for TYPE I **ONLY**. Successful bidder to determine exact percentage of SCA to meet Nitrate and Nitrite range listed in paragraph 3.0.

3.0 Finished product must fall within these range requirements

	Min.	Max.
• Total Dissolved Solids (TDS)	-	2500 microsemins/cent.
• Freeze Points	-34F	-39F
• Ph	10.2	11.0
• Nitrites (Type III)	1200 ppm	2200 ppm (by volume)
• The finished product shall be fuchsia color in appearance		

4.0 Inspection & Rejection – Sampling for prior to/post award testing, if required, will be as defined in the Invitation to Bid Proposal. Inspection may be made at place of manufacture at the option of the Commonwealth after an award has been made. An inspection for final acceptance shall be made at the place of delivery and/or after laboratory testing to determine whether product or service meets the specification requirements. Samples for inspection and after delivery testing shall be selected by simple random sampling. If defects are detected during the course of delivery, or after product has been delivered, the Commonwealth reserves the right to reject the defective product and require replacement at no cost to the Commonwealth, or cancel the contract and surcharge the contractor for any expense incurred by the cancellation of the contract and in securing satisfactory materials, if the vendor fails to apply timely and corrective measures.

5.0 Material Master – SAP Material Master number:

131277-Anti-Freeze, Radiator, Nitrate-IAT, 55GAL
 349548-Anti-Freeze, Extend Life, Nitrite Free, OAT
 349549-Anti-Freeze, Extend Life, Nitrited, NOAT

6.0 Document Sources:

American Society for Testing & Materials
 ASTM
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