

Cooling System

Job No.

0-6

- A. Coolants and additives
- B. Cleaning cooling system

A. Coolants and Additives

1. Coolant

Use clean, possibly soft, well strained cooling water (unrefined drinking water of medium hardness). Not suited are distilled water, condensates, highly softened water, and rain water (also see operating instructions Model OM 636. VI-E).

Filtered drinking water, river water, and sea water can be used for water recooling.

2. Additives

In addition to the desired cooling, however, it has to be attained that the water does not cause undesired corrosion and remains in a liquid state even at temperatures below the freezing point. The first is attained by adding refining agents, the latter by adding anti-freeze.

a) Refining agents

The cooling water should already be "refined" before the initial operation of the system, meaning an anti-corrosion agent has to be added. According to our experiences anti-corrosion oils are to be preferred. If unrefined cooling water is continuously used, fur deposits, rust, and other corrosion products are formed in the cooling system, which results in a decreased transfer of heat and can even cause damages of the cooling system.

In order to refine the cooling water for vehicle engines use $\frac{1}{4}$ to $\frac{1}{2}$ % = 2,5 to 5 cm³/lit., for built-in engines 1 % = 10 cm³/lit., of the following anti-corrosion agents which are soluble in water and neutral to anti-freeze.

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Firm

Anticorit MKR	R. Fuchs, Mineraloelwerk, Mannheim
Anti-corrosion agents for radiators	Franz Voithländer, Kronach, Bay.
Anti-corrosion oil, soluble in water	Rheinpreußen GmbH, Homberg/NdRh
Kutwell 40	Esso AG, Hamburg
Phosphatol	Houghton-Chemie, Hildesheim
Sheel Donax C	Deutsche Shell AG, Hamburg
Valvoline anti-corrosion oil S 2	Valvoline-Oel-GmbH Ritz & Co., Hamburg
Veedol Anorust 50	Veedol GmbH, Hamburg

Higher concentrations than specified are to be avoided. If there is a loss of cooling water the missing quantity has to be replaced by clean water mixed with an anti-corrosion agent.