

Coolant Filtration - Products and Compatibility

For over 50 years, the performance of heavy duty cooling systems has been protected and enhanced by the use of coolant filtration and chemical additives. In recent years some new coolant system technologies have been introduced. As with anything new, questions regarding use and compatibility always arise. The following should clarify what is available and how these products should be properly used.

Today's coolant system products can be divided into three basic categories. These categories are based on the recommended service intervals for the various products. Before a particular product is chosen for use, the vehicle or equipment owner or maintenance person must make a decision as to how often they want to perform coolant system maintenance. Once this decision has been made, the appropriate coolant filter, supplemental coolant additive (SCA) and antifreeze can be placed into service.

The first category can be termed traditional or standard coolant products. They can be in the liquid form or a solid form inside a filter. The chemistry is commonly known as DCA four. These are the original coolant filtration products that are designed to be used with conventional ethylene or propylene glycol antifreeze. They have a recommended service interval of 10,000-15,000 miles or 250 hours. It is recommended that a total system flush, re-fill and chemical re-inhibiting of a coolant system using the standard products be done every two years. It is also recommended that a full laboratory coolant analysis be done once a year on these systems.

The second category is a product designed to be in service for 120,000 miles or 12 months. This chemistry can be referred to as "need" or "slow release" type. This type of SCA can be in the liquid form or in the solid form inside a filter. The use of the filter version is most popular. This product is designed for use with conventional ethylene or propylene glycol antifreeze. A total system flush, re-fill and re-inhibiting of a coolant system using this product is recommended every two years. It is also recommended that a full laboratory coolant analysis be done once a year on these systems.

The third category can be termed extended life or long life coolant products. These are liquid SCA's or solid SCA's in a filter that are designed for a service interval of 150,000 miles or 4,000 hours. These products can be used with conventional ethylene or propylene antifreeze or extended life or long life

antifreeze. A time frame for a total system flush, re-fill and re-inhibiting is really unknown for a properly maintained system using these products. It is totally dependent on the application of the system and the results of a laboratory coolant analysis, which should be done every three years.

From a product compatibility standpoint, filter manufacturers that offer coolant products and SCA's in their product lines have gone to great lengths to make their products totally compatible with others that are in the same category type. Caution should be taken to avoid over or under concentration of chemicals if a change is made from one supplier to another. It should also be noted that most coolant product manufacturers offer test strips for quick, in-field testing of the chemical levels in the coolant. These strips are designed to accurately test only that manufacturers product. They will not accurately test another manufacturers product.

Finally, if a coolant known as "fully formulated" is used, consumers must find out what exactly is in it. Sometimes it is just water and antifreeze mixed together. To properly use this type of coolant in a heavy duty application, some category of SCA must be used. Other times, fully formulated means water, antifreeze and SCA's are pre-mixed together. Typically this type of fully formulated coolant is an extended life product. If this type is used, no other SCA's need to be added.

Although there are more heavy duty coolant system products available today than ever before, their use is relatively simple as long as each category's design parameters are understood and followed. For further questions regarding coolant products, please contact your filter supplier.

For additional information, contact:

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