

TECHNICAL BULLETIN

April 2016

WHAT IS COOLANT

Coolant is the fluid that absorbs heat from the engine and then dissipates it through the radiator. It is also dissipated through your heater when it's cranked up in winter. Coolants have changed substantially over the last 25 years. The reason being is that the engine and the materials that radiators are made of have improved yet cars have become smaller and their engine bays are a lot tighter for space. Therefore radiators had to become smaller. Engine technology and power have also improved and therefore generate more heat. The end result being that more heat needs to be extracted from a smaller capacity cooling system. Recently Coolants have been used to get engines to their optimum operating temperature as quickly as possible from a cold start and then keep that temperature within a narrow band for normal operation.

Coolant (more commonly called anti-freeze) is a mixture of Ethylene or Propylene Glycol and Water mixed at approximately 50/50 ratio. There are two types of Coolant:-

Type A (Coolants containing Ethylene Glycol):-

Type A is usually required on late model vehicles, especially those that are still under their new car warranty. Type A Coolants are an Anti-Freeze/ Anti-Boil or Ethylene Glycol (EG) & Mono Ethylene Glycol (MEG) mix, which have a very high boiling point and very low freezing point. Type A Coolants contain components that lubricate seals in things like your water pump, other components are designed to plate coat or inhibit against rust, corrosion and electrolysis as well as protecting against freezing (below 0°C) and hot spot/ boiling (above 100°C). Approximate mixture is: - (Water 50%, MEG 40-45% & Rust & Corrosion Inhibitor 5-10%). Type A Coolants usually have a much longer life than Type B provided they are regularly checked and tested by your mechanic.

Type B (Rust/ Corrosion Inhibitors Only):-

Type B is usually used in older vehicles and the primary advantage is cost. Type B Coolant contains Rust & Corrosion Inhibitors Only. Type B Coolant's usually are mixed at much lower ratio's, E.g. 500ml to 10 Litres. These are often used at race tracks as they have no oily content/ residue and are therefore considered to be more environmentally friendly. Type B Coolant will run slightly cooler than Type A, purely because water has better heat transfer properties than anti-freeze.

Purpose of coolant

Always remember that the cooling system's purpose is to Remove Excess Heat from your Engine and yes the Coolant substantially contributes to this but more importantly it protects against rust, scale and corrosion. As your engine burns petrol or diesel, a little less than a third of the released energy goes into mechanical energy to run your vehicle. The rest is converted to heat, some of that heat is expended through the exhaust system, with a large portion of it being transferred to the engine itself. Without the cooling system your engine would be destroyed by heat within 3 to 30 minutes of starting the engine.

Coolant colour

Coolant colour is purely cosmetic and does not affect the performance of the Coolant formulation, but avoid mixing the colours without having a proper system flush.

ALL manufacturers are very specific that Coolants should NEVER be mixed and this is the only recommendation that can be made. At a practical level, Long Life (OAT) and Conventional (Type A, B) Coolants should NEVER be mixed under any circumstances as they have VERY different pH levels.

A brief run down on the Coolants that Onshore Oils

Recommend:-

Tru-Grit AC1 Coolant:

Type B Coolant available in Concentrate and Pre-Mix of 7.5% in Red or Green. AC1 Coolant is a premium grade long life organic rust and corrosion inhibitor type coolant for use in a wide range of vehicle makes and models that require a Type B Coolant. AC1 is recommended at a 5-7% dosage with clean or demineralised water. This product has a service life of 100,000km's/ 3 years in a well maintained automotive engine and up to 500,000km's/ 4 years/ 6,000 hours in a well maintained heavy duty diesel cooling system.

Tru-Grit AC7 Coolant:

Type A Coolant available in Concentrate and Pre-Mix in Red or Green. AC7 Coolant is highly recommended for use in heavy duty diesel engines and light duty diesel for complete cooling system protection. AC7 has a service life of up to 500,000klms/ 3 years/ 6,000 hours in heavy duty diesels. There are obvious environmental advantages as a result of fewer coolant changes. It is suitable for use in marine engines, earth moving, mining, heavy transport and trucking operations.

Tru-Grit AC9 Coolant

Type A Coolant available in Concentrate and Pre-Mix in Red or Green. AC9 is a premium grade long life organic coolant for use in most makes and models of vehicles including automotive and heavy duty diesel. AC9 provides maximum protection against “hot spot” corrosion, common in aluminium cylinder heads. AC9 has a service life of 100,000km’s/ 3 years in automotive applications and 500,000km’s/ 3 years/ 6,000** hours in heavy duty diesels. This also has obvious environmental advantages as a result of fewer coolant changes. (** at 50/50 dilution ratio).

Contact us

Please don’t hesitate in contacting your friendly Sales Representative or our Office Staff should you have any technical questions or require further information.

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