

Engine Coolants 101

Since it's starting to warm up and you folks will be getting your bikes out of moth balls, I thought I'd take a minute to give you some information and education about antifreeze/coolant products as well as some insight as to what coolants actually are and what their true purpose is.

Now, being from Engine Ice, I am a bit biased and I admit it. However, most all of the products on the market are excellent products, but each has various uses and applications for them. We produce Engine Ice for specific high intensity and high heat applications. It really is not designed as an "everyday" coolant; it is for racing or high temperature applications. However, it can be used as an everyday coolant with no problem

There are two basic types of coolant/antifreeze, Ethylene Glycol (EG) and Propylene Glycol (PG) and then there are surfactant products such as Water Wetter from Red Line for example. All of the products mentioned are good products, just offering different things.

Ethylene Glycol (EG) ? This is basically your "Prestone" type of products. Maxima's Coolinol, Pro Honda Coolant and Spectro Coolant are examples of this type of product. It is basically the same as the coolant/antifreeze product you can buy at the auto parts store, but "silicate-free." This is important, don't get the stuff from the auto parts store unless it's silicate free. Most are pre-diluted for easy use; they are diluted with more pure distilled water or deionized water (deionized water is explained below). This is better water than what you can buy at the grocery store.

You really shouldn't call an EG-based product a "coolant," an "anti-boil" product would be more accurate. EG is made very cheaply and its primary purpose is to eliminate boil-over and to keep your system from freezing up. That's basically it. It is not designed to actually reduce temperatures. If you are driving a car or a cruiser-type bike that does not have a temperature issue, these are fine products.

Water Wetter - It is an additive product. Water Wetter is what is called a "surfactant." What this means is that it reduces the surface tension of the water or in other words, it allows the water/fluid to "rub" closer to the metal allowing it to better draw off heat. Water Wetter works and it is good stuff. However, if you add it to an EG antifreeze product your results are minimal. It will reduce temperatures, but by only a small amount. Added to water, you will see a significant difference in temperature reduction. But it will not raise the boil point of the water nor does it offer any antifreeze protection. So your engine may run a bit cooler, but when it gets hot it will "spit out" the coolant before other products do. That is not good, because now you'll have less coolant in the engine. Using more than the recommended amount (4 capfuls to a quart) is a waste and it will not make any difference, only use their recommended amount.

Water alone is not recommended. You do need to add some type of water additive to it. Water alone is corrosive and it does not keep your seals, gaskets, water pump and water pump impeller shaft lubricated enough. Make sure something is added to water, do not run it all by itself.

I would not recommend Dex-Cool (the orange stuff). All reports and tests that I have heard of have not been good. It can "gel." It also has a tendency to clog up a motorcycle system. The radiator core and the system itself of a motorcycle are smaller when compared to an auto. I would avoid Dex-Cool and choose any other product before I'd recommend anyone using it.

Propylene Glycol (PG)? This is what Engine Ice Hi-Performance Coolant and Evans Coolant is made of. Evans is 100% PG and has an extremely high boil point of well over 350°F. They recommend you make some mechanical changes to your system, such as a zero p.s.i. cap or a different radiator in order to use it. Their goal is to eliminate boil-over, not to reduce temperatures. At their recommended 100% PG use, you'd have a boil point in excess of 350°F. At 100% PG, it would not be as effective at dissipating heat from your engine as well as it has a higher viscosity. Water is the ultimate coolant. All coolant products are measured against water for its heat dissipation capabilities. The lack of water in the use of Evans greatly reduces its ability to cool your engine. If you're running heavy equipment or an 18-wheel truck, Evans is probably a good product.

Engine Ice is a diluted ratio of PG and Deionized water. The process of de-ionizing water eliminates all of the impurities that can do harm to your cooling system. Regardless if you are using tap, bottled, distilled, spring or R/O (reverse osmosis) waters, it can still contain minute particles of iron, magnesium, rust, lime and calcium. Many of these waters also contain chemicals, such as chlorine, fluorides and acids. Want proof? Take two different brands of distilled waters and perform your own taste test. They each taste different don't they? If water were water, why would they be different? It's because of the varying amounts of chemicals and minerals in these waters. These minerals and chemicals are what is the cause of scarring, scaling and mineral build-ups in your cooling system. Many also attribute these minerals and chemicals to water pump seal and gasket failures.

Engine Ice was developed and tested in the heat and humidity of Southern Florida. Tests have proven to reduce operating race temperatures by as much as 50°F in some situations. PG is a lubricant and is a surfactant in itself, meaning it has more capability to draw away more heat than EG-based products and even Water Wetter. It is biodegradable and non-toxic. It will not kill your dog, nor will it kill the plant life at your favorite track or trail. It is also legal in AMA, CCS and FUSA road racing.

Engine Ice has won over 275 National Championship Titles over the last two and a half years including the 2001 AMA 125cc West Supercross Championship with Ernesto Fonseca on the Yamaha of Troy YZ250F and in 2002 Chad Reed in the 125cc West Supercross Championship. You can bet that Yamaha Motor Corporation did extensive testing on Engine Ice prior to putting it into their premier bike in its debut year. It is also used and endorsed by the American Suzuki Amateur Motocross Program. Engine Ice sponsored racer, Darren Luck, won nine (9) CCS class championships in 2002 as well as earned the CCS Florida Expert #1 plate by the largest margin ever. Racers using Engine Ice won seven CCS Race of Champions National Championships at Daytona in 2001 and won an additional eight (8) in 2002.

I apologize if this appears to be a spam, it was not meant to be such. Only educational