



Today's advanced coolant technologies require educating maintenance personnel about how different formulations work and training them on how to maintain them in the equipment they are responsible for. Testing monitors changes in coolant composition and provides recommendations for appropriate preventive maintenance action.

Mixing different coolant formulations can reduce corrosion protection and lead to corrosion problems. But it's not always possible to avoid mixing — especially when topping off. Engine manufacturers recommend mixing formulations by no more than 10%. If more than 10% is necessary, they recommend flushing the system and installing new coolant.

While every coolant formulation starts out the same — with either an ethylene glycol or propylene glycol base — it is the inhibitor package that differentiates them from each other. It is the additive formulation technology that determines how the coolant will protect engine metals and control corrosion. This technology can be inorganic additive technology (IAT), organic additive technology (OAT) or hybrid organic technology (HOAT), which is a combination of inorganic and organic.

Inorganic inhibitors lay a thin protective film on engine metals and can quickly deplete. Testing can determine when these additives need to be replenished. Organic inhibitors provide protection by chemically interacting with engine metals. Although organic inhibitors do not deplete, their performance can still be severely affected by the same mechanical problems that degrade inorganic formulations and should also be tested regularly. Hybrid formulations protect in both ways and should be monitored for the same reasons.