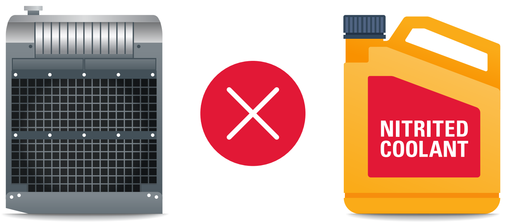
IS YOUR COOLANT HELPING OR HURTING?

Why aluminum coolant systems and nitrited coolants don't mix



A few years ago, OEMs introduced aluminum radiators and engine coolant systems manufactured with the Controlled Atmosphere Brazing (CAB) process.

The problem?
Coolant technology hasn't kept pace with modern manufacturing. And it could be keeping coolant systems from doing their job.

Inside the CAB process

Aluminum radiators and engine coolant systems are lighter and less expensive than the old copper versions. But as with any new standard, new challenges can be presented.

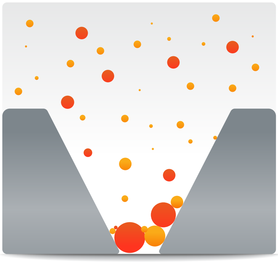
In the CAB process, the aluminum to be joined is treated with a chemical cleaning agent (flux) to prepare it for brazing

The aluminum outside the radiator becomes oxidized (passivated) by the air, giving it a natural protective coating

The inside aluminum treated with flux remains un-passivated and unprotected

Nitrites pose a problem

Coolants, especially those with nitrites, tend to react with un-passivated aluminum, causing two things to happen:

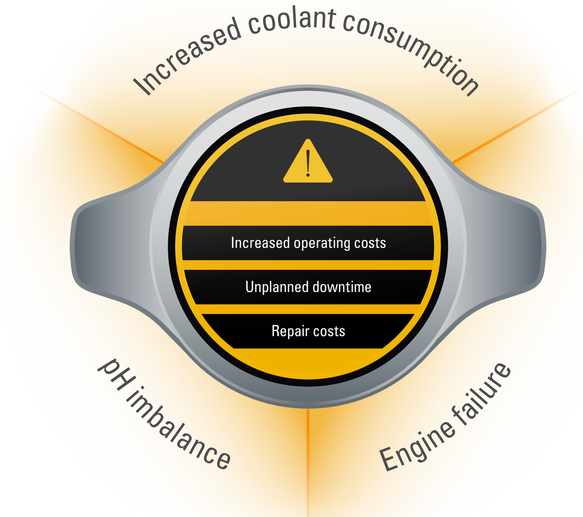


Precipitants form that clog small orifices in the coolant system

The coolant's pH balance gets thrown off, causing it to break down

What this means for machinery

This adverse reaction between un-passivated aluminum and nitrited coolants can lead to costly machinery and business-related challenges.



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