

HD

EXPERT



PROSHIELD™
COOLANT



ABOUT THIS WHITEPAPER

This whitepaper was developed to teach professionals about HD Expert's ProShield OAT Corrosion Defence. In it, we will examine:

- WHAT IS PROSHIELD CORROSION DEFENSE
- WHAT MAKES PROSHIELD SPECIAL

HD Expert provides a variety of coolant solutions for HD engines. Our team of expert engineers has developed an array of proprietary formulas specifically for HD applications. These precise formulas keep your engine cool and clean, so you can get the job done.

Discover HD Expert's ProShield Protection

All modern coolants contain corrosion inhibitors designed to prevent engine damage. Traditional coolants use inorganic inhibitors that break down and deplete over time. As a result, the coolant itself gradually becomes acidic, and can cause damage to your engine. HD Expert's solution to this common problem is ProShield™, an OAT corrosion inhibitor, found in select HD Expert coolant formulations.

WHAT IS PROSHIELD CORROSION DEFENSE?

ProShield is a proprietary blend of ingredients, commonly referred to as an OAT inhibitor package. Corrosion inhibitors are designed to chemically bind to the metals of your cooling system and form a protective layer several molecules thick on its surface. By providing valuable engine components with this protective layer, corrosion inhibitor packages extend the lifespan of the entire system.

ProShield, like most OAT coolants, is described as a Long Life Coolant (LLC) because it is based on minimally-depleting carboxylate technology. Unlike traditional coolants, ProShield does not require regular additions of Supplemental Coolant Additives (SCAs) at scheduled service intervals to keep from depleting. Over time, this comparative lack of maintenance can provide significant cost savings. While they last longer than traditional coolants, in some heavy-duty diesel applications, you may see a reference to a coolant extender. These can be used with OAT coolants like ProShield to top-up certain additives at the products half life, which is typically around 480,000 km.

THE PROSHIELD DIFFERENCE

HD Expert products made with ProShield possess several advantages over their competitors, including:

Extended Service Life: In HD applications, HD Expert's Endurance coolant with ProShield can last up to 8 years or 1,600,000 km (1,000,000 miles). Not only does this limit vehicle downtime due to service, but it also saves money.

Superior Protection: ProShield coolants provide superior protection. This is especially true in late model engines built with aluminium and magnesium. The use of ProShield's OAT inhibitors also prevents "gelling" associated with inorganic inhibitors.

Safer & Cleaner: ProShield's OAT inhibitors are known for their lower health and environmental toxicity compared to 2-ethylhexanoic acid (2-EHA) based coolants.

Additionally, 2-EHA can soften silicone-based hoses and gaskets, making ProShield coolants better suited to engines that may contain these aftermarket parts. While ProShield OAT packages do not contain 2-EHA, other OAT packages may contain it.

Additionally, ProShield provides:

- **Wet sleeve liner cavitation protection without the use of nitrite**
- **Safeguarding against CAB flux contamination in aluminum components**
- **Corrosion inhibitors based on fully-neutralized organic acids and azoles**
- **Extended life in both light and heavy-duty applications**
- **Excellent high-temperature aluminum protection**

ProShield (and other OAT coolant additives) have already been approved around the world. As a result of work initiated by John Deere, there is now an industry specification for determining an engine coolant's potential to resist liner cavitation erosion. An ASTM Standard, D7583 is now available to validate the liner cavitation protection on offer by any engine coolant – especially those that do not contain nitrite or nitrite and molybdate. Recently, ASTM D15 modified ASTM D6210 to include this liner cavitation test. A review of ASTM D6210-10 will show that nitrite-free OAT engine coolants that pass ASTM D7583 are approved for use in heavy-duty diesel applications.

When browsing through HD Expert coolant products, make sure to consider those that incorporate ProShield, such as:

- ▶ **EXTREME**
- ▶ **ENDURANCE**
- ▶ **EXTRA**
- ▶ **EXTEND**

If you're looking for a coolant additive that will protect the latest coolant system materials against corrosion and deterioration without rapidly depleting, and that provides excellent high temperature aluminum and wet sleeve liner cavitation protection, ProShield is the product for you.

HD Experts are the heavy-duty coolant professionals for all your most challenging coolant needs. Their sole focus is creating specialized coolant formulations for HD engines, resulting in superior protection, improved temperature control, and an extended service life. Discover what their solutions (including ProShield corrosion defence) can do for you today!