

POWERGUARD™

Enhancing your diesel performance

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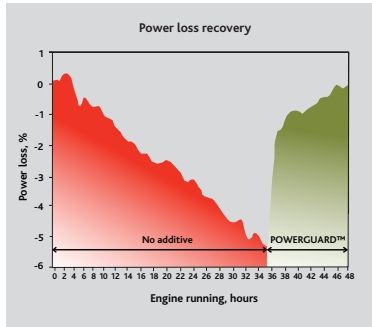
DELIVERING PERFORMANCE

FOR MODERN ENGINE

TECHNOLOGIES

Harness the power of today's diesel engine technologies by focusing on fuel. Our next generation additives get to work at the heart of the fuel system to clean and protect. This is the innovation of POWERGUARD™. You can deliver enhanced performance, improved fuel economy and reduced emissions by using our single additive package.

POWERGUARD™ creates dynamic performance



Innospec's Performance Testing Facility in the UK carry out engine test bed trials to maximise POWERGUARD™ performance.

Cutting edge fuels are critical to the reliable operation of today's sophisticated diesel engines. These engines demand the very best if they are to deliver maximum performance.

Without these fuels vehicle operation can be compromised as deposits quickly accumulate inside the fuel injection system. Carefully engineered components no longer work as intended. The power falls off. Fuel economy falters. Engine noise increases.

The best way to take fuel performance to the next level and ensure an engine does not lose power is to treat the fuel. By adding POWERGUARD™, your fuel will keep the fuel system clean so power is restored and maintained at its optimum level. The engine will run smoother and quieter and use less fuel. Performance is restored.

This innovative answer to creating a market leading fuel demanded by engine manufacturers

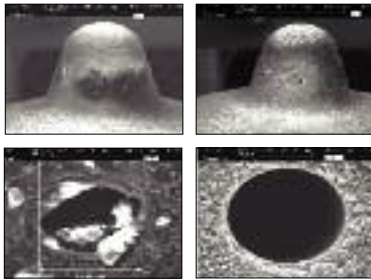
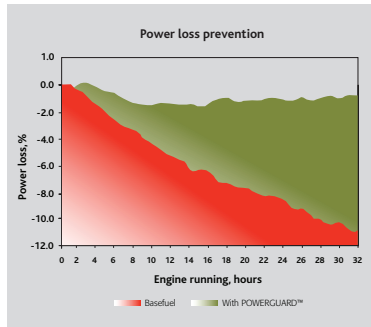
and end-users has been developed by Innospec Fuel Specialties. We are the world's only fuel additive manufacturer solely focused on fuel and fuel additive technology. Our reputation for developing innovative fuel additives is second to none. We have the technical expertise and resources to create state-of-the-art market leading solutions.

We understand the performance issues surrounding High Speed Direct Injection (HSDI) engines and modern fuels. Our research confirms that adding advanced diesel detergents to a fuel can effectively control the build up of deposits inside modern HSDI engines.

With POWERGUARD™ we've taken this a step further by developing a multifunctional additive package that not only improves fuel performance but also provides the fuel manufacturer and marketer with a host of additional benefits.

Now you can create designer fuels for the latest diesel engines. Modern fuel injection systems utilize precisely engineered components that work to extremely fine tolerances. A fuel should celebrate this technology and work with it. Use POWERGUARD™ to develop bespoke fuels that keep an engine running to its optimum level of performance.

POWERGUARD™ cleans and protects



Fuel injector holes show the remarkable difference using basefuel and fuel treated with POWERGUARD™.

Modern engines are complex and demand uncompromising fuel performance. The introduction of alternative fuels, such as biofuels and synthetic diesels, has only added to the challenge of developing fuels that work with today's engine technology.

This issue is clear. Advanced fuel injection systems generate extreme heat and high pressures that can cause a fuel to decompose. The result is a build up of stubborn deposits around the injector valve seat and nozzle.

This prevents the fuel from flowing freely and ultimately compromises engine performance. Black soot like deposits may also form in the fuel filter, further decreasing efficiency.

By using a POWERGUARD™ additive package, you can condition your diesel fuel to withstand the extreme heat and high pressures of today's

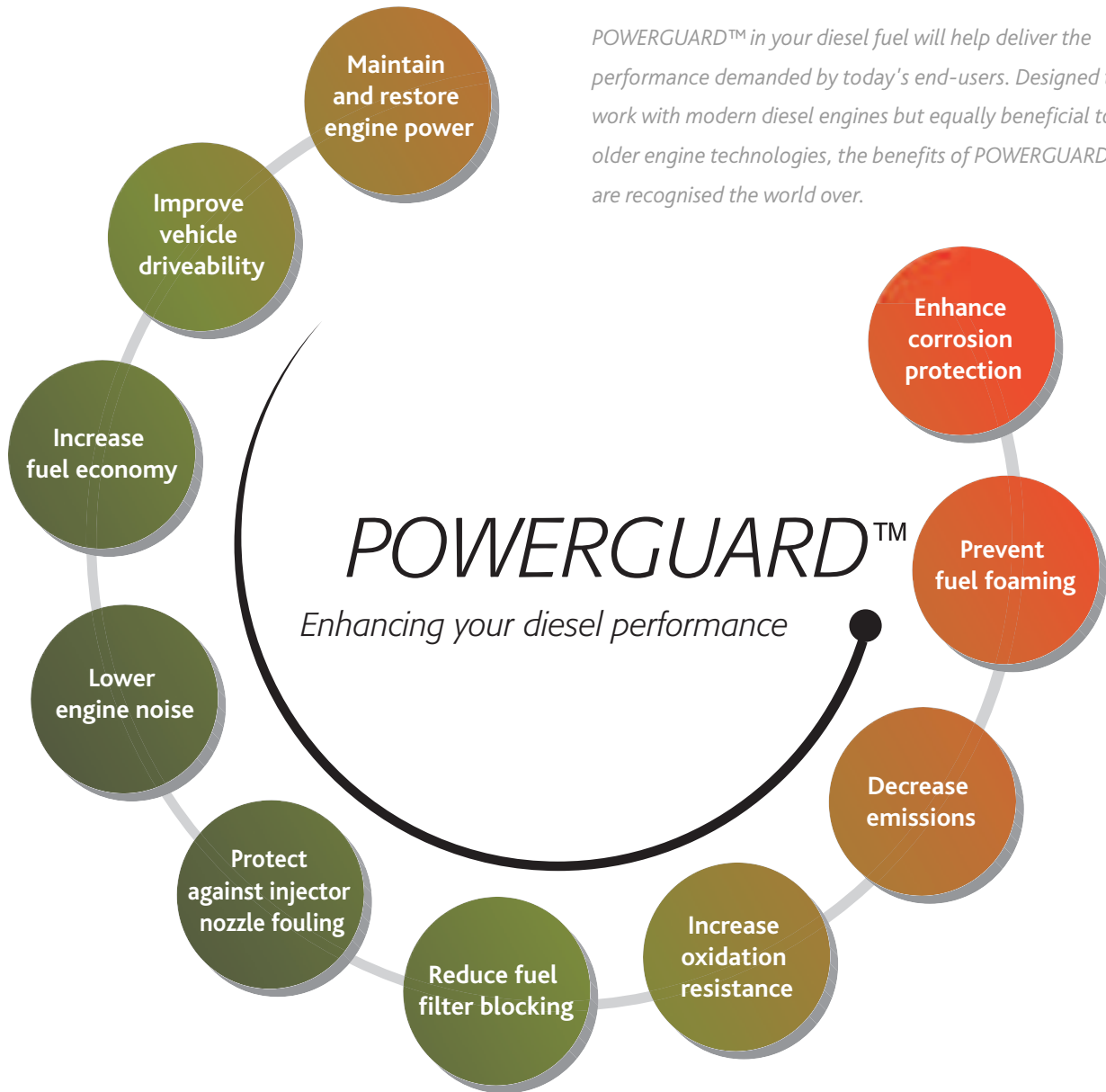
fuel injection systems. A treated fuel will benefit from increased resistance to oxidation.

But POWERGUARD™ does more than prevent harmful fouling. It means your fuel also cleans the injection system and removes any existing deposits. With a clean engine running at optimum efficiency, fuel economy can be boosted with less spent on regular maintenance.

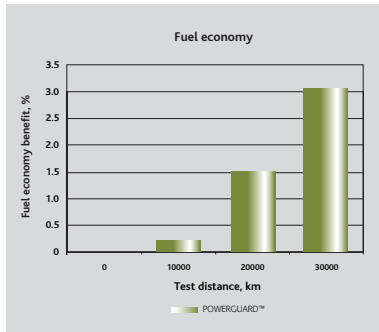
Although this powerful additive technology has been designed to enhance fuel performance in modern HSDI engines, it can be used with older diesel technologies to control nozzle fouling. Whatever the market, POWERGUARD™ in your fuel will help clean and protect.



POWERGUARD™ in your diesel fuel will help deliver the performance demanded by today's end-users. Designed to work with modern diesel engines but equally beneficial to older engine technologies, the benefits of POWERGUARD™ are recognised the world over.



POWERGUARD™ works with your environment



POWERGUARD™ is a multifunctional diesel fuel additive range that does more than deliver enhanced performance. A dirty engine with fouled injectors emits more pollutants from a vehicle's tailpipe than a clean engine working efficiently.

Using our additives will reduce these harmful exhaust emissions by conditioning the fuel to help restore an engine to its optimum state.

By reducing emissions, improving fuel economy and engine noise, POWERGUARD™ works with the environment not against it. But it also brings together several other key market benefits in a single package.

Fuels treated with POWERGUARD™ provide better protection against corrosion in both storage tanks and the vehicle fuel system.

POWERGUARD™ also improves fuel handling. Using custom-designed anti-foaming agents, our fuel additive solutions reduce fuel foaming. This translates into easier fuel handling, less spillages and increased fuel sales.

Add up all these benefits and it is easy to see why POWERGUARD™ is the answer to enhancing your diesel fuel performance. Our Fuel Specialties team develop bespoke additive packages geared to the specific requirement of our customers. By working together we create premium fuels for different markets worldwide. Take advantage of POWERGUARD™ today.



For more information on how Innospec's POWERGUARD™ and the Fuel Specialties team can work with you, contact your regional sales office.

Our international office network offers unrivalled product support and it has the resources to deliver the required fuel additive treatments to customers anywhere in the world.

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