

DXP

**PREMIUM DIESEL FUEL LUBRICATION
& ENHANCEMENT TECHNOLOGY**



EXECUTIVE SUMMARY

DXP (Diesel eXtra Protection) is a comprehensive premium diesel fuel additive engineered specifically to deliver the highest standard of premium diesel fuel possible.

DXP enhances mineral diesel and bio-diesel to produce high efficiency burn rates, reduced fuel consumption with impressive emission reductions.

As a multi-functional product DXP has been specifically formulated to:

- improve Cetane
- enhance atomisation
- lubricate mechanical components
- kill algae
- clean injectors, and
- prevent moisture in diesel fuel.

Originally developed under a registered federal research and development project in 2004, DXP was subjected to a barrage of independent government assessments including the former NSW Department of Primary Industries and the NSW Mines Safety Technology Centre. This process demonstrated unprecedented performance results.

DXP has been independently scrutinised by NSW Government bodies, OEM mechanical test facilities (CAT and CUMMINS) and leading mining companies.

Performance outcomes from testing by NSW Coal Mine Safety & Technology led to DXP being the only product of its type included in the Coal Mine Regulation.

Following commercialisation in 2017, DXP is now the premium additive for commercial premium diesel production across all states of Australia.

DXP is a fully Australian engineered innovation with 100% Australian ownership and manufacturing. All manufacturing is done under Boeing Airline Quality Assurance system in ISO 9000:2001 certified facilities. Each batch is laboratory-tested within our NATA accredited laboratory ensuring the highest quality product delivery.

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DXP SUMMARY OF BENEFITS

- Fuel efficiency
 - Field average: 9 - 15%
- Significant reductions in combustion emissions
 - Nox: 3% average reduction
 - CO2 4% - 20% reductions
 - CO 4% - 16% reductions
- Particulate reduction: Average 40%
- DPF Process significantly reduced or eliminated
- Engine noise reductions: Average 15%
- Power improvements: Between 1% and 10%
- Significantly increased injector life and performance
- Lower engine oil loading
- Minimise/eliminate glazing & piston head carbon depositing
- Provides superior rating level of injector cleanliness in Cummins L10 test:
 - 65% lower depositing
 - 20.3% clean up
- Exceeds CSCA requirement for Peugeot XUD-9 injector cleanliness
- Delivers 60% improvement in residual flow
- Offers exceptional lubricity for reduced fuel system wear
 - 35% lower wear rating ASTM 5001 BOCLE
- Kills and prevents growth of bacteria, yeast and fungi
- Reduces moisture entrapment and prevents stable moisture emulsion formation. Reduced shed time.

Nominal Diesel	DXP
10+ mins	2 mins

- Enhances fuel storage stability and longevity
 - ASTM2274 Fuel Oil Stability Testing
 - 78% reduction in insoluble within DXP against nominal diesel
- Provides superior corrosion protection in the NACE rust test

Nominal Diesel	DXP
50%-75%	0%

- Reduces fuel foaming and inhibits foam stability.

Nominal Diesel	DXP
15ml height collapse time 105sec	11ml height collapse time 37sec

- Proven compatibility with Soy Biodiesel from 2.5 years of field operations and Cummins Dynamometer testing.

DEVELOPMENT OF DXP

DXP was engineered to deliver the most cost effective, high performance, fuel efficient, low emission premium diesel fuel possible. Our objective was to produce premium diesel fuels which deliver predictable equipment longevity, optimum availability and maximum reliability for asset intense operations.

The proposed new Australian carbon trading scheme has propelled Australia into the utilisation of new and alternative fuels. Diesel emission and fuel standards will drive fuel conditioning and quality assurance. DXP is an inexpensive means of ensuring efficient, low emission quality fuel. It was identified that an additive was required that offered functional performance, particularly with low sulphur fuels.

Australian research and development projects which are of innovative significance and meet the highest standards of technological content are commercially supported by the Australian Government Department of Innovation Industry, Science and Research. Commencing in 2004 DXP complied with the Australian Industry Research and Development Act 1986 and was assigned federal development project number R20092453.

DXP is a fully Australian engineered innovation with 100% Australian ownership and manufacturing. All manufacturing is done under Boeing Airline Quality Assurance system in ISO 9000:2001 certified facilities. Each batch is laboratory tested within our NATA accredited laboratory ensuring the highest quality product delivery.

DXP has been independently scrutinised by NSW Government bodies, OEM mechanical test facilities (CAT and CUMMINS) and leading mining companies. Included in the testing bodies, was the NSW Coal Mine Safety & Technology Centre where the performance outcomes dictated DXP being included in the Coal Mine Regulation. This unprecedented event placed DXP as the only diesel enhancement product to ever be directly nominated for underground mining use which is a testament of unequalled calibre.

As an ashless organic innovation with no minerals, metals or alcohols, DXP can be incorporated to enhance the wear protection of fuel system components, particularly injectors and injector pumps, and maintain premium fuel properties and performance.

DESIGN & PERFORMANCE CHARACTERISTICS

DXP have both design and measured performance characteristics for combustion improvement, emission reductions, mechanical longevity and fuel storage. The product design functional specification clearly defined minimum performance levels which when referenced against global scientific data and direct product component technical data provide irrefutable evidence of product on paper performance.

The design performance characteristics which could be directly measured against standard test methods were tested in accordance with the relevant standards. All outcomes supported the design performance of the product after the component research and development was completed and the constituent concentrations were applied as per the engineering determined.

DXP is adaptable and can be specifically engineered to meet the individual requirements of each industry relative to environmental conditions that may uniquely present.

DESIGN CETANE IMPROVEMENT EFFICIENCIES

The application of the organic cetane improver at the minimum design ppm blend ratio on fuels with an original cetane number between 45 — 56 provides a consumption reduction for the generation of comparable horsepower between 1.1% - 1.9%. As applied in DXP for original cetane number fuels between 50 — 56, at higher than minimum design dosage rates, the engineered consumption reduction from DXP blended in diesel at 3000:1 blend ratio is 2.0% - 2.23%.

For reference to the Global Science supporting Burn Rate Improvements from Cetane Improved fuels see SAE Documents No: 972901, 972900, 2000-01-1853.

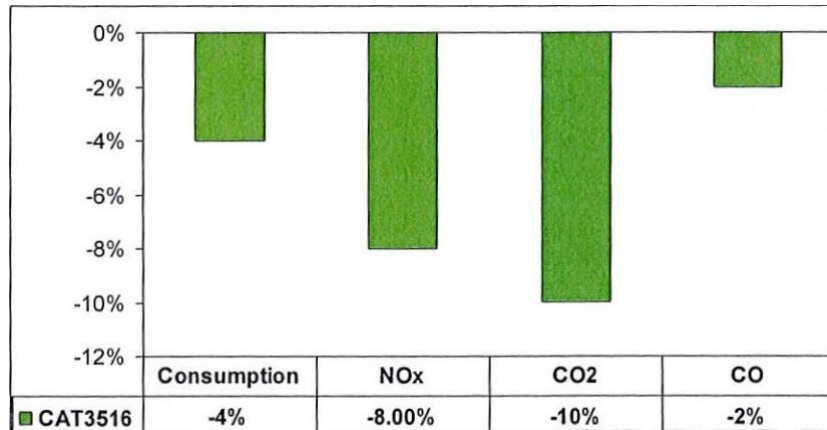
MEASURED CETANE IMPROVEMENT EFFICIENCIES

CATERPILLAR 3516 DYNAMOMETER TEST DATA

Dynamometer performance testing with confidential strategic industry partners, Westrac CAT, Cummins, MTU Detroit, PJ Berrimans and NSW Department of Primary Industries was utilised to determine the instantaneous changes in fuel burn rates for CAT3516, Cummins QSK60 and MTU4400 engines. This was done to relate the instantaneous burn rate variation to the design combustion improvements from cetane enhancement. The following details the results.

Cat 3516 - Test Facility - Westrac CAT dynamometer Mt Thoriey NSW, April 2007. This testing was undertaken on a 789B, Cat 3516 removed from service at approximately half life expressly for the purpose of determining the instantaneous combustion improvement from DXP on an engine representative of average fleet hours.

The dynamometer load and operational characteristics where selected by the industry partner as 1723 rpm, 1726 HP, 5263 Lbs/ft of torque and 111.4 Gal/hr burn for untreated fuel. The treated fuel at 1718 RPM delivered 1736 HP 5303 Lbs/ft Torque and 109.2 L/hr burn rate representing an efficiency of 2% for less RMP with increased HP & Torque.

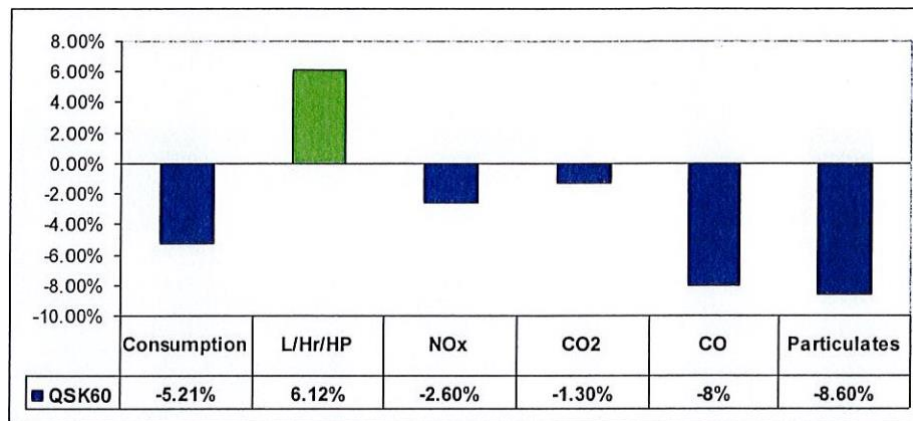


CUMMINS QSK60 OFF ROAD MINING ENGINE

Cummins QSK60 Test Facility
 Cummins Dynamometer Hexham NSW, October 2009.

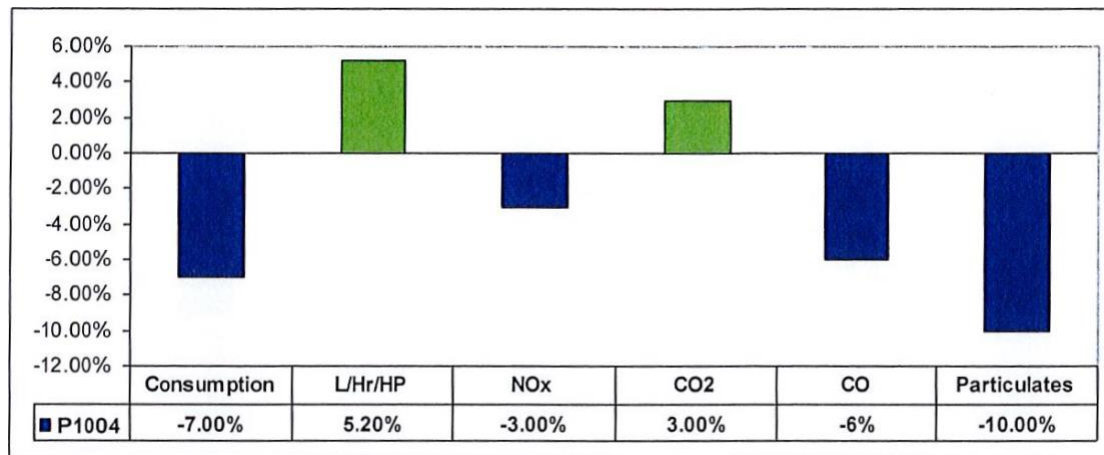
The testing was undertaken on a Cummins QSK60 at three quarter life expressly for the purpose of determining the instantaneous combustion improvement from the application of DXP to a Soy based B20 biodiesel blend.

The dynamometer load and operational parameters were selected by Cummins technical as 2589 HP and 7153 Nm Torque with a consumption of 455 L/hr. The treated fuel at the same RPM delivered 2616 HP and 7218 Nm Torque with a consumption of 448 L/hr. This represents an increase in horsepower of 1% and a fuel consumption improvement of 1.5% from an instantaneous burn of treated fuel.



PERKINS 1004 DYNAMOMETER TEST DATA

Dynamometer testing of the Perkins 1004 underground mining engine was undertaken as a project between FIMA, the NSW Government Department of Industry and Investment Mines Safety Technology Centre and P.J. Berimans (the original equipment manufacturer) of underground mining personnel transport machinery. The full data set of this research is too large to include here for the purposes of this document and remains the intellectual property of our test partner.



MEASURED CETANE IMPROVEMENT EFFICIENCIES

From this gamut of testing it can be concluded that DXP will at a minimum, deliver the designed 2% fuel consumption efficiency for comparable engine performance.

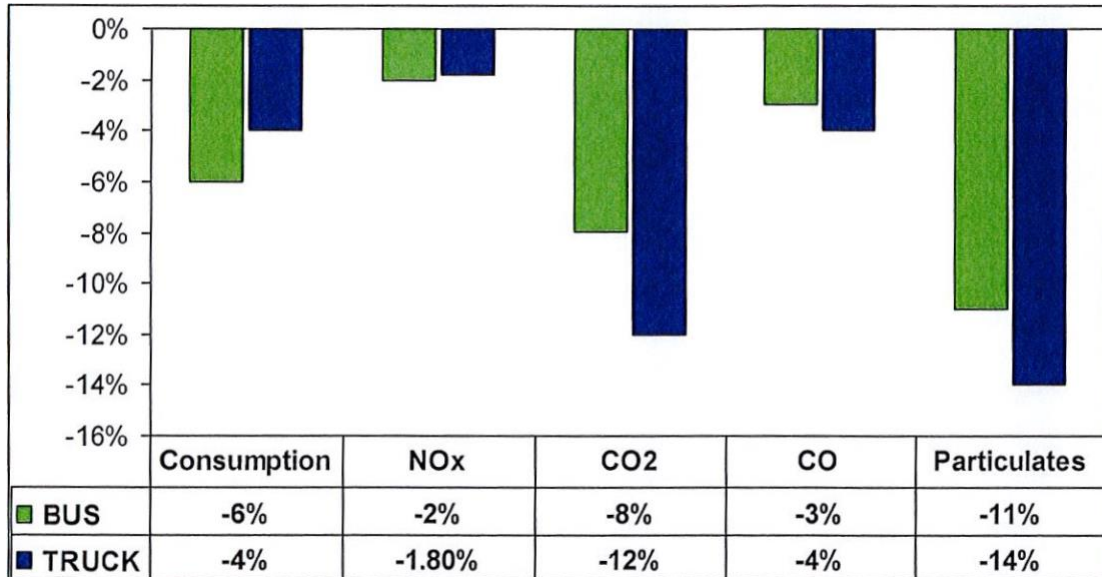
On the strength of the outcomes of the Perkins 1004 test shown above, the NSW Department of Industry and Investment required 3 separate and independent tests of fuels containing DXP.

All testing was undertaken by the Department of Primary Industries and Mines Safety Technology Centre and was conducted in accordance with the internally confidential testing procedure 03/0255 by their National Australian Testing Authority (NATA) accredited laboratory.

The mine Safety Technology Centre produced test reports 06/0212, 07/0066 and 09/1254 of which the results are commercial in confidence to the Department. As a result of these tests DXP was gazetted by The Department as the only fuel additive technology, exclusively suitable for underground mining.

ON ROAD FIELD TESTING

On road testing consists of commercial fleets including over 1650 buses and 400 trucks. The data collection period commenced in early 2008 and continues to this day. Emission and consumption data for all test participant vehicles are reflected in the aggregated table below. Individual data sets are too numerous to include for the purposes of this document and in most cases remain the intellectual property of our test partner.



DESIGN FUEL PERFORMANCE MODIFICATIONS

DXP was engineered to deliver as a minimum 50% less injector depositing, a 15% injector clean-up and 45% improvement in residual flow. The Cummins L10 test performed on treated diesel delivered a result of 65% lower depositing and a 20.3% clean up whilst the Peugeot XUD-9 injector cleanliness test resulted in 60% improvement in residual flow

A design increase of fuel lubrication of 28% was set to be achieved as the sulphur in fuel was to become zero from the 800ppm at the time of product engineering. As determined from wear rating testing against ASTM 5001 BOCLE, DXP delivers a 35% reduction in mechanical wear.

DXP engineering functionally includes a biocide to kill and prevent growth of bacteria, yeast and fungi.

Water is a critical issue with respect to modern engines and fuel management strategies. Historically OEM engine warranty statements have referenced the periodic removal of water from tanks and systems as an integral component of fuel maintenance for continuation of engine warranty. DXP are engineered to provide a low fuel water tolerance for the express purpose of efficient water removal from diesel. ASTM D 1094 Water Tolerance Test provides DXP treated fuel with an 80% settle time improvement over untreated fuel.

Fuel borne insoluble materials impact significantly on fuel combustion efficiency and mechanical operation and longevity. DXP is engineered to reduce the fuel oxidation and limit the formation of gums that increase deposits and filter plugging. ASTM2274 Fuel Oil Stability Testing provides DXP treated fuels have a 78% reduction in insoluble formations compared to untreated fuels.

DXP includes a rust inhibitor for the prevention of material corrosion. The National Association of Corrosion Engineers (NACE), rust test shows that untreated diesel delivers a visual rust rating D (50-75% rust) where DXP treated fuel was rated A (Zero rust).

Diesel fuel foaming is a significant cause of fuel system premature failures. The inclusion of air in fuel reduces the laminar flow hence reduces the lubricity and heat conductive parameters of the diesel fuel. DXP treated fuels will foam to 11ml and collapse in just 37 seconds against untreated fuel foam height of 15ml and collapse time of 105 seconds.

FIELD PERFORMANCE SUMMARY

DXP has been commercialised in 2017 and in conjunction with strategic industry partners a gamut of field trials has been performed.

The most recent test result is from Kalgoorlie Western Australia with a mining partner of our local distributor where a Cat AD55BS was subjected to a trial of DXP for three months. The outcome of the field trial determined a 4% fuel saving and an average 40% hydrocarbon particulate emission reduction. The site was reporting significant injector failure problems and fuel foaming and oxidation issues which at the completion of the trial period have been eliminated. This specific data and test results provide the latest information to our field performance references and remain consistent with the historical trials.

A three month field trial was undertaken within a major quarrying organisation in 2007 and provided the following data from CAT dump trucks and excavators. Cat777 dump trucks and 5130 Excavators were the equipment subject to trial. The fleet of 777's, operating in a flat quarry returned an average fuel efficiency of 4.6% whilst the 5130 Excavator closely monitored showed an outstanding 9% efficiency at the completion of the trial. This 5130 shows the full and long term benefit of the application of the gamut of design improvements delivered from DXP.

In 2009 ISO 8178-4 E5 test cycle was performed on a Terex 4400 MTU4000 series engine in load box mode to create electrical load simulating DYNO. Measurements were taken over the gamut of cycles on fuel burn rate, power and emissions. Testing included average weighting of operational modes and delivered the following weighted results. Mineral Diesel treated with DXP provided a 4.0% reduction in fuel consumption with emission reductions in CO₂, CO, NO_x and Particulates of 3.8%, 10%, 4% and 78.8% respectively. The B20 Biodiesel subjected to testing when treated with DXP provided a 2.9% fuel efficiency and emission reductions in CO₂, CO, NO_x and particulates of 4.7%, 5.6% 1.8% and 77.2% respectively.

An industry leading cruise liner company saw an immediate reduction fuel costs of 10%. After 12 months operation final maintenance figures revealed an overall fuel cost, maintenance cost and maintenance downtime reduction of 25%. Downtime was significantly reduced as there was limited need to clean out fuel tanks, fuel lines and injectors. This company has asked their name be withheld at this a stage due to the substantial competitive bonus this represents.

A leading Canadian Trucking company running 95 tractors held trials in December 2017. Their initial winter fuel immediate savings represented 6%. Expectation is of 10% summer fuel savings due to an average variance of 4%. This has led to their parent company of 400 tractors commencing trials in May 2018, and the commencement of export to Canada and North America.

The Leading NSW independent bus company undertook trials and comprehensive product utilisation from Sept 2007 with an average fuel consumption improvement across the groups 1480 buses of 6.5%. Other subsequent bus companies utilising DXP report average consumption reductions of between 3.8% and 6.2%.

TESTIMONIALS

PBI Transport, Dubbo, NSW

Used Diesel eX-tra Protection with amazing results. We freight fuel from Newcastle to Dubbo daily, with a Peterbilt CAT C15 550HP and averaging 1.9Km per Litre.

On trialling Diesel eX-tra Protection we noticed the motor running smoother and quieter with more power, eg; 1 gear better with less smoke emissions.

My fuel average went from 1.9Km per Litre up to 2.3Km per Litre, a huge saving which more than covers the cost of the product.

Diesel X-tra Protection is by far the best conditioner I have ever used.

Orange Fasteners, Orange, NSW

Since purchasing Diesel eX-tra Protection, all our farm vehicles and commercial vehicles are performing really well. We purchased an Isuzu truck for the farm which was an ex-railway truck with low kilometres but an older truck. When we bought the truck the motor was noticeably doughy and underperforming, since using Diesel eX-tra Protection the truck is now performing noticeably better.

Only last week a mate used the truck to get a load of chaff, he commented that it performed better than his later model Isuzu of the same size, also was very pleased with the economy.

Tony's Bus Service, Narromine, NSW

We run Diesel eX-tra Protection in all our buses as it elevates the standard diesel to a premium product. Diesel eX-tra Protection has reduced our fuel consumption by approximately 10%.

The engine is running smoother and a lot quieter without the rattles you expect from a diesel.

We no longer have to manually run the DPF on our Mitsubishi Rosa 25 seater buses, after initially needing to run the DPF daily. It has been 4 years since we began using this product. When we periodically stop using it to test we immediately needing to do DPF burn off's and our fuel consumption increases. The Fuel filters are always clean when inspected, and there are no visible smoke emissions.

The tank never gets filled without Diesel eX-tra Protection being added.

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