

CROWN CRT Fuel-Borne Catalysts

Reduces PM & soot by 30 - 50%

6-10% fuel efficiency

Plus net fuel savings and reduced CO₂

Extended engine life

Slash downtime & operating costs with 30 - 50% reduction in particulate matter (PM)

OEM warranty stays intact

- Safe for all engine types
- Zero engine modifications

Greener = Safer

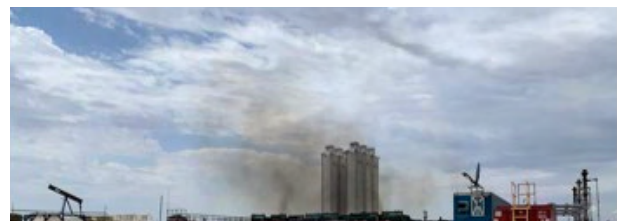
- Up to 50% reduction in GHG emissions
- 20% Reduction in NOx emissions



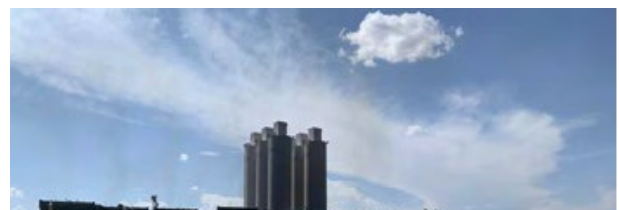
Run smoother and longer with cleaner engine oil.

CRT contains catalyst chemistries that start combustion at a lower temperature and optimize combustion rates, resulting in more power, lower emissions, and increased fuel efficiency.

CROWN
CARBON REDUCTION TECHNOLOGIES

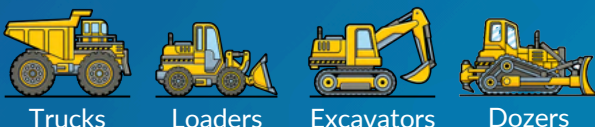


Visible emissions before CRT Fuel-Borne Catalysts.



Visible emissions after CRT Fuel-Borne Catalysts.

Applications



Trucks

Loaders

Excavators

Dozers





BENEFITS & FEATURES

CRT is a Fuel Borne Catalyst, not “just an additive.”

CRT is a high-performance catalyst engineered to deliver 6–10% average fuel efficiency gains, outperforming standard additives by up to 3X.

Component	Competitors' Additives	CRT® Fuel Borne Catalyst
Catalytic Action	None (0%)	3–5% efficiency boost
Cetane Improver	2–3%	2–3% (industry-standard)
Detergent	1–2%	1–2% (cleans injectors)
Total Efficiency Gain	3–5%	6–10%

Customer Stats

Industries

- Mining
- Oil fields
- Marine

Engine Types

- Tier 2, Tier 4 CAT
- Cummins, MTU, EMD
- 750 – 3,000 HP

Active HP

- >300 pieces of equipment
- 750k HP
- 151M L of Fuel Consumption

700 Litres Treated

\$18.29M Net Fuel Savings

145.1k Tons of CO₂ Prevented

0-20% NO_x Reduction

30-50% PM Reduction

3.5M Engine Hours No Issues

Treated fuel is good for engine health.



Tailored for diverse applications: Bi-Fuel, off-road, and on-road diesel engines.



Save on fuel costs



Cut R&M costs



Zero engine modifications



Reduce emissions



Slash downtime



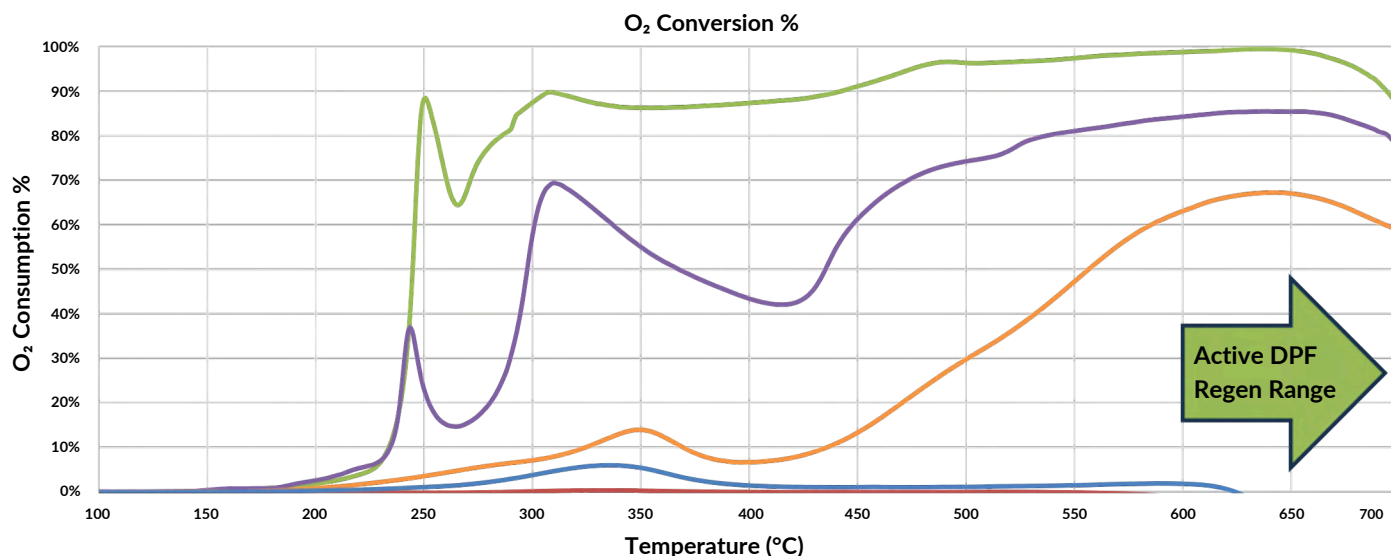
Fewer wear metals



BENEFITS & FEATURES



Temperature Programmed Oxidation (TPO) Analysis



- Soot in absence of Catalyst does not oxidize at 700°C CRT
- Catalysts eliminate soot well below 700°C
- Competitor Fuel Additive shows minimal O₂ consumption/conversion compared to CRT products

CRT® Fuel-Borne Catalyst reduces PM & soot by 30-50%.

After TPO Unburned soot

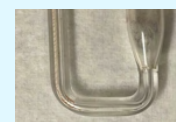


Soot only

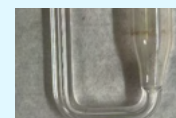


Diesel KLEEN
Power Service

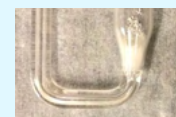
Completely consumed soot



CRT-Clear



CRT-Endurance



CRT-Premium

Soot Oxidation Test

	CRT Premium	CRT Endurance	CRT-Clear Catalyst	Competitor CB, L, D	Soot Only (Control)
450 °C					
500 °C					
550 °C					



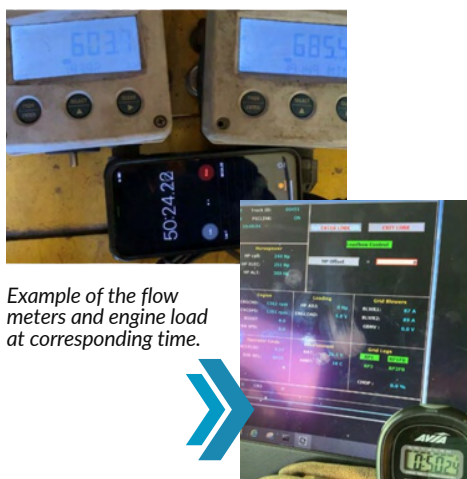


CASE STUDIES

Mine #1 Load Box Demo

Fuel Test Komatsu 830e Results

Results showed that CRT is on average **12% more fuel efficient** than untreated fuel.



Example of the flow meters and engine load at corresponding time.

CRT demonstrated 12% greater efficiency than untreated fuel in controlled tests, showing potential to improve performance and lower fuel costs across various horsepower levels (300–1800 HP).

Target HP	% Engine Load	GPH Untreated	GPH Treated	% Diff
300	12.0%	9.98	9.17	-8.1%
600	24.0%	34.87	33.96	-2.6%
900	36.0%	40.62	36.04	-11.3%
1200	48.0%	48.29	42.42	-12.2%
1500	60.0%	71.96	56.06	-22.1%
1800	72.0%	91.02	76.76	-15.7%
Average				-12.0%

* % engine load based on 2500 HP max
 * GPH rates are normalized to indicated HP
 * 600HP: engine was hunting and surging

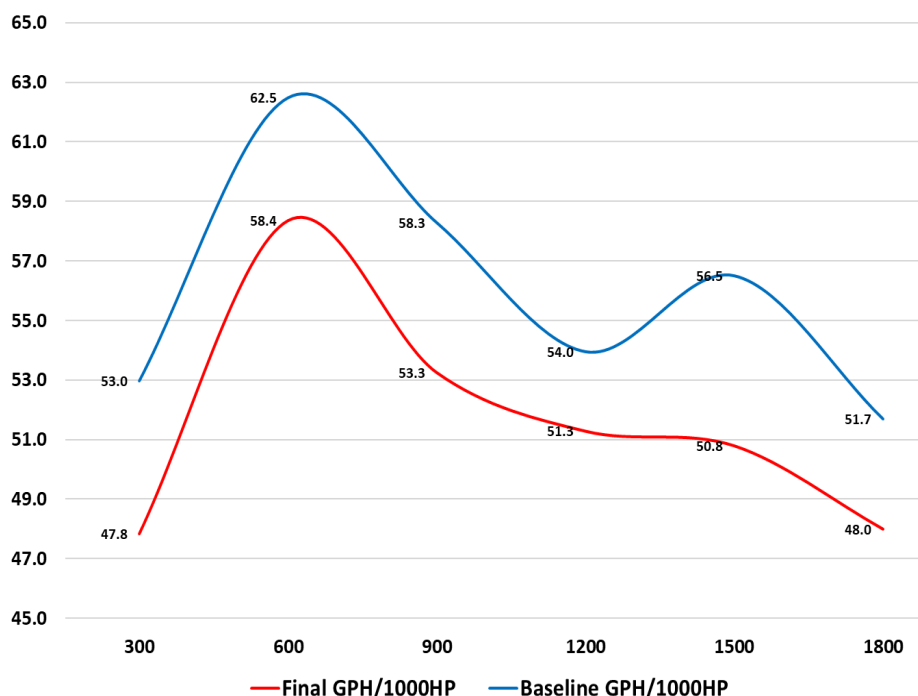
Mine #2 Load Box Demo

Fuel Test Komatsu 830e Results

By measuring supply and return fuel (temperature-adjusted) across horsepower levels (300–1800/Max) and syncing HP with fuel rates, CRT proves its ability to optimize performance and deliver cost savings.



Final vs. Baseline GPH/1000HP





CASE STUDIES

Mine #3 (Coal Mine Study)

CRT's fuel efficiency was tested across varied hauling conditions: Cat 793D (dirt), Cat 797F/B (80-90% dirt, some coal), and Diesel Electrics (coal only), achieving a predicted ~7.5% efficiency gain that matched real-world results.



CAT 793D

6.4%

Fuel Savings



CAT 797B

5.0%

Fuel Savings



CAT 797B

6.8%

Fuel Savings



KOMATSU 830E

7.4%

Fuel Savings



TEREX MT4400

9.7%

Fuel Savings

~7.5% efficiency predicted vs actual consumption.

Machine Category	Machine Class	OPHRS Pre-Add	Diesel Gallons Pre-Add	GPH Pre-Add	OPHRS Post-Add	Diesel Gallons Post-Add	GPH Post-Add	GPH Change	GPH % Change	Predicted Fuel Burn	Actual Fuel Burn
Haul Truck	Cat 793D	10,487	347,402	33.1	7,896	244,824	31.0	-2.1	-6.4%	261,548	244,824
	Cat 797B	26,087	1,439,336	55.2	9,708	508,988	52.4	-2.7	-5.0%	535,643	508,988
	Cat 797F	26,949	1,529,812	56.8	8,962	474,129	52.9	-3.9	-6.8%	508,737	474,129
	KOMATSU 830E	17,259	493,160	28.6	5,819	153,903	26.5	-2.1	-7.4%	166,266	153,903
	TEREX MT4400	9,133	359,527	39.4	2,831	100,666	35.6	-3.8	-9.7%	111,449	100,666

MORE FROM
GREEN FLEET SOLUTIONS

More fuel savings
Cut more emissions



EPURA Self-Cleaning Filters
The last air filters you'll ever need.



ThermaStart Idle Management System
Eliminate idling and boosting.



SkelStart Engine Start Module
Never boost a dead battery again.



DFM - Precision Fuel Flow Meters
Unlock efficiency and savings.



EZ ADD AUTO DOSING SYSTEM



Deployment is Easy with EZ Add



Seamless Setup

Integrates into any bulk storage, ideally on the recovery side of tanks.



Smart Dosing

Treats fuel during recovery—no extra personnel needed.



High Capacity

500,000+ US gallons per fill-up.



Remote Monitoring

Access data anytime via Verizon connectivity.



Built for Safety

Features a double-wall DOT-certified tank.



110V

Low Power

Runs on just 110V, <15A; simple and cost-effective.

MORE FROM
GREEN FLEET
SOLUTIONS

*More fuel savings
Cut more emissions*



Talpa Predictive Analytics

Drive efficiency with real-time data.



RoadGuard Road Monitoring

Optimize haulage routes, save fuel & tires

