

FUEL ADDITIVES FOR IMPROVED PERFORMANCE OF DIESEL AFTERTREATMENT SYSTEMS

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In response to increasingly stringent diesel engine emissions standards, the industry has accelerated its investigation of technologies that can significantly lower NO_x and particulate matter emissions from diesel engines and exhaust. At the 2001 DEER conference a paper was presented on the use of a fuel-borne additive's ability to improve catalyst durability by scavenging sulfur and phosphorous from the exhaust stream before they had the opportunity to react with catalytic surfaces in lean No_x traps. Work has continued on the use of fuel-borne additives to not only protect NO_x traps but also to improve the efficiency of soot oxidation in particulate control devices. While being able to scavenge sulfur and phosphorus, this additive technology has also been found to significantly effect the conditions for particulate trap regeneration. This presentation will show the benefit of a fuel-borne catalyst on lowering the balance point temperature and exhaust back pressure in particulate traps.