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# LOW TEMPERATURE OXIDATION CATALYST APPLICATIONS

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## LOW TEMPERATURE OXIDATION CATALYST APPLICATIONS

Low temperature washcoat material, suited for use in Diesel Oxidation Catalyst (DOC) and Catalyzed Diesel Particulate Filter (CDPF) applications can enhance performance. A key feature of washcoat material that enhances catalytic activity for DOCs is the ability to efficiently oxidize CO and hydrocarbons at the diesel exhaust temperature levels, with lower than traditional PGM loadings. In addition to T50 conversion values that are below 200$^{o}$C for these exhaust gases, this material shows thermally stable operation across the diesel exhaust temperature range. Data showing the T50 characteristics of this DOC component, as well as results of accelerated aging and engine tests will be presented. CDPF components manufactured with this catalyst lower the burn-off temperature of soot from the substrate, providing a passive soot removal system. Data showing low temperature soot burn-off will be presented.

Components for DOC or CDPF applications with this catalyst material can be readily manufactured using ceramic or metal substrates in a single pass process without changes to current processing equipment.

**KEYWORDS:** Diesel Oxidation Catalyst (DOC), Catalyzed Diesel Particulate Filter (CDPF), catalytic oxidation, T50, low temperature, CO oxidation, hydrocarbon oxidation, washcoat, Pt catalyst, X-ray diffraction, scanning electron microscopy, hydrothermal aging