CATALYSEUR THOMAS

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DCL OXIDATION CATALYST SPECIFICATIONS

The following document certifies that the DCL product in question has been administered according to DCL specifications pertaining to the given application. MINE-X® products are sized according to application specifications obtained through DCL's clients and DCL is not responsible for incorrect information supplied by clients leading to wrongful sizing assessments.

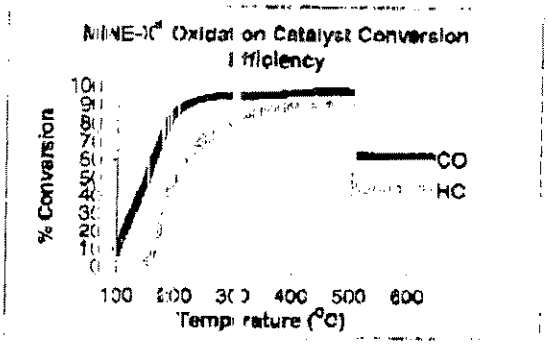
MD	An oxidation catalytic muffler for a specific model of equipment. Directly replaces the original muffler. Used on diesel engines.	

Working Principles

For diesel engines, a DCL oxidation catalyst is used:

Oxidation: The oxidation catalyst converts carbon monoxide (CO) and hydrocarbons (HC) into carbon dioxide (CO_2) and water (H_2O). In diesel engine applications the catalyst additionally converts the volatile organic fraction of particulate matter of exhaust into CO_2 and H_2O.

$$CO + O_2 \rightarrow CO_2 \quad (1)^*$$
$$HC + O_2 \rightarrow CO_2 + H_2O \quad (2)^*$$



Typical conversion efficiencies for MINE-X® products:

Emission	Untreated Diesel Exhaust	Catalyst Performance
Carbon Monoxide (CO)	500-1000 ppm	Typically exceeds 50% removal at 160 °C (320 °F). Typically exceeds 90-95% removal at above 260 °C (500 °F
Hydrocarbons (HC)	300-500 ppm C_1	Typically exceeds 50% removal at 250 °C (482 °F) in diesel applications. Typically exceeds 75-80% removal at above 300 °C (572 °F).
Diesel Particulate Matter (DPM)	25-150 mg/m³	The net result on DPM measurements is highly dependent on sulphur levels in the fuel. Catalyst will remove approximately 20-40% of DPM but depends highly on DPM composition, which is also engine specific.