

THE EXHAUST AFTER TREATMENT SYSTEM

Post-combustion exhaust gases are treated prior to tailpipe emission in a diesel combustion vehicle. Unburned hydro carbons (or unburned diesel) is trapped by the Diesel Particulate Filter (DPF) and burned with the aid of the Diesel Oxidation Catalyst (DOC). When used in conjunction with an Selective Catalytic Reduction Catalyst (SCR), the resulting emission is primarily a very friendly mixture of Nitrogen and water in the form of steam.

The Reduction Process

- The **DOC** has a metallic or ceramic substrate with channels through which exhaust directly flows
- The **DPF** is usually located past the DOC in the **Exhaust After Treatment System (EATS)**
- The **DPF** is larger than the DOC, with a ceramic substrate with small channels that are blocked at alternating ends
- **Exhaust gas** flows through the porous walls of the channels, trapping the solid soot particles within the DPF
- The **DPF** is designed to remove particulate matter and soot from the exhaust
- **DPFs remove** up to 85% of the soot found in diesel exhaust emissions, reaching greater removal levels when paired with a DOC
- **Selective Catalytic Reduction (SCR)** is an active emissions control technology system that injects a liquid-reductant agent, **Diesel Exhaust Fluid (DEF)**, through a special catalyst into the exhaust stream of a diesel engine

