

Detailed investigation of non-catalytic DPF regeneration

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Description

The present investigation concerns the phenomena that occur during the non-catalytic regeneration of Diesel Particulate Filters (DPFs). The temperature evolution in the filter has been correlated to the emissions of CO, HC, NO, and NO₂ during the loading and regeneration process. The emissions were assessed over both the diesel oxidation catalyst (DOC) and the DPF, in order to characterise the chemical species evolution inside the after-treatment line. Different regeneration temperatures, which have been found to have a strong impact on the evolution of the soot oxidation rate, have been assessed. Finally, the particulate emissions during regeneration have been measured on a number and size basis.