Exhaust gas recirculation systems reduce raw nitrogen oxide emissions, thereby greatly simplifying exhaust gas after-treatment. EGR catalysts protect exhaust gas recirculation systems – especially the EGR cooler and regulation unit – against dirt. The benefit: This ensures that effectiveness is maintained throughout the lifetime of the system and removes the need for oversizing.
Reasons for Using a Metalit® EGR Catalyst

Using specially designed catalysts it is possible to prevent the formation of surface deposits. Oxidation of the hydrocarbons present in the exhaust gas prevents them from condensing on the cold surfaces of the cooler, thereby preventing particles from adhering to them. Because of the limited space available, these catalysts need to be installed on or in the cooler as far as possible. Robust, fast-acting Emitec Metalit® substrates are ideally suited to this task, since they allow a high degree of shaping flexibility and can therefore be adapted to the cooler geometry.

Deposits are often found in EGR coolers and on the regulation unit, as shown in the picture opposite. They result in a significant drop in cooling performance and a lower flow rate – sometimes leading to complete failure of the control unit. This means that raw emissions from the engine increase and the emission thresholds can no longer be respected. For this reason, EGR coolers are often oversized, to enable them to cool a sufficient volume of recirculated exhaust gas to the target temperature even when dirty.
Metalit® Oxidation Catalysts  
Prevent Deposits, Reduce Counter Pressure and are Compact

**HC Reduction**
Oxidation catalysts significantly reduce HC concentrations in the recirculated exhaust gas (here: NEDC test) and reduce particle adhesion and therefore the build-up of dirt.

**Back Pressure**
Metalit® oxidation catalysts produce as an additional component a slight increase in back pressure of the system in their new state. After just a short running time, this initial disadvantage is turned into an advantage – producing a lower back pressure compared with a dirt layered system without exhaust gas cleaning.

**Shorter Lengths**
The improved heat transfer in the system with exhaust gas cleaning means that the heat exchangers can be significantly smaller, since the prescribed target exit temperature is achieved after a shorter distance in the cooler. This leads to lower part costs and space savings in the usually overcrowded engine compartment.
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