

GATES EUROPE

Korte Keppestraat 21, 9320 Erembodegem – Belgium
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PRESS RELEASE

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Gates' effective solutions for the reduction of exhaust emissions

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The next stage in the European Emission Standards for Off-Highway Vehicles (NRMM) – Stage IV - will go into effect in 2014. Compliance with these standards presents an ongoing challenge to all manufacturers of diesel engines and applications. The Selective Catalytic Reduction system (SCR) has been seen as the right answer to meet the more stringent new emission regulations. SCR is comprised of a special catalytic chamber built into the exhaust system of a diesel engine. SCR uses a Diesel Emissions Fluid (DEF) as a means of reducing the gaseous noxious nitrogen oxides (NOx) in the engine exhausts and requires specialty hose assemblies to handle the hot gases and process fluids.

Gates has developed a unique design for high quality SCR assemblies. Since the DEF freezes at -12°C , it is critical that the tank supply line, the tank return line and the pressure line of the SCR are able to heat it quickly. The Gates nylon-based hose construction has a special carbon fiber sleeve and EPDM insulation jacket, and comes with heated fittings (SAE J2044 compliant quick connection couplings.). Extended comparative testing of various SCR heated hoses assembly designs out in the market has been carried out. Compared to coiled wire designs, Gates' patent pending technology of carbon fiber braided sleeves allows for more uniform fluid heating and thus much shorter time to thaw the fluid. Furthermore, customizable hose lengths offer greater flexibility in design.

Also the protection of the connectors has been seen as an important point for optimal performance of the SCR system. Field tests have proven that moisture ingress can cause SCR assembly failure due to electrical connections corroding and eventually stop working. Gates thermoplastic over-mould design overcomes this concern. When subjected to salt spray testing per ASTM B390 for more than 18 months now, the assemblies have not had any change in electrical resistance which would affect the heating performance.

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