SINOx® exhaust gas treatment catalysts convert pollutants into substances which are environmentally benign (e.g. water vapor, nitrogen). At our manufacturing facility in Redwitz, Germany, which also produces our SINOx® honeycomb and oxidation catalysts, we fabricate plate catalysts for NOx removal. These catalysts operate with a high cleaning efficiency and reliably reduce the concentration of nitrogen oxides to below Air Pollution Control Code limits.

SINOx® plate catalysts consist of a catalytically active material based on titanium dioxide, vanadium oxides and tungsten oxides or molybdenum oxides rolled on a stainless steel mesh. The catalyst plates are integrated into element frames which are installed in a steel module.

The typical application for SINOx® plate catalysts is the abatement of NOx under high-dust conditions. Examples are plants firing coal, heavy fuel oil and residual oil from refineries as well as industrial high-dust processes and wood fired boilers.
SINOx® plate catalysts have some advantages compared to conventional honeycomb catalysts. Plate catalysts show minimal dust depositions even under extreme high-dust conditions and also exhibit a high erosion resistance. Additional benefits include low SO2 conversion rates and low pressure drop. These result in a long service life with high NOx removal rates and minimal operating costs.

The most appropriate catalyst type and the required catalyst volume will be individually designed and optimized depending on the exhaust gas conditions. By varying the number of plates per element frame, the pitch can be optimized over a wide range. The plate height will vary depending on operating conditions.

The exhaust gas temperature plays an important role in the choice of catalyst. In a typical high-dust temperature range between 280°C and 450°C (535°F and 845°F), SINOx® plate catalysts achieve high NOx removal efficiency.