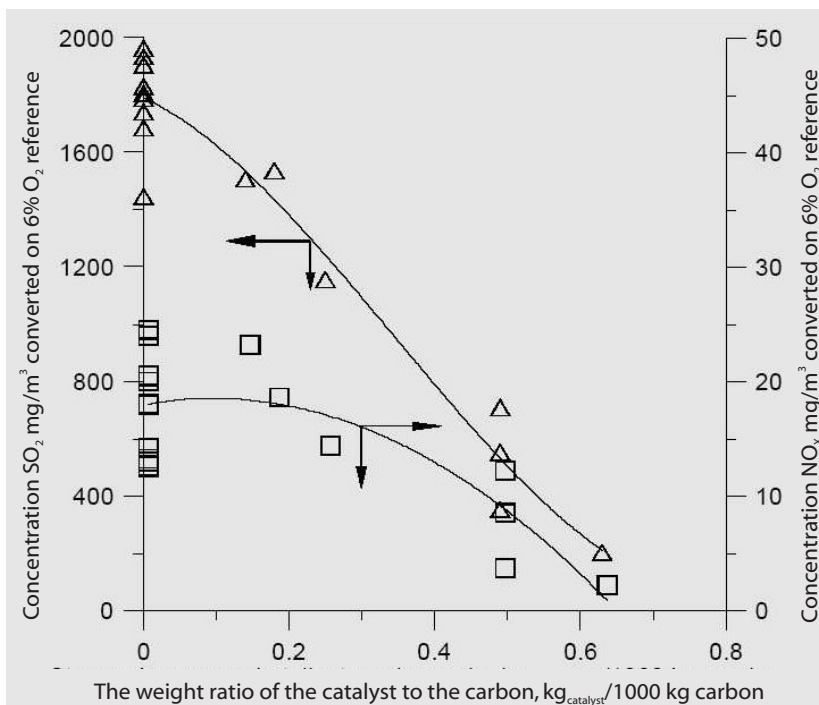


DESONOX

CATALYST COAL ADDITIVE FOR INDUSTRIAL BOILERS DECREASING POLLUTION EMISSION INCREASING EFFICIENCY

RESULTS OF METHOD IMPLEMENTATION IN INDUSTRY

- Sulphur dioxide elimination from furnace exhaust gas – not less than 50%
- Nitric oxides reduction – not less than 33%
- Increasing boiler efficiency – not less than 10%, with unchanged power output
- Total reduction of wwa (below measurable levels)
- No waste matter



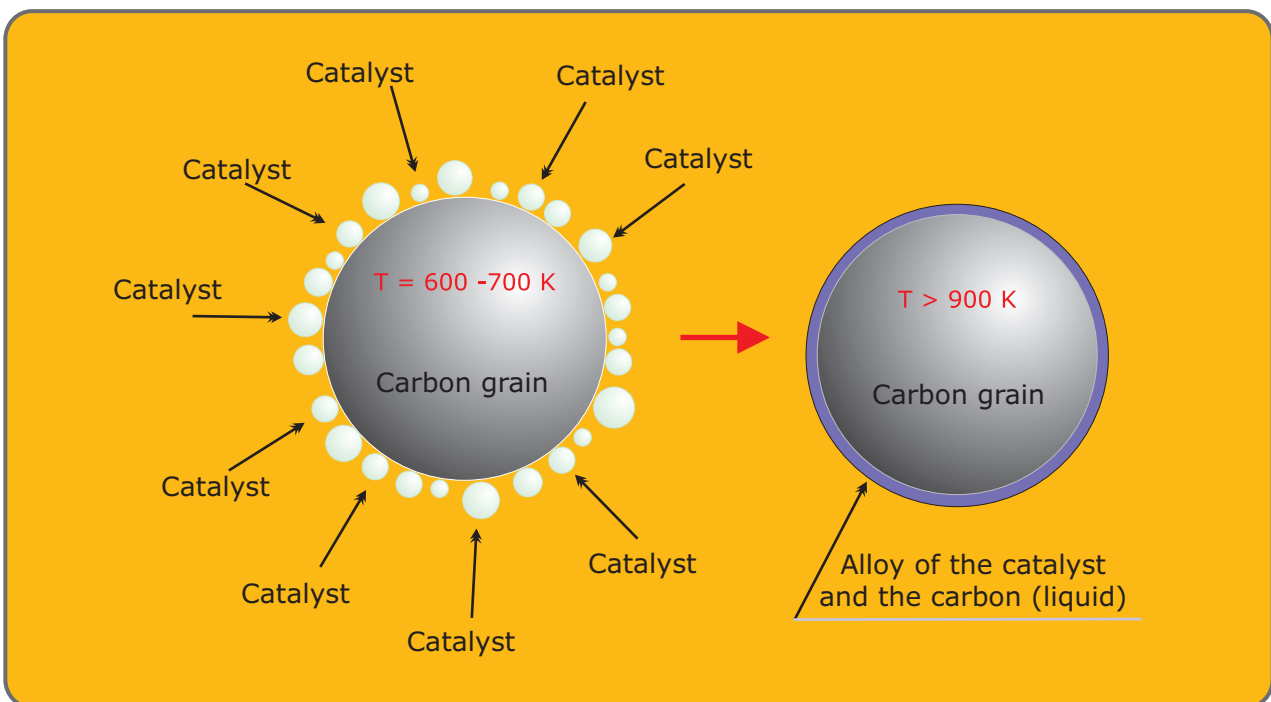
SO₂ -Δ and NO_x concentration changes as a function of mass ratio of the catalyst to the carbon

New catalytic method of removing sulphur and nitric oxides from coal burning exhaust gas consists in changing the paradigm in relation to current, traditional technologies of pollution reduction (sulphur and nitric oxides and WWA). Suggested DESONOX method, which applies catalytic additive leads to massive reduction of pollution and increases boiler general efficiency. This results in decreased carbon dioxide emission as per 1 GJ of power.



CATALYST COAL ADDITIVE FOR INDUSTRIAL BOILERS DECREASING POLLUTION EMISSION INCREASING EFFICIENCY

Introduction to direct catalytic methods of sulphur and nitrogen compounds removal from fossil fuels burning gas is related to the change of approach in carrying out these processes. Current methods have allowed of pollution, which was later removed in a succession of technological processes. Each time such procedure brings in the necessity of building process lines and results in additional forms of pollution, especially in the process of desulphurization. Additionally, in the CSR denitrating process there is a necessity of toxic ammonia application. Suggested technological process, and basically its key element – catalyst, changes this approach. It moves the sulphur and nitrogen compounds removal into boiler furnace (operating on the level of burning coal), this way eliminating current process lines. This change makes exhaust gas desulphurization and denitrating independent of type of boiler and its productivity. Then efficiency of these processes only depends on the type of fuel and conditions of burning. The usual catalyst additive weight ratio is 1:1000, that is 1kg of catalyst per 1 tonne of coal.



The mechanism of the transformation of coal grain into the form of a catalytic after addition of a catalyst

CATALYST ADDITIVE – HOW IT WORKS

Suggested by us technology of catalytic coal desulphurization is based on the DESONOX process (Desulphurization of Sulphur Oxides and Nitric Oxides Destruction). Catalyst is responsible for the process of desulphurization and denitrating of exhaust gas during burning. The method is based on introducing additive to coal which makes it impregnated with catalyst and changes the coal feed into a catalyst system.