umicore
Fuel Cell & Stationary Catalysts

TripleCat™ DNX-LT

For Waste-to-Energy and biomass plants

Innovative catalyst technology that saves both energy and money

Umicore combines state-of-the-art edge-surface chemistry with enhanced physical properties to improve SCR catalyst efficiency at low temperatures.

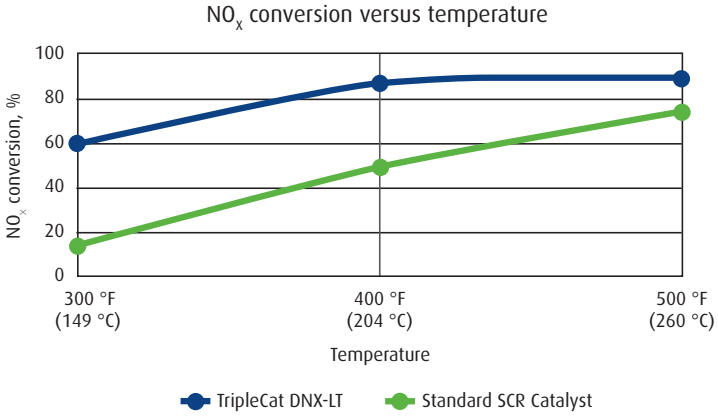
To meet industry demands for an SCR DeNO$_x$ catalyst able to work at very low temperatures, thus saving energy and costs for reheating flue gas, Umicore now introduces TripleCat™ DNX-LT – a further development of the well-known DNX® 10 Series of low-temperature SCR catalyst from Umicore.

TripleCat™ DNX-LT catalyst is a result of several years of R&D activities. With innovative production methods and improved surface chemistry, Umicore is making it possible to increase SCR catalyst performance significantly at temperatures as low as 150°C/300°F.

Because TripleCat™ DNX-LT is a high-activity, monolithic SCR catalyst, it requires significantly less volume than standard SCR catalyst when utilized in most applications. This makes TripleCat™ DNX-LT the ideal choice for existing low-temperature SCR DeNO$_x$ reactors, as well as for new installations where the footprint of the catalyst needs to be minimal.

Game changing performance minimizes energy consumption while higher SCR efficiency lowers operating costs.

TripleCat™ DNX-LT works harder from the start



Sulfur resistance

The performance and lifetime of the TripleCat™ DNX-LT catalyst is unaffected by sulfur in the flue gas. However, in high-sulfur environments, the inevitable reaction of ammonia (NH_3) and sulfur trioxide (SO_3) at low temperatures will lead to the gradual accumulation of ammonium bisulfate (NH_4HSO_4) in the catalyst. This salt will require regular removal by heating the catalyst, according to the same procedure as for the standard SCR catalyst.

Benefits summary

- TripleCat™ DNX-LT requires less catalyst for NO$_x$ removal than traditional SCR DeNO$_x$ catalyst.
- Smaller, more cost effective SCR reactors can be specified when using TripleCat™ DNX-LT.
- Opportunity to greatly reduce or eliminate energy needed for reheating flue gas to get optimal DeNO$_x$ reaction as TripleCat™ DNX-LT works at lower temperatures.
- TripleCat's™ DNX-LT monolithic structure and advanced surface chemistry achieves higher cataytic activity and lower pressure drop than pellet-type SCR catalyst.