

Industry:

Steel

Plant:

Sinter Plant

Lining System:

K-CAST Ceramic System

K- CAST LINED WIND BOX

Key Benefits

- ✓ Improved wear resistance
- ✓ Increased operational uptime
- ✓ Reduction in maintenance costs
- ✓ Lining system can be replaced

Problem: An engineer from a UK steel plant approached Kingfisher with a problem he was having to address on a yearly basis.

Having inherited the mechanical maintenance of the sinter strand on the OPP works, he was having to either replace or re-plate the sinter strand wind boxes on a regular basis due to effects of the abrasive dusts and fines being drawn through the gas main feeding the waste gas fan. As the fabrication was made from Hardox steel it wasn't performing as expected due to the high conveying temperatures softening the matrix of hardened steel, the wear associated to the abrasive sinter fines and the corrosive effects of the gas composition.

Solution: Having undertaken some trials using different ceramic lining systems, we opted to fully line the internal surfaces using our 30mm thick K-CAST BKR ceramic lining system with it being applied onto a 20mm deep honeycomb mesh. As the lining system was now protecting the working surfaces, the structure was manufactured from traditional S275 mild steel. In order to protect the steel surfaces from corrosion caused by the gas composition, all surfaces were shot blasted and coated with a high temperature epoxy resin system tolerant of the gas analysis.

Benefit: Along with the cost of the fabrication being much cheaper, the lining system has been in service for over 10 years and we have yet to undertake any lining repairs or replacement of any of the structure resulting in an enhanced operational uptime and a significant saving in maintenance and replacement costs.



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