Minimox®

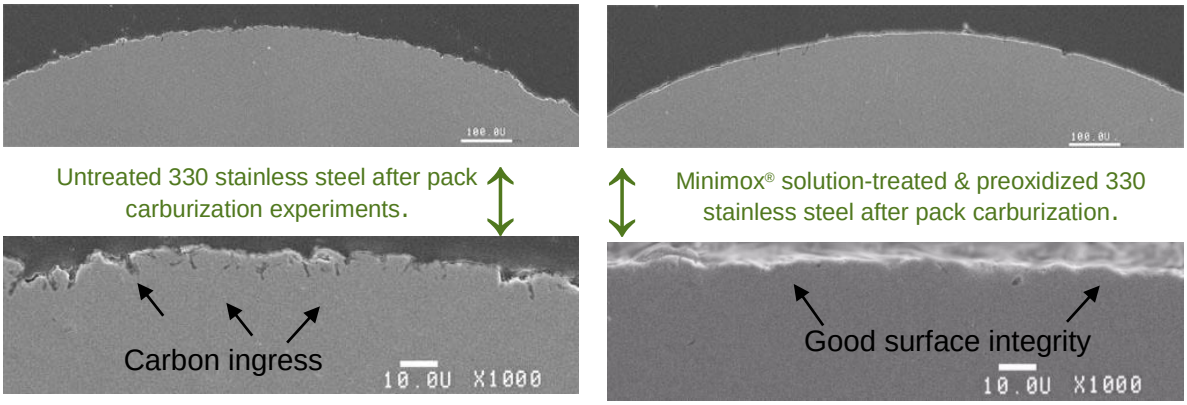
Reduction of Graphitization
With Minimox® Self-Protective Alloy Treatment

Technical Bulletin

Graphitization Reduction

At first consideration, the use of a non-continuous dispersion of nanoparticles would not be expected to reduce graphitization. However, after Minimox-treated surfaces are oxidized, the oxide that forms is uniform with an ultrasmall grain size. This modified, dense thermal oxide protects the sample and reduces carbon uptake.

Samples of 330 stainless steel furnace belt were coated with Minimox® treatment, preoxidized, and subjected to pack carburization experiments at 593˚C (the temperature where carbon activity is highest) for 450 hours. Substantial carbon uptake, and its subsequent degradation, was present in the uncoated sample while the coated and oxidized sample showed minimal degradation.



The use of Minimox Self-Protective Alloy Treatment reduced graphitization during pack carburization experiments.

For complete details of the experiments, please contact our office.

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