

Changes in nitrogen, hydrogen and oxygen gas contents in γ -iron on oxidation

by

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abstract

Nitrogen, hydrogen and oxygen contents affect the chemical properties of iron and steels. It seemed that there are no studies on changes in gas contents γ -iron on oxidation. Therefore, the contents gas on oxidation were determined.

γ -iron was oxidized under atmospheric pressure at 1000°C. Treatment times were 1.5, 3, and 5 hours. Nitrogen content increased to about 12% after for 3 hours of oxidation, while hydrogen and oxygen contents slightly decreased with time. Nitrogen content in γ -iron might have been affected by the amount of humidity.

Keywords: oxidation, γ -iron, nitrogen, hydrogen, nitrogen

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