Proceedings of the Iowa Academy of Science

Volume 31 | Annual Issue Article 64

1924

The Physical Properties of Some Short Period Anneal Products of White Cast Iron

Anson Hayes

W. J. Diederichs

STUDIES ON THE ROLE OF RYE IN THE VIENNA PROCESS FOR YEAST MANUFACTURE

ELLIS I. FULMER AND ROMA ELMER

A water extract of rye shows an optimum concentration for its effect in causing top growth of yeast. Quantitative studies were reported on the distribution of the yeast throughout a column with various concentrations of the extracts at varying stages in fermentation. Data are discussed relative to the effect of various concentrations of the extract upon the composition of the yeast especially with reference to fat content.

THE PHYSICAL PROPERTIES OF SOME SHORT PERIOD ANNEAL PRODUCTS OF WHITE CAST IRON

ANSON HAYES AND W. J. DIEDERICHS

Since very little study of the malleableizing process had been made and also because the properties that were considered of primary importance to the average user of malleable iron were ease of machining and ductility, no attention has been paid to the industrial possibilities of partially graphitized white iron. In annealing periods of less than 11 hours total duration it has been found possible to produce irons ranging from 70,000 strength and 5% stretch to 55,000 and 10% stretch depending on varying rates of cooling of 6°F. per minute to 3°F. per minute from the annealing temperature. The unusual properties of 85,000 strength and 6% stretch has been obtained by a slightly longer annealing method which involves a grain refining process. There should be important industrial uses for these products.

A METHOD OF MEASURING RATES OF CORROSION OF IRON IN THE PRESENCE OF CARBON DIOXIDE AND AIR AND THE INFLUENCE OF ELECTRICAL POTENTIALS ON SUCH RATES

ANSON HAYES, E. LEE HENDERSON, C. E. STANEART AND G. H. BRODIE

The method consists in subjecting cylindrical samples of 4ft. by 1/10 ft. wrought iron to the action of water saturated with the gas mixture. The water and gas are passed through the cell at such a rate as to insure a constant and known composition. A