

Distortion after Case Hardening of Steels

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Dimensional changes, or distortion, play a very important role in carburizing. To keep carburizing process productive and profitable, it is crucial that the resulting distortion is minimized. The purpose of this experiment was to carry out low-pressure carburizing and measure dimensional changes, residual stresses, characterize the resulting microstructures, and determine hardness in the specimens. These are the most important clues to the quality of the carburized layer. Experimental materials were the most widely-used carburizing steels: C15, 16MnCr5 and 15NiCr13. Residual stresses in the surface were determined by X-ray stress measurement.

Keywords: Distortion, Carburizing, Low pressure carburising (LPC)

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