Influence of Plasma Nitriding Process in Wear Strength of the ASTM 182.10 Superduplex Stainless Steel

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Abstract

The superduplex stainless steel was nitriding by plasma process during 2 hours at the 350 – 570°C. The thermochemical treatment was carried out in three different times (2, 4 and 6 hours) at the 520°C. As can be seen, the treatment influenced the superficial microhardness of the nitride formed. The microwear strength decreased at the 550°C. The increase of the time process gerated an expansive thicher layer increasing the wear strength.

Keywords: plasma nitriding, superduplex stainless steel, microwear