# Pengaruh perlakuan panas terhadap ketahanan korosi sumuran baja tahan karat dua fasa saf 2205 = Influence of heat treatment on pitting corrosion resistance of duplex stainless steel saf 2205

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Abstrak

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Baja tahan karat dua fasa SAF 2205 memiliki ketahanan korosi menyeluruh dan korosi terlokalisasi di berbagai lingkungan. Akan tetapi, baja tahan karat dua fasa SAF 2205 rentan terserang korosi sumuran pada lingkungan klorida. Perlakuan panas dilakukan untuk meningkatkan ketangguhan baja tahan karat SAF 2205. Pada penelitian ini dilakukan investigasi pengaruh perlakuan panas baja tahan karat SAF 2205 terhadap korosi sumuran dengan melihat temperatur kritis terjadinya korosi sumuran (critical pitting temperature). Nilai temperatur kritis korosi sumuran diinvestigasi menggunakan polarisasi potentiodynamic dan Electrochemical Impedance Spectroscopy (EIS) di larutan NaCl 1M. Hasil pengujian menunjukkan nilai temperatur kritis korosi sumuran baja tahan karat dua fasa SAF 2205 adalah 650C dan perlakuan panas tidak mempengaruhi nilai tersebut. Selain itu, hasil penelitian juga menunjukkan bahwa fasa yang rentan terserang korosi sumuran adalah fasa austenit.
<hr>ABSTRACT
Duplex stainless steel SAF 2205 has good corrosion reistance of uniform and localized corrosion in various environments. However, duplex stainless steel SAF 2205 is susceptible to pitting corrosion in chloride environment. Heat treatment was done to improve the toughness of duplex stainless steel SAF 2205. This research was investigated influence of heat treatment on pitting corrosion resistance of duplex stainless steel SAF 2205 by looking at the Critical Pitting Temperature (CPT). The value of critical pitting temperature was investigated by using potentiodynamic polarization and Electrochemical Impedance Spectroscopy (EIS) methods in 1 M NaCl solution. The results showed that the critical pitting temperature of duplex stainless steel SAF 2205 is 650C and heat treatment didn?t affect the critical pitting temperature. Moreover, the result showed that the austenite phase is susceptible to pitting corrosion.