# Analisis struktur mikro dan sifat-sifat material duplex stainless sreel 2205 akibat proses line heating



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Abstrak

Duplex Stainless steel (DSS) 2205 is wedely used in shipbuilding industry as well as in gas and oil industry because its supenorit N in corrosion resistant and thoughness compared to other metals, during welding process, deformation may occur in DSS 2205. Line heating followed by quenching is often used to relieve deformation following welding process. Line heating applied to DSS 2205 may change microstructure and properties of the steel as well. There are many factors that affect the microstructure change during line heating process and one of them is the number of line heating passes applied to the material at the same location. This reseach examines microstructure and properties of DSS 2205 due to line heating process. Three samples of weld joints were line heated. Each sample were line heated once to and three times respectively in the direction perpendicular to thje weld line. Quanching in fresh water carried out following the line heating process. Each sample was cut into two pieces for metallography, hardness, and ferritescope test. Data obtained from metallography, hardness and ferrtescope tests showed that more line heating passes applied to the same location resulted in creasing ferrite contents increased 21.3% in base metal and 14.6% in weld metal. Ferritescope test showed that ferrite number (FN) increased 6.21 in base metal and 8.13% in weld metal. Hardness number of base metal increased 13 - 71%, 8.85% fusion line and 11.02% weld metal.