Studi pengaruh panas proses brazing terhadap ketahanan korosi dan kualitas lapisan proteksi zinc-nickel-cobalt electro-galvanizing pada pelat baja hasil canai dingin = Study influence of heat brazing process against corrosion resistance and quality of coatings protection zinc-nickel-cobalt electro-galvanizing on steel plate cold rolled

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Abstrak

Lapisan Zinc-Nickel-Cobalt digunakan sebagai lapisan proteksi pelat baja karena memiliki ketahanan korosi yang tinggi. Namun saat terpapar suhu tinggi, karena adanya proses brazing saat penggabungan dua komponen pelat baja dan pipa tembaga, lapisan proteksi ini kehilangan kemampuannya tersebut. Saat pelat baja hasil canai dingin yang telah dilapisi Zn-Ni-Co dengan metode elektro galvanis terpapar panas api brazing dari oxy-acetilene, selama 5; 10; 15; 20; 25; dan 30 detik. Kondisi lapisan proteksi mengalami keretakan mengakibatkan ketahanan korosinya turun dari 288 jam menjadi hanya kurang dari 24 jam saat diuji dengan salt spray. Propertis lainnya seperti komposisi kimia dan berat lapisan cenderung tidak berubah. .....Zinc-Nickel-Cobalt coating is used to protect of steel plate because of high corrosion resistance. However, when exposed to high temperatures, due to the brazing process when uniting the two components of steel plates and copper pipe, protection layer is losing its ability. Steel plate cold rolled with Zn-Ni-Co electrogalvanizing coated exposed to the heat of the oxy-flame brazing acetylene, for 5, 10, 15; 20, 25, and 30 seconds; condition of protection layer became cracking, corrosion resistance decreased from 288 hours to just less than 24 hours when tested with a salt spray. Other properties such as chemical composition and coating weight are stable.