Laju Korosi Atmosferik Baja Konstruksi PLTU Mamuju Disekitar Area Cooling Tower Media Air Laut

Atmospheric Corrosion Rate of Steel Construction of PLTU Mamuju Around the Cooling Tower Area of Seawater

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Inti Sari

Letak PLTU Mamuju ditepi laut menjadi inisiasi terjandinya korosi atmoferik pada srtuktur bangunan dan peralatan, kondisi ini diperparah dengan penggunaan cooling tower bermedia air laut sebagai media pendingin tersirkulasi sehingga material baja kontruksi mengalami korosi yang sangat parah. Akibat dari pembuagan aerosol dari exhaust fan cooling tower. Penelitian ini bertujuan untuk mengetahui laju korosi atmosferik pada baja plate, strip, elbow, bar dan cylinder material baja di sekitar area cooling tower PLTU Mamuju. Pengujian laju korosi ini berbasis ASTM G1-90 dan G50-10 metode kehilangan berat dimana spesimen diekspos di area terbuka disekitar lokasi pengujian menggunakan material baja berbentuk plate, strip, elbow, bar dan cylinder. Pengambilan data dilakukan selama sebulan (30 hari) dan laju korosi dihitung dalam satuan mil per taun (mpy). Hasil penelitian laju korosi berurut dari tertinggi ke terendah yaitu baja elbow, plate, strip, silinder dan bar dengan laju korosi berkisar 104,066 mpy; 72,440 mpy; 69,011 mpy; 48,082 mpy dan 19,471 mpy.

Abstract

The location of the PLTU Mamuju on the edge of the sea is the initiation of atmospheric corrosion and is exacerbated by the use of cooling towers with seawater as a circulating cooling medium so that the steel construction material is severely corroded. This study was intended to determine the rate of atmospheric corrosion on steel plates, strips, elbows, bars and cylinders of steel materials around the cooling tower area. This corrosion rate test is based on ASTM G1-90

	and G50-10 weight loss methods where the specimen is exposed in an open area around the test site using steel material in the form of plates, strips, elbows, bars and cylinders. Data collection was carried out for a month (30 days) and the corrosion rate was calculated in units of mill per years (mpy). The results of the corrosion rate research in order from highest to lowest are elbow, plate, strip, cylinder and bar steel with corrosion rates ranging from 104.066 mpy; 72,440 mpy; 69,011 mpy; 48,082 mpy and 19,471 mpy