INFLUENCE OF WATER CONTENT IN LUBRICANT TO PROPERTIES OF CORROSION CARBON STEEL ST 37

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ABSTRACT

This work has investigate condition which allow corrosion resistance carbon steel ST 37 in lubricant medium and water. Purpose of this research is to know influence addition of concentration water to property of corrosion carbon steel ST 37. Carbon steel corrosion process in lubricant was immersed during 10 day at room temperature and 60°C, with various water concentration of water 0 ppm, 1000 ppm, 2000 ppm, 3000 ppm, and 4000 ppm. corrosion characteristic at the surface of carbon steel observed by Optical Microscope, XRD (X-Ray Diffraction), SEM (Scanning Electronic Microscopy) while to know elements in corrosion product is applied by EDX (Energy Dispersive X-ray). The results showed that high concentration of water in the lubricant mixture, high increasingly the rate of corrosion. The morphology of corrosion products are visible dots and cracks. Corrosion mechanisms that occur in carbon steel is pitting corrosion.

Key Word: Lubricant, Water, and Carbon Steel ST 37