ABSTRACT

In industrial development, especially in the machine ability, metallurgy is very important about metal selection which have mechanical or physical properties which is suitable with production. Wider of metal product is push the designer and metallurgy expert to have ability to choose on what metal is refine the metal properties, which is also include the corrosion resistance.

In this research, heat treatment is variation by the temperature. Is at specimen 1 with temperature 650 °C, holding time 40 minute and water cooling media, specimen 2 with temperature 750 °C, holding time 40 minute and water cooling media, specimen 3 with temperature 850 °C, holding time 40 minute and water cooling media, specimen 4 with temperature 950 °C, holding time 40 minute and water cooling media. The temperature was choose because, at this temperature the chromium carbide precipitation will appear. After the heat treatment process, it is continued with corrosion test by immersing the specimen into sulfuric acid (H₂SO₄).

From the research, it is gain that: at temperature 650 °C the corrosion rate (mpy) is 2,80522326, at temperature 750 °C the corrosion rate (mpy) is 12,6235047, at temperature 850 °C the corrosion rate (mpy) is 21,0391745, at temperature 950 °C the corrosion rate (mpy) is 8,41566979, and at non heat treatment the corrosion rate (mpy) is 1,40261163.