ABSTRACT

Carbon steel A 516 - 70 representing material which have the specification of American Society For Testing and Materials (ASTM) and specification of material use in making some part of Pressure Vessel and some part construction in moderate or low temperature service used material. Along usage requirement become militant the carbon [of] generally, this material have a tensile strength 70 (485) in U.S or 70-90 (485-620) in set of Ksi (Mpa)

Such as we know this specification cover intended primarily for service in welded pressure vessels in course of production. Equally weld process can give many benefits for industry. So weld joint process is very productive in steel material joint method. But practically the tacking on weld joint method, many defects can occur. This causing micro structure change material properties and become brittle in joint result. So that some occurrences often the existence of weld metal result, which decreasing some mechanical properties. This pressure vessel problem bear a research to be poured in our final writing college.

From some literature known that the, micro structure in convertible steel with a heat treatment. This matter constitute of this final duty research to conducting perception at tempering as one of heat treatment method. Improve repairing the nature of mechanical properties in carbon steel 516 of 70 grades. But from some previous literature that, effect of tempering result can decreasing corrosion proof of steel properties. Equally, we equip this research with the corrosion factor that happened at this material research. So that can be assumed make-up of strength effect compare between of this method temper influence, to resilience creep the corrosion proof. By doing some examination in mechanical test and corrosion proof, expected can improve repair and increasing quality weld metal result.

**Key Word:** A 516 - 70, Tempering Process, Mechanical test, and Corrosion Proof.