

## ABSTRACT

**Nofiyanto Hermawan (5315077560)**, *SMAW* weld cracking test with a bending test and dye penetrant test on several types of welded joints, State University of Jakarta, (2014)

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Welding is the connection of two or more materials that are based on the principles of diffusion processes, resulting in the unification of the materials to be joined. Excess weld joints are lightweight construction, can withstand high strength, easy implementation, and quite economical. However, most major weakness is the change of the microstructure of the material being welded, resulting in changes in physical and mechanical properties of the material being welded.

after the welding is carried out testing the bend test (bending test) with arch way to prove that the connection is really homogeneous metal between the base metal and weld metal, further testing with a penetrating liquid (dye penetrant test) by means of penetrating fluid covered to ensure that the weld is good or no surface defects even after the bend test was done, so it can be concluded that it is very good for SMAW welding material with a thickness of 6 mm.

**Keywords:** Welding, bending test, dye penetrant test.