

Analysis of Student Welding Results with Liquid Penetrant and Magnetic Particle Testing

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ABSTRACT

Research reveals the results of welding carbon steel with SMAW position 3G in the Diploma IV Mechanical Engineering Study Program. The welding results of students were tested using the Liquid Penetrant Testing and Magnetic Particle Testing methods by ASME standards. This research uses quantitative descriptive research to explain the facts. The sample used is the workpieces of student practice, totaling 25 workpieces. The results of this study explain that there are still many defects in student workpieces that result in not passing the welding results when tested using Liquid Penetrant and Magnetic Particle methods with ASME standards. Most defects are found on the surface of the workpiece, such as cracks, porosity, undercuts, lack of penetration. Welding defects found in the practice results indicate that students' experience, knowledge, and competence in welding are still low and need improvement.

Kata Kunci: welding results, liquid penetrant, magnetic particle