QUALITY ANALYSIS OF CARBON STEEL WELDING PRACTICES

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ABSTRACT

This research is based on the unsatisfactory results of the student's welding to impact students not passing the competency test. The purpose of this study is to reveal the high level of passing test results for welding carbon steel with SMAW based on AWS standards through a visual test.

This research uses descriptive quantitative research. The method of collecting data in this study used a checklist instrument to assess the quality of the welding results with a visual test using a Welding Gauge measuring instrument. This research was conducted in a fabrication workshop, Diploma III Mechanical Engineering Study Program, Yogyakarta State University. The sample of this study was 18 students of the Mechanical Engineering Diploma III Study Program. The data analysis technique was done by using descriptive analysis.

This study found that the quality of the results of welding carbon steel position 3G with SMAW by students did not meet the criteria based on the results of the visual test. The most errors in welding with a level of 50% and below starting from the lowest include free from arc stray & spater of 22.22%, undercut of 38.89%, and crater cross-section of 44.44%. So that in general, the quality of welding carbon steel with SMAW position 3G is still in the low category.

Kata Kunci: *carbon steel welding, AWS standard, 3G position*