

***"Impact Strength Test and Ultrasonic Test on Single V-Butt Joint with variations in angle and Root Gap on SS400 Steel using SMAW welding"***

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***ABSTRACT***

*SMAW (Shielded Metal Arc Welding) has a broad application in the industrial world. For welding technology mastery mastery it would be necessary to do further research on the Angle of bevel and gap on the plate after welding. Welding alone is a process that transmits metals to metals into one result of heat, which in the process will be able to change the nature of the basic material (based material).*

*In the study, the variable used was the ss400 carbon steel after being broadened with designated variables and the constraint of the problem during the research. Next check for impact value. The weld that required three grains ten millimeters thick. The specimen is a variation of the las single-v groove to the Angle of 40 tendrils 80 tendrils and the gap variations of 2mm, 4mm, and 5mm to the carbon-steel steel blast sheet from which the specimen is released.*

*The test results show that the welding performed is good. Specimens with variations in root width of 3 mm, 4 mm, and 5 mm resulted in different impact values. Angle 40<sup>0</sup> rootgap 5mm impact price: 1.573693333 J/mm<sup>2</sup>. The angle of 60<sup>0</sup> rootgap 4mm has an impact price of 1.57152 J/mm<sup>2</sup>. The angle of 80<sup>0</sup> rootgap 3mm has an impact price of 1.56672 J/mm<sup>2</sup>. So the bigger the root gap, the bigger the impact price.*

*Keywords: SS400, Bevel angle, Root gap, SMAW, impact test.*