

**EKSPERIMENTAL PROSES HEAT TREATMENT DAN VARIASI MEDIA
PENDINGIN TERHADAP KEKERASAN PENGELASAN SHIELDED
METAL ARC WELDING (SMAW) STAINLESS STEEL 304** (*Experimental
Heat Treatment Proses And Variation of Media Refregeration of Shilded Welding
Violence Metal Arc Welding (SMAW) Stainless Steel 304*)

Aditya Wahyu Pratama, ST, MT. (Supervisor)

Ir. Dwi Djoko Susanto. MT. (Co Supervisor)

Riki Tri Santoso
Automotive Engine Study Program
Engineering Department
Program Studi Mesin Otomotif
Jurusan Teknik

ABSTRACT

Methodds todetermine the level of harnarnessin 304 stainless steel material using aquades and oil variation. this study aims to determine the level of harnessof the material with variation in quenching. This researtch was carried out by the welding process at PT. Boma Bisma Indra Pasuruhan on 2 september 2019 and the heat treatment process was carried out at Malang State Polytecnic of Jember 30 September 2019 The quenching media that I used oil, SAE oil 10W-30, and SAE oil 20W-50. Base on the results of the test vikers wuth 304 stainless steel material, it can be seen the average value of the quenching media variation. From the welding area wiht quades the aquades media is higher than the 20 W-50 SAE oil whit an average value of 272,27 HVN and 320,18 HVN aquades this is caused by the 20 W-50 SAE oil is sticker. The average value of the HAZ area with used oil quenching media is higher than that of distilled water with an average value of 285,63 HVN and used oil 309,01 HVN on the average value of the base metal quenching oil of 10W-30 SAE is higher compared to oil SAE 20W-50 with an average value of 291,32 HVN and oil SAE 10W-30 329,49 HVN.

Key words: *stainless steel, variation in quenching, vikers*