

# DEVELOPMENT AND ASSISTANCE IN MAKING OF ELECTROPLATING EQUIPMENT AT SMK MUHAMMADIYAH 1 BANTUL

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## ABSTRACT

Electroplating coating technique is a competency that is taught in the Basic Mechanical Engineering Design (DPTM) subject. Musaba Vocational School once had an electroplating device, but it is no longer in operation. In this tool there is only 1 tub for the nickel strike electroplating process, so the plating results are not good. The purpose of this PPM activity is to develop an electroplating tool that accommodates 9 stages of the electroplating process so that students understand the electroplating coating process more thoroughly.

Plating practice facilities, especially electroplating, were developed and made by teachers, education staff, and students of SMK Musaba with training and mentoring methods. The stages are: (1) Division of work teams and assistants; (2) Identification and preparation of work plans; (3) Developing the design of electroplating tools, (4) Making electroplating tools with assistance; (5) Trial of electroplating equipment; (6) Trial and validation of electroplating equipment; (7) Trial of electroplating equipment on teachers, staff and students at SMK Musaba; (8) Evaluation.

The targets that have been achieved are: (1) Electroplating equipment for coating practice at SMK Muhammadiyah 1 Bantul has been developed using the R&D method. The tool has 9 basins to accommodate processes: hot degreasing, rinsing, pickling, rinsing, activating, strike nickel, rinsing, shiny nickel, and rinsing. The equipment is equipped with a digital rectifier, thermo control and heater, aerator, nickel anode in a titanium case, and a digital scale; (2) Teachers and Educational Personnel understand the theory, procedure and electroplating technique of coating by means of explanations in the classroom supported and hands-on practice; (3) The supporting teacher is involved in the application of the tool to students and has been able to apply the electroplating tool through direct experience practice and direct testing with students of SMK Musaba.

Kata Kunci: *Development, assistance, making, electroplating equipment, SMK*