

TRAINING AND ASSISTANCE OF PATTERN DEVELOPMENT FOR CASTING PRACTICE IN SMK MUHAMMADIYAH 1 BANTUL

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ABSTRACT

One of the competencies that must be possessed by graduates of Mechanical Engineering Study Program is metal casting. It is stated in the Decree of the Director General of Secondary Education, Ministry of Education and Culture number: 06 / D.DD5 / KK / 2018 dated June 7, 2018 concerning Vocational Secondary Education Expertise Spectrum. SMK Muhammadiyah 1 Bantul already has facilities for practicing aluminium casting, but the smelting furnace needs to be improved and the available patterns are only simple single patterns. The purpose of this PPM activity is to improve the aluminum smelting furnace and develop plate patterns, as well as modules for casting practice.

Practical facilities for aluminum casting, especially aluminum smelting furnaces and plate patterns, were developed by teachers, education personnel, and students at SMK Muhammadiyah 1 Bantul with training and mentoring methods. The stages are: (1) Division of work teams and their assistants; (2) Identification and preparation of work plans; (3) Revision of aluminum melting furnace, (4) Development of plate patterns and modules for casting practice; (5) Trial of revised aluminum melting furnace; (6) Trial and validation of plate and module patterns; (7) Trial of aluminum smelters, plate patterns and modules on teachers, technicians and students at SMK Muhammadiyah 1 Bantul; (8) Evaluation.

The targets that have been achieved are: (1) Three models of plate patterns and modules for casting practice at SMK Muhammadiyah 1 Bantul have been developed using the R&D method; (2) Teachers and education Personnel understand the theory, procedure and technique of making plate patterns through classroom explanations supported by aluminum casting practice modules and hands-on experience; (3) Teachers and Education Personnel have been able to apply three plate pattern models for the practice of aluminum metal casting through hands-on experience and direct trials with students of SMK Muhammadiyah 1.

Kata Kunci: *training and mentoring, development, plate pattern, casting*