ABSTRAK

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Program Studi	: Diploma-III Teknik Mesin
Judul Laporan Akhir	: Rancang Bangun Bilik Las Portabel dengan Sistem Pembuangan Asap Menggunakan *Exhaust Fan*

(2024 : 14+82 Halaman + 21 Gambar + 15 Tabel + 5 Lampiran)

Tugas akhir ini bertujuan untuk merancang dan membangun bilik las portabel yang efisien dan ramah bagi lingkungan sekitar. Alat ini dirancang untuk mahasiswa yang ingin melakukan proses pengelasan. Pada tahap perancangan, dilakukan studi literatur tentang keamanan dan keselamatan tiap komponen. Berdasarkan analisis tersebut, dirancang alat bilik las portabel yang terdiri dari komponen besi *hollow* dan *plywood*. Selama pengembangan alat, dilakukan serangkaian percobaan untuk menguji keefektifan dan keselamatan di bilik las. Pengujian dilakukan dengan percobaan pengelasan di bilik las portabel. Hasil percobaan menunjukan bahwa alat ini mampu bekerja dengan baik dan dapat menjaga lingkungan sekitar dan keselamatan kerja.

Kata kunci: bilik las portabel, pengelasan, keselamatan

ABSTRACT

DESIGN AND BUILD A PORTABLE WELDING BOOTH WITH A SMOKE EXHAUST SYSTEM USING AN EXHAUST FAN
(*2024 : 14+82 Page + 21 Figures + 15 Tables + 5 Attachment*)

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This final project aims to design and build a portable welding booth that is efficient and friendly to the surrounding environment. This tool is designed for students who want to perform the welding process. At the design stage, a literature study was carried out on the security and safety of each component. Based on the analysis, a portable welding booth was designed consisting of hollow steel and plywood components. During the development of the tool, a series of experiments were carried out to test the effectiveness and safety in the welding booth. The test was carried out by welding experiments in a portable welding booth. The results of the experiment show that this tool is able to work well and can maintain the surrounding environment and work safety.

Keywords*: portable welding booth, welding, safety*