

**ANALISIS KUALITAS PENGELASAN PRESSURE VESSEL HASIL
LOMBA KOMPETENSI SISWA SEKOLAH MENENGAH KEJURUAN
(LKS SMK) TINGKAT NASIONAL DENGAN STANDAR AWS**

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui tingkat kelolosan hasil pengelasan *pressure vassel* dan kualitas visual hasil pengelasan *pressure vassel* pada lomba kompetensi siswa SMK tingkat nasional tahun 2019.

Penelitian ini merupakan penelitian deskriptif kuantitatif. Metode pengumpulan data dalam penelitian ini menggunakan *check list* penilaian kualitas hasil pengelasan siswa dengan uji tingkat kelolosan kebocoran dan uji visual menggunakan alat ukur *pressure hydro* dan *Welding Gauge*. Penelitian ini dilaksanakan di Jogja expo center (JEC) sebagai tempat LKSN. Sampel dari penelitian ini adalah 32 siswa perwakilan masing-masing provinsi di seluruh Indonesia. Analisis data dilakukan dengan analisis deskriptif.

Hasil penelitian menunjukkan bahwa: (1) tingkat kelolosan uji *pressure vassel* masih sangat rendah dimana dari 32 peserta yang berhasil lolos uji *pressure* hanya 1 orang, (2) kualitas hasil visual pengelasan *pressure vessel* masih rendah hal tersebut disebabkan kurangnya pemahaman dan pengetahuan tentang menentukan persyaratan pengelasan *pressure vassel* khususnya dalam mengetahui kode pengelasan dan *symbol* gambar kerja *assembly*, memilih arus pengelasan, mengetahui jenis bahan logam, mengetahui jenis proses pengelasan multiproses yaitu SMAW, GMAW, GTAW dan FCAW serta mengetahui fungsi alat keselamatan dan kesehatan kerja, serta pemahaman terhadap cara untuk menghindari cacat-cacat las pada hasil pengelasan *pressure vassel*.

Kata kunci: LKS Nasional, *Pressure vassel*, Pengelasan *multiproses*, Standart AWS

QUALITY ANALYSIS OF PRESURE VASSEL IN NATIONAL SKILL COMPETITION OF VOCATIONAL STUDENT WELDING WITH AWS STANDARDS

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ABSTRACT

This research aimed to determine the level of breakthrough results from pressure vassel welding and the visual quality of pressure vassel welding results in the national skill competition of vocational students in 2019.

This research was quantitative descriptive. Data collection methods in this research used a checklist of the quality assessment results of students' welding results with a leakage test and a visual test using a pressure hydro gauge and a Welding Gauge. This research was conducted at the Jogja expo center (JEC) as a place for national skill competition of vocational students. The sample of this study were 32 students representing each province throughout Indonesia. Data analysis was performed by descriptive analysis.

The results shows that: (1) the level of pressure vassel test escape still very low, only 1 person from 32 participants who passed the pressure test, (2) the visual result quality of the pressure vessel welding still low due to lack of understanding and knowledge about determining the requirements of pressure vassel welding, especially in understanding the welding code and symbol of the assembly work picture, choosing the welding current, understanding the type of metal material, understanding the type of multiprocessing welding process namely SMAW, GMAW, GTAW and FCAW, and understanding the function of occupational safety and health tools as well as understanding the way to avoid welding flaws in the pressure vassel welding results.

Keywords: *National Skill Competition, Pressure vassel, Multiprocess Welding, AWS Standart*