

## **ABSTRACT**

*Home Industry C-Maxi Alloycasting is a company engaged in casting aluminum appliances. So it is possible for each activity to occur a potential hazard. The purpose of this study is to measure the dust levels of the work environment, measure lung function of workers, analyze the relationship to lung capacity and find out dust control techniques in the industry. This research was conducted in 2 divisions namely the production division and finishing division. The sample population used was 37 people. The results of this study indicate that there are 10 people (29%) workers in the Home Industry C-Maxi Alloycasting who experience pulmonary function disorders. The level of dust exposure in the Home Industry C-Maxi Alloycasting from 6 sampling points is below the workplace dust threshold value  $<10 \text{ mg} / \text{m}^3$  with an average dust content of  $0.138 \text{ mg} / \text{m}^3$ . The results of bivariate analysis showed that the independent variables had a relationship with function capacity, namely: exercise habits ( $p = 0.026 < 0.05$ ), and smoking habits ( $p = 0.002 < 0.05$ ). The results of multivariate analysis showed that the most influential variable on lung function capacity was smoking with a regression coefficient of 9.251. Evaluation of the control of dust levels found in the field can be said to have gone quite well but it must only be supported by workers' awareness of OHS in order to create safe and productive conditions.*

**Keywords: Dust exposure, lung function capacity, Home Industry C-Maxi Alloycasting workers**

## ABSTRAK

*Home Industry C-Maxi Alloycasting* adalah perusahaan yang bergerak dibidang pengecoran peralatan rumah tangga berbahan aluminium. Sehingga sangat memungkinkan pada setiap aktifitasnya terjadi suatu potensi bahaya. Tujuan penelitian ini yaitu mengukur kadar debu lingkungan kerja, mengukur fungsi paru pekerja, menganalisis hubungan terhadap kapasitas paru serta mengetahui teknik pengendalian debu di industri. Penelitian ini dilakukan pada 2 divisi yaitu divisi produksi, dan divisi *finishing*. Populasi sampel yang digunakan yaitu sebanyak 37 orang. Hasil penelitian ini menunjukkan bahwa terdapat 10 orang (29%) pekerja di Home Industry C-Maxi Alloycasting mengalami gangguan fungsi paru. Tingkat paparan debu di Home Industry C-Maxi Alloycasting dari 6 titik sampling berada di bawah nilai ambang batas debu di tempat kerja  $< 10 \text{ mg/m}^3$  dengan rata-rata kadar debu sebesar  $0.138 \text{ mg/m}^3$ . Hasil Analisis bivariat menunjukkan bahwa variabel bebas mempunyai hubungan dengan kapasitas fungsi yaitu: kebiasaan olahraga ( $p = 0,026 < 0,05$ ), dan kebiasaan merokok ( $p = 0,002 < 0,05$ ). Hasil analisis multivariat menunjukkan bahwa, variabel yang paling berpengaruh terhadap kapasitas fungsi paru adalah kebiasaan merokok dengan nilai koefisiensi regresi sebesar 9.251. Evaluasi pengendalian kadar debu yang ditemukan dilapangan dapat dikatakan telah berjalan cukup baik hanya saja harus didukung oleh kesadaran pekerja terhadap K3 agar tercipta kondisi yang aman dan produktif.

**Kata Kunci : Paparan debu, kapasitas fungsi paru, pekerja di Home Industry C-Maxi Alloycasting**