

ABSTRAK

Proses pengecoran logam merupakan salah satu metode dalam pembuatan produk yang terdapat di Departemen Produksi *Support* PT Pindad. Tingginya tingkat risiko kecelakaan kerja pada proses pengecoran logam, maka memerlukan penerapan kesehatan dan keselamatan kerja. Metode HIRARC merupakan metode dalam mencegah atau meminimalisir kecelakaan kerja yang berisi gabungan dari *hazard identification, risk assessment, and risk control* atau identifikasi bahaya, penilaian risiko, dan pengendalian risiko.

Penelitian yang dilakukan termasuk pada penelitian kuantitatif dengan pengumpulan data melalui observasi, dokumentasi, kuesioner, dan juga wawancara yang dilakukan dengan perwakilan perusahaan. Data dianalisis dengan metode HIRADC (*Hazard Identification Risk Assesment and Determining Control*) serta matriks penilaian risiko mengacu pada Manajemen Risiko K3 dengan penyertaan usulan perbaikan pada perusahaan.

Hasil penelitian menemukan jenis atau sumber bahaya yang dapat menimbulkan risiko kecelakaan kerja yakni bahaya fisik antara lain api, bising, debu sisa, logam panas, dan terjatuh. Bahaya kimia bersumber dari bahan kimia. Bahaya mekanik yang terdiri dari benda berputar, benda tajam, terjepit, terpukul, dan tertimpa material. Kesimpulan penelitian menemukan bahwa tingkatan risiko rendah menempati kuantitas kejadian paling banyak (42 sumber bahaya), diikuti oleh tingkatan risiko beryarat (27 sumber bahaya) dan tingkatan risiko ketat (1 sumber bahaya). Sedangkan, tidak ditemukan sumber bahaya yang memiliki tingkatan risiko tinggi. Pada penelitian diberikan beberapa usulan perbaikan untuk mengendalikan risiko dengan cara *engineering control* dan eliminasi. Berkaitan dengan *system safety* maka diusulkan untuk melakukan *safety patrol, preventive maintenance*, sosialisasi penggunaan APD dan pelatihan perilaku aman, pelaksanaan *safety campaign*, dan monitoring serta review K3.

Kata kunci : K3, HIRARC, Safety System

ABSTRACT

The metal casting process is one of the methods in making products available in the Support Production Department of PT Pindad. The high level of risk of work accidents in the metal casting process requires the application of occupational health and safety. The HIRARC method is a method for preventing or minimizing work accidents which contains a combination of hazard identification, risk assessment, and risk control or hazard assistance, risk assessment, and risk control.

The research conducted included in the quantitative research by collecting data through observation, documentation, questionnaires, as well as interviews conducted with company representatives. Data were analyzed using the HIRADC (Hazard Identification, Risk Assessment, and Determining Control) method and the risk assessment matrix refers to SHE Risk Management with the inclusion of suggestions for improvements to the company.

The results of the study found the types or sources of hazards that could pose a risk of work accidents, namely physical hazards including fire, noise, residual dust, hot metal, and falls. Chemical hazards originate from chemicals. Mechanical hazards consisting of rotating objects, sharp objects, being pinched, being hit, and being crushed by material. The study found that the low risk level occupied the most number of events (42 sources of danger), followed by the conditional risk level (27 sources of danger) and the strict risk level (1 source of danger). Meanwhile, there was no source of hazard that had a high level of risk. In this study, several suggestions for improvement were given to control risk by means of engineering control and elimination. In connection with the safety system, it is proposed to carry out safety patrols, preventive maintenance, and socialization on the use of PPE and training on safe behavior, implementing safety campaigns, and monitoring and reviewing K3.

Keywords: *SHE, HIRARC, Safety System*