

INDOOR AIR QUALITY MANAGEMENT SYSTEM
BASED ON INDUSTRIAL CODE OF PRACTICE
ON INDOOR AIR QUALITY 2010

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ABSTRACT

Health disease related to indoor air quality such as sick building syndrome is believed to cause a low performance of building occupants. Proper management of indoor air quality according to established code of practice can prevent the exposure to indoor air contaminants which will result in IAQ health related diseases. The Industrial Code of Practice on Indoor Air Quality 2010 provides guidance for managing indoor air quality problem and set the minimum standard for the selected IAQ parameters. It is believed that most of the industries already recognized the standard but unavailability of effective technique had delay the implementation of this standard. This research study is conducted to introduce a systematic technique manage indoor air quality problem in industries to achieve acceptable level of indoor air as well as to prevent the presence of sick building syndrome and other IAQ related health disease. This study covered analysis of requirements of the code of practice, development of framework and database management system as well as concept validation through case study from real data of an industry building. Implementation of this technique will help employer to control the presence of indoor air contaminants and minimize the case of IAQ related health disease.

ABSTRAK

Masalah kesihatan yang berkaitan dengan kualiti udara dalaman seperti *Sick Building Syndrome (SBS)* dipercayai menyebabkan prestasi pekerja menurun. Pengurusan kualiti udara dalaman yang betul mengikut kod amalan yang telah ditetapkan dapat mencegah pendedahan kepada pencemaran udara dalaman yang akan mengakibatkan masalah kesihatan yang disebabkan oleh kualiti udara dalaman.. *Industrial Code of Practice on Indoor Air Quality 2010 (ICOP 2010)* membolehkan panduan untuk menguruskan masalah kualiti udara dalaman dan menetapkan piawaian minimum untuk parameter udara. Adalah dipercayai bahawa sebahagian besar industri telah mengenalpasti piawai ini tetapi ketiadaan teknik yang berkesan telah melambatkan pelaksanaan piawaian ini. Kajian penyelidikan ini dijalankan untuk memperkenalkan teknik sistematik yang menangani masalah kualiti udara dalaman dalam industri untuk mencapai tahap udara dalaman yang boleh baik serta mencegah kehadiran *SBS* dan lain-lain penyakit kesihatan berkaitan kualiti udara yg kurang baik. Kajian ini meliputi analisis keperluan kod amalan, pembangunan rangka kerja dan sistem pengurusan pangkalan data serta pengesahan konsep melalui kajian kes daripada data sebenar bangunan industri. Pelaksanaan teknik ini akan membantu majikan mengendalikan kehadiran kontaminan udara dalaman dan meminimumkan kes penyakit kesihatan berkaitan kualiti udara yang kurang baik.