SAFETY MEASURES AND PROCEDURES IN METAL WORKING INDUSTRY

by

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SUMMARY

This project deals with the safety measures and procedures at the 'KEO' industry in Cyprus.

The project covers the following departments of the factory:

- 1) Beer department
- 2) Maintenance department Also how important the role of a Safety Officer is.

An attempt was also made to raise an important factor that effects health conditions in factories, that is, the ergonomics.

Finally at the project a cost estimate is performed.

ACKNOWLEDGEMENTS

SUMMARY

INTRODUCTION

CHAPTER I - BEER DEPARTMENT

- 1.1. Description of the Process
 (in brewery)
- 1.2. Analysis and Guarding of some main parts in beer.

CHAPTER II - METAL WORKING MACHINES

- 2.1. Introduction
- 2.2. Machine tools (guarding)
- 2.3. Safety procedures in the use of lathes
- 2.4. Protective closing and equipment
- 2.5. Milling machine
 - 2.5.1. Introduction
 - 2.5.2. Guarding
 - 2.5.3. Safe practices
- 2.6. Planning machine
 - 2.6.1. Introduction
 - 2.6.2. Guarding
 - 2.6.3. Necessary precautions
- 2.7. Automated saw
 - 2.7.1. Introduction
 - 2.7.2. Safe precautions
- 2.8. Hand press
 - 2.8.1. Introduction
 - 2.8.2. Necessary precautions
- 2.9. Vice

- 2.9.1. Introduction
- 2.9.2. Safety procedure
- 2.10 Drilling machine
 - 2.10.1. Introduction
 - 2.10.2. Mechanical guarding
 - 2.10.3. Safety procedures
- 2.11.Grinding machine
 - 2.11.1. Definition
 - 2.11.2. Principal hazards of grinding
 - 2.11.3. Safety procedures

CHAPTER III - WELDING

- 3. Dangers in the use of welding
 - 3.1. Dangerous radiation
 - 3.2. Necessary precautions regarding electricity
 - 3.3. Pollution

CHAPTER IV - INDUSTRIAL ACCIDENTS

- 4.1. Introduction
- 4.2 The causes of industrial accidents
 - 4.2.1. Subjective causes
 - 4.2.2. Objective causes
 - 4.2.3. Unforeseable causes

CHAPTER V - THE ROLE OF A SAFETY OFFICER

- 5.1. Introduction
- 5.2. Value of a Safety Officer
- 5.3. What is a Safety Officer
- 5.4. Duties and responsibilities of a Safety Officer
- 5.5. Safety inspections

CHAPTER VI - CLIMATIC CONDITIONS

- 6.1. Introduction
- 6.2. Climate
 6.2.1. Comfort
- 6.3. Machinery and their functioning
- 6.4. Manual work
- 6.5 Local exhaust ventilation
- 6.6. Respiratory protective equipment
- 6.7. Protection from the heat
- 6.8. Cold6.8.1. Effect in the environment6.8.2.Protection from the cold

CHAPTER VII - LIGHTING

- 2.1 Introduction
- 2.2. Daylight
- 2.3. Dazzling
- 2.4. Lighting requirements
- 2.5. General and spotlighting
- 2.6. Cleanness and maintenance of lighting equipment
- 2.7. Suggestion for improvement of control panels

CHAPTER VII - NOISE

- 8.1. Introduction
- 8.2. Control of noise
- 8.3. Damage in hearing8.3.1. The results of defective hearing
- 8.4. Sound

- 8.4.1. Introduction
- 8.5. Ear protection
- 8.6. Exposure to noise
- 8.7. Vibration

CHAPTER IX - CHEMICAL DANGERS

- 9.1. Introduction
- 9.2. Inspection and checking of chemical produces
- 9.3. Dangerous substances
 - 9.3.1. Responsibilities of a supplier
 - 9.3.2. Storage of the dangerous substance
- 9.4. Sully of the atmosphere
- 9.5. Metals
- 9.6. Necessary precautions9.6.1. Useful information
- 9.7. Technical measures
 - 9.7.1. Ventilation
 - 9.7.2. Personal protection equipment

CHAPTER X - FIRE SAFETY

- 10.1.Introduction
- 10.2.Causes of a fire
- 10.3.Fire prevention and protection
- 10.4. Highly flammable liquids
- 10.5.Flammable gas cylinders

CHAPTER XI - TRANSPORTATION

- 11.1.Introduction
- 11.2. Selection of suitable people

- 11.3.Training
- 11.4.Personal protection
- 11.5. Lift truck
- 11.6.Operation of lift truck
- 11.7.Loading and stacking with the fork-lift
- 11.8.Unloading and destacking with the fork-lift
- 11.9.Maintenance
- 11.10.Overhead travelling crane

CHAPTER XII - ERGONOMICS

- 12.1.Introduction
- 12.2.The changes in working environment
- 12.3.Working position standing
- 12.4. Working position sitting
- 12.5. The work chair
- 12.6. Visual conditions and the eye
- 12.7.Lifting
- 12.8. The correct way to lift
- 12.9.The procedure should be
- 12.10.Amount or quantity of work
 12.10.1. Heavy physical work
 12.10.2. Static loads

CHAPTER XIII - COST ESTIMATION

REFERENCES

APPENDICES

DRAWINGS