

SAFEGUIDE OCCUPATIONAL HEALTH & SAFETY RISK ASSESSMENT GUIDE

APPLICATION EXAMPLE

OCCUPATION: FITTER

PART A. GENERAL FACTS ABOUT THE OCCUPATION

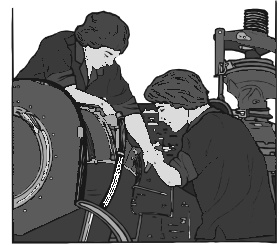
1. THE JOB OF A FITTER

A Fitter is responsible for maintenance and repair of machine elements, machine parts and machinery equipment in general.

Common tasks performed by a fitter include:

- Assembling and disassembling machine parts
- Repair maintenance and fitting
- General purpose tasks.

The equipment used by a fitter includes: hand tools, workbench tools and mechanical aids to assist in moving and lifting of the parts (cranes, conveyors etc).



2. MOST COMMON HAZARDS RELEVANT TO THE JOB OF A FITTER

- Injuries as a result of carrying or lifting the machine parts or assemblies that he is working with
- Injuries (smashing, falling material, electric shock) during assembling and repair works
- Fall from a height, slips.



3. MOST COMMON WORK RELATED DISEASES AND ILLNESSES RELEVANT TO THE JOB OF A FITTER

- Myoskeletal problems due to inappropriate working posture and manual carrying or lifting of heavy loads
- Skin diseases due to contact with lubricants, solvents
- Reynaud's syndrome (vibration white finger) caused by extensive use of vibrating tools.



4. OTHER GROUPS OF WORKERS THAT ARE SUBJECT TO THE HAZARDS RELATED WITH THE JOB OF A FITTER

- Personnel within the vicinity of the fitters, mainly from falling material or accidental starting of the involved machinery
- Personnel using the equipment that is maintained repaired assembled by the fitter.



5. PREVENTIVE MEASURES IN THE JOB OF A FITTER

- All the tools that are used should comply with the safety requirements (CE marking), should be kept in proper condition and used only for the purposes that they were manufactured for
- Protective covers should be kept in good condition and should not be removed
- Fitters should always use the appropriate PPE (see unit 7)
- Before starting any operation it is necessary to check the correct mounting and fixturing of the workpiece
- Maintenance and repair work must only be carried out with all the involved machinery not working and isolated from the power supply
- When using lifting equipment it is necessary to check if it is safety mounted, load limit clearly indicated and its components properly maintained.

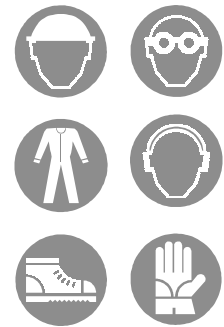


- Manual checking adjustments and gauging work is prohibited, while the involved machinery is in operation
- The workplace should be kept tidy and obstacle free. Other requirements may include:
 - Additional lighting where necessary.
 - Suitable fire extinguishing apparatus and appropriately equipped first aid medical kit should be placed in a nearby and easily reachable place.
 - Emergency exits should always be reachable and appropriately signed.
 - Safety signs should be placed where necessary.
- Electrical Installations should follow the Internal Electrical Installations Regulation should be followed (K.E.H.E.).

6. PERSONAL PROTECTIVE EQUIPEMENT OF A FITTER

- Helmet
- Protective footwear
- Gloves (during specific tasks)
- Safety Spectacles (when using cutting hand tools)
- Close fitting clothing

Some brief guidelines for the selection of the appropriate Personal Protective Equipment are given in APPENDIX 2. In every case the relevant EN Standards should be taken into account.



7. LEGISLATIVE REQUIREMENTS IN THE JOB OF A FITTER



A state licence is not necessary for a worker to do the job of a fitter. The duties are assigned from the employer who is responsible for the sufficient training and the proper adaptation of the worker to his tasks. This is not the case for some specialised maintenance works (e.g. license is needed for maintenance jobs that concern electrical installations of a certain class)

8. NOTES AND REMARKS

Because of the diversity of the tasks and the workplaces where a fitter works, special care should be taken for the assignment and use of the appropriate personal protective equipment.



9. DESCRIPTION OF THE PARTICULAR WORKPLACE



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PART B. WRITTEN RISK ASSESSMENT



WORKPLACE:..... **ASSESSMENT DATE:**.....

1. HAZARDS ASSOCIATED WITH THE RAW MATERIALS USED			
POTENTIAL HAZARDS	LIK.	SEV.	PREVENTIVE/ PROTECTIVE MEASURES
<i>Hazards associated with the raw material supply</i> <ul style="list-style-type: none"> Injuries as a result of carrying or lifting of the parts or assemblies 			<ul style="list-style-type: none"> The transportation should be done with the appropriate means (fork lift vehicle, conveyor, crane, trailer) Use the appropriate PPE (protective gloves and footwear)
<i>Hazards associated with the temporary storage of the raw materials used</i> <ul style="list-style-type: none"> Injuries as a result of fall or misplacement of the parts or assemblies left over in random places in the workplace 			<ul style="list-style-type: none"> Appropriate storage (rigging, stacking securing) Use the appropriate PPE (protective footwear)
<i>Other potential hazards associated with the raw materials used</i>			<i>Preventive and protective measures that are proposed</i>

2. HAZARDS ASSOCIATED WITH THE CURRENT PRODUCTION PROCEDURE			
POTENTIAL HAZARDS	LIK.	SEV.	PREVENTIVE/ PROTECTIVE MEASURES
<i>Tools, Machinery, Fixtures etc in use.</i> <ul style="list-style-type: none"> • Injuries caused from falling of lifted materials due to lifting equipment failure • Injuries caused from the failure of tools or fixtures (e.g. wrench with welded handling extension) 			<ul style="list-style-type: none"> • Proper maintenance, frequent checks of the machines • Protecting covers in good condition and not removed • Machinery and tools should only be used for the purpose they were made for • Correct use, proper maintenance, frequent checks of the lifting equipment • All tools should be kept in proper condition and used only for the purposes that they were manufactured for
<i>Hazards associated with the work method used</i> <ul style="list-style-type: none"> • Injuries as a result of the use of portable hand tools (saw, drill, grinding wheel) • Injuries due to inappropriate mounting and fixturing of the repaired parts, assemblies, elements • Injuries caused by moving machine parts 			<ul style="list-style-type: none"> • Correct use, proper maintenance, frequent checks of the used tools • Use the appropriate PPE • Check for the appropriate mounting and fixturing of the part • Maintenance and repair work must only be carried out with all the involved machinery not working and isolated from the power supply.
<i>Mechanical hazards and ergonomic faults in the workplace</i> <ul style="list-style-type: none"> • Fall from a height • Myosceletical problems due to inappropriate working posture and manual carrying or lifting of heavy loads 			<ul style="list-style-type: none"> • Protective equipment against falls from a height (fall arresters, lanyards etc) • Ergonomic design of the workplace • The transportation of loads should be done with the appropriate means
<i>Other potential hazards associated with the current production procedure</i>			<i>Preventive and protective measures that are proposed</i>

3. HAZARDS ASSOCIATED WITH THE WORKING ENVIRONMENT			
POTENTIAL HAZARDS	LIK.	SEV.	PREVENTIVE/ PROTECTIVE MEASURES
<i>Physical Hazards</i> <ul style="list-style-type: none"> • Insufficient lighting • Noise • Foul weather 			<ul style="list-style-type: none"> • Improve lighting conditions locally • Use ear muffs • Use the appropriate PPE
<i>Chemical Hazards</i> <ul style="list-style-type: none"> • Dermatitis from contact with lubricants, solvents etc 			<ul style="list-style-type: none"> • Use the appropriate PPE (gloves)
<i>Electricity</i> <ul style="list-style-type: none"> • Electric shock due to contact with high voltage components 			<ul style="list-style-type: none"> • Use double insulated powered electrical hand tools • Cables and tools should be frequently checked • Repair work must only be carried out with all the involved machinery isolated from the power supply. • The Internal Electrical Installations Regulation should be followed
<i>Job site</i> <ul style="list-style-type: none"> • Injuries during the emptying of the premises in case of emergency 			<ul style="list-style-type: none"> • Emergency exits should be kept open and easily reached • Appropriate safety signs
<i>Other potential hazards associated with the working environment</i>			<i>Preventive and protective measures that are proposed</i>

4. HAZARDS ASSOCIATED WITH THE FINAL PRODUCT AND SUBPRODUCTS

POTENTIAL HAZARDS	LIK.	SEV.	PREVENTIVE/ PROTECTIVE MEASURES
<i>Hazards associated with the taking away of the final product and subproducts</i> <ul style="list-style-type: none"> • Injuries as a result of taking away the repaired workpieces 			<ul style="list-style-type: none"> • Use the appropriate PPE (protective gloves and footwear) • The transportation should be done with the appropriate means (fork lift vehicle, conveyor, crane, trailer)
<i>Other potential hazards associated with the final product and subproducts:</i>			<i>Preventive and protective measures that are proposed</i>

5. OTHER TYPES OF HAZARD

POTENTIAL HAZARDS	LIK.	SEV.	PREVENTIVE/ PROTECTIVE MEASURES
<i>Hazards associated with the poor organisation of work</i> <ul style="list-style-type: none"> • Working instructions that are not clear 			<ul style="list-style-type: none"> • Clear and explicit working instructions • Clearly defined tasks and duties
<i>Hazards associated with psychological factors</i> <ul style="list-style-type: none"> • Time pressure • Poor cooperation with co-workers and supervisors 			<ul style="list-style-type: none"> • Appropriate work schedule • Conditions that promote good cooperation
<i>Hazards associated with the particular requirements of the work and the particularities of the specific workplace</i>			



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PART C. POTENTIAL HAZARDS AND PERSONAL PROTECTIVE EQUIPMENT



PART OF THE BODY AT RISK													
		HEAD					UPPER LIMBS	LOWER LIMBS	GENERAL				
		S C U L L	E A R S	E Y E S	F A C E	R E S P I R A T. T R A C K	H A N D S	A R M S	F E E T	L E G S	S K I N	A B D O M E N	OTHER IDENTIFIED PART OF THE BODY AT RISK
POSSIBLE HAZARDS													
MECHANICAL	FALLS FROM HEIGHTS											X	
	BURNS – CUTS												
	IMPACT – CRUSHING – ENTANGLEMENT											X	
	VIBRATION												
	SLIPS											X	
ELECTRICAL												X	
THERMAL	HEAT-FLAMES											X	
	COLD											X	
RADIATION	NON IONISING												
	IONISING												
NOISE			X										
CHEMICAL	GASES-VAPOURS												
	FUMES												
	MISTS												
	IMMERSION												
	SPLASHES						X				X		
GASES-VAPOURS													
BIOLOGICAL	HARMFUL BACTERIA												
	HARMFUL VIRUS												
	FUNGI												
PROPOSED PERSONAL PROTECTIVE EQUIPMENT		H E L M E T	E A R M U F F S	G O G G L E S	F A C E P R O T.	R E S P I R. D E V.	G L O V E S	P R O T. C L O T H I N G	F O O T W E A R	P R O T. C L O T H I N G	O I N T M E N T S	P R O T. C L O T H I N G	PROTECTIVE CLOTHING, PROTECTIVE EQUIPMENT AGAINST FALLS FROM A HEIGHT ETC
 													PROPER PROTECTIVE EQUIPMENT

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PART D. LEGISLATION - STANDARDS - REFERENCES

1. RELEVANT GREEK LEGISLATION



1. L. 1568/1985 "Υγιεινή και ασφάλεια των εργαζομένων".
2. D.L. 17/96 "Μέτρα για τη βελτίωση της ασφάλειας και της υγείας των εργαζομένων κατά την εργασία σε συμμόρφωση με τις οδηγίες 89/391/ΕΟΚ και 91/383/ΕΟΚ".
3. D.L. 16/96 "Ελάχιστες προδιαγραφές ασφάλειας και υγείας στους χώρους εργασίας σε συμμόρφωση με την οδηγία 89/645/ΕΟΚ".
4. D.L. 395/1994 "Ελάχιστες προδιαγραφές ασφάλειας και υγείας για τη χρήση από τους εργαζόμενους εξοπλισμού ατομικής προστασίας κατά την εργασία σε συμμόρφωση προς την οδηγία του Συμβουλίου 89/656/ΕΟΚ".
5. D.L. 105/1995 "Ελάχιστες προδιαγραφές για την σήμανση ασφάλειας ή/ και υγείας στην εργασία σε συμμόρφωση με την οδηγία 92/58/ΕΟΚ".
6. D.L. 377/1993 "Προσαρμογή της Ελληνικής Νομοθεσίας στις Οδηγίες 89/392/ΕΟΚ και 91/368/ΕΟΚ του Συμβουλίου των Ευρωπαϊκών Κοινοτήτων σχετικά με τις μηχανές".
7. D.L. 159/1999 "Τροποποίηση του προεδρικού διατάγματος 17/96 "Μέτρα για τη βελτίωση της ασφάλειας και της υγείας των εργαζομένων κατά την εργασία σε συμμόρφωση με τις οδηγίες 89/391/ΕΟΚ και 91/383/ΕΟΚ".

For more information and a further relevant investigation the following web site is proposed:
www.elinyae.gr

2. EUROPEAN EN STANDARDS RELEVANT TO THE PROPOSED PERSONAL PROTECTIVE EQUIPMENT (P.P.E.)



ENV 340	Protective clothing: General Requirements
EN 388-94	Protective gloves against mechanical risks
EN 510	Specification for protective clothing for use where there is risk of entanglement with moving parts
EN 420-94	General requirements for gloves
EN 379 –95	Industrial safety helmets
EN 812-99	Industrial bump caps
EN 8662-97	Hand – held portable powered tools – Measurement of vibrations at the handle. Part 6: Impact drills, Part 7: Wrenches, screwdrivers, and nut runners with impact, impulse or ratchet action, Part 8: Polishers and rotary, orbital and random orbital sanders
EN 345 –95	Specification for safety footwear for professional use
EN 346-93	Specification for safety footwear for professional use

For more information and a further relevant investigation the following web sites are proposed:
www.elot.gr, www.idec.gr/ppe, www.cenorm.be .

3. SPECIALISED BIBLIOGRAPHICAL REFERENCES



- Μεθοδολογικός οδηγός για την εκτίμηση και πρόληψη του επαγγελματικού κινδύνου, Σ. Δρίβας, Κ. Ζορμπά, Θ. Κουκουλάκη, Β' έκδοση, ΕΛΙΝΥΑΕ, Αθήνα 1998
- Επιδημιολογία και πρόληψη επαγγελματικών νόσων, Α. Λίνου, Αθήνα 1989
- Καταγραφή κινδύνων υγείας και ασφάλειας της εργασίας σε μηχανουργείο, Α Κωστοπούλου, Αθήνα 1999
- Βιομηχανικοί διαλύτες, ΕΛΙΝΥΑΕ, Αθήνα 1999
- BS 8800 : 1996 "Occupational health and safety management systems"
- Croner's Risk Assessment, Croner Publications Ltd., Surrey 1995
- Handbook of Occupational Safety and Health, pp. 85-98, 2nd edition, 1999 John Wiley and Sons
- Safety and health in the use of chemicals at work, C.M.A. Bakar, D. Gold, ILO, Geneva 1993
- Encyclopaedia of Occupational Health and Safety, ILO
- "Guidance on risk assessment at work", European Commission, Directorate-General V Employment, Industrial relations and social affairs.