



HEALTH, SAFETY & ENVIRONMENTAL MANAGEMENT SYSTEM

This manual contains the procedures for the management of Health & Safety in the work places. In particular the activities for the safeguard of the safety and health conditions in the company are regulated. The procedures describe the tasks, the functions, the responsibilities, the integrations between the safety system of the company and the various company's functions, the instruments, the operative modalities, for the purpose to make clear and univocal the criteria of application of the Company's Management System for Safety.



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1 – INTRODUCTION, POLICY AND RESPONSIBILITY

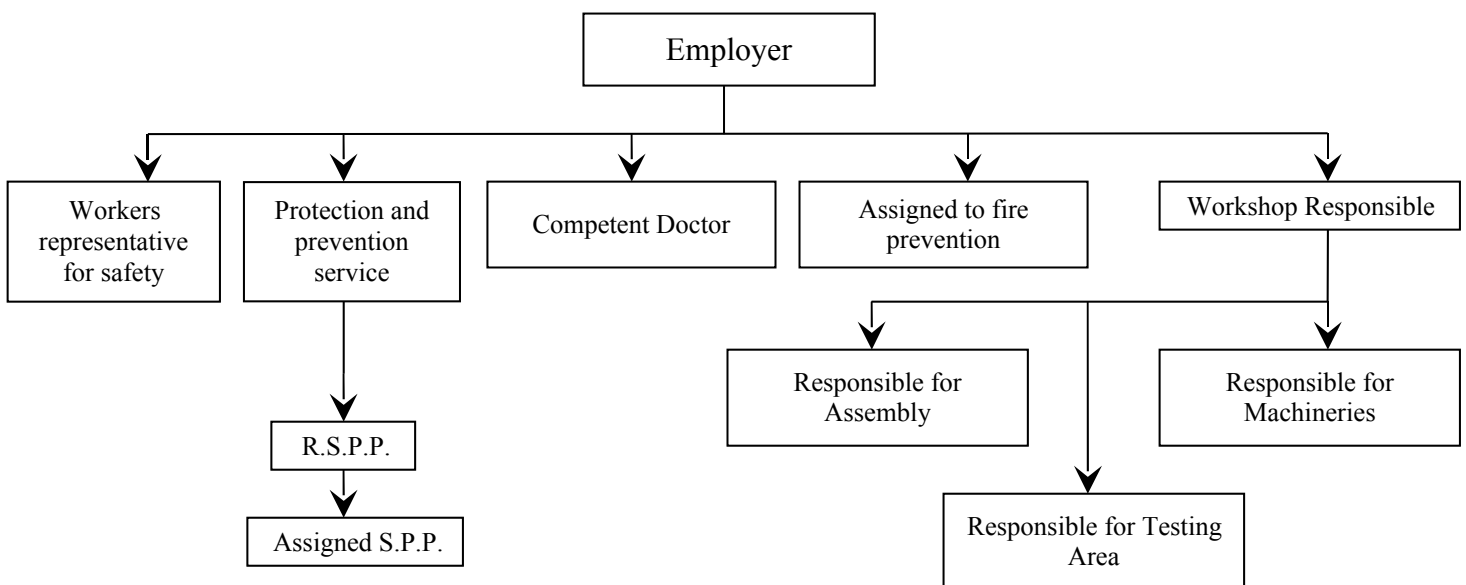
The purpose of this section is to define the various levels of responsibility for the health, safety and environment management SYSTEM.

1.1 EXPECTATIONS

The management of the health and safety in the work place constitute an integral part of the company's management. ABV, with the application of the rules indicated in this manual intends to reduce the potential sources of risk to which its workers are subjected. The health and safety policy on the work place is defined and documented by the top management and defines the vision, the essential values and the firm belief of the company on the subject of safety and is important to define the management, the action principles and the results to be achieved.

1.2 DEFINITION OF TASKS AND RESPONSIBILITIES

The responsibilities and the relevant authority with regard to health and safety on the work place are defined according to the organization chart of the company:



RSPP: Responsible for Service of Prevention and Protection
SPP : Service of Prevention and Protection



1.2.1 - Employer

The Employer has the responsibility of the organization of the prevention and protection in the Company, therefore he is requested to adopt, in the management of the company, all measures that, according to the particularity of the job, the experience and the technique, are necessary to protect the physical integrity of the workers. The employer shall avoid behaviors that could damage other's safety, and will adopt all measures that are necessary and/or useful and correct to prevent illness and/or accidents to guarantee the safety in the work place; is committed, for precaution, to guarantee the highest safety technologically feasible; he uses the most advanced technical methods to adopt and verify the best answer of the protection devices to the need of safeguard of the workers; he avail himself of professional men for the solution of technical problems and to face such problems to the best.

1.2.2 - Service of prevention and protection

Within the Company it is established the Service of Prevention and Protection according to article 8 of the Law Decree no. 626/94, composed by the Responsible and no. 2 assigned persons to support the Responsible for Service of Prevention and Protection (RSPP); these persons have been properly trained according to article 8 bis of the Law Decree 626/94.

The S.P.P.(Service of Prevention and Protection), according to article 9 of the Law Decree no. 626/94, provide:

- a) individualization of risk factors, evaluation of risks and individualization of the measures for the safety and healthfulness of work places, in compliance with the regulations in force according to the specific knowledge of company's organization;
- b) elaboration, for what under his competence, of the preventive and protection measures and the systems as per article 4, second paragraph, letter b) of the Law Decree no. 626/94 and the control systems of said measures;



- c) elaboration of safety procedures for the various company's activities;
- d) preparation of programs of information and training of workers;
- e) participation to consultations about the safeguard of health and safety according to article 11 of Law Decree no. 626/94;
- f) giving to workers the information according to article 21 of Law Decree no. 626/94.

The main task of the service of prevention and protection is, also with the help of external technicians, the elaboration of various procedures of safety about: the various locations of the production cycle (for example: use of machine tools, use of lifting equipments, workings in height "ladders"), use of protection methods given, behavior to be kept in case of emergency (fire), etc.)

The company is comprised in the prescriptions of article 11 of Law Decree no. 626/94 since there are more than 10 workers. According to article 11, paragraph 1, the employer will summon the annual meeting to which the following persons shall attend:

- a) the responsible for the service of risk prevention and protection;
- b) the competent doctor;
- c) the representative for safety.

During the meeting, the employer shall submit to the examination of the attendees:

- a) updates to be made to the document of evaluation of risks;
- b) suitability of the individual protection methods;
- c) programs of information and training to workers for the safety and the protection of their health.

Furthermore the meeting shall take place in case of possible important modifications of the conditions of exposition to the risk, including the programming and the introduction of new



technologies which have influence on the safety and health of workers (art. 11, par. 3 of Law Decree no. 626/94).

The results of the meeting shall be indicated on a minute of meeting properly drawn up.

1.2.3 - Responsible for the Service of Prevention and Protection (RSPP)

The main functions of the Responsible for the service of prevention and protection can be summarized as: coordination with managing functions of the prevention and protection service:

- Identification and evaluation of the risks factors
- Elaboration of the preventive and protection measures for the safety and health
- Proposal of programs of information and training of workers
- Control and optimization of the time for the management of the health and safety in the company

It is evident that the activities and the tasks of the RSPP shall be integrated with those of the employer and the RLS (representative of workers for safety), besides to the competent doctor, to improve the working conditions in the company, to protect the health of workers, favoring the physical, psychic and social welfare.

1.2.4 - Attendee:

He is a personage with functions of immediate supervision of the work and of direct control of the executive modalities of the performance. He looks after the developments of the work and the implementation of the working program. It is important to remind that the personage of the attendee has a legal source and for this reason it is not necessary a proxy of functions. In such case if the employer has nominated an attendee and this has been selected as a person effectively competent, with the relevant powers for the safety measures to be adopted, the



employer can be exempted from the responsibilities.

This personage is covered by the responsible of the workshop, who has the task to supervise the activity of the various department's responsible, who in turn has to supervise the activity of workers (so also the latter can be configurable as attendees).

2 – SAFETY PROCEDURES

2.1 EXPECTATIONS

The safety procedures are realized with the aim to illustrate to the workers the correct behaviour to be kept within the company, mainly about the use of the equipment relevant to the production cycle. The safety procedures shall also make the workers aware to pay a particular attention to control the status of the existing safety devices , to be able to participate, by communicating possible deficiencies and/or possible solutions to the problems/risks, to improve the general safety conditions. The drawing up of the safety procedures is an evaluation index, from the company's management, of the level of risk inside the company.

2.2 GENERAL RULES

2.2.1 – Information and training

All personnel employed and the new hired shall be submitted to a suitable information and training particularly focused on the basis of the work performed. The new hired personnel, before starting the working activity, shall follow a course of information and training kept by the Responsible of Service of Prevention and Protection. Summarizing, all personnel shall be



informed about:

- General risks for the safety and health and the specific risks for the activity performed;
- Measures and activity of protection and prevention adopted;
- Procedures of first-aid, fire-fighting and evacuation;
- Name and function of the Responsible for service of prevention and protection and of the competent doctor;
- Name of workers assigned for fire-fighting, evacuation and first-aid;
- Instructions for the use of equipment;
- Instructions for the use of the individual protection methods;

Besides, all workers, at the time of the hiring, the transfer and the change of role, shall be given a sufficient and adequate training about health and safety.

2.2.2 - Presence of outside personnel within the company

In case the company entrusts some works inside the company to other companies or autonomous workers, the company shall, in compliance with what requested by article 7 of Law Decree no. 626/94:

- Verify the technical professional suitability of the contractee companies with reference to the works to be assigned to them;
- Supply to the same detailed information about the specific risks existing in the environment where they will operate and the measures of prevention and emergency adopted with relation to their activity;
- Cooperate for the actuation of the prevention and protection measures from the risks deriving from the working activity subject of the contract;
- Coordinate with the company performing the work to eliminate the risks due to the interferences between the company activity and the activity of the company performing the work.



The execution of the work shall be accompanied by a regular contract, signed by the contractor and the contractee, the contract shall specify the works to be performed, the risks and the behaviour to be kept during the activity.

2.2.3 - Safety Inspections

Periodically, for the purpose of monitoring constantly the situation within the company, safety inspections shall be carried out by the service of prevention and protection, made as follows:

- Unexpected controls, during the working hours, within the company and check of the working and safety conditions;
- Following meeting, including the employer and the representative for workers for safety, to analyze what previously viewed.
- Drawing up of a report where all themes discussed during the meeting;
- In case some anomalies are found, they shall be eliminated; if this is not possible shall be made what possible to reduce the risk to the minimum (installation of new protection devices, replacement of machineries with irregularities, modification to the production cycle, replacement of the worker to assign him to task more suitable);

Besides the inspections, for the prevention, it is very useful the teaching deriving from the accidents or near miss accidents happened, by evaluating the causes, direct and indirect. With the investigation of the accidents due to technical reasons and with the adoption of the preventive measures we can obtain the double result to reduce the accidents and, in general, the anomalies of functioning of plants. All workers have at their disposal a schedule to register the accident and the near miss accident, to be filled in all fields and to be given go a member of the SPP (Service Prevention and Protection). The data deriving from the investigation on the accidents and near miss accidents are gathered and elaborated in a way to obtain a register, constantly updated, that can be useful to address the prevention.



3 – OCCUPATIONAL HEALTH

3.1 EXPECTATIONS

The purpose of this paragraph is to determinate which are the specific risks for the health of the workers and the measures to be adopted and/or undertaken to limit them. For this purpose some environment monitoring are periodically made, with proper sampling within the building.

Between the dangerous agents that can create risks for the health there are:

- Chemical agents (including cancerous and changing)
- Physical agents, like noise, vibrations, radiations, both ionizing and not ionizing;
- Biological agents.

The incidental scenario prevailing in this category is the assumption of harmful or damaging doses, during the ordinary activity, of above mentioned agents. The consequences of said assumption can generate either strong pathological forms, with temporary outcomes or reversible, and pathological forms at long term, with irreversible chronic outcomes.

3.2 ANALYSIS OF RISKS FOR THE HEALTH

3.2.1 – Physical agents

Dangerous physical agents can be grouped as follows:

- a. Ventilation in the work places
- b. Microclimatic conditions
- c. Exposition to noise
- d. Exposition to vibrations
- e. Exposition to ionizing radiations
- f. Exposition to non-ionizing radiations
- g. Illumination of the work places



- h. Physical work load and manual movement of loads
- i. Objective factors of stress
- j. Work at video terminals

Here below above mentioned risk factors are described better:

a. Ventilation in the work places

To guarantee adequate ventilation in the work places are taken into consideration all the systems that allow the correct ventilation in the work places, both natural and artificial, and the systems of local aspiration. All locals have the structural requirements, like height, minimum surface of single locals, lighting and natural and/or forced ventilation, according to what requested by the technical addresses for the buildings for the work places drawn up by Region Toscana.

b. Microclimatic conditions

The combination of the physical parameter in a working environment strongly conditions the health status of workers. The malaise status that is created when the environment conditions are not optimum reduce considerably the productivity of workers and in some cases can prepare to more serious accidents because of the concentration drop. The most important modality of evaluation of these risks is the subjectivity of workers: the uncomfortable ness sensation (eyes burning sensation, dryness of the respiratory tracts, hot, cold, staled air, dust, air draughts, etc.) are detected naturally by the body sensors. The subjectivity of each person can minimize or emphasize, but, especially if the number of workers who individualize a factor of uncomfortable ness is considerable, it means that the problem exists and it is necessary to investigate on the causes to eliminate or reduce it (art. 3, Law Decree no. 626).

In consideration of the above, with regard to the risks connected with the meteorological and microclimatic conditions, the welfare index and the heat stress for hot environments are



evaluated; such evaluations are based on the measuring of fundamental greatness of environmental nature (air temperature, average radiant temperature, relative dampness, air velocity) and of personal nature (metabolic energetic wastefulness, thermal resistance of clothing).

The result of the evaluation is expressed in percentages of satisfied and not satisfied. It is anyway to be underlined that this type of index is a parameter calculated by applying formulas created on statistical base; so, it do not arise from an effective uncomfortable ness situation declared by the workers monitored. The indexes and criteria, even if they are useful tools, do not guarantee a categorical demarcation between acceptable and not acceptable situations.

After all, the complexity of the problem requires both a careful project evaluation and plant choices which privilege a proper flexibility, for example:

- Evaluating the characteristics of thermal inactivity and of insulation of materials and the distribution of the surfaces with windows;
- Keeping into account the effective dislocation of personnel and the permanence in the various positions;
- Privileging the self-regulation of the microclimatic parameters in the single environments.

c. Exposition to noise

The purpose of the evaluation of the noise exposition, in compliance with Law Decree no. 195/06, is to protect the workers from the loss, permanent partial or total of the hearing due to the exposition to high sound levels.

The exposition to high sound levels, also for short periods, causes a temporary loss of the hearing. The hearing anyway returns normal after a few minutes in normal sound conditions. When the workers are exposed to high sound levels every working day, for many years, they suffer gradually a permanent loss of hearing, in fact, a person exposed for a certain period of time to high noises in the working environments, is subjected to a temporary increase of the



hearing threshold, accompanied often by buzzes headaches and a psychic daze feeling. If such exposition is prolonged during the time, an internal damage could occur with temporary or total

loss of hearing. In case the noise is higher than 130-140 dB, the eardrum membrane could broke with as a consequence loss of blood from the ear.

To reduce the damages caused by the exposition to the noise, the Law Decree no. 195/06, which has abrogated the Law Decree no. 277/91, has fixed more restrictive limits, i.e.:

Pondered average value (LEX, 8h)	Instant maximum value (ppeak)
Values lower of action 80 dB	135 dB
Values higher of action 85 dB	137 dB
Limit values of exposition 87 dB	140 dB

In case only the lower values of action are exceed, the employer puts at disposal of the workers the hearing DPI (Individual methods of protection), and upon their request or if the Competent Doctor considers as necessary, increase the sanitary surveillance. Besides the employer arrange that the workers are informed and trained about the risks connected with the exposition to noise.

In case only the higher values of action are exceeded, the employer submit the workers to sanitary surveillance and limit the access to the areas where the workers can be exposed to noise levels higher that said value, by means of a proper safety signaling and/or delimitation. Besides the employer supplies to the workers the hearing DPI, makes sure that the workers wears them and elaborates and applies a program of technical and organization measures to reduce the exposition to the noise.

The exposition limits represents the levels that shall not be exceeded, keeping into account the damping of the hearing DPI. If notwithstanding the adoption of technical and organization measures the exposition remains above such values, the employer individualizes the causes of



the overcoming, modifies the prevention and protection measures and adopts immediate measures to bring back the exposition within the limit values of exposition.

d. Exposition to vibrations

It is well known that the human exposition to mechanical vibrations can represent an important risk factor for the workers exposed. The angioplasty and osteoarthritis from vibrations are recognized as professional illnesses from the Committee of The European Community (90/326/EEC, Annex I, items 505.01 and 505.02) and from the Laws of our Country (Decree 336/94: (i) item 52 from the table of the professional illnesses in the Industry).

The Law Decree no. 187 dated 29/08/2005 about the minimum prescriptions of safety and health relevant to the exposition of workers to risks deriving from mechanical vibrations, which is based on the Directive 2002/44/CE dated June 25 2002, prescribes specific method of individualization and evaluation of the risks connected with the exposition to vibrations of the system hand-arm (HAV) and the whole body (WBV) and specific measure of protection, which shall be documented in the context of the report of evaluation of risks prescribed by the Law Decree no. 626/94.

The article 4 of the Law Decree 187/05 prescribes in particular the obligation, from the employers, to evaluate the risk of exposition to vibrations of workers during the work and it is foreseen that the evaluation of risks can be made also without measurements, on the basis of proper information that can be found from the manufacturer and/or from accredited data banks (ISPESL, CNR, Regions), both with measurements, in compliance with the methods of measure prescribed by specific standards ISO-EN. The availability of data banks, when such information are available, makes more easy the evaluation of the risks and the immediate actuation of protection actions as prescribed by the Law Decree no. 187/05, so avoiding to use expensive and sometimes difficult measures, because of a series of environmental and technical factors that frequently induce to mistakes in the measurements. On this subject it is important to



understand that the analysis of the possibility of reduction of the risk represent and integral part of the process of individuation and evaluation of the risk as prescribed by the Law Decree no. 187/05. Said prescription is particularly important in case of a vibrations risk, because both in case of the exposition of the system hand-arm and in the case of exposition of the whole

body, no DPI is available against-vibrations able to protect the workers or at least to bring back the levels of exposition of workers below the limit value as set by the Decree, as it happens for instance in case of the ear protectors for the noise risk. In case of vibrations, in most cases the reduction of the risk at the source is the only measure to be adopted to bring back the exposition to values lower than the limits prescribed by the Directive.

e. Exposition to ionizing radiations

The ionizing radiations are all those radiations constituted by photons or particles having the capacity to determinate, directly or indirectly, the formation of ions. The activity made by ABV does not include activities where there is the presence of ionizing radiations.

f. Exposition to non-ionizing radiations

The non-ionizing radiations are **forms of electro-magnetic radiations** – generally called electromagnetic fields – that, on contrary of the ionizing radiations, **do not have the energy sufficient** to modify the components of the matter and of the living complex adaptive system (atoms, molecules).

g. Lighting of the work areas

The current laws about hygiene in the work place prescribe that workers shall work in environments reached by natural light, except for particular cases in exception. Also the artificial light shall be provided to integrate the natural light to guarantee the carrying out of the activity with safety and with no particular visual tiredness. Of course the quantity of light necessary depends on the characteristics of the work and is directly proportional to the precision requested during its performance. Currently, the main references used to evaluate the adequacy



of the artificial lighting sources are based on indications give by technical norms like ISO and UNI. The norm UNI 8995 foresee various levels of lighting on the basis of 9 types of reference by giving a range connected to environment and/or subject factors like, for instance, the visual capacity of the operator.

In the rooms used for working activities the lighting shall guarantee a sufficient uniformity of lighting of the areas and allow an easy recognizing of the objects and favoring the activity to be performed by limiting the arising of tiredness and by making clearly perceivable the dangerous situations.

General lighting oriented on the work place

If the visual needs are notably different from one area to the other of the room, it can be opportune to adapt the lighting to the specific needs of each area. For the rooms with steady working places it was evaluated the correct coordination between lighting equipments installed and the work places. The possible movement of the work places will cause the re-examination of the condition previously existing.

Localized lighting of the single work place

The lighting localized of the single work place is allowed only if coordinated with the general lighting of the room. The additional lighting for a single work place can be necessary only if here are particular needs, like:

- for activities where exacting visual tasks are requested and for which the work is made essentially in restricted and well delimited areas of the room;
- for visual tasks which requires the identification of contrasts, edges, shapes and structures. In such cases the light shall come from fixed directions, fixed or variables, shall have the particular chromatic characteristics or shall be suitable to create determined levels of light;
- in work places where general lighting is not sufficient;



- when it is performed a determined type of work on objects with surfaces with a high grade of reflexion.

Lighting prescriptions

The artificial lighting plant considers, by respecting the parameters of energy saving, the following parameters:

- level and uniformity of lighting;
- repartition of lighting;
- limitation of dazzling;
- directionality of light;
- color of the rendering and rendering of color;

For the coordination between the general lighting and that of the single work place the lighting of the exercise is referred to that of the work place.

The lighting of the exercise is referred to the average status of ageing of the lighting plant, to the state of equipped room or area of it, in general to the surface of horizontal work and the height of 0,85 meters from the floor, if not specified differently. The coordination between a determined value of the lighting of an exercise and the visual task is referred to persons with normal visual capacities. A defect not totally corrigible with optic instruments can be compensated completely or partially with a higher level of lighting. For the design, the initial lighting (of design) is obtained by multiplying the exercise one by the depreciation factor to keep into account the aging and the dirtying of the materials.

h. Physical work load and manual movement of loads

The manual movement of loads (defined as movement of loads) is included between the working activities with risk of professional illness. The Community Regulations, considered in



the Law Decree no. 626/94, Title V, fixes some rules for the safeguard of workers who make an activity that include the movement of a load by means of the direct or indirect use of the body force.

The manual movement of loads is a transport and/or support of a load is an operation made by one or more workers. The operations of manual movement of loads includes, besides the lifting, also the actions of depose, push, throw, carry or move a load, that for their characteristics or because of ergonomic unfavorable conditions can cause back-lumbar damages. The prevention is relevant first of all to back-lumbar damages, ad also those of any part of the body. Since the muscular effort causes an increase of both the cardiac and the respiratory rhythm and produces heat, under the combined effect of the effort and the weight of the loads, the articulations can, after the time and in case of repeated solicitations, suffer permanent damages. It is particularly exposed the vertebral column, that can suffer usury and hernia of disks, lumbar pain and compression of the bone marrow.

The more the characteristics of loads and their movements are those below examined, the more workers are exposed to the risk of acute painful attacks with paralyzing effects. Besides the vertebral column, also other parts of the body can be damages (for instance the superior arts and the cardio-circulatory apparatus).

The elements to be taken into account for the activity of movement of weights are (according to Attachment VI of the Law Decree 626/94):

- characteristics of load;
- the physical effort;
- the needs connected to the activity;
- the individual factors of risk;
- the characteristics of the work place.



The handling of weights can be a risk operation, when the load is:

- of excessive weight, i.e. if it exceeds the weight limit of 30 kilos for men and 20 kilos for women;
- bulky or of difficult taking;
- in such a position that is to be kept or handled at distance from the body, or with a torsion of the body;
- with an external structure or the consistence that could cause damage to the worker, mainly in case of hurt.

The physical effort can cause the risks of a manual movement of loads when:

- it is excessive, i.e. it exceed the efforts capacity without damages to the subject;
- can be made only with a torsion movement of the body,
- can cause a sudden movement of the load;
- is made with the body in unstable position: it is considered as unstable any position where the operator cannot stay in a safe position because of no space available, or because in height, or for the characteristics of the plain of support.

The activity f movement of weights becomes a manual movement of loads under risk when it requires the following needs:

- excessive frequency or excessive prolongation of the physical efforts which solicit in particular the vertebral column;
- physiologic rest pauses or recover of insufficient duration;
- too long distances of lifting, lowering or transport;
- movement rhythm caused by a process that cannot be controlled by the worker.

The individual risk factors, i.e. the possibility for the worker to be under risk, are when;

- physical unfitness to the task of movement of weights;



- improper wearing (shoes, clothing, personal effects in general);
- insufficiency or inadequacy both of the lifting techniques and the professional training.

Also the characteristics of the work place can increase the possibilities of an unfavorable event for the safety or the health of the employed for the manipulation of weights. The possibility that the unfavorable event happens is when:

- the free space, mainly the height, is not sufficient for the manual movement of loads;
- the floor is not smooth therefore there are risks of stumbling or slipping because of the type of shoes;
- the place or the environment does not allow the worker to move manually the loads at a height safe or in good position;
- the floor or the working plain presents gradients which require the manipulation of the load at different levels;
- the floor or the point of support are unstable;
- the temperature, the damp or the air circulation are not adequate;

For the drawing up of the document of risk evaluation in compliance with Law Decree no. 626/94, the safety and health conditions connected to the work are evaluated, by keeping into account the characteristics of loads. The Service of prevention and protection is obliged to apply the calculation schedule elaborated according to the reference rules NIOSH to the various types of tasks of the company. The NIOSH model is an evaluation procedure to establish how much a lifting operation of loads is dangerous for the operator. The schedule is valid for the operations made standing up. Conceptually it is based on the hypothesis of the existence of a standard weight of reference that can be lifted without risks in optimum conditions from the majority of the adult population. If the parameters that characterized the real conditions are different from the standard ones, the parameters (which are coefficients to multiply the standard weight of



reference) have a value lower than 1, the more is minor the worst is the operative condition that they represent. At limit, an unsustainable situation is characterized by the value zero (that in case of a multiplication reset the result, i.e. physically says that in such conditions there is no weight that can be lifted without high risks).

The parameters taken into account are the following:

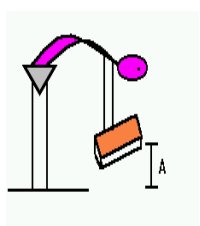
Parameters	Factors
Hands height from the floor at the beginning of the lifting	A – quota
Vertical distance of movement of the weight	B – dislocation
Horizontal distance between the hands and the point in the middle of ankles	C – horizontal
Angular dislocation of the load (from the axis of the person)	D – angular dislocation
Judgement on the taking of load	E – taking
Frequency of actions in relation to the duration of the movement	F – frequency

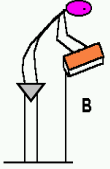
Then it is compared the weight lifted (or to be lifted) with the limit weight recommended: the report weight lifted/limit weight recommended is defined *lifting index* and it is the measure of the risk of the movement under examination. For values of the index up to 1 the protection is that corresponding to the constant of weight (90% of the exposed population); when the index increases above 1 the percentage of population under risk increases. Values above 3 are not acceptable and require the adoption of immediate measures of correction both technical and organizational.

Here below we indicate the model of evaluation of risk in compliance with NIOSH procedure:

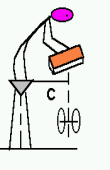
Age	Male	Female	Weight constant
> 18 years	30	20	V
			«Cp»

Height of the hands from the floor at the beginning of lifting									Height factor
Height (cm)	0	25	50	75	100	125	150	>175	V
Factor	0.77	0.85	0.93	1.00	0.93	0.85	0.78	0.00	V
									«A»

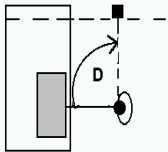




Vertical distance of movement of the weight from beginning and end of lifting									Dislocation factor
Dislocation(cm)	25	30	40	50	70	100	170	>175	
Factor	1.00	0.97	0.93	0.91	0.88	0.87	0.86	0.00	V
«B»									



Horizontal distance between hands and point in the middle of ankles – distance of the weight from the body (maximum distance during the lifting)								Horizontal factor
Distance (cm)	25	30	40	50	55	60	>63	
Factor	1.00	0.83	0.63	0.50	0.45	0.42	0.00	V
«C»								



Angular dislocation of the weight (in degrees)								Angular dislocation factor
Dislocation(cm)	0°	30°	60°	90°	120°	135°	>135°	
Factor	1.00	0.90	0.81	0.71	0.52	0.57	0.00	V
«D»								

Judgement on the taking of the load			Taking factor
Judgement	Good	Poor	
Factor	1.00	0.90	V
«E»			

Frequency of actions (number of activities in one minute) with reference to the duration								Frequency factor
Frequency	0.20	1	4	6	9	12	>15	
Continuous < 1 hour	1.00	0.94	0.84	0.75	0.52	0.37	0.00	V
Continuous from 1 to 2 hours	0.95	0.88	0.72	0.50	0.30	0.21	0.00	V
Continuous from 2 to 8 hours	0.85	0.75	0.45	0.27	0.15	0.00	0.00	V
«F»								

Weight effectively lifted (in kilos) = **Pe**



Recommended weight limit (in kilos) = $C_p \times A \times B \times C \times D \times E \times F = Pr$

Lifting index = Pe / Pr

The lifting index so obtained is a measure of the risk, which is minimum for values lower than 1, while it is present for values higher than 1: the more the index is high the more the risk is higher.

All workers assigned to the manual lifting of loads are submitted to sanitary surveillance by a competent doctor.

i. Objective stress factors

Stress is a discomfort status "which is manifested with physical, psychical or social symptoms connected to the inability of people to fill the gap between their needs and expectations and their working activity", but "it not an illness", even if a "prolonged exposition to stress can decrease the working efficiency and cause health problems".

An increasing number of researches have highlighted the negative effect of stress from work both on the number of accidents during the working activity and on the physical and psychical health of the worker, in particular on the risk to have cardio circulating illnesses. It has also been found a double risk of deaths for cardio circulating illnesses of stressed workers who did not present any other risk factor for such pathologies.

According to the Job strain model, working stress is caused mainly by the combination of an excessive work load and a poor possibility to control the tasks to be done. So even in case of a heavy work load, a worker could not feel stressed if he perceives to be able to manage in the most appropriate way such load.



The Efforts-reward imbalance model hypothesizes that the working stress occurs in the presence of a high responsibility from the worker associated to a poor reward. The term reward in this case means economic profit, social approval, working stability and career opportunities.

According to the European Community, the most common factors that can determinate a stress from working activity is:

- Excessive or insufficient quantity of work to be performed;
- Insufficient time to complete the work in a satisfactory way both for the others and for themselves;
- Lack of a clear description of the work to be performed or of a hierarchical line;
- Insufficient reward, not proportional to the work;
- Impossibility to make claims;
- Serious responsibility not accompanied by adequate authority or decisional power;
- Lack of collaboration and support from managers, colleagues or dependents;
- Impossibility to express effective talents or personal capacities;
- Lack of control or of the right pride for the finished product of its work;
- Precariousness of the work place, uncertainty of the position occupied;
- Unpleasant working conditions or dangerous work;
- Possibility that a small mistake or carelessness can have serious consequences.



If in the work place there is even only one of above mentioned conditions it is probable that workers are stressed, with all the risks for health. Of course to limit the causes of stress it is necessary to act both at personal and organization level.

j. Work at video-terminals

The work plane (desk) shall:

- have a surface sufficiently wide to put the materials needed and the equipment (video, keyboard, etc.) and allow the support of the forearms of the operator in front of the keyboard,

during the digitations;

- have a depth such to ensure a correct visual distance from the screen;
- have the surface of a clear color, possibly different from white, and in any case not reflecting;
- being stable and height, fix or adjustable, indicatively between 70 and 80 cm.
- have a suitable space for the comfortable lodging and movement of the inferior arts and to insert the chair.

The chair shall:

- be of revolving type, safe against slipping and overthrow, with a stable base or and with five support points;
- have the plane and the back adjustable in an independent way to ensure the correct support to feet and the support of the lumbar area;
- have the edge of the plane beveled, made of not yielding material, permeable to the aqueous vapor and cleanable;
- be easily movable also considering the type of floor;



- if necessary, being equipped with a separate footrest, to have the correct posture of the inferior arts of the operator.

During the preparation of the working environments with positions with video-terminals, it is necessary to foresee:

- with regard to noise, the elimination of possible noise problems because of printers, by isolating or outscoring them;

- with regard to the microclimate, the work to video terminals do not require the respect of parameters different from those normally used for the normal office work. It is necessary that in the working place the air speed is very reduced, by avoiding the presence of air currents coming from doors, windows, mouthpieces of air conditioning heaters, equipments nearby, etc. It is important that the air is not too dry o avoid possible irritations to the eyes.

The same precautions shall be used to avoid heating sources in the immediate proximities of the place, like heating systems and windows that could be hit by direct solar heating, etc.

- with regard to lighting, to avoid reflects on the screen, dazzles of the operator and excessive brightness contrasts, the work place is correctly oriented with respect to the windows present in the work place.

The artificial lighting shall be made with lamps having screens and free from flicker, placed in a way to be out of the visual field of the operators. In case of not-screened lamps from the ceiling, the line between the eye and the lamp shall for with the horizon a degree not lower than 60°. In any case the dazzle of the operator and the presence of reflects on the screen shall be avoided, careless of their origin.

To avoid disturbs muscle-skeletal it is necessary to:



- have a correct posture in from of the video, with foot well rested on the floor and back rested to the back of the chair in the lumbar area, by adjusting the height of the chair and the inclination of the back;
- put the screen of the video in front in such a manner that, also acting with possible adjusting mechanism, the superior glean of the screen is slightly lower than the horizontal passing for the eyes of the operator and at a distance from the eyes equal to about 50-70 cm;
- put the keyboard in front of the screen, apart if the screen is used irregularly, and the mouse, or eventual additional devices used frequently, on the same plain of the keyboard in a way that they are easily reachable;
- type and use the mouse avoiding stiffening of the fingers and the wrist, caring to keep the forearms supported on the plan of job so that to relieve the tension of the muscles of the neck and the shoulders;
- avoid, whenever possible, working positions fixed for prolonged times. In case this is unavoidable it is recommended the practice of frequent relaxing exercises (neck, back, superior and inferior arts).

Indications to avoid the happening of visual problems:

- light correctly the work place, possibly with natural light, by means of regulation with tents, or with artificial light. The conditions of best visual comfort are obtained with lighting not excessive and with lighting sources out of the visual field that are not very different, for intensity, from those of the objects and surface present in the immediate proximities, to avoid excessive contrasts;
- orientate and inclinate the screen to avoid reflections on its surface;
- keep the correct posture in from of the video, so that the distance eyes-screen is equal to about 50-70 cm;



- place the documents holder, if present, at the same height and distance from the eyes, of the screen, by adjusting it;
- periodically disengage I look from the video to look at distant objects with the purpose to reduce the visual fatigue;
- during the pauses or the change of activity, is opportune to do activities that do not require an intense visual activity, like for example the correction of a written text;
- it is recommended the use of eventual means of correction of sight, if prescribed.

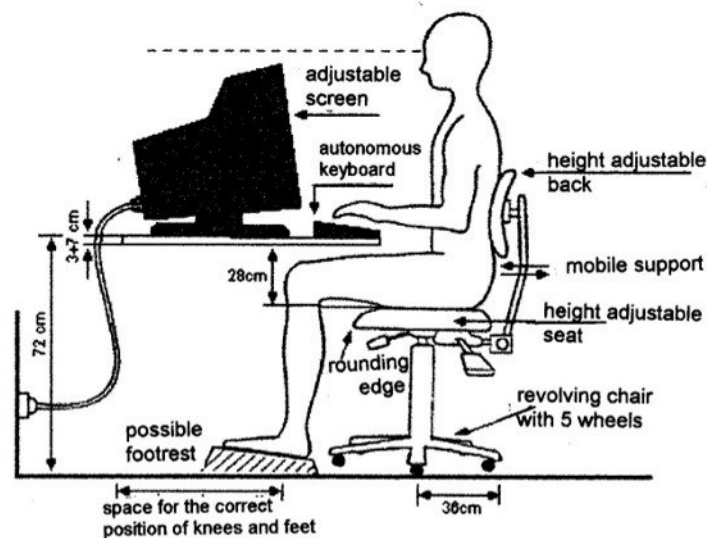
During the work at the video-terminal it is also possible to find a certain difficulty from the

operators to follow correctly the continuous updates of software. The activity at video-terminal requires that it is preceded by an adequate period of training to use the programs and informatics procedures. It is useful, on this matter:

- follow the indications and formation received for the use of the programs and the informatics procedures;
- have time enough to acquire the necessary competences and abilities;
- respect the correct distribution of pauses;
- use software for which an adequate information was received, and easy to use;
- in case of anomalies of the software or the equipment, it is important that the operator knows that he can ask someone to solve the problem;

Finally we remind that the knowledge of the context of the work made at the video-terminal is an useful element to attenuate one of the possible factors of mind fatigue.

Summarizing scheme of the Working Place at Video-terminals



3.2.2 – Chemical Agents

In all work places are used substances that could cause a certain danger both of chemical-physical nature (for instance flammable) and of toxicological nature (for instance harmful, toxic): detergents, medicines, disinfectant, solvents, etc. Such substances shall be manipulated with extreme care, following carefully the instructions of the manufacturers on the tags, the directions for use or on the safety schedule.

On March 24 2000 it was published the Law Decree 25 February 2000 no. 66 to actuate the directions nos. 97/42/CE and 99/38/CE on the subject of the protection of workers against the risks deriving from the exposition to cancerous and changing agents during the work.

The Decree compares the changing substances to cancerous substances, modifying the title VII of the Law Decree 626/94, replacing with the following: "Protection from changing cancerous agents".

It is defined as cancerous agent:



- 1) a substance that is in compliance with the criteria relevant to the classification as cancerous category 1 or 2, defined by the Law Decree 3/02/97, no. 52, and following modifications;
- 2) a preparation containing one or more substances indicated at point 1), when the concentration of one or more of the single substances replies to the limit requirements of concentration limit for the classification of a prepared in the cancerous categories 1 or 2 on the basis of the criteria defined by the Law Decree 3/02/97, no. 52 and 16/07/98, no. 285.
- 3) a substance, a preparation or a process according to attachment VIII, or a substance or a preparation

It is defined as changing agent:

- 1) a substance that is in compliance with the criteria relevant to the classification as cancerous category 1 or 2, defined by the Law Decree 3/02/97, no. 52, and following modifications;
- 2) a preparation containing one or more substances indicated at point 1), when the concentration of one or more of the single substances replies to the limit requirements of concentration limit for the classification of a prepared in the cancerous categories 1 or 2 on the basis of the criteria defined by the Law Decree 3/02/97, no. 52 and 16/07/98, no. 285.

3.2.3 – Biological Agents

The Law Decree no. 626/94 defines (article 74):

- **Biological agent:** any microorganism, even if genetically modified, cellular crop and human endoparasitic that could provoke infections, allergies or poisonings
- **Microorganism:** any microbiological entity, cellular or not, able to reproduce or transfer genetic material;
- **Cellular crop:** the result of the artificial growth of cells deriving from multicellular organisms.



The biological agents are classified in four groups depending on the risk of infection:

1. Few possibilities to cause illnesses in the man.
2. Can cause illnesses in the man. It is rather unlikely that is propagated in the community, can be opposed with effective tools of prophylaxis and care.
3. Can cause serious illnesses in human subjects. Can propagate in the community but can be opposed with effective measures of prophylaxis and care.
4. Can cause serious illnesses in the man. Can present a high risk of propagation and normally no effective measures of prophylaxis and care are available.

The dangerousness of a biological agent is appraised in base to the infectivity, to the pathogenicity, to the transmissibility and the neutralizability. The biological risks are those of infection, of allergic effects and of toxic effects.

The activities that involve the danger of exposure to harmful biological agents shall be performed by adopting all technical, organizational and procedural measures to eliminate or to reduce to the minimum the risk of exposure. **The regulations impose:**

- **to avoid the use** of harmful biological agents if the type of activity allows it;
- **to reduce as much as possible the number** of workers exposed to the danger;
- **to adopt the measures to prevent or reduce to the minimum the accidental propagation** outside the working area;
- **to expose in a clear and visible way** the signal of biological risk;
- **to adopt the suitable procedures** for the collection, manipulation and treatment of the samples of animal and human origin;
- **to define the emergency procedures** in case of an accident:



- **to avoid the use of not suitable containers** and/or free of indication of the content;
- **to adopt suitable hygienic measures.** The hygienic services shall be equipped with hot and cold shower, ocular and antiseptic washings;
- **the individual protection methods** shall be controlled, clean and disinfested at the end of each working cycle. For the protection against biological agents the Individual Protection Methods commonly used are: headgear, visor, glasses, mask, uniform cover, gloves, shoes covers, impermeable apron.
- **Shall be absolutely forbidden** to smoke, to eat or to drink in the areas of use of the biological agents;
- In case of accidents that can cause the dispersion in the environment of biological agents included in the groups 2, 3 and 4, the workers **shall abandon immediately** the area and the

Competent Authority shall be informed at the earliest about the event, the reasons that caused it, the remedial measures that have been adopted, or it it planned to be adopted.

- During the activities which presents a danger from biological agents, the workers shall be adequately informed and trained, in particular with regard to:
 - a) the risks for health due to the agents used;
 - b) the precautions to be taken to avoid the exposition;
 - c) the hygienic measures to be observed;
 - d) the functioning and the correct use of the Individual Protection Methods and the working clothing;
 - e) the procedures to prevent accidents;
 - f) the measures to be adopted to reduce to the minimum the consequences in case of an accident;



- A well visible sign shall be exposed in the work place to indicate the procedures to be followed in case of accident or incident, and the phone numbers of ambulance and nearest hospital.

The workers who are subjected to a risk shall be submitted to **medical surveillance**, after the consultancy with the Competent Doctor. The latter programs the periodic medical examinations and the chemical and biological examinations that he considers as necessary, and defines the specific prevention measures to be adopted, like preparing and giving effective vaccines for the ones who are not already immune to the agent.

For the application of the Titles VII and VIII of the Law Decree 626/94, the activity of the company and the safety schedules of the products used were analyzed, evaluating the basis of risk from which it results that no Biological Agents classified in the groups 2, 3 and 4 of above mentioned attachment are utilized.

4 – ENVIRONMENTAL PROTECTION

4.1 EXPECTATIONS

ABV is constantly committed to protect and safeguard the environment for the collective interest of the actual and future generations.

To make this commitment concrete and constant over the time ABV S.r.l. has an Environment Management System organized and structured which allows respecting the regulations, the laws and the other prescriptions eventually applicable to its activity.

In case of any change to its production processes or more in general of its activities, shall implement the appropriate verifications and interventions to control and to constantly decrease the possible environment impacts.



By the institution of targets and objectives concretely realizable and measurable, is committed to constantly improve its environmental performances to reduce pollution and the production of rubbish by the constant update of its production processes and plants.

ABV is committed to communicate to its collaborators and to the persons working in ABV the content of this policy, that is available to the public.

4.2 ENVIRONMENT RISKS

4.2.1 – Acoustic pollution:

The acoustic pollution is damage to the urban and natural environment made by the man due to an excessive exposition to the environment at high intensity sounds. The law no. 447/1995 article 2 gives the definition of acoustic pollution: "the introduction of noise in the inhabited environment or the external environment that provokes bother or trouble to the rest and the human activities, danger for the human health, deterioration of the ecosystems, of the material goods, of monuments, the inhabited environment or the external environment to interfere with the legitimate fruition of the environments themselves". ABV has made the evaluation of the acoustic

impact obtaining the positive reply from the competent entity ARPAT: Regional Agency for the Environmental Protection of Tuscany.

4.2.2 – Emissions in the atmosphere:

ABV has implemented a production cycle that does not require emissions in the atmosphere because of the proximity of a sensible building: a children school.

4.2.3 – Industrial rubbish

All rubbish similar to the urban ones are collected by the municipal company, while special rubbish (like exhaust oils, machining scraps) are collected by specialized companies which have the



necessary environment authorizations for the recovery and disposal, which were audited by ABV to verify the existence of the necessary requirements for the environment protection.

5 – MANAGEMENT OF EMERGENCIES

5.1 EXPECTATIONS

ABV is committed to have a procedure to manage the emergency situations (fire, first-aid, etc) with competency and professionalism to reduce to the minimum the damages either to the workers and to the company's goods. To obtain this the Ministerial Decree 10/03/98, implementing article 13 of the Law Decree 626/94, has defined the characteristics and the professionalism of the assigned to fire protection and management of emergencies, that is requested for every working activity.

5.2 FIRE PROTECTION

Fire, produced by combustion, means flames without control. The combustion is a chemical reaction between two substances with a strong development of heat. The substances under consideration are the combustible (solid, liquid or gaseous) and the combustive (practically the

oxygen in the air) that reacts in presence of a primer or source of energy. The union of these three components creates the triangle of fire.

The main products of the combustion are:

- combustion gas
- smoke
- flame
- heat

The most common dangerous gases generated by the combustion are:

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- carbonic anhydride (CO₂);
- carbon monoxide (CO);
- cyanidric acid (HCN);
- hydrochloric acid (HCl);
- sulphurous anhydride (SO₂).

Smokes are substances constituted by solid particles in suspension that are dragged upward for the convective motions produced by the heat. Smokes are responsible for the reduction of visibility and can be constituted by:

- solid particles (not burned for the lack of oxygen) of dark color;
- liquid particles (constituted by water's vapors) of white color.

The effects of heat on persons determinates, among other:

- respiratory difficulty
- destruction of tissues.

The interruption of the triangle of fire causes the turning off of the fire. This operation can be made on each of the three sides of the triangle and its name depends on the component, so we have:

- separation (if combustible is subtracted by fire);
- suffocation (if the contact between air or oxygen and combustible is stopped);
- cooling (if the temperature is lowered below the one of lighting of substances).

The turning off of course is more effective if the different operations can be made at the same time.

The "Fire Prevention" is the discipline that studies, effects provisions, shrewdness and action ways to prevent, signal and reduce the possibility of fire or in any case to limit the consequences for persons and environment. The fire prevention methods so are particularly addressed to the factors



that influence the causes of the arising of the fire. Among the measures for a correct fire protection we can consider:

- correct destination of use of the rooms;
- limitation of the fire load;
- perfect execution of technical plants;
- maintenance of technical plants;
- respect of prohibitions and working conditions;
- training and information to personnel on the behaviors to be kept to prevent fire;
- use of materials hardly inflammable;
- adoption of safety devices;
- respect of order and cleanliness;
- safety signaling.

Fire protection is directly connected to a correct evaluation of risks of fire in the working places. This consists essentially in: identification of dangers, identification of involved persons, finalization of the risk evaluation and estimation of the risk level. To apply correctly the fire prevention measures it is necessary to proceed to the control of the working places, the control and the maintenance of the fire-protection devices, the preparation of an emergency plan, the information and training to personnel.

5.2.1 – Classification of fire

Fires can be classified, in relation to the involved materials, in 4 classes as fixed by the attachment V of Ministerial Decree of March 10 1998:

- A fire of solid material with formation of embers (paper, wood, plotted, rubber, etc.);
- B fire of liquid material or solid liquefiable (alcohol, gasoline, solvent, paraffin, fat oil, etc.);
- C fire of gas (methane, gpl, acetylene, hydrogen, etc.);



- D fire of metals (magnesium, titanium, sodium, etc).

For fires in class A the fire extinguishers most commonly used are water, foam and dust. The equipment that uses such substances are extinguisher, hydrants and other water extinguisher plants.

For fires in class B the fire extinguishers more used are foam, dust and carbonic anhydride.

For fires in class C the main intervention consists in blocking the flow of gas by closing the interception valve or closing the leak (the risk of explosion is to be taken into account if a gas fire is extinguished before intercepting the flow of gas).

For fires in class D it is necessary to use special dusts and operate with personnel specifically trained.

For fire of electric plants and equipment under tension it is necessary to operate with special extinguisher constituted by dusts dielectric and from carbonic anhydride.

5.2.2 – Fire risk levels

Fire risk levels, and the training course connected to them, are fixed by article 2, paragraph 4 of Ministerial Decree 10/03/1998; they are:

- Low risk level (course A);
- Medium risk level (course B);
- High risk level (course C);

Such split derives from the flammable characteristics of the existing material, the quantity of flammable substances, the possibility to develop principles of fire, the possibility of propagation of fire principle, the number of persons present, etc. The working places with low fire risk are those where are present substances with low flammable rate and with environment conditions offering low possibility of development of fire principle and where the possibility of propagation is limited.



The working places with medium risk of fire are those where flammable substances are present, and/or ambient conditions and/or working conditions that can favor the development of fire but where, in case of fire, the possibility of propagation is limited. The working places with high risk of fire are those where, for the presence of highly flammable substances and/or for the ambient conditions and/or the working conditions there is a notably possibility of fire development and propagation of flames. In such class are to be considered also those place where, independently from the presence of flammable substances, the thronging of the environments, the status of the places and the movement limitations of the persons present would make difficult the evacuation in case of fire.

Each of above levels has a training course associated, theoretical and practical, that the personnel assigned to fire prevention of the operational unit shall effect to be able to face the emergency. ABV is included in the activity with medium risk.

5.2.3 – Fire-fighting devices

Fire-fighting devices are all those equipment used for fire extinguishing. They are of three types:

- fixed plants
- semi-fixed plants
- fire-extinguisher (portable or trailer)

Fixed plants are the supplying ones connected with the water net or to other extinguishing methods (carbonic anhydride and extinguishing gases, foam or dust plants). They can start functioning automatically or being operated manually in case of need. Some particular plants require the preventive leaving of persons, therefore, in case of automatic functioning, are equipped with an alarm system and automatic advice visual and acoustic. The position of all fire-fighting devices are highlighted with the adequate signaling red colored with white writings as defined by the Law Decree 14/08/1996 no. 493.



For semi-fixed plants the system includes supplying water net fixed, with adequate loading, and supplying systems that can be connected to it constituted by cassettes of hydrants and lance hoses. The use of these methods requires a specific training for the personnel. The use is according to the following modalities:

- pick up the hose from the niche;
- unroll the hose by flowing it on the floor;
- connect the hose to the hydrant and the lance;
- firmly grasp the lance (the water net has a strong pressure);
- rotate anti-clockwise the handwheel of the gate to deliver water;
- address the full flow to the base of the flame, progressively approaching and remaining however to proper distance;

In any case it is import to keep into account that:

- water shall not be used for interventions on electrical plants under tension;
- water shall not be used for fires of metals;

- water shall not be used in the presence of substances that reacts to it (for instance strong acids);
- for fires of liquid that floats on the water (for instance gasoline, oils, etc) water shall be used to cool nebulizing and not with full jet.
- water shall not be used, at full jet, for fires of flammable gases (class C), but only to cool nebulizing (for example methane, gpl, etc.).



Normally a fire starts as a small source; in this phase it is easy to fight against it with the use of extinguishers. They can be of two types: portable (light weight and more used) or trailers (higher extinguishing capacity). On each extinguisher are indicated the usage instructions, the number of CE homologation and the main characteristics of the apparatus. The writings in capital letters indicates the fire class compatible with the use.

The use of the extinguishers is the following:

- pick up the extinguisher;
- remove the safety lock;
- firmly grasp the extinguisher with one hand and the output with the other;
- action the output lever;
- address the jet at the base of flames, keeping a direction nearly parallel to the floor, moving from right to left;
- avoid to hit the flame from top to bottom and to scatter the fire with an output too strong;
- progressively approach, remaining however to proper distance;
- if the intervention is made by two people it is necessary to progress by keeping the same line;

- keep ready to reach another extinguisher in case the current one finishes.

Trailer extinguishers are used in an analogues way, even if of course they are to placed close to the interested areas. Extinguishers are different among them also for the type of extinguisher, we can have the following types of extinguishers, using

- dust
- water
- foam



- carbonic anhydride
- hydrocarbons (halogenated)

It is very important (and the current legislation is very strict) the maintenance of the fire-fighting equipment. Operations of verification, to be made at fixed expires, for a correct maintenance of extinguishers are the following:

- surveillance:
- control;
- revision;
- testing.

All controls, except for the surveillance, are to be made by competent and qualified personnel.

5.3 MANAGEMENT OF EMERGENCIES

The possibility that within a working activity any type of emergency can occur, made necessary the drawing up of the so called emergency plan, to individualize the measure to manage it, foreseeing a series of operations to be performed for the diffusion of the alarm, the request for help, the bordering of the emergency and the management of the evacuation of the internal and external personnel. Such operations are to be coordinated by the Responsible for the emergency and the assigned to the emergency.

The Emergency plan was realized by keeping into account the specific risks of the particular working activity , the working environment, the volume of inflow of external personnel and the minimum time necessary for the external rescue to arrive (firemen).

The emergency is an anomalous situation that can provoke a real and potential danger. Emergencies can be of various types, the most common are:

- fire
- natural calamity



- terrorist attack
- malfunctioning of main plants (electric, elevators, air conditioning)
- accident or indisposition.

The realization of an emergency plan is extremely important and it is a fundamental instrument for the management of the global safety of the personnel within a working environment, since has to contain precise instruction on "what to do" and "who shall do". The emergency plan shall keep in strong consideration the following elements:

- type of working places
- type of risks of the working activity under examination
- survey systems for the emergencies
- estimated number, maximum and average, of persons present
- number of assigned to the emergency
- level of training and information given to the workers

Fundamentally the emergency plan shall contain the following instructions:

- procedures for the diffusion of the alarm and of the eventual order of evacuation;
- procedures for the request of external help;
- names of the assigned to the management of the emergencies;
- indications about the structure and the exit ways;

- meeting points of the personnel, in a safe area outside the rooms interested by the emergency;
- procedures for the search of possible lost.

In the working places, in particular in the corridors, the "fire-fighting planimetries" are affixed, with the indication of the exit ways, the safety exits, the location of fire-fighting devices (fire



extinguishers and hydrants), the indication "YOU ARE HERE" and all general instructions for the management of emergencies.

Periodically shall be organized evacuation proofs to verify the effectiveness of the plan made.

The assigned to the management of emergencies receive the assignment by the Service of Prevention and Protection, after the consultancy with the Representative of workers for safety, and have the possibility to abdicate the charge only for justified reason. The assigned, on the basis of articles 6 and 7 of the Ministerial Decree 10/03/98, shall attend training courses, whose content is specified in the attachment IX of above mentioned decree, on the basis of the type of activity.

6 – PERSONNEL TRAINING

6.1 EXPECTATIONS

In compliance with articles 21 and 22 of the Law Decree no. 626/94, the employer shall inform and train all workers, since they are strategic tools to increase the culture of the prevention, the safety and the health on the work places, so that this become a real value for all involved persons.

6.2 TRAINING AND INFORMATION

As a consequence of the risk evaluation it was prepared a program of information for the workers. The training is very important especially for persons who acts in external structures of the company.

General contents of the information:

- risks for the safety and health generally connected to the activity of the company;
- prevention measures and protection methods used;



- specific risks to which each worker (or homogenous group) is exposed in relation to the activity performed (substances, machines, etc.)
- chemical products existing in the various workings, health risks connected to their usage , supplementary risk in case of smoking, eating, drinking, precautions to be adopted to avoid the exposition, hygienic measures to be adopted, etc.);
- safety norms and company's regulations;
- procedures relevant to first-aid;
- procedures in case of fire and evacuation of workers in case of emergency;
- name of the responsible for the Service of Prevention and Protection, the Competent Doctor and their role;
- risks connected to the equipment in general;
- use of the DPI (individual methods of protection) and risks they protect;
- risks connected to the manual movement of loads and correct modalities for the execution of the movement.

Methods and information tools:

To reach the goals of the information and to obtain that it reach in an effective way each workers, for the awareness and the assumption of positive behaviors it is useful to prepare information modules, to be performed possibly within the company, paid by the employer with the intervention

of external expertise consultants.

Each information module shall be developed with didactic tools and containing:

- general seminars;



- questionnaires;
- distribution of illustrating documentation;
- signals;
- other;
- periodic verification of the results.

Formation actions

During the planning, implementation and verification of the training programs the purposes of education and the characteristics of the participants were taken into account. Three types of participants were individualized in the company:

- the assigned;
- the workers assigned to emergency services (first-aid, fire-fighting, evacuation);
- the workers representative for safety.

The training shall be repeated in case of variation of the risks or in case new risks arise and will be made in the occasion of:

- hiring
- change of duty
- introduction of new machineries, new substances and dangerous preparations, application of new technologies.

The training program shall be included in a company strategy that aims to activate a system, inside the company, where everybody has received a sufficient training to well operate and to transfer to others his formation.

For the program the following aspects were considered:

- general contents of training;
- information sources;



- main methods and instruments of training.

General content of the training:

- the safety and the health of the workers with particular reference to the work place and duty;
- the correct use of the working equipment;
- the chemical agents present in the working phases, the risks connected to their use, the supplementary risks in case of smoking, eating, the precautions to be adopted to avoid the exposition, the hygienic measures to be adopted, etc.;
- the correct use of the Individual Methods of Protection (also practically);
- the correct modalities for the movement of loads;
- the meaning of the safety signaling with particular attention when this applies to the use of signs or words;
- generic and specific behaviors to be respected;
- Mainly methods and instruments of formation.

The information modules will be developed keeping into account the different capacity and/or willingness of learning of the workers, the presence of workers with cultural levels also notably different, the working rhythms.

The formation of workers shall take place during the working hours and paid by the employer and will be made in collaboration with joint organisms and, if possible, the intervention of external consultants expertise on the matter.

The formation modules shall be developed progressively, by stimulating the active participation of workers and considering them as carriers of notions, experience and ability, analyzing in advance the most urgent needs and continuing from time to time according to the needs.



The formation modules shall be developed either collectively and singularly and will comprise the distribution of booklet, collective experiments, general seminars, advices in well visible places and any other that could be necessary from time to time with the periodic verification of results.

6.3 INDIVIDUAL METHODS OF PROTECTION

The Individual Methods of Protection (D.P.I.) are all equipment to be wearred and kept by the worker to protect him against one or more risks that could threaten its safety or health during the work, and any complement or accessory for this purpose.

DPI shall be wearred when the risks cannot be avoided or sufficiently reduced by technical measures of protection, by collective methods of protection, by measures, methods or procedures of reorganization of the work.

The Title IV of the Law Decree 626/94 regulates the use of the Individual Methods of Protection.

In particular, the DP shall:

- a) be adequate to the risks to be prevented, without causing a major risk;
- b) be adequate to the conditions existing on the work place;
- c) keep into account the ergonomic or health need of the worker;
- d) be suitable for the user depending on his needs.

In case of multiple risks that require the simultaneous use of more DPI, these shall be compatible among them and able to maintain, also during the simultaneous use, their effectiveness against the risk and the corresponding risks. The workers uses the DPI at their disposal in conformity with the information and formation received and the training eventually organized.

The workers:

- a) have a god care of the DPI at their disposal;



- b) do not modify for their own initiative.

The workers shall signal immediately to the employer or the responsible any defect or inconvenience found on the DPI at their disposal.

The employer, in conformity with the article 43 of the Law Decree 626/94, has individualized the conditions when a DPI is to be used and gives to each worker the DPI in conformity with the requirements of article 42 and of decree article 45, second paragraph.

To select the DPI, the employer:

- a) will effect the analysis and the evaluation of risks that cannot be avoided with other methods;
- b) individualize the characteristics of the DPI necessary to have them adequate to the risks according to letter a), keeping into account the eventual further sources of risk represented by the DPI themselves;
- c) will evaluate, on the basis of the information given about the DPI from the manufacturer and the rules of use in compliance with article 45, the characteristics of the DPI available on the market and compare them with those individualized at point b);
- d) update the choice any time there is a significant variations in the evaluation elements;

The employer shall also:

- a) maintain the efficiency the DPI and ensure the hygienic conditions, making the necessary maintenance, repairs and replacements;
- b) ensure that the DPI are used only for the foreseen uses;
- c) give instructions understandable to workers;



- d) destine each DPI to a personal use and, if the circumstances require the use of the same DPI from more than one person, take adequate measures so that such use do not cause any sanitary or hygienic problem to the various users;
- e) inform preliminarily the worker about the risks against which the DPI protect him;
- f) make available in the company and in any production unit adequate information about every DPI;
- g) ensure an adequate formation and organize, if necessary, a specific training about the correct use and the practical use of DPI.

7 – APPLICABLE LAW

- Presidential Decree 27 April 1955 n° 547;
- Presidential Decree 19 March 1956 n° 302;
- Presidential Decree 19 March 1956 n° 303;
- Work Minister Decree 28 July 1958;
- Law 17 October 1967 n° 977;
- Minister of Work Circular 1 February 1979 n° 9;
- Law Decree 15 August 1991 n° 277;
- Law Decree 25 January 1992 n° 77;
- Sanity Ministry Circular 8 February 1992 n° 3;
- Law Decree 4 December 1992 n° 475;
- Law Decree 19 September 1994 n° 626;
- Law Decree 19 December 1994 n° 758;
- Minister of Work Circular 7 August 1995 n° 102;
- Law Decree 19 March 1996 n° 242;
- Minister of Work Circular 27 June 1996 n° 89;
- Presidential Decree 24 July 1996 n° 459;
- Law Decree 14 August 1996 n° 493;

- Minister of Work Circular 19 November 1996 n° 154;



- Minister of Work Circular 20 December 1996 n° 172;
- Law Decree 2 January 1997 n° 10;
- Work Minister Decree 16 January 1997;
- Industry Minister Decree 17 January 1997;
- Minister of Work Circular 5 March 1997 n° 28;
- Minister of Work Circular 6 May 1997 n° 66;
- Minister of Work Circular 30 May 1997 n° 73;
- Minister of Work Circular 4 March 1998 n° 28;
- Minister of Work Circular 5 March 1998 n° 30;
- Internals Minister Decree 10 March 1998;
- Industry Minister Decree 12 March 1998;
- Internals Minister Circular 8 July 1998 n° 16 MI.SA.;
- Law Decree 16 July 1998 n° 285;
- Law Decree 4 August 1999 n° 345;
- Law Decree 4 August 1999 n° 359;
- Internals Minister Decree 8 September 1999;
- Work Minister Decree 12 November 1999;
- Law Decree 26 November 1999 n° 532;
- Law Decree 25 February 2000 n° 66;
- Minister of Work Circular 16 June 2000 n° 40;
- Minister of Work Circular 10 July 2000 n° 44;
- Law Decree 18 August 2000 n° 262;
- Work Minister Decree 2 October 2000;
- Minister of Work Circular 3 October 2000 n° 68;
- Letter Minister of Work Circular 20 December 2000 n° 2182;
- Law 29 December 2000 n° 422;
- Minister of Work Circular 8 January 2001 n° 3;
- Minister of Work Circular 8 January 2001 n° 4;
- Minister of Work Circular 12 January 2001 n° 9;

- Minister of Work Circular 25 January 2001 n° 16;



- Circular of the Chairman of the Ministry Council 20 April 2001 n° 5;
- Work Minister Decree 2 May 2001;
- Industry Ministerial Decree 4 June 2001;
- Industry Minister Circular 8 June 2001 n° 780855;
- Presidential Decree 22 October 2001 n° 462;
- Law Decree 2 February 2002 n° 25;
- Internals Minister Circular 1 March 2002 n° 4;
- Production Activities Ministerial Decree 13 February 2003;
- Law Decree 12 June 2003 n° 233;
- Law Decree 23 June 2003 n° 195;
- Law Decree 8 July 2003 n° 235;
- ISPESL Instructions 16 July 2003 n° 8
- Information sheets issued by ISPESL;
- Ministerial Decree 15 July 2003 n° 388;
- Precaution 29 July 2004;
- Law Decree 19 August 2005 n° 187;
- Law Decree 21 September 2005 n° 238;
- Internals Minister Decree 22 February 2006;
- Precaution 16 March 2006;
- Law Decree 10 April 2006 n° 195;

8 – MANAGEMENT OF SUB-SUPPLIERS

8.1 EXPECTATIONS

During the effectuation of sub-contracted works safety problems arises, due to the fact that two or more autonomous companies stay together using the same common spaces and plants, and because the specific risks of the environment where the subcontractors operates are often



extraneous to their professionalism and finally because the subcontracted companies can introduce, for reason connected to their work, risks extraneous to the activity of the subcontracting company.

The Law Decree 626/94 regulates the relationship between subcontracting and subcontractors, and between subcontractors, to reduce to the minimum the risks connected to the working activity made during the subcontract. The purpose of this paragraph is the adoption of a subcontract procedure that, by respecting the current law, allows to plan the subcontract to prevent potential sources of risk.

8.2 PROVISION ABOUT SUBCONTRACTS

In compliance with the article 7 of the Law Decree 626/94, the company, in case of assignation of works inside the company to subcontractors company or autonomous workers, shall:

- verify the technical professional adequacy of the subcontractors with regard to the works to be assigned to them;
- give them detailed information about the specific risks existing in the environment where they will operate and about the prevention and emergency measures adopted with reference to their activity;
- cooperate to implement the prevention and protection measures from risks deriving from the working activity object of the subcontract;
- coordinate with the company performing the work to eliminate the risks due the interference between the activity of the company and the activity of the company effecting the works.

For the operative management of subcontracts it was drawn up a proper safety procedure to guarantee the punctual respect of article 7 of the Law Decree 626/94 above mentioned.