

외국인 근로자를 위한 안전작업 길잡이-영어판

Safety Guidline for Foreign Workers



외국인 근로자를 위한 안전작업 길잡이

**Safety Guidline for Foreign
Workers**

— 외국인 근로자가 알아야 할 산업안전보건법 12

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The Industrial Safety & Health Act

외국인 근로자가 알아야 할 산업안전보건법

1. 산업안전보건법과 산업안전보건법에 의한 명령에서 정하는 산업재해 예방을 위한 기준을 준수하여야 하며, 사업주 및 기타 관련단체에서 실시하는 산업재해의 방지에 관한 조치에 따라야 합니다.

1) 근로자 자신의 안전과 보건을 위함은 물론, 동료 근로자의 재해를 방지하기 위해서도 안전보건 기준을 준수하여야 하며, 아무리 기준이 완벽하다 하더라도 근로자의 재해예방 자세가 없으면 재해예방이라는 목표는 달성되지 않습니다.

2) 사업주의 재해예방을 위한 안전·보건 조치가 아무리 훌륭하다 하더라도 사업장의 안전은 그 성질상 근로자의 적극적인 협조가 필요합니다. 왜냐하면 재해는 유해물질에의 노출, 위험 기계·기구 사용 등 주로 작업을 하는 과정에서 발생하기 때문입니다.

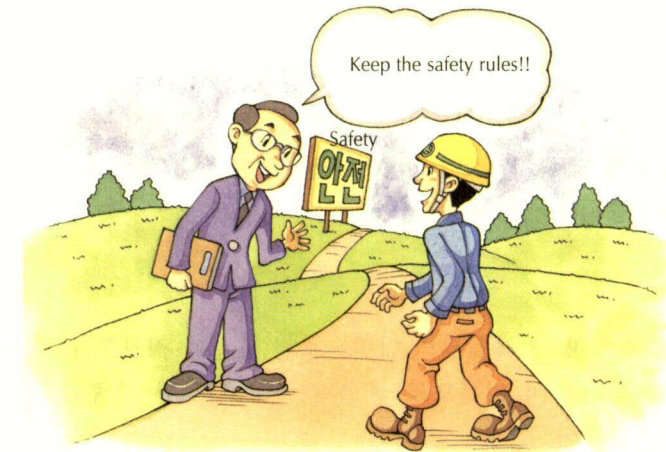


The Industrial Safety & Health Act

1. The employees should observe the rules to avoid the industrial accidents that are provided by the Industrial Safety and Health Act and its Enforcement Decree, and should comply with the procedures provided by the employers and other relevant institutes.

1) The employees should observe the safety and health rules for themselves, as well as for avoiding any injury of other employees. Although the rules are perfect, the objective for accident prevention will not be achieved without the employees' attitude to prevent the accidents.

2) Even if the measures for safety and health are well-provided by the employer, the safety at the workplace needs positive cooperation of the employees.



외국인 근로자가 알아야 할 산업안전보건법

3) 따라서 산업안전보건법의 보호대상인 근로자도 산업재해 예방을 위한 활동에 적극 참여하고 협조하여야 합니다.

4) 산업재해예방을 위한 기준은 산업안전보건법, 산업안전보건법시행령, 산업안전보건법시행규칙, 산업안전기준에 관한 규칙, 산업보건기준에 관한 규칙, 유해·위험작업취업제한에 관한 규칙 및 각종 기술상의 지침 등에 나와 있습니다.

5) 기타 관련단체라 함은 주로 산업재해예방과 관련한 단체를 말하는 것으로 한국산업안전공단, 대한산업안전협회, 대한산업보건협회, 한국승강기안전센터, 한국건설안전기술협회 등이 있습니다.

2. 사업주에게 당해 사업장의 안전·보건에 관한 정보 및 결과의 통지를 요구할 수 있습니다.

1) 사업주는 당해 사업장의 안전·보건에 관한 정보를 근로자에게 제공하도록 되어 있으므로 근로자는 그 정보를 제공하도록 요구할 수 있습니다.

The Industrial Safety & Health Act

3) Therefore, the employees to be protected by the Industrial Safety and Health Act should positively take part in and cooperate for the activities for avoiding the accidents.

4) The standards for prevention of industrial accidents are available from the Industrial Safety and Health Act, the Enforcement Decree of the Industrial Safety and Health Act, the Enforcement Rules of the Industrial Safety and Health Act, the Rules related to the Industrial Safety Standards, the Rules related to the Industrial Health Standards, the Rules related to the Restriction on Employment in Hazardous/ Dangerous Works, and other technical guidelines.

5) Other relevant organizations mean the organizations mainly related to prevention of industrial accidents, such as Korea Occupational Safety and Health Agency, Korea Industrial Safety Association, Korea Industrial Health Association, The Korea Elevator Safety Center, Korea Construction Safety Engineering Association, etc.

2. The employees may request the employer to provide the information and/or the results relating to the safety and health of the concerned workplace.

1) Since the employer is required to provide the employees with the information on the safety and health of the concerned workplace, the employees may request the employer to provide such information.

외국인 근로자가 알아야 할 산업안전보건법

- 2) 사업주로 하여금 법에 의한 명령의 요지 등을 게시 또는 비치하고 근로자에게 그 내용을 알리도록 하였으므로 근로자는 언제든지 이를 열람할 수 있습니다.



- 3) 다음의 내용 또는 결과의 통지를 사업주에게 요청할 수 있습니다.

- 산업안전보건위원회가 의결한 사항
- 사업장의 안전보건관리규정의 내용에 관한 사항
- 도급사업에 있어서의 안전보건관리에 관한 사항
- 위험 기계·기구 등의 자체검사 결과에 관한 사항
- 물질안전보건자료의 내용 등에 관한 사항
- 작업환경측정 결과에 관한 사항

- 4) 사업주는 안전보건 관리를 위해 당해 사업장의 안전보건관리규정을 작성하여 각 사업장에 게시 또는 비치하고 이를 근로자에게 알려야 하므로 근로자는 사업장의 안전보건관리에 관한 안전보건관리규정을 확인할 수 있으며 그 내용을 준수하여야 합니다.

The Industrial Safety & Health Act

- 2) Since the employer is required to post or keep the important information under the laws and to inform them to the employees, the employees may see at any time.



- 3) The employees may request the employer for the following information or the notice of results:

- Resolution by the Industrial Safety and Health Committee
- Information on the regulations for safety and health management at the workplace
- Matters relating to safety and health management in contracting business
- Results of self-checkup for dangerous machine and equipment
- Information on the Material Safety and Health Data
- Results on measurement of working environment.

- 4) The employer is required to make and post or keep the regulations for safety and health management at the concerned workplace, and inform them to the employees, so the employees may check the safety and health management regulations for the workplace and should observe them.

외국인 근로자가 알아야 할 산업안전보건법

3. 산업안전보건위원회는 노사간 동수로 구성하여 다음의 사항에 대해서는 심의·의결을 받도록 되어 있습니다.

1) 산업안전보건위원회는 100인 이상의 사업장과 토사석 광업, 목재 및 나무제품 제조업, 화학물 및 화학제품 제조업, 비금속 광물제품 제조업, 제1차 금속산업, 조립금속제품 제조업(기계 및 가구를 제외한다), 자동차 및 트레일러 제조업, 기타 기계 및 장비제조업, 기타 운송장비 제조업은 100인 미만인 사업장이라도 50인 이상인 경우에는 설치하여야 합니다.



2) 산업안전보건위원회 위원장(위원 중에서 호선)은 산업안전보건위원회에서 심의·의결된 내용 등을 근로자에게 알려주도록 되어 있으므로 근로자는 그 내용을 알 수 있습니다.

The Industrial Safety & Health Act

3. The Industrial Safety and Health Committee ("Committee") which will consist of the same number from the labor and management group is subject to the review and resolution for the following matters:

1) The Committee should be established in the business having 100 employees or more, and in the manufacturing businesses having 50 employees or more in case of soil/stone mining, wood processing and wooden products manufacturing, chemical products manufacturing, non-metal mineral products manufacturing, primary metal business, metal products assembling (except machinery and furniture), automobile and trailer manufacturing, other machinery and equipment manufacturing, and other vehicle manufacturing.



Industrial Safety & Health Committee

2) The chairperson of the Committee (elected from the members) is required to inform to the employees the results of review and/or resolution of the Committee, so the employees may get such information.

외국인 근로자가 알아야 할 산업안전보건법

4. 사업주가 행한 안전상의 조치 및 보건상의 조치에 따라야 합니다.

1) 사업주가 행하는 안전상의 조치는 다음과 같습니다.

- 기계적, 화학적 및 에너지 등 물적 위험에 대한 안전조치 : 기계 · 기구 · 설비에 의한 위험, 폭발성, 발화성, 인화성 물질 등에 의한 위험, 전기, 열, 기타 에너지에 의한 위험에 대한 안전조치



- 작업방법에서 생기는 위험에 대한 안전조치 : 굴착 · 채석 · 하역 · 벌목 · 운송 · 조작 · 운반 · 해체 · 중량물 취급 기타 작업에 있어 불량한 작업방법 등에 기인하여 발생하는 위험에 대한 안전조치
- 작업장소가 특수한 위험요소를 가지고 있는 경우에 대한 안전조치 : 작업중 근로자가 추락할 위험이 있는 장소, 토사 · 구축물 등이 붕괴할 우려가 있는 장소, 물체가 낙하 · 비레할 위험이 있는 장소 기타 천재지변으로 인하여 작업수행상 위험발생이 예상되는 장소에 대한 안전조치

The Industrial Safety & Health Act

4. The employees should comply with the precautionary measures for safety and health, provided by the employer.

1) The measures for safety provided by the employer are as follows:

- Safety measures against mechanic, chemical and physical (including energy) hazards: Hazard caused by machine, equipment or facility; hazard caused by dangerous, explosive, inflammable or combustible material; and hazard caused by electricity, heat or other energy.

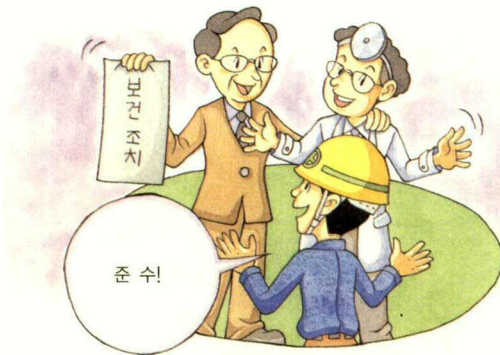


- Safety measures against danger caused by the working method: Safety measures against danger caused by improper working method in excavation, stone mining, loading/unloading, tree felling, transportation, operating, carrying, dismantling, handling of heavy material, and other works.
- Safety measures against special dangerous factor at the workplace: Safety measures for the places that may have any danger, including worker's falling, collapse of soil or structure, falling or flying of object, and other danger during works caused by the Act of God.

외국인 근로자가 알아야 할 산업안전보건법

2) 사업주가 행하는 보건상의 조치는 다음과 같습니다.

- 원재료 · 가스 · 증기 · 분진 · 흙 · 미스트 · 산소결핍공기 · 병원체 등에 의한 건강장해에 대한 예방조치
- 방사선 · 유해광선 · 고온 · 초음파 · 소음 · 진동 · 이상기압 등에 의한 건강장해에 대한 예방조치



- 사업장에서 배출되는 기체 · 액체 또는 잔재물 등에 의한 건강장해에 대한 예방
- 계측감시 · 컴퓨터 단말기 조작 · 정밀공작 등의 작업에 의한 건강장해에 대한 예방조치
- 단순반복작업 또는 인체에 과도한 부담을 주는 작업에 의한 건강장해
- 환기 · 채광 · 조명 · 보온 · 방습 및 청결 등에 대한 적정기준을 유지하지 아니하여 발생하는 건강장해에 대한 예방조치

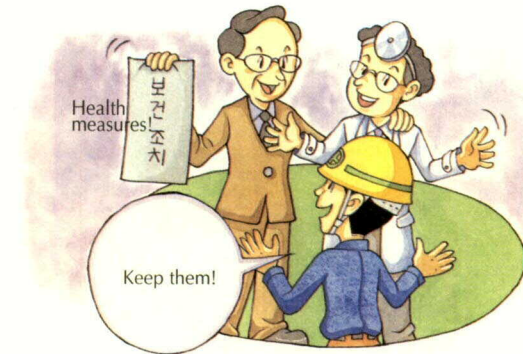
5. 산업재해 발생의 급박한 위험이 있을 때에는 작업을 중지하고 대피할 수 있습니다.

- 1) 근로자가 작업을 중지하고 대피한 때에는 지체없이 이를 직상급자에게 보고하여야 합니다.

The Industrial Safety & Health Act

2) The measures for health provided by the employer are as follows:

- Preventive measures against health trouble caused by raw material, gas, steam, dust, fume, mist, oxygen deficiency in the air, pathogen, etc.
- Preventive measures against health trouble caused by radiation, hazardous beam, heat, ultrasound, noise, vibration, abnormal atmosphere, etc.



- Preventive measures against health trouble caused by gas, liquid or residue discharged from the workplace.
- Preventive measures against health trouble caused by gauge monitoring, computer operation, precise engineering work, etc.
- Preventive measures against health trouble caused by simple repeated work or heavy burden on the human body.
- Preventive measures against health trouble caused by application of improper level in ventilation, lighting, heating, moisture, cleanness, etc.

5. The employees should stop working and evacuate in case of having any danger of accident.

- 1) When stopping the work and evacuating, the employees should report it to the direct superior immediately.

외국인 근로자가 알아야 할 산업안전보건법

6. 사업주가 일정시간 실시하는 사업장내 안전보건교육을 받아야 합니다.

- 1) 이는 직장의 위험성이나 유해성에 대비하기 위해 근로자로 하여금 안전한 행동내용을 숙지·이행하도록 유도함으로써 산업재해를 방지하고자 함에 그 목적이 있습니다.



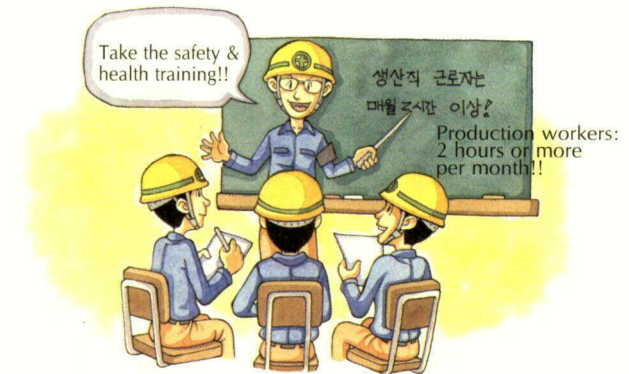
2) 근로자가 받아야 하는 교육종류 및 시간은 다음과 같습니다.

교육종류	교육 대상	교육 시간
정기교육	- 생산직 종사근로자	- 매월 2시간 이상
	- 사무직 종사근로자	- 매월 1시간 이상
	- 관리감독자의 지위에 있는자	- 반기 8시간이상 또는 연 16시간이상
채용시 교육	- 당해 근로자로 건설업종사 근로자를 제외한 자	- 8시간 이상
	- 당해 근로자로 건설업종사 근로자	- 1시간 이상
작업내용변경시 교육	- 당해 근로자로 건설업종사 근로자를 제외한 자	- 2시간 이상
	- 당해 근로자로 건설업종사 근로자	- 1시간 이상

The Industrial Safety & Health Act

6. The employees should receive the safety and health training extended by the employer for a certain time.

- 1) This is for preventing the accidents by leading the employees to get familiar with and perform the safe behavioral principles to prepare for any danger or hazard at the workplace.



2) Types and time of required training for the employees are as follows:

Type	Applicable Employees	Required Training Time
Regular Training	- Production workers.	- 2 hours or more/month
	- Office workers.	- 1 hour or more/month
	- Supervisors/managers.	- 8 hours or more/6 months - 16 hours or more/year
Training at the time of hiring	- Applicable workers except construction workers.	- 8 hours or more/month
	- Applicable construction workers.	- 1 hour or more/month
Training at the time of changing the work	- Applicable workers except construction workers.	- 2 hours or more/month
	- Applicable construction workers.	- 1 hour or more/month

외국인 근로자가 알아야 할 산업안전보건법

7. 사업주가 제공하는 안전모 등 보호구를 착용하여야 하며, 위험 기계·기구에 설치되어 있는 방호장치를 제거하고 작업하여서는 안됩니다.

- 1) 프레스, 크레인, 압력용기 등 산업현장의 기계·기구 등으로 인한 재해는 신체장해를 수반하므로 이러한 기계·기구의 유해 또는 위험한 부분에 대하여 방호조치를 하고 있습니다.



- 2) 그리고 보호구는 이러한 방호조치로서도 안전보건을 확보할 수 없을 때 사고의 결과로 발생하는 상해의 정도를 최소화 하기 위한 것입니다.

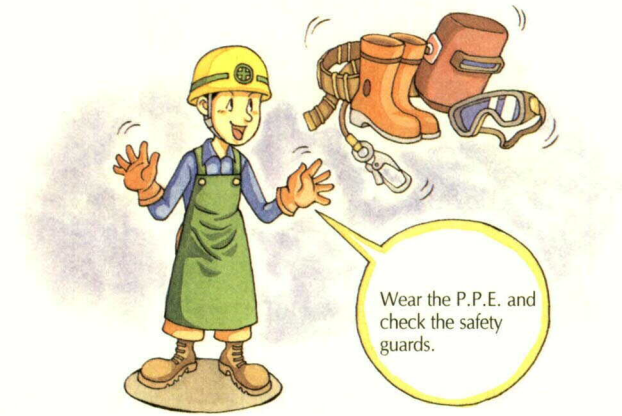
8. 사업주가 실시하는 건강진단을 받아야 합니다.

- 1) 근로자는 사업주가 근로자를 채용하거나 정기적으로 실시하는 건강진단을 받아야 합니다.

The Industrial Safety & Health Act

7. The employees should wear the personal protective equipment including safety cap, and should not remove the safety guard from dangerous machine or equipment while working.

- 1) The accident caused by machine or equipment in the industrial field including press, crane, pressure container, etc. may result in physical disorder, so safety measure are taken for hazardous or dangerous part of such machine or equipment.



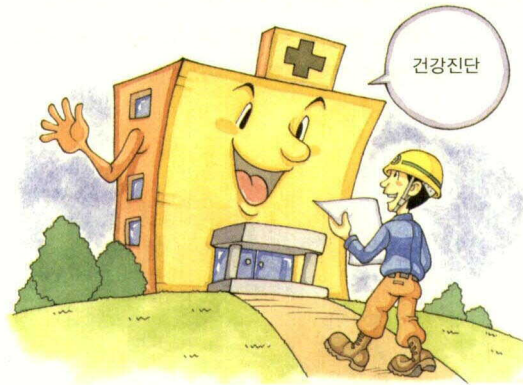
- 2) The protective equipment is to minimize the degree of injury caused by the accident when safety and health are not secured by such safety measures.

8. The employees should receive the health checkup executed by the employer.

- 1) The employees should receive the health checkup executed by the employer at the time of hiring or on regular basis.

외국인 근로자가 알아야 할 산업안전보건법

- 이 경우 사업주가 지정한 의사의 건강진단을 희망하지 아니하는 경우에는 다른 의사의 건강진단을 받아 그 결과를 증명하는 서류를 사업주에게 제출할 수 있습니다.



9. 역학조사의 실시에 적극적으로 협조하여야 합니다.

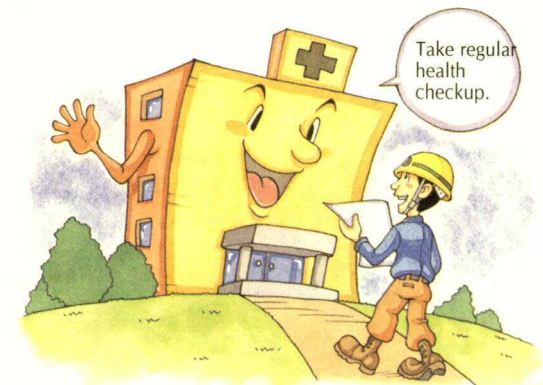
- 1) 근로자는 직업병의 발생원인을 찾아내거나 직업병의 예방을 위하여 필요하다고 인정할 때에는 근로자의 질병과 화학물질 등 유해요인과의 상관 관계에 관한 역학적 조사에 적극적으로 협조하여야 합니다.

10. 산업안전보건법과 산업안전보건법에 의한 명령의 시행을 위하여 필요한 경우 노동부장관 또는 근로감독관의 조치에 따라야 합니다.

- 1) 근로자는 노동부장관 또는 근로감독관이 질문하거나 보고 또는 출석을 명하는 경우 이에 답변하고 보고 또는 출석하여야 합니다.

The Industrial Safety & Health Act

- In this case, if the employee does not want the health checkup from the doctor appointed by the employer, he(she) may receive the health checkup from other doctor and submit to the employer the written evidence of its results.



9. The employees should cooperate positively for epidemiologic survey.

- 1) When considered to be necessary for finding the cause of occupational disease or for preventing it, the employees should cooperate positively for epidemiologic survey on the correlation between the employees disease and hazardous factor including chemical, etc.

10. When necessary for enforcement of the Industrial Safety and Health Act and its Decrees, the employees should comply with the measures provided by the Minister of Labor or the Labor Supervisor.

- 1) The employees should answer to the questions, report and be present when requested or ordered by the Minister of Labor or the Labor Supervisor.

외국인 근로자가 알아야 할 산업안전보건법

11. 공정안전보고서의 내용을 준수하여야 합니다.
12. 출입이 금지된 유해·위험장소에 출입하여서는 안되며 유해·위험 시설 및 장소에 대하여 경고, 비상시 조치안내 등을 위하여 설치하거나 부착한 안전보건표지를 알고 이를 적극 준수하여야 합니다.

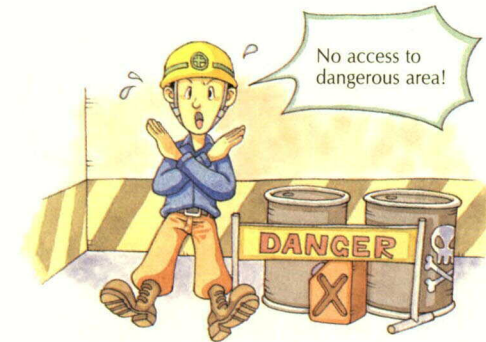


13. 작업시작전, 작업간, 작업종료후 자신이 사용하고 있는 각종 공구, 작업대 주변은 항상 정리 정돈하도록 하여야 합니다.



The Industrial Safety & Health Act

11. The employees should comply with the process safety report.
12. The employees should not access to hazardous and dangerous place prohibited of access, and should get familiar with and comply with the safety and health signs installed or posted for warning or emergency action on the hazardous or dangerous facility or place.



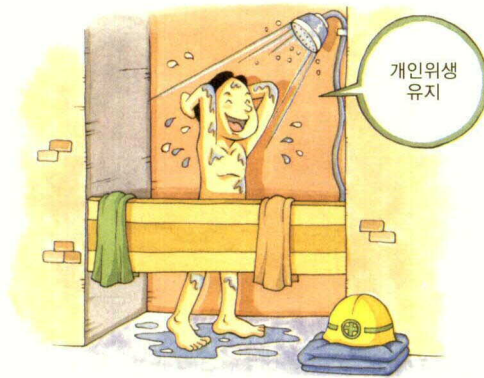
13. The employees should make the tools and working bench area in good order before, during and after works.



외국인 근로자가 알아야 할 산업안전보건법

14. 직업병 예방을 위하여 근로자가 취하여야 할 생활습관은 다음과 같습니다.

- 1) 직업병 예방에 있어서 무엇보다도 작업환경 개선이 중요하겠지만 근로자도 이에 대한 철저한 인식과 주의를 하여야 합니다.



2) 철저한 개인위생을 유지해야 합니다.

- 근로자는 자신의 몸을 청결히 유지하여야 합니다.
 - 작업 중에 각종 먼지와 유해요인으로부터 신체가 더러워질 수 있으므로 항상 깨끗한 신체유지를 위하여 노력하여야 합니다.
 - 특히, 사업장에 마련된 세면시설을 이용하여 유해물질이 피부에 오래 붙어 있지 않도록 하여야 합니다.
- 식사전과 작업 종료 후에는 깨끗이 손을 씻어야 합니다.

자신의 잘못으로 자신은 물론 이웃 동료가 다치는 일이 없도록 안전 보건수칙 준수를 생활화 합니다

The Industrial Safety & Health Act

14. The living habits for the employees to prevent the occupational diseases are as below:

- 1) It is most important to improve the working environment for prevention of occupational diseases, but the employees should have enough knowledge and take care of themselves.



2) The employees should keep the individual hygiene strictly.

- The employees should keep their bodies clean.
 - Should try to keep the body clean as it may be dirty from dust and hazardous material during works.
 - In particular, should wash out the hazardous material by using the washing facility in the workplace.
- The employees should wash the hands before meals and after works.

Lets apply the safety and health rules in routine life to avoid injury of ourselves and others due to our fault.

I. 작업장에서 지켜야 할 안전수칙

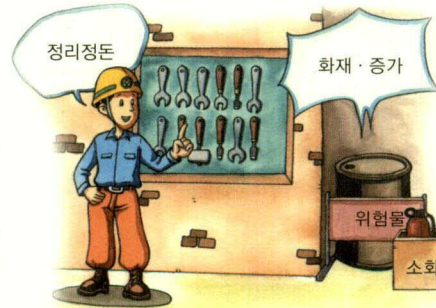
I. Safety Rules

I. 작업장에서 지켜야 할 안전수칙

1. 일반안전수칙

1-1. 정리정돈

- 1) 작업장 주위의 통로나 작업장은 항상 청소한 후 작업한다.
- 2) 사용한 수공구는 적합한 보관장소에 정리해 두어야 한다.
- 3) 구르기 쉬운 것은 받침대를 사용하고, 가능한 묶어서 적재 또는 보관한다.
- 4) 적재물은 사용시기, 용도별로 구분하여 정리하고, 먼저 사용할 것은 하부에 보관하지 않는다.
- 5) 부식 및 발화나 가연재 또는 위험 물질은 별도로 구분하여 보관한다.



1-2. 통행수칙

- 1) 계단을 오르내릴 때는 난간을 붙잡고 좌측 통행한다.
- 2) 높은 곳이나 비계, 도크 등에서 뛰어내리지 않는다.
- 3) 통로에 장애물이 있으면 즉시 제거하여 통로를 확보한다.
- 4) 선반, 레일, 앵글, 자재 및 설비를 건너다니지 않는다.
- 5) 상부에서 작업중이거나 매달려 있는 물체 아래쪽에는 절대로 다니지 않는다.

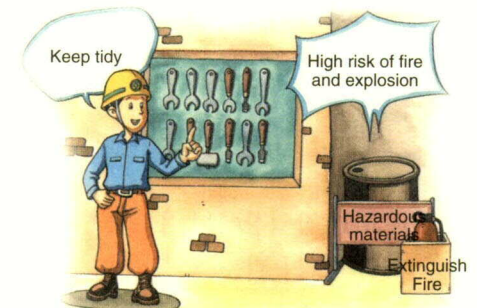


I. Safety Rules

1. General Safety Rules

1-1 Housekeeping

- 1) Passageways and work areas should always be clean prior to beginning work.
- 2) Hand tools should be returned to their proper storage place after using them.
- 3) Supports should be used to stabilize objects likely to move or shift position.
- 4) Objects should be loaded and organized based on frequency of usage, with the objects being used first loaded into the upper part of the storage area.
- 5) Corrosive, flammable, combustible and hazardous materials should be stored in specified areas based on their classification.



1-2 Passage Safety Rules

- 1) When moving around the work area, keep to your left and use the handrail when going up and down the stairs.
- 2) Jumping from high points, scaffolding, or loading docks should be avoided.
- 3) All objects obstructing movement should be moved immediately to ensure sound passage.
- 4) Walking on or across ledges, rails, sharp angles, materials, and equipment should be avoided.
- 5) Walking under hanging objects and beneath work areas should be avoided.



I. 작업장에서 지켜야 할 안전수칙

- 6) 크레인 등으로 화물을 인양하는 곳에는 출입하지 않는다.
- 7) 설비 하부로 통행할 경우에는 반드시 안전모를 착용한다.

1-3. 작업장 안전수칙

- 1) 작업장에는 유독물질은 방치하지 않는다.
- 2) 상부에서 작업할 경우에는 하부 통행을 금지시키고 공구나 물건을 떨어뜨리지 않는다.
- 3) 작업에 필요한 안전수칙 표지판을 작업자들이 볼 수 있는 곳에 비치하여야 한다.
- 4) 공동작업은 서로 긴밀하게 협조하여야 한다.
- 5) 교대시에는 작업에 대한 내용을 확실하게 인수·인계하여야 한다.



1-4. 공동작업 안전수칙

- 1) 작업 전 작업지휘자를 정하고 지휘자의 신호에 따라 작업하여야 한다.
- 2) 작업형태에 따라 필요한 보호구를 착용 후 작업하여야 한다.



I. Safety Rules

- 6) Access to cargo loading and offloading areas where cranes are in use is restricted to authorized personnel only.
- 7) Safety helmet should be always worn when passing below equipment or work areas.

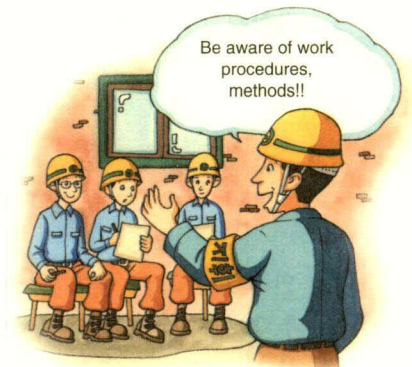
1-3 Workplace Safety Rules

- 1) Hazardous or dangerous substances should not be left at the workplace.
- 2) Passage through lower sections should be restricted when working at the upper part and should keep tools or other objects from falling down.
- 3) Safety rules and required signboards should be posted at worksites for employees to read.
- 4) Employees should cooperate closely when performing group work.
- 5) Work details should be clearly explained and transferred over during shift changes.



1-4 Safety Rules for Work Groups

- 1) The group leader should be designated prior to the start of work and all employees in the group are to follow the directives of the leader when carrying out their work.
- 2) Personal protective equipment (PPE) appropriate for the particular job being performed should be put on before beginning work.



I. 작업장에서 지켜야 할 안전수칙

- 3) 작업은 작업순서와 작업방법을 숙지한 후 정해진 순서대로 하여야 한다.
- 4) 작업교대 시에는 작업내용 등 작업 상황을 확실하게 인수·인계하여야 한다.
- 5) 기계를 조작하기 전에는 주변의 작업자를 확인하여야 한다.
- 6) 작업장 주변은 항상 청소하여 청결을 유지하여야 한다.
- 7) 작업장내에서는 담배를 피거나 음식물을 먹지 않아야 한다.

2. 개인보호구

산업재해 예방을 위하여 근로자 개인이 착용하고 작업하는 것으로서 유해·위험요인으로부터 근로자를 보호하거나 부상의 정도를 경감하기 위한 것을 말함

2-1. 보호구의 종류

- 1) 안전모 : 물체의 낙하, 비래 또는 작업자의 추락에 의한 위험을 방지하거나 감전에 의한 위험을 방지하기 위한 보호구



- 2) 안전대 : 고소 등의 작업장에서 추락에 의한 위험을 방지하기 위한 보호구



I. Safety Rules

- 3) Work procedures and methods should be fully explained and work should be performed in accordance with the specified procedures.
- 4) Work related details should be clearly communicated and transferred during shift changes.
- 5) Areas around machines should be checked prior to operation.
- 6) The workplace should be kept clean and orderly at all times.
- 7) Eating and smoking are prohibited from the workplace.

2. Personal Protective Equipment (PPE)

PPE is worn by individual workers in the workplace to prevent industrial accidents, injuries and protect against hazards and risks.

2-1 Types of PPE

- 1) Safety Helmets
Prevent injuries caused by falling or flying objects, and accidental falls.



- 2) Safety Belts
Prevent injuries caused by falling from high places at the workplace.



I. 작업장에서 지켜야 할 안전수칙

- 3) 안전화 : 물체의 낙하, 충격 또는 날카로운 물체로 인한 위험으로부터 발, 발등을 보호하거나 감전 또는 정전기의 대전을 방지하기 위한 보호구



- 4) 보안경 : 날아오는 물체에 의한 위험 또는 위험물, 유해광선에 의한 시력장해를 방지하기 위한 보호구



- 5) 안전장갑 : 용접 작업 시 발생하는 스파터 등으로부터 작업자를 보호하기 위한 보호구



I. Safety Rules

- 3) Safety Shoes
Prevent injuries caused by falling, dropping heavy objects, sharp objects and electric currents.



- 4) Safety Goggles
Prevent eye injuries caused by flying objects, harmful objects, and harmful light.



- 5) Safety Gloves
Protect against spatters and other potential dangers, which occur while welding.



I. 작업장에서 지켜야 할 안전수칙

- 6) 용접용 보안면 : 용접 시 불꽃 또는 날카로운 물체에 의한 위험을 방지하거나 유해광선에 의한 시력장해를 방지하기 위한 보호구



2-2. 유해인자별 보호구

유해요인	보호구의 종류
가스, 증기, 분진	호흡용 보호구(방진마스크, 방독마스크, 송기마스크, 공기호흡기, 산소호흡기), 보호장갑, 보호장화, 보호의류 등
복사열	방열복(면), 내열복(면)
부식성 액체 등	보호헬멧, 보호장갑, 보호안경, 보호장화, 보호의류 (보호크림)
유해광선	차광안경
소음	귀마개, 귀덮개
진동	방진장갑
산소결핍 위험작업	공기호흡기, 산소호흡기, 송기마스크

I. Safety Rules

- 6) Welding Mask
Prevents injuries caused by flames or sharp objects during the welding process, and protects the eyes against damage from harmful light.



2-2 PPE by Hazards

Hazards	Types of PPE
Gas, steam, dust	Respirators (dust respirators, gas masks, supplied air respirators, air respirators, oxygen respirators), safety gloves, safety boots, safety clothes, etc.
Radiant heat	Heat protective clothing (mask), Heatproof clothing (mask)
Corrosive liquids, etc.	Safety helmet, safety gloves, safety goggles, safety boots, safety clothes (barrier cream).
Harmful light	Eye goggles
Noise	Ear plugs, ear muffs
Vibration	Vibration protective gloves
Hazardous work that may cause oxygen deficiency	Air respirators, oxygen respirators, supplied air respirators

I. 작업장에서 지켜야 할 안전수칙

2-3. 보호구의 선택 및 착용요령

- 1) 사용목적에 맞는 보호구를 갖추고 작업 시 반드시 착용한다.
- 2) 항상 사용할 수 있도록 하고 청결하게 보존·유지한다.
- 3) 개인 전용으로 사용할 것을 마련한다. (전염성 질병 예방에 대한 조치를 할 것)
- 4) 작업자는 보호구의 착용을 생활화 하여야 한다.



3. 기계·설비별 안전수칙

3-1. 기계·설비의 위험점

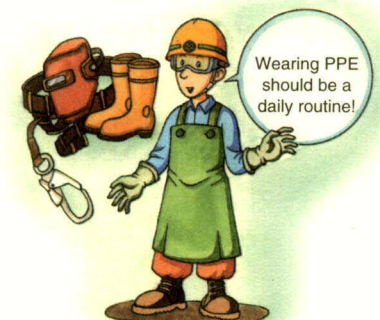
- 1) 연삭숫돌, 둥근톱날, 교반기의 날개와 같이 회전하는 부분에는 협착, 비래, 절단, 말려듬과 같은 위험이 있다.
- 2) V-벨트, 체인과 같이 회전부의 접선방향으로 물리는 부분과 로울러, 기어처럼 회전체가 반대방향으로 맞물려 회전하는 부위에는 협착의 위험이 있다.



I. Safety Rules

2-3 Procedures for using PPE

- 1) Use of particular PPE should be determined by the nature of the work to be performed and should be always put on prior to beginning work.
- 2) PPE should be used at all times in instances where it is required and should be carefully maintained and cleaned after using.
- 3) All employees should have their own PPE (Actions should be taken to prevent against contagious diseases).
- 4) Operator should be familiar with daily use of PPE.



3. Safety Rules by Machine/Equipment

3-1 Potential Dangers Involved in the Use of Machines/Equipment

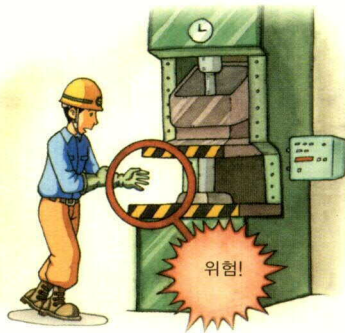
- 1) It is possible to get cut by or caught in, under or between rotating parts of grinding wheels, circular saw and agitator blades and also to get hit by flying objects.
- 2) V-belts and C-chains with rotating parts that interlock and rollers and gears with rotators that move in the direction away from the body carry the risk of getting caught in, under or between the rotating parts.



I. 작업장에서 지켜야 할 안전수칙

3-2. 프레스작업 안전수칙

- 1) 지정된 작업자만 작동하여야 한다.
- 2) 프레스의 금형안에 작업자 손이 들어가지 않도록 한다.
 - 안전울이 부착된 프레스 사용
 - 안전금형이 부착된 프레스 사용
 - 자동송급·배출장치를 부착한 프레스 사용

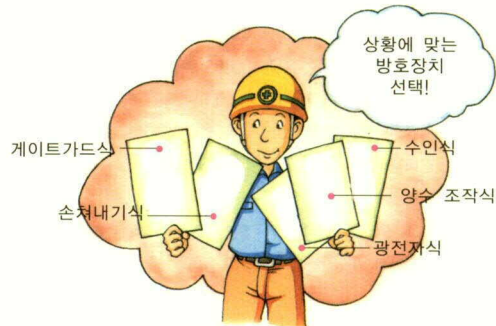


- 3) 프레스의 종류, 압력능력, SPM(Strokes Per Minute), 행정, 작업방법에 상응하는 방호장치가 부착된 것을 사용하여야 한다.

- 게이트가드식 안전장치
- 손쳐내기식 안전장치
- 수인식 안전장치
- 양수조작식 안전장치
- 광전자식 안전장치

- 4) 두 사람 이상이 공동으로 작업하는 경우에는 일정한 신호를 정하여 작업한다.

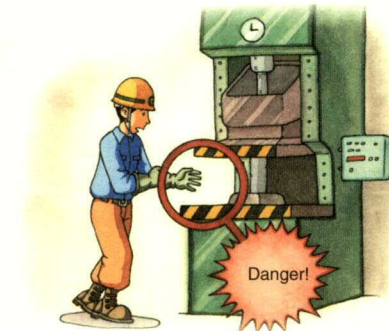
- 5) 공작물을 가공하는 경우에는 가능한 수공구를 이용한다.



I. Safety Rules

3-2 Safety Rules for Press Work

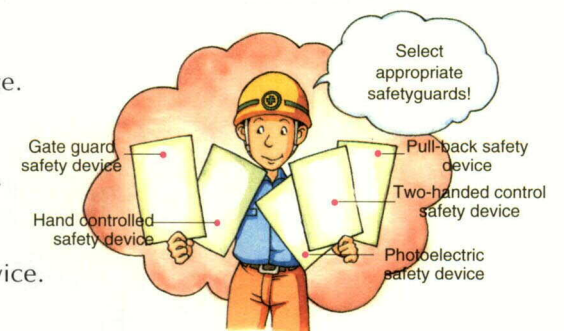
- 1) Only designated operators should operate the press.
- 2) Operator should not insert his/her hands inside of the press metal mold.
 - Press with safety enclosure attached should be used.
 - Press with safety metal mold attached should be used.
 - Press with automatic feeder and ejector attached should be used.



- 3) Safeguards corresponding to press type, press capability, SPM (Strokes Per Minute), stroke and work method should be selected and applied.

- Gate guard safety device.
- Hand controlled safety device.
- Pull-back safety device.
- Two-handed control safety device.
- Photoelectric safety device.

- 4) When two or more employees are performing operation together, specified signals should be used to coordinate work.
- 5) Manual tools should be used as much as possible to process the work piece.



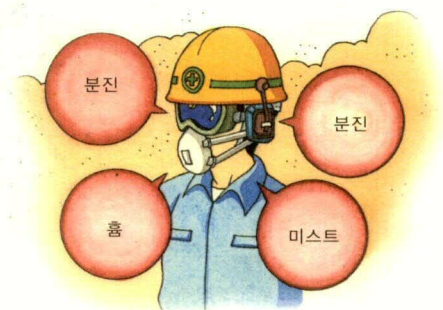
I. 작업장에서 지켜야 할 안전수칙

3-3. 연삭기작업 안전수칙

- 1) 연삭숫돌에는 숫돌덮개를 부착하여 작업하여야 한다.
- 2) 연삭숫돌을 교체한 경우에는 3분 이상 시운전하여야 한다.
- 3) 사용전에 연삭숫돌을 점검하여 탁음이 나거나 균열이 있는 것은 사용하여서는 안된다.



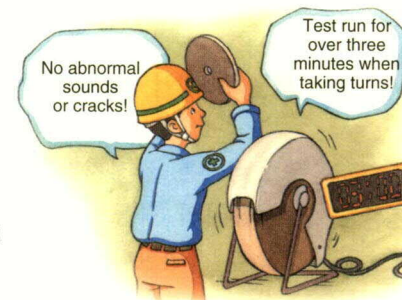
- 4) 연삭숫돌과 받침대 간격은 3mm 이내로 유지하여야 한다.
- 5) 가공물은 급격한 충격을 피하고 서서히 접촉시키면서 작업하여야 한다.
- 6) 양쪽의 플랜지는 동일한 외경으로 하며, 플랜지의 외경은 숫돌외경의 1/3 이상으로 하여야 한다.
- 7) 연삭작업은 숫돌의 측면을 사용하여서는 안된다.
- 8) 연삭작업 시에는 보안경, 방진마스크, 귀마개를 착용하여야 한다.



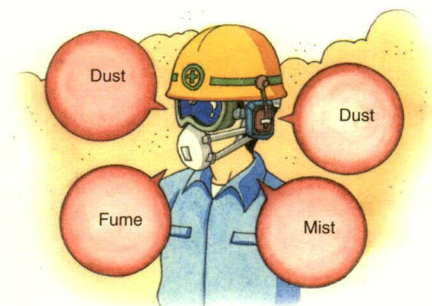
I. Safety Rules

3-3 Safety Rules for Grinding Machines

- 1) The wheel guard should be attached to the grinding wheel.
- 2) A test operation should be performed for more than 3 minutes when replacing a grinding wheel.
- 3) A grinding wheel producing an abnormal sound or having a crack should not be used.



- 4) The distance between the grinding wheel and supports should be no more than 3mm.
- 5) Contact between the grinding machine and the objects being ground should occur gradually, avoiding rapid impact.
- 6) Flanges on both side of the wheel should have the same outer diameter, and the outer diameter of the flange should be more than one-third the size of the wheel's outer diameter.
- 7) Grinding work should not be performed using the side of the wheel.
- 8) Eye protector, dust respirator, and earplugs should be worn when performing grinding work.



I. 작업장에서 지켜야 할 안전수칙

- 9) 연삭숫돌은 과도한 온도차나 습기가 없는 건조한 장소에 보관한다.
- 10) 연삭숫돌은 규격별로 구분하여 보관장소에 세워서 보관하여야 한다.

3-4. 로울러기작업 안전수칙

- 1) 로울러기는 급정지장치 등 안전장치의 작동상태를 확인한 후 작업한다.

- 손 조작식
- 복부 조작식
- 무릎 조작식



- 2) 급정지장치는 작업자가 어느 장소에서나 활용할 수 있는 위치에 부착되어야 한다.
- 3) 로울러에 협착될 위험이 있는 부분에는 가이드롤, 울 등이 설치되어야 한다.
- 4) 로울러기를 청소하거나 점검시에는 반드시 기계를 정지한 후 실시한다.

3-5. 둥근톱의 안전수칙

- 1) 둥근톱에는 톱날접촉예방장치(덮개)를 설치하여 작업자의 신체가 톱날에 접촉하지 못하도록 한다.



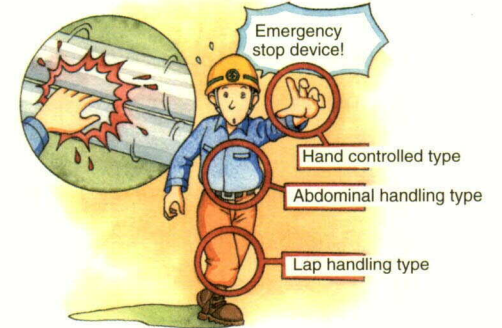
I. Safety Rules

- 9) The grinding wheel should be kept in a dry place without excessive temperature fluctuation or humidity.
- 10) The grinding wheel should be classified according to size and kept vertically in the storage area.

3-4 Safety Rules for Rollers

- 1) The operating status of the roller's safety devices such as the emergency stop device should be checked before operating the roller.

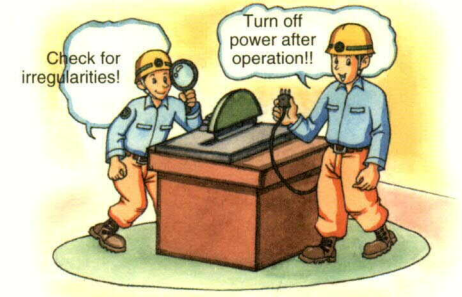
- Hand controlled type
- Abdominal handling type
- Lap handling type



- 2) The emergency stop device should be attached in the appropriate location enabling operators to utilize it in the area.
- 3) Parts with a risk of getting caught in under or between rollers should be installed with guide roll, safety enclosures, etc.
- 4) Machines should always be turned off before cleaning or inspections are performed.

3-5 Safety Rules for Circular Saw Work

- 1) The circular saw should be installed with a saw blade guard, which prevents contact between the saw blade and the operator's hands or body.



I. 작업장에서 지켜야 할 안전수칙

- 2) 둥근톱에는 반발예방장치(분할날)를 설치하여 가공재가 반발하는 것을 방지한다.
- 3) 분할날은 톱날후면으로부터 12mm 이내에 설치하되 두께는 톱 두께의 1.1배 이상으로 설치 한다.
- 4) 작업 전에는 시운전을 하여 이상유무를 확인하여야 한다.
- 5) 톱날의 균열, 마모, 손상이 있는가를 정기적으로 확인하여야 한다.
- 6) 안전장치의 파손, 작동불량 등 이상유무를 수시로 확인하여야 한다.
- 7) 작업 중에는 보안경, 귀마개, 방진마스크 등의 보호구를 착용하고 작업하여야 한다.
- 8) 톱날의 체결 볼트, 너트는 확실하게 고정하고 작업하여야 한다.
- 9) 톱날을 교체한 후에는 충분히 시운전한 후 작업하여야 한다.
- 10) 작업 종료 후 자리이탈 및 정전 시에는 전원을 반드시 차단하여야 한다.
- 11) 톱밥을 수시로 제거하는 등 작업장을 정리, 정돈하여야 한다.

3-6. 동력식 수동대패기 안전작업

- 1) 날 접촉 예방장치를 부착하고 작업한다.
- 2) 대패작업 시 장갑은 착용하지 않아야 한다.
- 3) 목재 가공 시 위험이 있으므로 보조기구(누름대)를 사용하여 칼날에 작업자의 신체가 닿지 않도록 한다.
- 4) 목재에 마디나 웅이가 있는 것은 가공 시 웅이가 빠져 튀어오를 위험이 있으므로 무리한 힘을 주어서 억지로 누르지 않도록 하여야 한다.

I. Safety Rules

- 2) Anti-kickback device (splitter) should be installed on the backside of the circular saw to prevent the kickback of processed timber.
- 3) Splitter should be installed within 12 mm from the backside of the saw blade, however, the thickness should be more than 1.1 times that of the saw thickness.
- 4) Testing of the saw blade should be performed prior to beginning work to check for any abnormalities.
- 5) The saw blade should be checked regularly for cracks, abrasions, and damage.
- 6) Abnormalities such as damaged safety devices and operation failures should be checked frequently.
- 7) PPE such as safety goggles, earplugs and dust respirators should be worn during work.
- 8) Work should be performed by clearly fixing joint bolts and nuts to the saw blade.
- 9) Sufficient test runs should be performed immediately after replacing saw blades.
- 10) Power should always be turned off in the case of breaks and power outages.
- 11) Sawdust should be removed from the work area on a regular basis.

3-6 Safety Rules for Hand Push Wood Planing Machine Work

- 1) The knife guard device should be attached when performing work.
- 2) Gloves should not be worn in the case of wood planing work.
- 3) Aid apparatus (push stick) should be used to prevent contact between the operator's body and the rotating sear knife when performing planing work.
- 4) Excessive force should be avoided due to the potential danger of springing knots when processing joints or knots in wood.

I. 작업장에서 지켜야 할 안전수칙

- 5) 수동대패기 가동전에는 시운전하여 이상유무를 확인하여야 한다.



- 6) 안전장치의 파손, 작동불량 등 이상유무를 수시로 확인하여야 한다.
7) 작업종료 후 자리이탈 및 정전 시에는 전원을 반드시 차단하여야 한다.



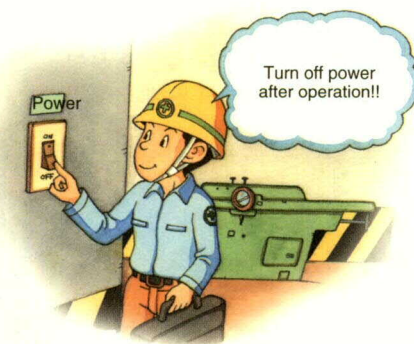
- 8) 작업 중에는 보안경 등의 안전보호구를 착용하고 작업하여야 한다.
9) 톱밥을 수시로 제거하는 등 작업장을 정리, 정돈하여야 한다.

I. Safety Rules

- 5) The wood planer should be tested for abnormalities prior to beginning work.



- 6) Abnormalities such as damage to safety devices and operation failure should be frequently checked.
7) Power should always be turned off during breaks and after work is completed.



- 8) Safety equipment such as safety goggles should be worn when working.
9) Wood chips and other debris should be removed from the work area on a regular basis.

I. 작업장에서 지켜야 할 안전수칙

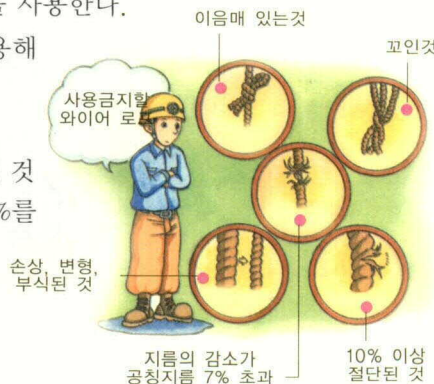
3-7. 크레인 안전작업

- 1) 크레인에는 과부하방지장치, 권과방지장치, 비상정지장치, 후크해지장치 등의 안전장치가 부착된 것을 사용하여야 한다.
- 2) 작업을 시작하기 전에는 안전장치 및 와이어로프의 이상유무를 점검한 후 사용하여야 한다.
- 3) 매달린 적재물의 내리는 장소, 적재장소의 안전을 확인하여야 한다.



- 4) 후크에 해지장치가 부착된 것을 사용한다.
- 5) 다음과 같은 와이어로프를 사용하지는 안된다.

- 이음매가 있는 것
- 심하게 손상, 변형 또는 부식된 것
- 지름의 감소가 공칭지름의 7%를 초과하는 것
- 와이어로프의 한가닥에서 소선(필러선 제외)의 수가 10% 이상 절단된 것



- 6) 크레인에는 지정된 자 이외는 운전하지 않아야 한다.
- 7) 크레인에 의한 운반은 동시에 2방향 이상 조작을 하지 않아야 한다.

I. Safety Rules

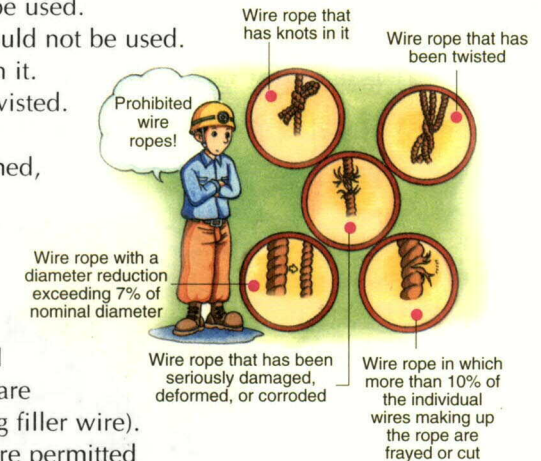
3-7 Safety Rules for Cranes

- 1) Cranes should be equipped with safety devices such as overload limiters, over winding limiters, emergency stop apparatus, hook latches, etc.
- 2) Safety devices and wire ropes should be inspected for possible abnormalities prior to starting work.
- 3) Safety of the unloading and storage areas should be checked.



- 4) Hooks with latches should be used.
- 5) The following wire rope should not be used.

- Wire rope that has knots in it.
- Wire rope that has been twisted.
- Wire rope that has been seriously damaged, deformed, or corroded.
- Wire rope with a diameter reduction exceeding 7% of nominal diameter.
- Wire rope in which more than 10% of the individual wires making up the rope are frayed or cut (not including filler wire).



- 6) Only designated operators are permitted to operate cranes.
- 7) Cranes should not be operated in more than two directions at the same time.

I. 작업장에서 지켜야 할 안전수칙

- 8) 와이어로프는 충격에 약하므로 급격하게 감아 올리거나 감아 내려서는 안된다.
- 9) 체인이나 로프를 화물에 경사지게 매달아 권상시켜서는 안된다.
- 10) 크레인 운전자에 대한 신호는 지정된 자가 하여야 한다.
- 11) 크레인 신호수는 규정된 복장을 착용하고 규정된 신호방법으로 명확하고 확실하게 하여야 한다.
- 12) 화물중심부에 후크를 위치시켰나 확인한 후 권상신호를 하여야 한다.
- 13) 제한하중을 초과한 권상을 피하고 로프의 상태를 확인한다.
- 14) 크레인에 매달린 화물의 아래에는 출입하지 않아야 한다.

3-8 리프트 작업안전

- 1) 적재화물의 상태를 확인하여야 한다.
- 2) 허용중량을 초과하여서는 안된다.
- 3) 작업전에 제한스위치나 와이어로프가 정상인가를 확인한다.
- 4) 문은 완전히 닫고 잠김상태를 확인후 사용한다.
- 5) 아래위 작업자간의 상호 신호 후에 리프트를 사용한다.



- 6) 작업자가 리프트 위에 올라가서는 안된다.

I. Safety Rules

- 8) Wire rope should not be rapidly rolled up or let loose because of its inability to handle rough impacts.
- 9) Chains and ropes should be fastened around cargo in such a way that they intersect directly in the middle of the cargo so that the cargo will be in a perfectly level position when it is raised.
- 10) Signals intended for the crane operator should be carried out by a designated person.
- 11) The crane signalperson should be clearly visible, wearing designated clothing and should use the specified signaling method.
- 12) Lifting signals should be given after checking the location of hooks at the center of cargo.
- 13) Rope status should be checked and the load limits should not be exceeded.
- 14) Standing or passing underneath of hanging cargo loads is not permitted.

3-8 Safety Rules for Lift Work

- 1) Load status of the cargo should be checked.
- 2) Do not exceed the load limit.
- 3) Limit switches and wire rope should be checked for abnormalities prior to beginning work.
- 4) The cage door should be correctly closed and locked.
- 5) Operation of the lift should only begin after operators at both the upper and lower points coordinate their signals.



- 6) Employees should never ride on the lift.

I. 작업장에서 지켜야 할 안전수칙

3-9 지게차 안전작업

- 1) 임명된 자격증 소지자 이외에는 운전을 하지 않아야 한다.



- 2) 포크나 파레트에 서거나 올라타서는 안된다.
- 3) 고장 발견시 작업을 멈추고, 감독자에게 우선 보고 후 조치를 취해야 한다.
- 4) 작업장의 바닥은 평평하게 유지하여야 한다.
- 5) 운전석을 이탈할 때에는 포크를 낮추고 제동을 한후 시동을 완전히 꺼야한다.
- 6) 운전중인 지게차 주위에는 접근하여서는 안된다.
- 7) 적재하중을 초과하여 적재하여서는 안된다.
- 8) 지게차의 안정도를 유지하여 운반, 주행하여야 한다.
- 9) 지게차의 제한속도를 지켜 운행하여야 한다.
- 10) 급속한 선회를 하지 않아야 한다.



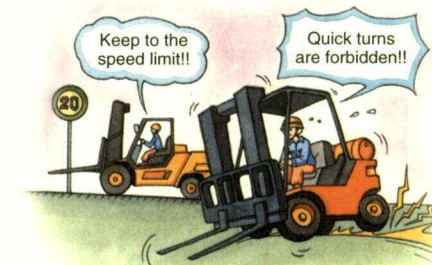
I. Safety Rules

3-9 Safety Rules for Forklifts

- 1) Only qualified persons holding the appropriate license are permitted to drive a forklift.



- 2) Standing or riding on the fork or a pallet is not permitted.
- 3) If a problem occurs while operating the forklift, stop working and contact a supervisor immediately.
- 4) The forklift should only be operated on flat surfaces.
- 5) Prior to exiting the forklift, the fork should be lowered to the ground, the brake should be applied and the engine should be turned off.
- 6) Do not approach a moving forklift.
- 7) The maximum load capacity should never be exceeded.
- 8) Carrying and driving should be performed by maintaining stability of forklift.
- 9) Workplace speed limits should be maintained when driving a forklift.
- 10) Rapid turns should be avoided.



I. 작업장에서 지켜야 할 안전수칙

- 11) 화물을 높게 들어올린 상태로 주행이나 선회를 하여서는 안된다.
- 12) 취급하는 화물에 적합한 파레트 또는 스키드를 사용하여야 한다.

3-10 컨베이어 안전작업

- 1) 컨베이어에는 비상정지장치의 작동여부를 확인한다.
- 2) 컨베이어의 수리 정비 작업 시에는 스위치에 시건장치 또는 '점검중' 표지판을 부착하여 다른 작업자의 스위치 오조작을 방지하여야 한다.
- 3) 경사진 궤도를 운행하는 컨베이어는 정전 시나 전압강하 시 적재물이 이탈하거나 컨베이어가 역류를 방지하는 역주행방지장치의 이상유무를 확인한다.
- 4) 적재물의 낙하를 방지하기 위하여 덮개나 울이 파손된 것은 즉시 수리하여야 한다.
- 5) 작업복을 단정히 하여 컨베이어에 헐착되지 않도록 한다.
- 6) 컨베이어 위로 통행할 때에는 건널다리 등을 사용하여야 한다.
- 7) 컨베이어 이송속도를 임의로 변경, 조작하지 않아야 한다.
- 8) 운반물이 한쪽으로 편중되지 않도록 적재하여야 한다.
- 9) 컨베이어는 운반물의 이동 이외의 목적으로 사용하여서는 안된다.
- 10) 작업장, 통로는 수시로 정리정돈 및 청소를 하여야 한다.
- 11) 컨베이어는 담당자 이외에는 운전하여서는 안된다.

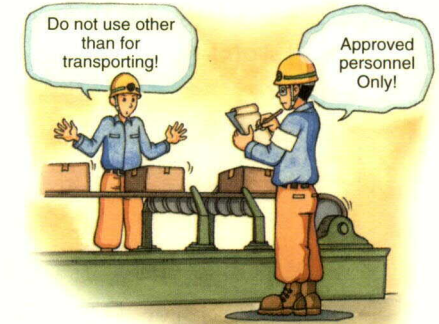


I. Safety Rules

- 11) Driving or turning should be restricted when the cargo is at a high position.
- 12) Only pallets and skids suitable for handling cargo should be used.

3-10 Safety Rules for Conveyers

- 1) The operating mode of the emergency stopper should always be checked.
- 2) When repairing or maintaining the conveyor, lock the operating switch or place a sign on it stating "In Service" in order to prevent other operators from accidentally turning on the conveyor.
- 3) Conveyors with inclined tracks should be checked for abnormalities in the safety device, obstacles that may prevent removal of cargo from the track, or conveyor reversal.
- 4) Damaged guard and safety railings installed to prevent cargo from falling off the track should be repaired immediately.
- 5) Appropriate work clothes should be worn to prevent contact with the conveyor.
- 6) Always use the bridge when crossing over the conveyor.
- 7) Conveyor speed should not be randomly changed or adjusted.
- 8) When loading, avoid excessive distribution of cargo to only one side.
- 9) The conveyor should only be used to move cargo, nothing else.
- 10) The work area and its pathways should always be kept clean and orderly.
- 11) Only an assigned operator may operate the conveyor.



I. 작업장에서 지켜야 할 안전수칙

3-11. 사출성형기 안전작업

- 1) 사출성형기의 문(덮개)이 열린 상태에서 슬라이드가 작동되면 관리자에게 보고하고 수리한 후 작업하여야 한다.



- 2) 보수 점검 시에는 기동스위치에 시건장치를 하거나 '점검중' 표지판을 부착하여 다른 작업자가 오조작하지 않도록 하여야 한다.
- 3) 히터와 같은 고열부에는 덮개를 설치하여 신체가 접촉하지 않도록 하여야 한다.
- 4) 운전자는 사출성형기의 움직임을 순간적으로 정지시킬 수 있는 급정지용 누름버튼 스위치의 위치를 확인한다.

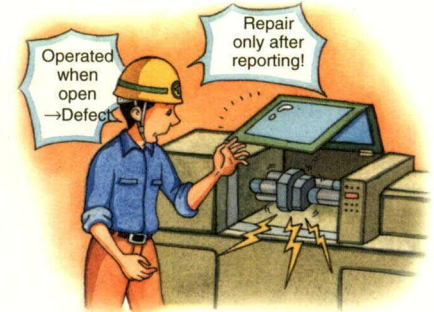
3-12 분쇄기, 혼합기, 교반기 안전작업

- 1) 분쇄기, 혼합기, 교반기의 원료 투입구에 덮개의 부착여부 및 기동장치와 인터록(덮개가 열리면 기계의 기동이 정지) 장치의 이상유무를 확인한다.
- 2) 분쇄기, 혼합기, 교반기에서 내용물을 꺼낼 때는 기계의 운전을 정지하여야 한다.

I. Safety Rules

3-11 Safety Rules for Injection Molding Machines

- 1) Work should be performed after immediately reporting it to the manager and repair the failure if the slide is operated when the injection molding machine door (cover) is open.



- 2) When repairing or maintaining the machine, lock the operating switch or place a sign on it stating "In Service" in order to prevent other operators from accidentally turning on the machine.
- 3) Guards should be installed around hot areas such as heaters in order to prevent physical contact.
- 4) The operator should locate of the emergency stop push button switch, which is used to instantly stop the machine.

3-12 Safety Rules for Crushers, Mixers, and Agitators

- 1) The cover of the area where materials are loaded into crusher, mixer and agitator should always be attached, and the interlock system (the cover's auto safety device), which automatically stops the machine when the cover is open, should always be checked to make sure it is functioning properly.
- 2) Machine operation should be stopped when removing objects from crusher, mixer, and agitator.

I. 작업장에서 지켜야 할 안전수칙

- 3) 분쇄기의 내부에서 청소, 수리 등의 작업을 할 때는 반드시 기동스위치에 시건장치를 하고 키는 작업자가 소지하여야 한다.



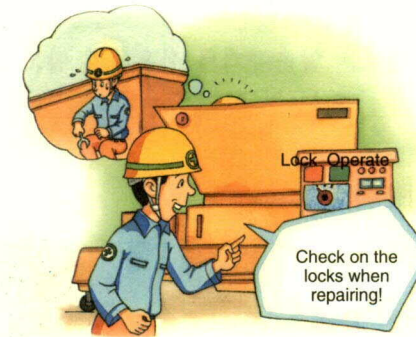
3-13 선반 안전작업

- 1) 선반에는 칩이나 냉각유의 비산을 방지하기 위해 칩 비산방지판을 부착한다.
- 2) 긴 물체를 가공할 때는 방진구를 사용하여야 한다.
- 3) 수공구 등은 주축대 위에 보관하지 말고 별도의 보관함에 비치한다.
- 4) 절삭작업 중에는 보안경을 착용하여야 한다.



I. Safety Rules

- 3) When performing repair work inside the crusher, the starter switch should always be locked and the key should be kept by an operator.



3-13 Safety Rules for Lathes

- 1) A transparent plate to prevent the scattering of chips or coolant should be attached to the lathe.
- 2) When processing long projections or long objects, center test should be used.
- 3) Manual tools should be kept in a separate storage box other than the headstock.
- 4) Eye protector should be worn when performing cutting work.

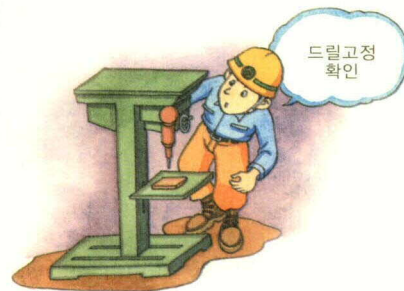


I. 작업장에서 지켜야 할 안전수칙

- 5) 바이트는 가급적 짧고 단단히 고정시켜야 한다.
- 6) 가공물이나 척에 휘말리지 않도록 작업자는 작업복 소매를 단정히 하고 면장갑을 착용하지 않는다.
- 7) 칩을 제거할 때에는 압축공기를 사용하지 말고 브러시를 사용하여야 한다.

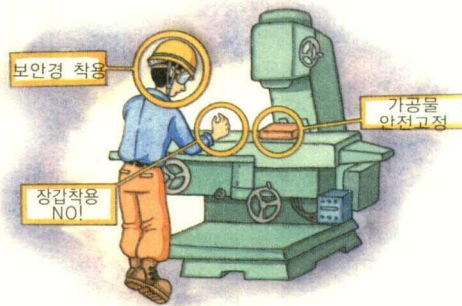
3-14 드릴 작업 안전수칙

- 1) 작업전 반드시 드릴상태를 점검하고 사용하여야 한다.
- 2) 회전드릴 사용후 테이블을 고정하여서는 안된다.
- 3) 드릴 사용중 파편을 입으로 불거나 손으로 쓸어서는 안된다.
- 4) 전기드릴 사용시 접지를 한 후 사용하여야 한다.
- 5) 드릴작업 시 면장갑을 착용하면 안된다.



3-15 밀링작업 안전수칙

- 1) 밀링커터의 상부 암에는 가공물에 적합한 덮개를 부착한다.
- 2) 정면커터 작업 시에는 칩이 튀어나오므로 칩커버를 설치하거나 보안경을 착용한다.
- 3) 절삭중에는 장갑을 착용하지 않는다.
- 4) 가공물은 테이블 또는 바이스에 안전하게 고정된 후 작업하여야 한다.

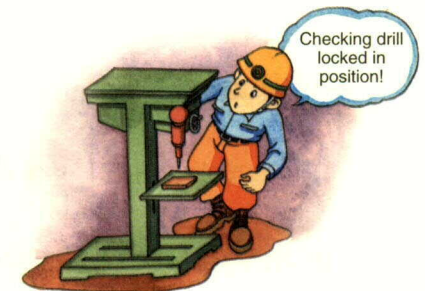


I. Safety Rules

- 5) The bite should be firmly fastened at its lowest possible position.
- 6) The operator should keep his shirtsleeves neatly rolled or worn and should not wear cotton gloves so as to avoid getting them tangled.
- 7) Compressed air should not be used to remove chips; instead, a brush should be used.

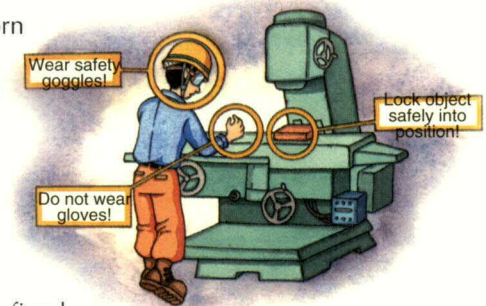
3-14 Safety Rules for Drill Work

- 1) Drills should be checked and problems corrected in advance of operation.
- 2) The table should not be fixed after rotating drills.
- 3) Do not be blown on or use your hands to sweep away debris while the drill is being operated.
- 4) Grounding should be always performed when using an electric drill.
- 5) Do not wear cotton gloves when performing drilling work.



3-15 Safety Rules for Milling Work

- 1) Appropriate guards should be attached to the upper arm of the milling machine.
- 2) Safety goggles should be worn or chip guards should be installed during the front face cutting work to protect against chip splash.
- 3) Cotton gloves should not be worn when cutting.
- 4) Work piece should be safely fixed to the table or vice.



I. 작업장에서 지켜야 할 안전수칙

- 5) 커터를 설치하거나 교체할 경우에는 반드시 전원을 차단하여야 한다.
- 6) 테이블 위에는 측정기기나 공구를 놓지 않아야 한다.
- 7) 칩은 기계를 정지시킨 후 브러시로 제거하여야 한다.
- 8) 칩이 비산되는 가공물을 작업을 할 경우에는 보안경을 착용하여야 한다.

3-16 모소기(Singing machine) 안전수칙

- 1) 가스검지기는 항상 정상 작동되도록 유지, 관리한다.
- 2) 가스누출경보기가 작동되었을 때는 신속히 기계의 작동을 정지하고 인터록 시스템에 의한 가스공급 밸브를 차단한다.
- 3) 작업 시작 전, 후 버너 주변에 퇴적된 분진을 진공청소기 등을 사용하여 제거하여야 한다.
- 4) 전체 환기시설을 가동하여 떠다니는 분진을 제거하여야 한다.

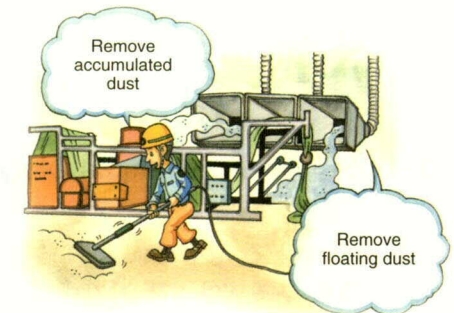


I. Safety Rules

- 5) Power should be completely turned off when installing or replacing the cutter.
- 6) Measuring devices or tools should not be placed on the table.
- 7) A brush should be used to remove chips after stopping the machine.
- 8) Safety goggles should be worn when performing work where chips or other debris may be splattered.

3-16 Safety Rules for Singeing Machines

- 1) The gas detector should always be maintained and controlled for normal operation.
- 2) Operation of the machine should be promptly stopped and the gas supply valve should be shut down based on an interlock system when the gas leakage alert sounds.
- 3) Dust deposited around the burner should be removed with a vacuum cleaner before and after work.
- 4) Suspended dust should be removed by operating the general ventilation system.



I. 작업장에서 지켜야 할 안전수칙

3-17 정련기(Rotary Washer) 안전수칙

- 1) 원단투입 또는 배출 시에는 로크핀을 반드시 체결한 상태에서 작업한다.
- 2) 외통 뚜껑을 열어놓은 상태에서는 절대로 전면과 후면에 설치된 내통 구동 전동기 스위치를 조작하지 않는다.



- 3) 내부온도와 수위가 일정값 이하로 내려가지 않은 상태에서는 절대로 외통 뚜껑을 개방하지 않는다.

3-18 원심탈수기(Centrifugal Dehydrator) 안전수칙

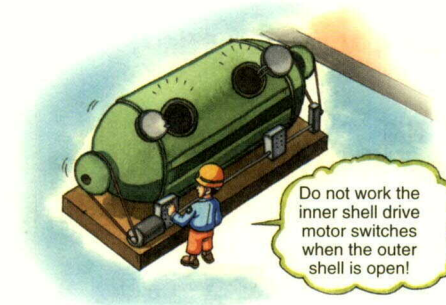
- 1) 작업시작 전 점검
 - 주요 구조부인 3각 지지대의 균열여부 확인
 - 덮개의 설치된 구동전동기와 인터록 리미트스위치의 상호작동 가능 확인
 - 내통의 원단에 의한 편심 적재 여부 확인
 - 누전차단기 또는 접지 상태의 확인



I. Safety Rules

3-17 Safety Rules for Rotary Washers

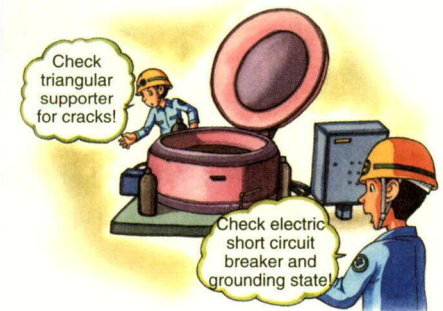
- 1) The lock pin should be fastened when putting in or taking out fabric.
- 2) The inner shell drive motor switches installed in the front and the back should not be turned on when opening the outer shell cover.



- 3) The cover of the outer cabin should not be opened if the temperature and water level inside of the rotary washer is higher than the specified levels.

3-18 Safety Rules for Centrifugal Dehydrators

- 1) Inspection prior to Work
 - The triangular supporter, which is the main structural part should be checked for cracks.
 - Interlock of the driving motor installed on the cover and the interlock limit switch should be checked.
 - The inner shell should be checked for fabrics in order to distribute load uniformly.
 - The electric leakage breaker and grounding status should be checked.



I. 작업장에서 지켜야 할 안전수칙

2) 작업 중 점검

- 전원 차단 후 브레이크가 완전히 작동되지 않은 상태에서는 덮개 개방 불가능
- 덮개 개방 시 전원을 차단할 수 있는 리미트스위치 설치
- 원단적재, 배출용 호이스트 설치

3-19 코팅기(Coating Machine) 안전수칙

1) 작업시작 전 점검

- 기계에 설치된 접지선의 손상유무를 확인한다.
- 가습기를 작동하거나 물 또는 증기를 분무한다.
- 소화기의 위치를 확인한다.

2) 대전방지용 안전화 및 제전복 등 보호구를 착용한다.



3) 금속성 공구를 사용하지 않는다.

4) 환기설비를 가동한다.

I. Safety Rules

2) Check up during Work

- After shutting off the power, when the inner shell is rotating, do not open the cover.
- Limit switch should be installed to isolate the power when opening the cover.
- A hoist for loading and unloading fabric should be installed and used.

3-19 Safety Rules for Laminators

1) Check up prior to work

- The grounding line should be checked for damage.
- A humidifier should be used, or water or steam should be sprayed on it.
- The location of the fire extinguisher should be known.

2) Anti-static shoes and static dissipative clothing should be worn.



3) Metallic tools should not be used.

4) A ventilation system should be operated.

I. 작업장에서 지켜야 할 안전수칙

3-20 텐터기(Tenter Machine) 안전수칙

- 1) 로울러 협착점 방호를 위해 가드 또는 덮개와 비상정지바(bar) 설치, 사용한다.
- 2) 체인 보호덮개에 인터록 시스템 적용한다.
- 3) 가스가 누출되지 않도록 주의한다.



4. 전기 안전 작업

4-1 습윤한 장소에서의 전기작업

인체의 전기저항은 건조한 상태보다 땀이나 물에 젖은 경우에 크게 감소하므로 습윤한 장소에서 전기작업을 하거나 인체가 땀에 젖은 상태에서 전기 기계·기구를 사용하면 감전의 위험이 매우 높다.



I. Safety Rules

3-20 Safety Rules for Tenter Machines

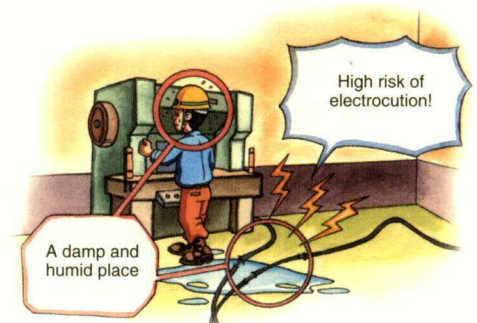
- 1) A guard or cover and emergency stopper bar should be installed and used for roller nip points.
- 2) An interlock system should be applied on the chain guard.
- 3) Precautions should be taken to prevent gas leakage.



4. Electric Safety Work

4-1 Electric Work in Damp and Humid Places.

The human body's resistance to electric current is significantly reduced in wet conditions compared to dry conditions. Therefore, the risk of electric shock will be greater when using electric machines and devices if the human body is wet from perspiration or electric work is being performed in damp or humid places.



I. 작업장에서 지켜야 할 안전수칙

4-2. 이동식 전기기구 사용작업

- 1) 이동식 전기기구를 사용할 때는 작업장에 놓인 이동전선에 전선관 또는 보호카바를 씌워서 피복이 손상되지 않도록 하고 전선을 정돈하여야 한다.
- 2) 이동식 전기기구는 접지를 하거나 누전차단기에 연결, 사용하여야 한다.



4-3. 전동공구 사용작업

전동공구를 수리할 때는 전원 플러그를 뽑아야 한다.



4-4. 이동형 조명기구

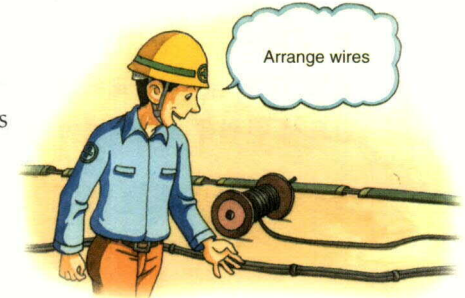
- 1) 이동형 조명기를 사용할 때는 전구에 보호함을 씌워서 외부충격으로부터 전구가 파손되지 않도록 하여야 한다.
- 2) 조명기구를 이동할 때에는 절연재로 된 손잡이를 잡고 운반하여야 한다.



I. Safety Rules

4-2 Use of Portable Electric Devices

- 1) Conduit tubes or protective covers should be applied to portable wire to prevent damage to the covering and wires should be properly arranged when using portable electric devices.
- 2) Portable electric devices should be grounded or connected to the electric leakage stopper when in use.



4-3 Use of Power Tools

Power cord should be unplugged before repairing power tools.



4-4 Portable Lighting

- 1) A protective cover should be applied to prevent damage to the bulb when using portable lighting.
- 2) When moving portable lighting, an insulated guide rail should be held.



I. 작업장에서 지켜야 할 안전수칙

4-5. 퓨즈

퓨즈는 규정의 것을 사용하여야 하며 구리선이나 철선을 사용해서는 안됨. 또한 퓨즈를 교체 할 때에는 반드시 전원을 차단시켜야 함.



4-6. 콘센트

플러그를 소켓에 끼울 때는 사용전압이 동일한지 여부를 확인하고 분리시킬 때에는 플러그를 잡고 당겨서 분리한다.



4-7. 전기안전수칙

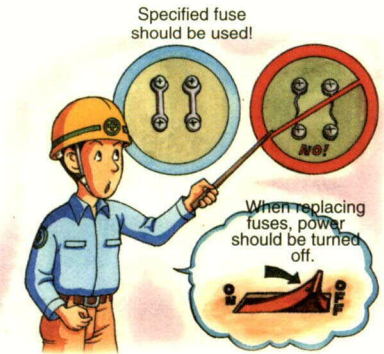
- 1) 자격자 이외에는 전기수리를 하지 않아야 한다.
- 2) 전기고장을 발견하면 책임자에게 보고하여야 한다.
- 3) 젖은 손으로 전기장치를 만지지 않아야 한다.
- 4) 모든 스위치는 뚜껑을 닫아야 한다.



I. Safety Rules

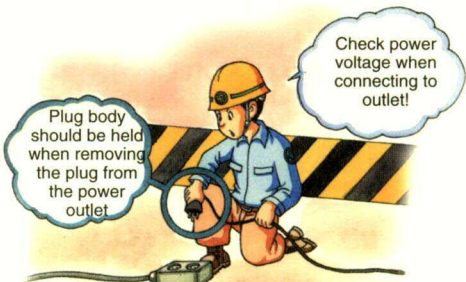
4-5 Fuses

When replacing fuses, power should be turned off, the specified fuse should be used as the replacement and copper and other types of wire should not be used.



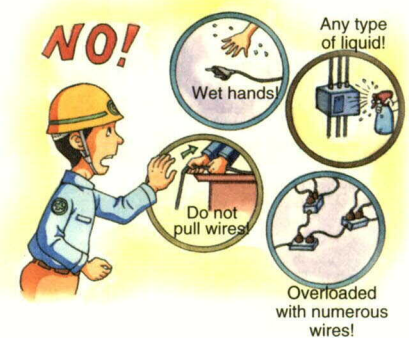
4-6 Plug Sockets

The power outlet voltage and that of the electric item being used must be the same, and the plug body should be held when removing the plug from the power outlet.



4-7 Electric Safety Rules

- 1) Only qualified persons should carry out electric repairs.
- 2) If an electrical failure occurs, contact an on-duty supervisor immediately.
- 3) Electric devices should not be touched with wet hands.
- 4) All switches should have covers.



I. 작업장에서 지켜야 할 안전수칙

- 5) 스위치, 전동기, 배전반 등의 전기기구에는 액체성 물질을 뿌리지 않는다.
- 6) 배선상태의 안전성 여부를 정기적으로 점검하여야 한다.
- 7) 전선 또는 전기기구에 물건을 걸어 놓지 않아야 한다.
- 8) 전선을 예리한 모서리나 기계 위로 끌고 다니지 않아야 한다.
- 9) 하나의 콘센트에 많은 전선을 연결해 과부하에 걸리게 해서는 안된다.
- 10) 전선을 로프대신 사용하지 않는다.

4-8. 교류아크용접작업 안전수칙

- 1) 우천시 옥외나 습기찬 장소에서는 교류아크 작업을 해서는 안된다.



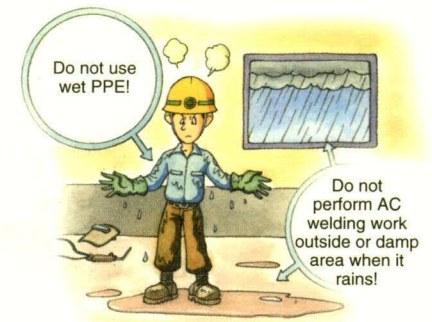
- 2) 작업시작 전에 자동전격방지기의 작동유무를 확인한다.
- 3) 용접기의 2차측 단자는 절연처리하여야 한다.
- 4) 용접기 외함은 접지를 하여야 한다.
- 5) 용접작업 시 물기가 있는 장갑, 작업복, 신발을 착용하지 않아야 한다.
- 6) 용접기를 사용하지 않을 때는 전원을 차단하고 케이블을 정리하여 둔다.
- 7) 용접작업을 중단할 경우에는 용접봉을 끼운 채 방치하지 않아야 한다.

I. Safety Rules

- 5) Electric devices such as switches, motors, and distribution panels should not be sprayed with any type of liquid.
- 6) Regular inspections to determine the safety status of wires should be carried out.
- 7) Objects should not be hung on wires or electric devices.
- 8) Wires should not be dragged over sharp edges or machinery.
- 9) Single electric outlets should not be overloaded with numerous wires.
- 10) Wire should never be used in place of rope.

4-8 Safety Rules for AC Welder Work

- 1) AC welder work should not be performed outdoors in the rain or in damp or moist places.



- 2) The status of the automatic electric shock prevention apparatus should be checked prior to beginning work.
- 3) The terminal on the second side of the welder should be insulated.
- 4) Welder enclosures should be grounded.
- 5) Gloves, work clothes, and shoes containing moisture should not be worn during welding work.
- 6) Power should be turned off and cables should be neatly arranged when the welder is not in service.
- 7) When a welding operation ceases, the welding rod should not be left in the holder.

I. 작업장에서 지켜야 할 안전수칙

- 8) 절연커버가 파손되지 않은 홀더를 사용하여야 한다.
- 9) 용접용 장갑, 보안면 등의 안전보호구를 착용하고 작업에 임해야 한다.
- 10) 접지측 케이블의 끝단은 클램프로 모재에 연결하여야 한다.
- 11) 높은 곳에서 용접작업 시에는 불꽃비산 방지막을 설치하여야 한다.
- 12) 용접하기 전에 탱크, 용기 등에 인화성, 발화성 물질이 있는지 확인하여야 한다.



- 13) 작업장에는 화재에 대비하여 소화기를 비치하여야 한다.

I. Safety Rules

- 8) Holders with damaged insulating covers should not be used.
- 9) Safety protectors such as welding gloves and welding masks should be put on prior to beginning work.
- 10) Grounding cable edges should be correctly connected to basic materials using clamps.
- 11) A spatter sheet should be used when operating welding work at heights.
- 12) Check items to be welded for flammable or combustible substances prior to beginning the welding.



- 13) Combustible substances should be isolated from the welding work area and fire extinguishers should be provided in order to be prepared for accidental fires.

I. 작업장에서 지켜야 할 안전수칙

5. 위험물의 종류와 취급시 예방대책

5-1 폭발성 물질

가열이나 마찰, 충격 또는 다른 화학물질과의 접촉 등으로 인하여 산소나 산화재의 공급이 없이도 폭발 등 격렬한 반응을 일으킬 수 있는 고체나 액체로 질산에스테르, 니트로화합물, 아조화합물, 유기과산화물 등이 있다.



• 취급 시 주의사항

- 화기, 마찰, 충격 등에 주의한다.
- 종류별로 위험도를 숙지하고 관리하여야 한다.



5-2. 발화성 물질

온도 상승 시 스스로 발화하는 물질, 물과 접촉하여 발화하고 가연성 가스를 발생하는 물질로 황, 황화인, 금속분, 마그네슘과 같은 가연성 고체, 칼슘, 나트륨과 같은 금속성 물질이 여기에 속한다.

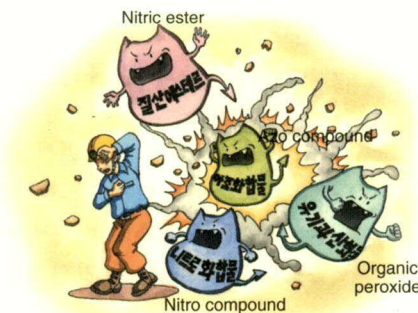


I. Safety Rules

5. Types of Hazardous Substances and Precautions against Them

5-1 Explosive Substances

Solid or liquid substances likely to generate violent reactions such as explosions due to heat, friction, impact, or contact with other chemicals and can be classified as nitric ester, nitro compound, azo compound, and organic peroxide, etc.



•Precautions for Handling

- Explosive Substances
- Precautions should be taken for fire, friction, impact, etc.
 - Risk levels by substance type should be understood and handling of substances should proceed accordingly.



5-2 Ignitable Substances

Ignitable substances are materials that ignite by themselves during temperature increases and those substances that produce combustible gas by contacting water. Combustible solids such as sulfur, phosphorous sulphides, metallic powders, magnesium, as well as water-prohibited materials such as calcium and sodium are included in this category.



I. 작업장에서 지켜야 할 안전수칙

• 취급 시 주의사항

- 열원, 불꽃 등으로부터 격리시키고 차가운 장소에 보관한다.
- 금속나트륨과 칼륨은 물과 접촉하면 연소, 폭발하므로 소량씩 석유 등에 보관한다.
- 유기금속화합물과 금속촉매는 공기와 접촉하면 발화하므로 처음 사용 시 경험자의 조언을 받는다.



5-3. 산화성 물질

가열, 충격 및 다른 화학물질과 접촉하면 격렬히 분해하거나 반응하는 물질로, 염소산 및 과산화수소, 무기과산화물, 불소산염류, 질산 및 그 염류 등의 있다.



• 취급 시 주의사항

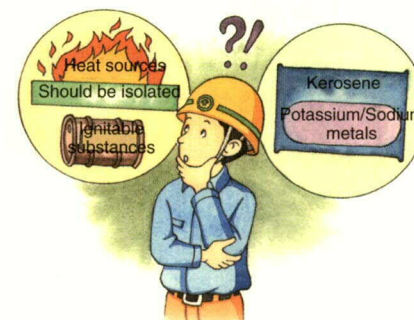
- 화기 또는 열원으로부터 격리하여야 한다.
- 환원성 또는 유기물질과 혼합시키면 산화, 발열하므로 주의하여야 한다.



I. Safety Rules

•Precautions for Handling Ignitable Substances

- Ignitable substances should be isolated from heat sources or flames, and should be kept in a cool place.
- When storing, keep potassium and sodium metals partially submerged in kerosene as they will explode if coming in contact with water.
- Organic metal compounds and metallic catalyzers will combust when exposed to air, so ask for advice when using for the first time.



5-3 Oxidizing Substances

Oxidizing substances are materials that react to or become severely resolved from heat, impact, and other types of contact with chemical substances. Chloric acid, hydrogen peroxide, inorganic peroxide, nitric acid, and fluoric salts are included.



•Precautions for Handling Oxidizing Substances

- Substances should be isolated from fire and heat sources.
- Oxidization and heat generation can occur when mixing oxidizing substances with reductive and organic substances. Therefore, special precaution is required.



I. 작업장에서 지켜야 할 안전수칙

5-4. 인화성물질

대기압(1기압)에서 인화점이 65℃ 이하인 가연성 액체로 가솔린, 노말헥산, 톨루엔, 등유, 경유 등이 있다.



• 취급 시 주의사항

- 화기 또는 열원으로부터 격리하고 인화점 이하의 차가운 장소에 보관한다.
- 용기는 뚜껑을 닫아 액체나 증기의 누출을 방지한다.
- 통풍이 잘되고 정전기가 없는 장소에 저장한다.



5-5. 가연성 가스

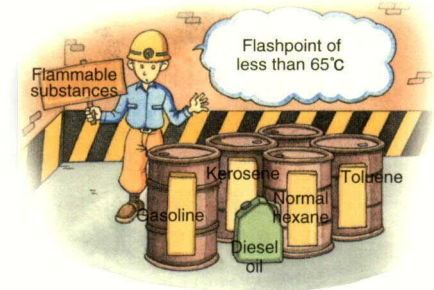
폭발한계농도의 하한치가 10% 이하이거나 상한치와 하한치의 차이가 20% 이상인 가스로 수소, 에틸렌, 아세틸렌, 메탄, 에탄, 프로판, 부탄가스 등이 있다.



I. Safety Rules

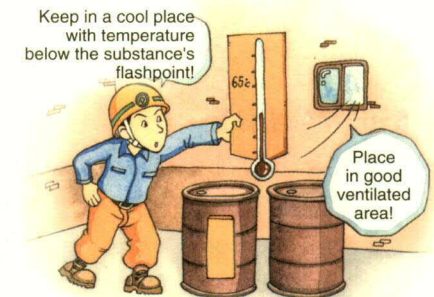
5-4 Flammable Substances

Flammable substances are flammable liquids with a flashpoint of less than 65°C under normal atmospheric conditions. Gasoline, normal hexane, toluene, kerosene, and diesel oil are included.



• Precautions for Handling Flammable Substances

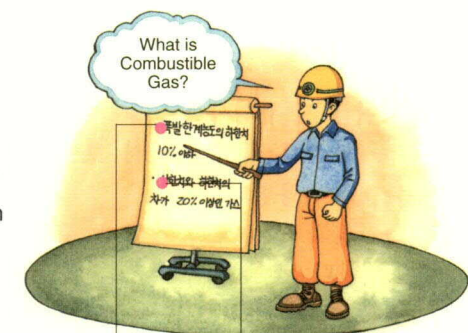
- Flammable substances should be isolated from fire and heat sources and should be kept in a cool place with a temperature below the substance's flashpoint.
- Container lids and covers should be closed to prevent liquid and vapor leakage.
- Store substances in a place with good ventilation and without static electricity.



5-5 Combustible Gases

Combustible gases are gases that explode if their lower explosive limit is lower than 10%, or the difference between the lower and upper explosive limit is more than 20%.

Hydrogen, ethylene, acetylene, methane, ethane, propane, and butane are included in this category.



Explosive limit is below 10% of the lowest point

Gases that difference between the lower and upper explosive limit is more than 20%

I. 작업장에서 지켜야 할 안전수칙

• 취급 시 주의사항

- 용기는 가열하거나 충격을 가하지 않아야 한다.
- 가스용기를 실내에서 사용할 때에는 환기를 잘 시켜야 한다.
- 가스용기는 통풍이 잘 되는 그늘에 보관한다.



5-6. 부식성 물질

금속 등을 쉽게 부식시키고 인체에 접촉하면 심한 화상을 입게 하는 물질로 염산, 황산, 질산, 인산, 불산 등이 있다.



• 취급 시 주의사항

- 부식성 물질 취급시 보호구를 착용한다.
- 물과 접촉하지 않도록 주의한다.



I. Safety Rules

•Precautions for Handling Combustible Gasses

- Containers holding combustible gases should be kept away from heat and possible impact.
- Rooms where combustible gas containers are held should be properly ventilated.
- Combustible gas containers should be kept in shaded areas with good air circulation.



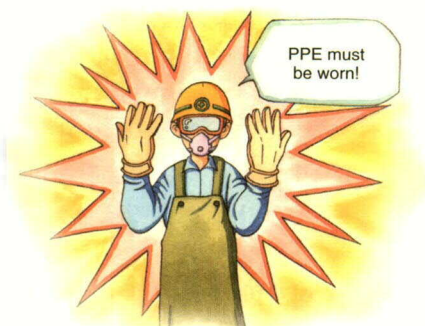
5-6 Corrosive Substances

Corrosive substances are substances that easily corrode metals and cause serious burns when coming into contact with the human body. Hydrochloric acid, sulfuric acid, nitric acid, phosphoric acid, and fluoric acid are included in this category.



•Precautions for Handling Corrosive Substances

- Protectors should be worn when handling corrosive substances.
- Precautions should be taken to prevent contact with water.



I. 작업장에서 지켜야 할 안전수칙

5-7. 고압용기 취급 시 주의사항

1) 운반

- 고압용기를 운반 시에는 반드시 캡을 씌워서 운반한다.
- 운반시에는 운반용 기구(손수레 등)를 사용한다.
- 이동 운반 중에는 끌거나 쓰러뜨리거나 발로 차는 등 충격을 주지 않아야 한다.
- 트럭으로 운반 시에는 넘어지지 않도록 로프로 묶는다.



2) 저장

- 고압용기는 일정한 장소에 보관한다.
- 보관장소는 통풍이나 환기가 좋고 직사광선을 받지 않아야 한다.
- 보관장소는 온도를 40℃ 이하로 유지해야 한다.
- 고압용기는 전도되지 않도록 로프 등으로 묶고, 산소용기와 같이 저장하지 않도록 한다.
- 가스누설 자동경보장치가 설치된 장소에 보관하여야 한다.
- 독성가스 보관장소에는 흡수제, 중화제와 해당가스의 성상에 알맞은 방독마스크, 공기호흡기 등을 사용하여야 한다.
- 적절한 소화기를 비치하고 보관장소에서 담배를 피우거나 화기를 취급해서는 안된다.

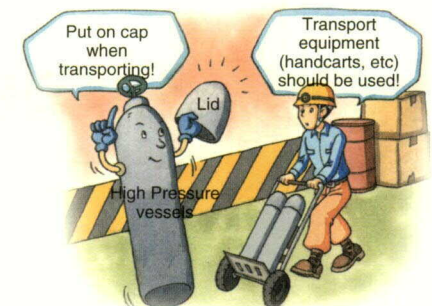


I. Safety Rules

5-7 Precautions When Handling High Pressure Containers

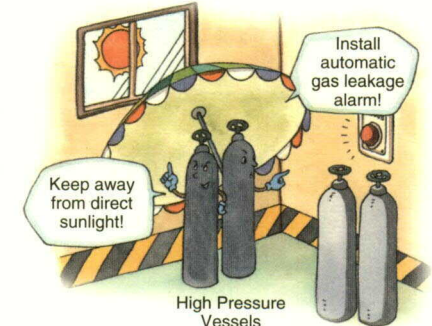
1) Transport

- Lids should cover high-pressure vessels during transportation.
- Transportation equipment (handcarts, etc) should be used during transportation.
- Actions such as pulling, dropping, or kicking should be prohibited.
- Rope should be used in secure containers to prevent falls during truck Transportation.



2) Storage

- Highpressure containers should be kept in specified areas.
- The storage area should have proper ventilation, air circulation and should not be in direct sunlight.
- The storage area should be maintained at a temperature less than 40℃.
- High pressure containers should be secured with rope to prevent falls and should not be stored together with oxygen containers.
- Storage facilities should have an automatic gas leakage alarm installed.
- The toxic gas storage area should be supplied with air respirators and absorbent, counteragent, gas removing respirators suitable to the type of corresponding gas.
- Proper fire extinguishers should be provided and smoking or handling flames in the storage area is prohibited.



Ⅱ. 작업관련성 질환

Ⅱ. Prevention of work Related Illnesses

II. 작업관련성 질환

1. 산소결핍

1-1 산소결핍

공기중에는 산소가 약 21%, 질소 78% 그리고 이산화탄소, 알곤, 헬륨 등으로 구성되어 있는데 산소농도가 18% 미만으로 되는 상태를 말함.



1-2 산소결핍에 의한 건강장해

산소부족으로 인한 자각증상은 산소농도 16% 정도에서 나타나기 시작하고 산소가 16% 이하로 낮아질수록 증상은 심해지게 되어 산소농도 10% 이하에서는 사망의 위험이 있음. 작업환경에 따라 산소농도가 낮아짐에 의한 근력저하로 신체의 지지불능이나 현기증에 의한 추락이나 전락 및 익사 등이 발생되기도 한다. 산소가 6% 이하인 극단적인 저농도에서는 이러한 공기를 단 1회만 호흡하여도 실신하여 호흡 및 심장이 정지되어 사망할 수도 있음.

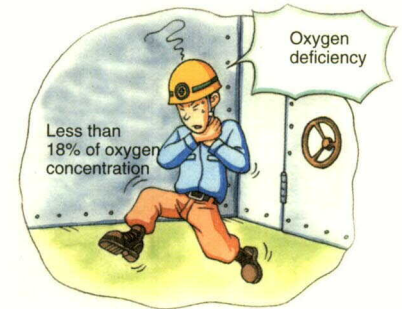


II. Prevention of work Related Illnesses

1. Oxygen Deficiency

1-1 Oxygen Deficiency

Air is composed of approximately 21% oxygen, 78% nitrogen, and 1% carbon dioxide, argon, helium, etc. Oxygen deficiency occurs when the concentration of oxygen in the air is less than 18%.



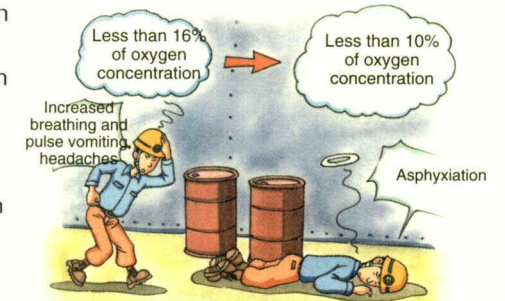
1-2 Health Effects due to Oxygen Deficiency

Symptoms of oxygen deficiency start to appear when the oxygen concentration in the air is at 16%. The symptoms increase in severity as the oxygen concentration decreases.

Risk of death by asphyxia ensues at less than 10% oxygen concentration.

Muscular strength decreases according to the low oxygen concentration and falling down or drowning due to fainting can occur.

Under excessively low oxygen conditions, i.e. 6%, fainting can occur after only one breath, and respiratory paralysis and cardiac arrest can cause death.



II. 작업관련성 질환

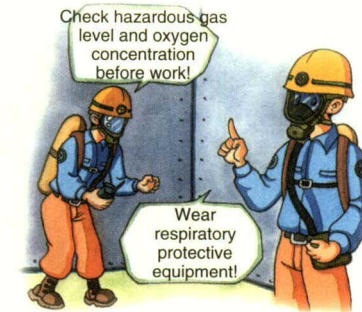
1-3 산소결핍에 의한 재해예방대책



- 1) 밀폐공간은 작업전 산소농도 및 유해가스농도 측정
- 2) 작업전 산소농도가 18% 이상 유지되도록 환기(급배기) 실시
- 3) 공기(산소) 호흡기 또는 송기마스크 등의 호흡용 보호구 지급 및 착용
- 4) 대피용(구출용) 기구비치 및 사용
- 5) 산소결핍위험작업에 대한 안전작업수칙 등 교육
- 6) 안전담당자에 의한 작업감시 및 감독철저
- 7) 출입근로자에 대한 인원점검
- 8) 작업상황의 이상유무를 파악하기 위한 감시인 배치
- 9) 관계 근로자이외의 출입금지 표지판 설치

II. Prevention of work Related Illnesses

1-3 Actions to Prevent Accidents Caused by Oxygen Deficiency



- 1) Oxygen concentration and hazardous gas concentration in confined spaces should be measured prior to beginning work.
- 2) Proper ventilation methods (supply and exhaust) should be used to maintain an oxygen level greater than 18% prior to beginning work.
- 3) Respiratory protective equipment such as air (oxygen) respirators or supplied air respirators should be supplied and worn.
- 4) Rescue tools should be provided and used accordingly.
- 5) Safety rules related to oxygen deficiency risks should be set.
- 6) Inspections by safety personnel and superintendents should be performed thoroughly.
- 7) Number of workers at the entrance should be checked.
- 8) Guards should be deployed to identify unusualness in work areas.
- 9) "Only Authorized Personnel Permitted Beyond this Point" signs should be installed at entrances and exits.

Ⅱ. 작업관련성 질환

2. 소음성 난청

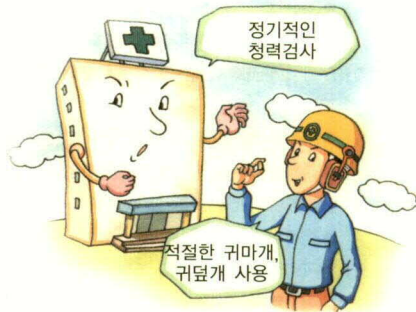
2-1 소음의 유해성

85dB(A) 이상의 소음수준에 오랫동안 폭로되면 영구적인 청력 손실을 초래하게 되며, 자극, 피로 및 스트레스가 가중되어 작업능률의 저하를 가져올 수 있다.



2-2 소음성 난청 예방대책

- 1) 소음이 많은 기계는 적은 것으로 교체
- 2) 소음원의 밀폐와 격리
- 3) 소음이 발생하는 기계나 기초부에 방진스프링, 방진고무 설치
- 4) 소음 전파방지를 위한 흡입시설 설치
- 5) 소음 폭로시간 제한
- 6) 적절한 귀마개나 귀덮개 사용
- 7) 정기적인 청력검사
- 8) 120dB(A) 이상의 작업장에서는 귀마개와 귀덮개 동시 착용

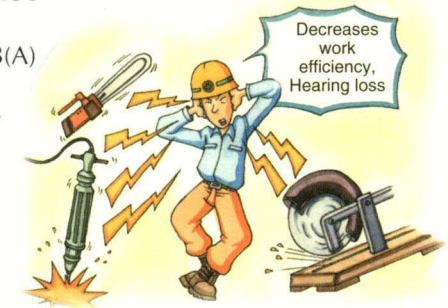


Ⅱ. Prevention of work Related Illnesses

2. Noise-induced Hearing Loss

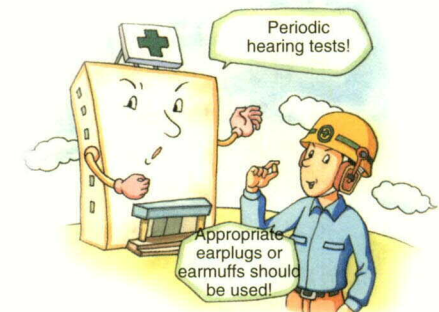
2-1 Health Effects due to Noise

Permanent hearing loss is caused when exposed to more than 85 dB(A) of noise for an extended period of time, and lowered work efficiency may result from added stress and fatigue.



2-2 Actions to Prevent Noise-induced Hearing Loss

- 1) Noisy machines should be replaced by low-noise machines.
- 2) Keep noise sources sealed up or isolated.
- 3) Vibration-isolation springs or rubber vibration isolators should be installed on machines generating noise.
- 4) Noise absorption materials should be installed to prevent the transfer of noise.
- 5) Time of exposure to noise should be limited.
- 6) Appropriate earplugs or earmuffs should be used.
- 7) Periodic hearing tests should be carried out.
- 8) Earplugs and earmuffs should be worn simultaneously at a workplace with more than 120dB (A).



II. 작업관련성 질환

2-3 청력보호구 착용시 유의사항

- 1) 귀마개가 외이도에 잘 밀착되도록 정확하게 착용
- 2) 귀마개가 오염되지 않도록 깨끗하게 보관



3. 고열작업

3-1 고열작업에 의한 건강장해

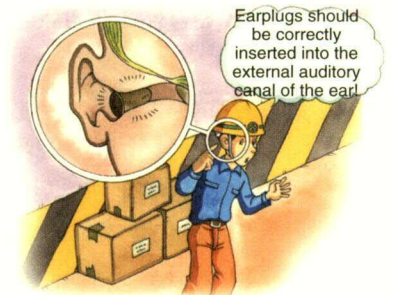
- 1) 열경련
 - 장시간의 고온에 폭로되었을 때 다량의 염분 상실을 동반한 땀의 과다배출로 발생
 - 복부와 사지근육에 통증을 동반한 경련이 일어나고 일시적으로 단백뇨가 나옴
- 2) 열피로
 - 탈수로 인하여 혈당량이 감소할 때 발생하며 피로감, 구역, 현기증, 근육경련 등을 일으킴
- 3) 열실신
 - 혈관장해, 뇌의 산소부족 등으로 실신 또는 현기증이 나타나는 현상
- 4) 열사병
 - 고온다습한 환경에 폭로될 때 갑자기 발생하는 체온조절 장애를 말하며 오심, 두통 등으로 인한 체온상승, 혼수상태가 발생



II. Prevention of work Related Illnesses

2-3 Precautions When Using PPE

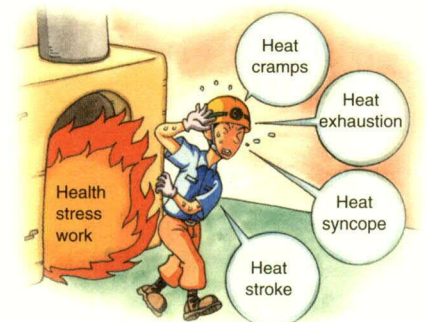
- 1) Earplugs should be correctly inserted into the external auditory canal of the ear.
- 2) Earplugs should be kept clean in order to prevent contamination.



3. Health Stress Work

3-1 The Effect of Heat Stress

- 1) Heat Cramps
 - Heat cramps occur due to excessive perspiration, with significant salt loss when exposed to high temperatures for an extended period of time.
 - Abdominal pain and leg muscle cramps may occur as well as transient proteinuria.
- 2) Heat Exhaustion
 - Heat exhaustion occurs when blood sugar levels are reduced due to dehydration fatigue, vomiting, dizziness, and may cause muscle cramps.
- 3) Heat Stroke
 - Heat stroke is a body temperature regulation impairment that occurs suddenly as a result of exposure to an environment with high temperature and high humidity. Heat stroke leads to an increase in body temperature and possibly coma status.



II. 작업관련성 질환

3-2 건강장해 예방대책

- 1) 근로시간의 단축, 교대근무제 등을 실시하며 필요할 경우 0.1% 식염수나 비타민C를 섭취한다.
- 2) 작업 중 적절한 휴식을 취한다.
- 3) 가벼운 옷이나 넉넉한 흰옷을 입도록 하며 복사열이 심한 작업장에서는 방열면이나 방열복을 착용한다.
- 4) 열이 많이 나는 것은 더운 열기가 위로 상승할 수 있도록 국소배기장치 등의 적절한 환기장치를 사용한다.



3-3 환경 관리대책

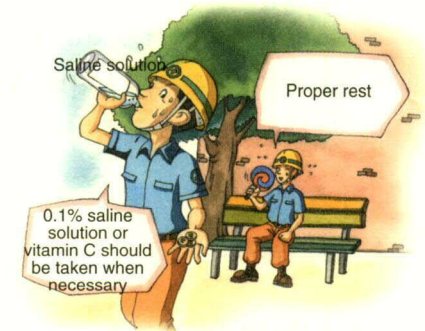
- 1) 고열물체를 방열한다.
- 2) 환기개선
 - 일반통풍 : 외부로부터 들어오는 시원한 공기는 고열물체에 접촉하기 전에 작업자에게 직접 불어오도록 한다.
 - 고열물체 상부에 환기구를 설치하여 더운 공기가 배기되도록 한다.



II. Prevention of work Related Illnesses

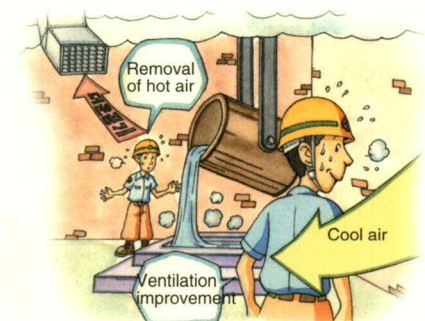
3-2 Actions to Prevent Heat Stress Induced Disorders

- 1) Reduction of work hours and shiftwork should be implemented, and 0.1% saline solution or vitamin C should be taken when necessary.
- 2) Proper rest should be taken during work hours.
- 3) Light or ample white clothing should be worn, and heat protective mask or clothing should be worn.
- 4) Local exhaust ventilation system should be used to remove hot air around objects generating heat.



3-3 Heat Stress Control Measures

- 1) Hot objects should be insulated.
- 2) Ventilation Improvement
 - General ventilation : Cool air from the outside should be channeled directly toward workers.
 - Vents should be installed in the ceiling over hot objects to remove hot air.



II. 작업관련성 질환

3) 냉방

제한된 공간의 경우 효과가 있다. (외기와 5~6 ℃ 낮은 정도로 유지)

4) 차열

복사체와 작업자 사이에 차열 물체를 1~2개 둔다.

5) 고열물체를 취급하거나 습도, 더위가 극심할 때에는 통풍방열복을 착용한다.

4. 유기용제

4-1 유기용제의 유해성

유기용제는 도료의 제조·배합, 금속제품의 세척, 인쇄 등의 공정에 사용되며, 호흡기, 피부, 소화기를 통하여 인체에 흡수될 경우에는 혈액, 중추신경, 간장·신장, 시각장애 등의 급·만성적 장애를 유발한다.



II. Prevention of work Related Illnesses

3) Air-Cooling

Air-cooling should be effective in limited spaces.

(Room temperature should be maintained at 5 ~ 6℃ below the external air temperature)

4) Heat Shielding

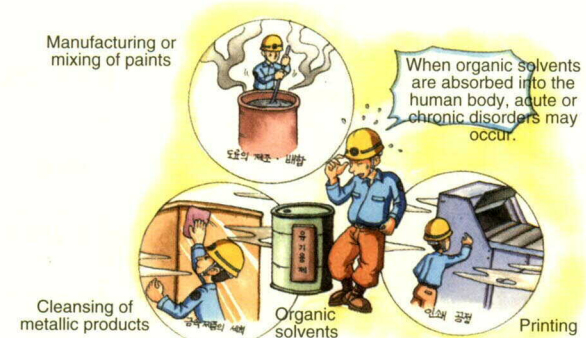
1 ~ 2 shielding objects should be positioned between radiators and operators.

5) Refrigerated suits should be worn when handling hot objects or when working under extremely hot and humid conditions.

4. Organic Solvents

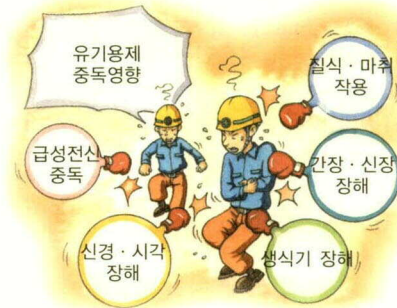
4-1 Organic Solvent toxicities

Organic solvents are normally used in paint manufacturing or mixing, cleansing of metallic products, and printing. When organic solvents are absorbed into the human body through the mouth, nose, or skin, acute and chronic disorders may occur in such areas as blood, the central nervous system, liver, kidneys, eyes, etc.



II. 작업관련성 질환

- 급성중독 유발물질 및 인체에 미치는 영향

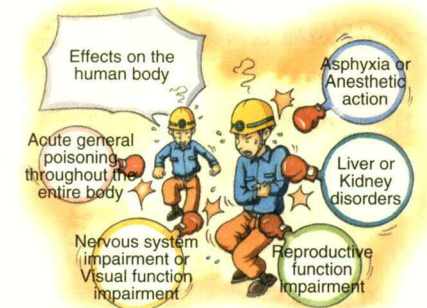


구 분	물 질 명	인체에 미치는 영향
방향족 탄화수소	벤젠, 톨루엔, 크실렌 등	급성전신중독
지방족 탄화수소	노말헥산, 아크릴, 아마이드 등	말초신경의 이상 감각
할로겐화 탄화수소	TCE 2-Bromopropane, DMF 등	중추신경, 간장·신장 장애
알콜류	메타놀, 이소프로필 알콜, 이소부틸 알콜 등	신경장애 및 시각장애
글로콜류	에티린 글리콜, 모노메틸에테르 등	생식기 장애
에테르류	에틸에테르, 이소프로필 에테르 등	마취작용
에스테르류	초산메틸, 초산에틸 등	상기도 자극작용
알데히드류	아크로레인, 포름알데히드 등	호흡기자극
질소 및 탄소화합물	질소, 일산화탄소, 탄산가스 등	질식작용

※ 중추신경계 급성중독을 일으키는 화학물질 분류순위
할로겐화 탄화수소>에테르>알코올>기타 탄화수소

II. Prevention of work Related Illnesses

- Highly toxic substances and their effects on the human body.



Classification	Substance Name	Effects on the body
Aromatic hydrocarbons	Benzene, toluene, xylene	Acute general poisoning throughout the entire body
Aliphatic hydrocarbons	n-hexane, etc.	Paresthesia in the peripheral nerves
Halogenated hydrocarbons	TCE, 2-Bromopropane, DMF, etc.	Central nervous system, liver, and kidney disorders
Alcohols	Methanol, isopropyl alcohol, isobutyl alcohol, etc.	Nervous system impairment, visual function impairment
Glycols	Ethylene glycol mono-methyl ether, etc.	Reproductive function impairment
Ethers	Ethyl ether, isopropyl ether, etc.	Anesthetic action
Esters	Methyl acetate, ethyl acetate, etc.	Upper respiratory irritation
Aldehydes	Achrolane, Formaldehyde, etc.	Respiratory irritation
Nitrogen and carbon compounds	Nitrogen, carbon monoxide, carbon dioxide, etc.	Asphyxia

* Severity of central nervous system :
Halogenated hydrocarbon > Ether > Alcohols > other hydrocarbons

II. 작업관련성 질환

4-2 유기용제 중독예방 대책

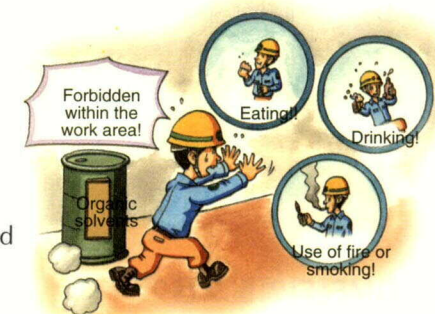
- 1) 유기용제는 국소배기장치 또는 전체환기장치가 설치된 장소에서 취급한다.
- 2) 유기용제가 갑자기 눈에 들어갔을 때는 즉시 흐르는 물로 깨끗이 씻고 안과 의사의 처치를 받는다.
- 3) 유기용제 취급작업자는 취급상의 주의 또는 경고표지를 숙지한 후 작업한다.
- 4) 유기용제가 피부로 흡수되는 것을 방지하기 위해 불침투성의 보호의를 착용한다.
- 5) 유기용제의 증기발산원을 밀폐하는 설비나 국소배기장치를 설치하지 아니한 장소에서 유기용제 작업을 할 때는 유기가스용 방독마스크 등의 보호구를 착용한다.
- 6) 유기용제 작업을 할 때는 탱크, 갯 기타 옥내작업장내 공기중의 유기용제 농도를 측정한다.
- 7) 유기용제 취급 작업장 안에서는 음식을 섭취하거나 음주를 해서는 아니되며 흡연 등 일체의 화기사용을 금지한다.
- 8) 작업 배치 후 최초특수건강진단(물질별로 정해진 기간 내에)을 받는다.



II. Prevention of work Related Illnesses

4-2 Actions to Prevent against Organic Solvent Toxicities

- 1) Organic solvents should only be handled in places where local exhaust ventilation or general ventilation systems have been installed.
- 2) In cases where organic solvents enter the eyes, eyes should be immediately flushed out with water and a prescription from a medical doctor should follow.
- 3) Employees who handle organic solvents should only operate equipment after fully understanding all warning signs and the precautions for handling toxic substances.
- 4) Impermeable suits should be worn to protect the skin from organic solvent absorption.
- 5) Organic vapor masks should be worn when working with organic solvents in enclosed areas where organic vapors are generated, or exhaust ventilation systems have not been installed.
- 6) When working with organic solvents in tanks, pits and other indoor areas, the organic vapor concentration in the air should be measured.
- 7) Eating and drinking should be prohibited in areas where organic solvents are handled and use of fire, including smoking, is prohibited under any circumstances.
- 8) After placement, employees should undergo the initial occupational medical examination within the established time period by substance.



II. 작업관련성 질환

4-3 작업시 준수사항

- 1) 국소배기장치와 전체환기장치 사용
- 2) 유기용제 취급시 보호구 착용



5. DMF(디메틸포름아미드, N, N-디메틸포름아미드)

5-1 화학물질이름

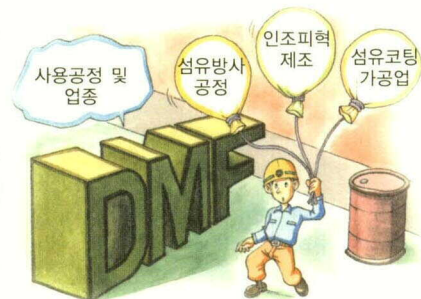
디메틸포름아미드, N, N-디메틸포름아미드, N-포름디메틸아민, N,N-디메틸메탄아미드, 포로디메틸아민, DMF, DMFA

5-2 물리적, 화학적 특징

무색, 약한 암모니아와 비슷한 냄새를 동반한 수용성 액체

5-3 DMF가 주로 사용되는 공정 및 산업

- 1) 우레탄직물, 아크릴 직물, 인조가죽공정, 직물코팅 과정 등에 발생
- 2) 직물의 염색에 사용되는 색소와 염료, 페인트, 페인트 제거에 사용되는 유기용제, 코팅용제, 프린트용제, 접착제가 포함됨



II. Prevention of work Related Illnesses

4-3 Work Procedures

- 1) Application of local exhaust ventilation system and general ventilation system.
- 2) Application of personal protective devices when handling organic solvents



5. DMF (Dimethylformamide, N, N-dimethylformamide)

5-1 Chemical Name

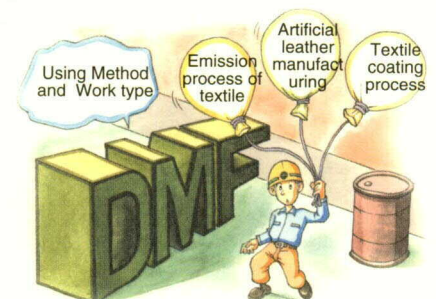
Dimethylformamide, N, N-dimethylformamide, N-formyldimethylamine, N, N-dimethylmethanamide, Formyldimethylamine, DMF, DMFA.

5-2 Physical and Chemical Properties

Colorless, water-soluble liquid with an weak odor similar to ammonia

5-3 Manufacturing Process/Industries Where DMF is Mainly Used

- 1) Emission process of urethane textile or acryl textile, artificial leather manufacturing, textile coating process, etc.
- 2) Pigment and dye for textile coloring, paint, solvent for paint removal, coating solvent, printing solvent, and adhesives are included.



II. 작업관련성 질환

5-4 인체에 미치는 영향

- 1) 유기용제는 피부와 호흡기를 통해 인체에 쉽게 흡수되며 소량은 소화기관을 통해 흡수될 수도 있다.
- 2) 유기용제는 간에 독성을 가진 물질이다.
- 3) 유기용제는 피부병과 알코올 알레르기를 유발할 수 있다.

(걱정, 두근거림, 흥조, 구토, 메스꺼움 등)

- 4) 유기용제는 복통, 변비, 두통, 피로, 현기증, 피부손상을 유발할 수 있다.

- 1998년에 미국 직물코팅처리 공장의 많은 근로자들이 독성간염에 걸렸다. (직물코팅과정과 관련된 전체 근로자의 76%가 고통을 호소했다.)
- 우리나라에서도 1993년 이후로 인조가죽가공공장에서 일하던 근로자 두 명이 맹급성 간염으로 죽었다.
- 1998년 한국산업안전공단이 행한 역학조사에서 3명의 근로자가 급성독성간염에 걸려있음이 밝혀졌다.
- 인조가죽이나 인조직물가공, 직물코팅처리작업은 피부를 통해 흡수될수 있는 상당량의 유기용제에 노출될 수 있는 작업들이다.

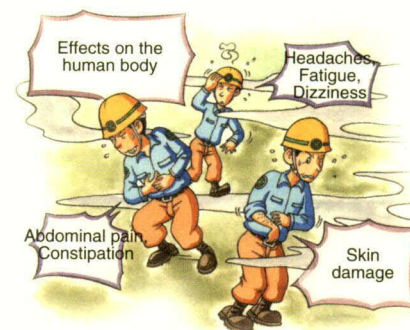


II. Prevention of work Related Illnesses

5-4 Effects on the Human Body

- 1) Organic solvents can be easily absorbed through the skin and respiratory system, and a small amount may be absorbed through the digestive system.
- 2) Organic solvents are substances that are toxic to the liver.
- 3) Organic solvents cause skin disease and can generate alcohol intolerance (anxiety, palpitation, flushing, vomiting, nausea, etc).
- 4) Organic solvents may generate abdominal pain, constipation, headaches, fatigue, dizziness, and skin damage.

- A large number of workers in a textile coating processing factory in the U.S. contracted toxic hepatitis in 1998. (76% of all workers involved in the textile coating process contracted the ailment)
- In Korea, two workers in the artificial leather manufacturing process have died from acute fulminant toxic hepatitis since 1993.
- Three workers were found to have contracted acute toxic hepatitis from an epidemiological investigation performed by the Korea Occupational Safety & Health Agency in 1998.
- Artificial leather, synthetic textile manufacturing and textile coating processing work are considered to be high exposure jobs due to the significant amount of organic solvents that can be absorbed through the skin.



II. 작업관련성 질환

5-5 응급처치요령

1) 흡입

유기용제의 노출로 인한 부작용이 발견될시 우선 안전한 장소로 옮기고 유기용제로부터 멀리해야 한다. 환자가 숨을쉬지 않을 경우 인공호흡을 실시해야 한다. 즉각적인 의사의 조치를 받아야 한다.



2) 피부접촉

옷이나 신발에 묻은 오염물을 제거하기 위해서는 최소한 15분 이상을 비누로 세탁해야 한다. 필요시 의사에게 치료를 받아야 한다. 오염된 옷과 신발은 세탁후 완전히 말린 후 사용한다.



3) 눈 접촉

흐르는 물에 최소한 15분이상 눈을 씻은 후 의사로부터의 즉각적인 치료를 받아야 한다.

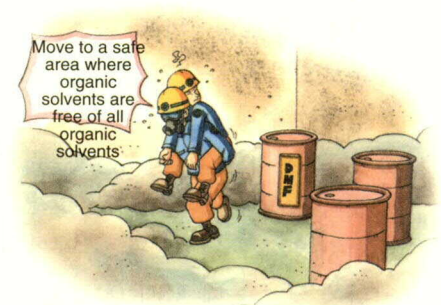


II. Prevention of work Related Illnesses

5-5 First Aid Procedures

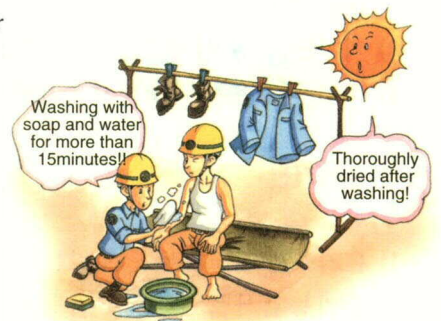
1) Absorption

If side effects from exposure to organic solvents are experienced, move to a safe area, free of all organic solvents. Artificial respiration should be performed if the patient is not breathing. Immediate treatment from a doctor should be provided.



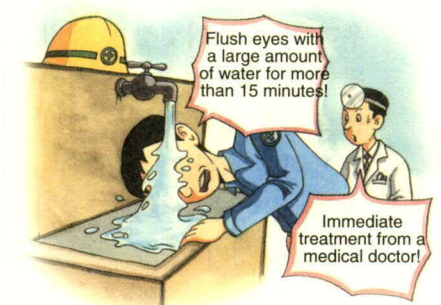
2) Skin Contact

Washing with soap and water for more than 15 minutes is required while taking off contaminated clothes and shoes. Treatment from a doctor should be given if necessary. Contaminated clothes and shoes should be thoroughly dried after washing.



3) Eye Contact

Flush the eyes with a large amount of water for more than 15 minutes. Immediate treatment from a medical doctor is required.



II. 작업관련성 질환

5-6 안전수칙

- 1) 화학물질에 건딜 수 있는 보호장갑, 보호의, 방독 마스크, 눈보호기구 등을 착용하고 작업해야 한다.
- 2) 물로 세척한 후 다시 비누로 씻어야 한다. 혼합이나 코팅작업중 용제가 손이나 팔, 혹은 얼굴에 닿았을 때 MEK(Methyl Ethyl Ketone 메틸 에틸 케톤)과 같은 유기용제를 사용하여 세척하면 안된다.
- 3) 피부는 작업 시에 가능한 노출을 피해야 한다.
- 4) 작업 동안에는 국소배기장치를 가동하여야 한다.



5-7 건강검진

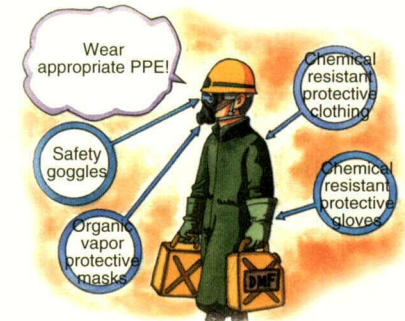
- 1) 유기용제에 노출된 근로자는 간기능검사를 포함한 건강진단을 받아야 한다.
- 2) 잠재적으로 DMF에 노출될 우려가 있는 작업장에 배치될 경우 사전에 간기능검사를 포함한 배치 전 건강진단을 받아야 한다.
- 3) 1~3개월이상 근무한 근로자는 건강상태를 체크하기 위해 1~2주간격으로 정기적으로 간기능 테스트 등 전문 검진을 받아야 한다.



II. Prevention of work Related Illnesses

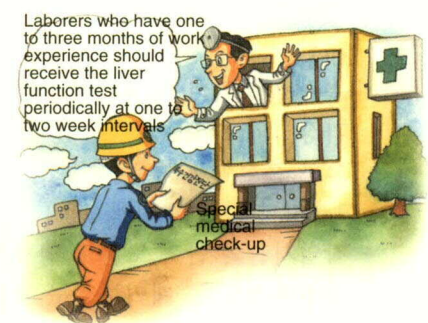
5-6 Safety Rules

- 1) Proper protection such as chemical resistant protective gloves, chemical resistant protective clothing, organic vapor protective masks, and eye protector should be worn.
- 2) After washing with water, use soap to wash again. Do not wash with any organic solvents such as MEK (Methyl Ethyl Ketone) when the solvent has been in contact with the hands, arms, or face during work including mixing and coating, etc.
- 3) Exposed skin should be avoided as much as possible during work.
- 4) Local exhaust ventilation system should be operating during working hours.



5-7 Health Examinations

- 1) Exposed employees should receive a occupational health examination including liver function test.
- 2) Preplacement Health Examination An immediate health examination(including a liver function test) should be conducted when placing works to a work area where there will be the potential for DMF exposure.
- 3) Occupational Health Examination After Placement Laborers who have one to three months of work experience should receive the liver function test periodically at one to two week intervals to trace and control changes in health conditions.



II. 작업관련성 질환

6. 분진

6-1 분진의 유해성

분진은 호흡기를 통하여 흡인되어 폐속에 침착 되고, 폐조직과 반응하여 폐의 섬유화와 인체의 다른 장기에 이상상태를 발생시킴



6-2. 분진에 의한 건강장해

1) 분진대책

- 생산공정의 변경 또는 작업 환경의 개선으로 분진의 노출 저감
- 생산설비 자동화 등 설비의 개선
- 분진발생원의 밀폐, 국소배기 장치의 사용, 습식작업 등으로 분진발생 등의 저감

2) 근로자 건강보호 대책

- 작업시간의 단축 또는 작업자의 격리조치
- 방진마스크 등 개인보호구 착용

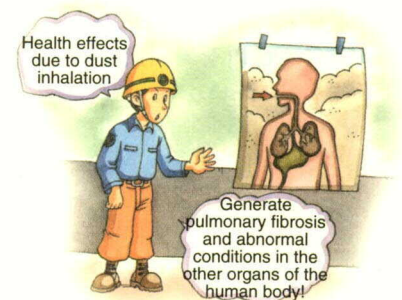


II. Prevention of work Related Illnesses

6. Dust

6-1 Health Effects due to Dust Inhalation

Dust can accumulate in the lungs after being absorbed through an airway, which will generate pulmonary fibrosis and abnormal conditions in the other organs of the human body.



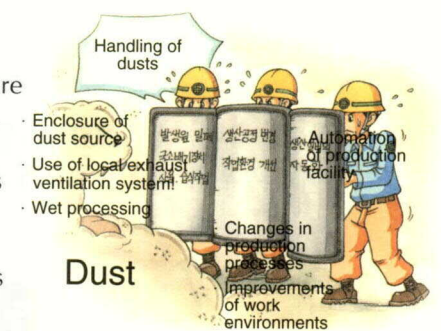
6-2 Health Effects Caused by Dust

1) Dust Actions

- Exposure to dust can be reduced when changes are made in certain production processes or improvements are made to work environments.
- Facilities are improved including production process automatization.
- The presence of dust is reduced when dust source is enclosed, local exhaust ventilation system is used, and wet processing is applied.

2) Actions to Protect Employees Against Dust Inhalation

- Reduction of working hours or isolating the operator.
- Wearing PPE such as dust-proof masks, etc.



II. 작업관련성 질환

6-3 작업 시 준수사항

- 1) 국소배기장치 정상가동
- 2) 분진작업 시 보호구 착용



7. 진동장해

7-1 진동의 위험성

1) 전신진동의 장해

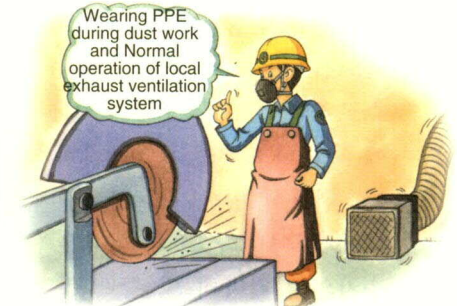
전신진동장해 우려가 있는 작업은 기중기 운전공, 분쇄공 등인데 온몸으로 진동이 작용하는 경우에는 주로 말초혈관이 위축되고 혈압상승, 맥박증가 등을 보일 수 있으며, 진동의 강도에 따라 신체의 여러 부위나 기관에 다발성 변화를 일으킬 가능성이 있다.



II. Prevention of work Related Illnesses

6-3 Work Procedures

- 1) Normal operation of local exhaust ventilation system.
- 2) Wearing PPE during dust work.



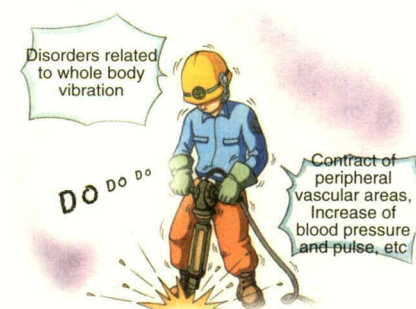
7. Vibration Disorders

7-1 Health Effects due to Vibration

1) Disorders related to whole body vibration

Those employees most likely to experience vibrations over the entire body are crane and crusher operators. Peripheral vascular areas will contract, while blood pressure and pulse will increase when vibration affects the entire body.

Many other body parts or organs can experience multiple health effects depending on the severity of the vibration.



II. 작업관련성 질환

2) 국소진동의 장애

국소진동은 국소적인 스트레스로 작용하며 주로 수지, 손에 나타나고 자동톱, 공기햄머, 전동식 연마기를 사용할 때에 일어난다. 이 현상은 수지의 감각마비 및 창백 등의 증상이 있으며 그 이외에 국소적인 혈관, 신경, 골, 관절, 근육, 지각이상 나타나며 점차로 전신에 파급되어 중추신경이나 내분비계에도 침범될 수 있다.



7-2 작업시 주의사항

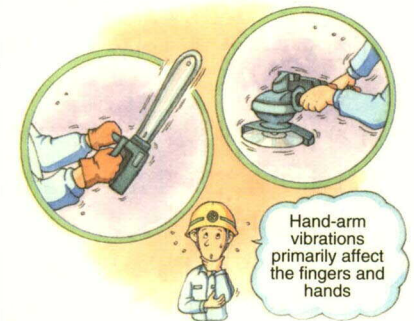
- 1) 작업개시 전·후에는 손, 팔, 어깨, 허리 등을 가볍게 풀어주는 체조를 한다.
- 2) 한랭장소에서 진동작업을 하는 경우에는 적절한 보온조치를 한 후 작업에 임한다.
- 3) 작업중 파편의 비래 등에 대비한 안전조치를 강구한다.
- 4) 강렬한 진동을 발생시키는 작업을 실시할 경우에는 방진장갑 등 적절한 보호구를 착용한다.
- 5) 손잡이로 진동이 전파되지 않은 공구를 사용한다.



II. Prevention of work Related Illnesses

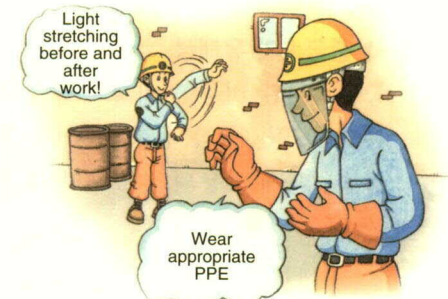
2) Disorders related to hand-arm vibration

Hand-arm vibrations primarily affect the fingers and hands, causing local stress. This disorder may occur during the use of chain saws, pneumatic hammers and electric grinders. Symptoms include partial paralysis and white fingers. Besides these symptoms, abnormality in blood vessels, nerves, bones, muscles, and perception can occur and attack the central nervous system or endocrine system gradually affecting the entire body.



7-2 Precautions

- 1) Stretching to lightly relax the hands, arms, shoulders, and back should be performed before and after work.
- 2) Proper actions to keep warm should be performed in advance of work when operating vibration-causing equipment in a cold place.
- 3) Safety procedures should be established to address the scattering of broken pieces throughout the work process.
- 4) Proper PPE such as vibration-proof gloves should be worn when doing work generating strong vibrations.
- 5) Materials that do not transfer vibrations into handles should be used.



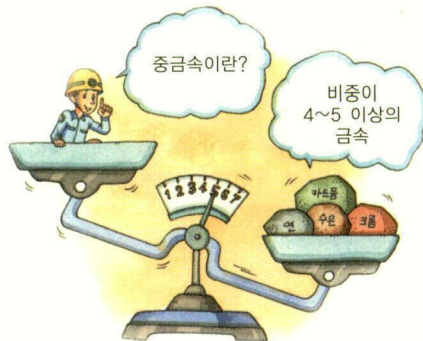
II. 작업관련성 질환

- 6) 진동공구는 가능한 한 기계적 힘을 이용한다.
- 7) 진동공구의 손잡이는 너무 세게 잡지 않도록 하고 사전에 반복 훈련한다.
- 8) 작업장내의 온도가 14℃ 이하이면 보온대책을 강구한다.
- 9) 1회 연속 진동작업을 가급적 10분 이내로 하고 전체 작업시간을 최소화한다.
- 10) 소음이 발생하는 진동 작업 시에는 청력보호구를 착용한다.
- 11) 진동 작업 시에는 진동방지장갑을 착용하여 진동폭로를 감소시킨다.
- 12) 착암기 등 진동공구 취급 작업자는 정기적으로 특수건강진단을 받도록 한다.

8. 중금속

8-1 중금속의 유해성

중금속이란 비중이 비교적 큰 금속으로서 비중이 4~5 이상인 연, 수은, 카드뮴, 크롬 등을 말하며, 주로 도금, 합금제조 등 여러 분야에 광범위하게 사용되고 있으며 그 종류에 따라 발생원이 다양하다.



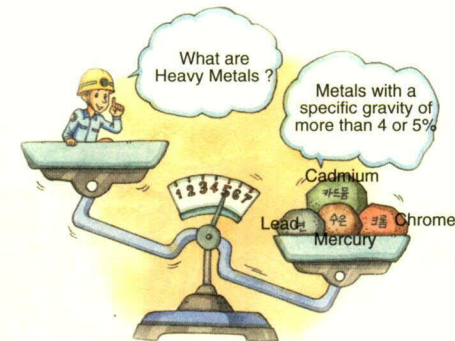
II. Prevention of work Related Illnesses

- 6) Mechanical vibrating tools should be used.
- 7) Handles of vibration tools should not be held too tightly and training should be conducted prior to using for the first time.
- 8) Proper procedures for keeping warm should be established for when the temperature of the workplace is less than 14°C.
- 9) Vibrating work should last no more than 10 minutes at a time and the total amount of time spent on vibrating work should be as short as possible.
- 10) Ear protection should be worn when operating equipment that causes vibrations.
- 11) Exposure to vibrations can be reduced by wearing anti-vibration gloves when operating equipment that causes vibrations.
- 12) Employees handling vibration tools such as air hammer, should periodically receive occupational health examinations.

8. Heavy Metals

8-1 Heavy Metal Toxicities

Heavy metals are metals with a specific gravity of more than four or five, such as lead, mercury, cadmium, chrome, and others. Heavy metals are used in many fields such as plating and alloy manufacturing and their sources of origin vary according to type.



II. 작업관련성 질환

8-2 예방대책

- 1) 중금속 물질 발생원에 국소배기장치를 가동하여 작업자에게 노출되기 전에 옥외 집진기 등 처리장치로 배출한다.
- 2) 작업장 바닥은 불침투성 재료를 사용하고 작업장에 퇴적된 중금속 물질은 즉시 제거하여야 한다.
- 3) 발생원과 작업자를 격리시켜 발생 유해물질이 작업자에게 노출되지 않도록 한다.
- 4) 채용시에는 배치 전 건강진단을 실시하고 정기적인 특수건강진단을 실시하여 중금속에 의한 신체의 이상유무를 확인하여야 한다.
- 5) 개인위생관리를 철저히 하여 피부 및 경구를 통한 체내 유입을 줄여야 한다.
- 6) 개인보호구 착용(방진마스크, 보호앞치마 등)을 철저히 한다.



8-3 작업 시 준수사항

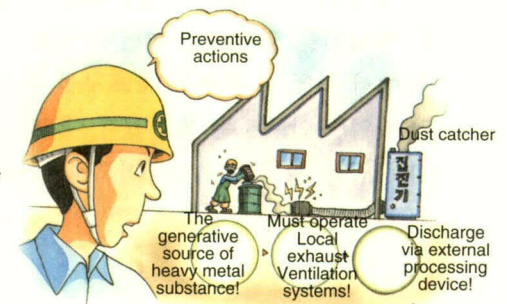
- 1) 국소배기장치가 설치된 장소에서 취급한다.
- 2) 작업전 취급상 주의사항 또는 경고표지를 반드시 숙지한 후 작업에 임한다.



II. Prevention of work Related Illnesses

8-2 Preventive Actions

- 1) Local exhaust ventilation systems should be operated in areas where heavy metals are being used, so as to limit workers' exposure to their harmful effects.
- 2) Workplace floors should be constructed out of impermeable materials and any accumulated heavy metal substances on the floor should be removed immediately.
- 3) Generating sources should be isolated from workers because of potential harmful effects.
- 4) Health examinations should be performed in advance of placement when hiring personnel, and occupational health examinations checking for health status related to heavy metals should be conducted on a regular basis.
- 5) Absorption through the skin and mouth can be reduced by maintaining good personal hygiene.
- 6) PPE should be worn, including dust-proof masks, protective aprons, etc.



8-3 Work Procedures

- 1) Handling of heavy metals should only be carried out in a place installed with local exhaust ventilation system.
- 2) Work should only be performed after fully understanding warning signs and the precautions for handling heavy metals.



Ⅱ. 작업관련성 질환

- 3) 피부에 흡수되는 것을 방지하기 위하여 불침투성 보호의를 착용하여야 하며 작업복, 장갑, 양말 등의 청결을 유지한다.
- 4) 발생원을 밀폐하는 설비나 국소배기장치를 설치하지 아니한 장소에서 작업 시 적절한 보호구를 착용한다.
- 5) 작업장 안에서는 음식섭취, 흡연 등은 삼가한다.
- 6) 중금속 취급자는 정기적으로 특수건강검진을 받도록 하고 검진결과 의사소견에 따라 작업전환 등 적절한 사후조치에 따른다.

9. 근골격계 질환

9-1 근골격계 질환이란

매일 동일한 신체부위를 단순한 동작으로 반복하거나 부적절한 작업자세로 중량물을 취급하는 작업에서 육체적 스트레스가 신체에 누적되어 목·어깨·허리·팔·손·다리의 신경·인대·관절부위에 발생하는 질환을 말한다.



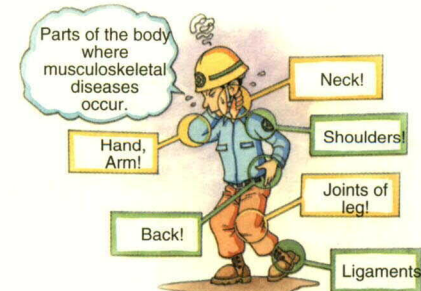
Ⅱ. Prevention of work Related Illnesses

- 3) Impermeable suits should be worn to prevent absorption into the skin and the work clothing, gloves, socks, etc. Should be properly maintained and cleaned.
- 4) Proper PPE should be worn when working in an area not equipped with a facility for enclosing generating sources, or a local exhaust ventilation system.
- 5) Eating and smoking are prohibited in the workplace.
- 6) Persons who handle heavy metals should periodically receive occupational health examinations and proper recommendations based on the examination results and the doctor's opinion, such as a job post transfer, should be followed.

9. Musculoskeletal Diseases

9-1 What is Musculoskeletal Disease?

Musculoskeletal disorders are injuries and disorders of the soft tissues (muscles, tendons, ligaments, joints, and cartilage) and nervous system. They can affect nearly all tissues, including the nerves and tendon sheaths, and most frequently involve the arms and back.



II. 작업관련성 질환

1) 증상

매일 반복하여 사용하는 신체 부위에서 감각마비, 따끔거림, 뻣뻣함, 통증, 경련 등이 초기에는 작업중 발생하며 하룻밤 지나거나 휴식을 취하면 회복된다. 악화되면 하룻밤이 지나거나 휴식을 취하여도 통증이 계속되고 잠을 잘 수 없을 정도로 고통이 계속되며 작업할 수 없게 된다. 일생에 한번 이상 경험하는 요통은 부적절한 자세로 중량물을 들 때 주로 발생한다.

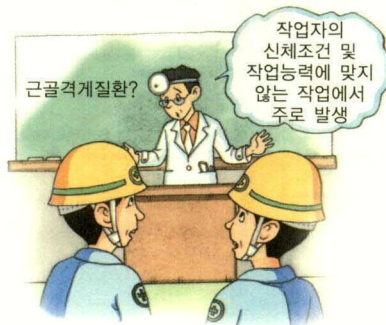


2) 종류

요통, 수근관증후군, 건염, 상관절염, 무릎증후군, 백지증, 방아쇠손가락, 좌골신경통

9-2 근골격계 질환 발생 위험작업

작업방법 및 작업설비가 작업자의 신체조건 및 작업능력에 맞지 않은 다음과 같은 작업에서 근골격계 질환이 주로 발생한다.

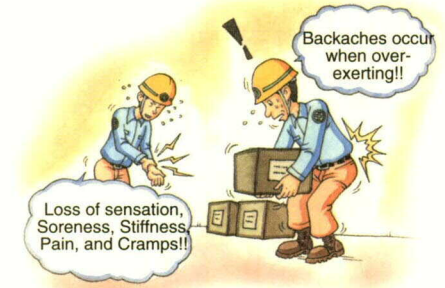


II. Prevention of work Related Illnesses

1) Symptoms

Loss of sensation, soreness, stiffness, pain, and cramps in the specified area(s) on a daily basis.

Sufficient rest or a good night's sleep is usually all that is needed to properly recover. However, symptoms that continue after resting or sleeping, including pain during sleep, should be checked by a doctor.

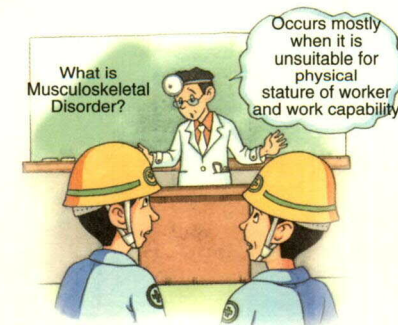


2) Types of Musculoskeletal Diseases

Lumbago, carpal-tunnel syndrome, tendonitis, arthritis, knee syndrome, vibration-induced white finger, trigger finger, sciatic neuralgia

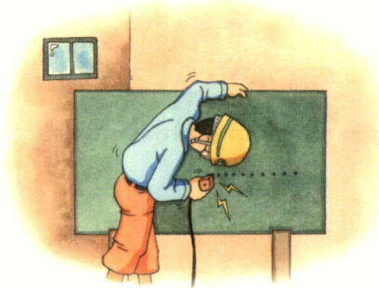
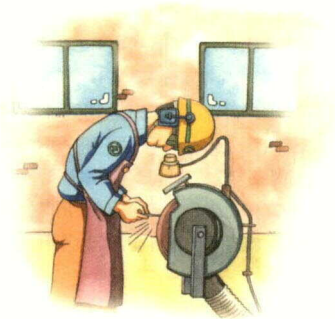
9-2 Types of Work Known to Cause Musculoskeletal Disease

The following situations, based on the working methods and facilities, are not suitable for physical conditions and working capacities of the employee, and may lead to musculoskeletal disease.

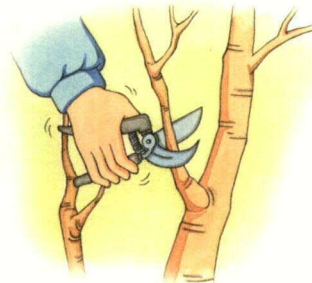
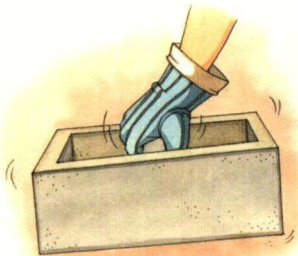


Ⅱ. 작업관련성 질환

1) 부적절한 작업자세를 유지하는 작업

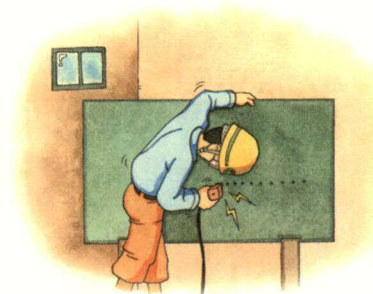
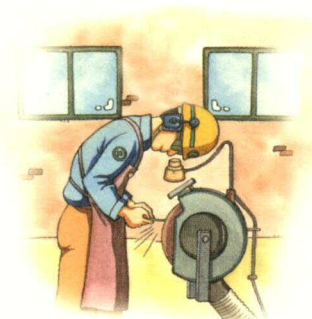


2) 강한 손 힘이 필요한 작업

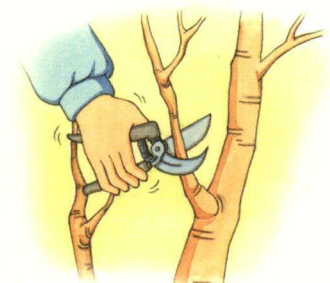
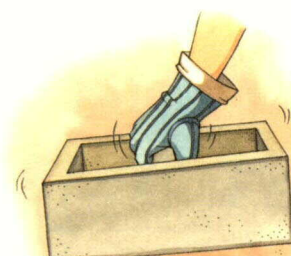


Ⅱ. Prevention of work Related Illnesses

1) Work in which improper posture is maintained.

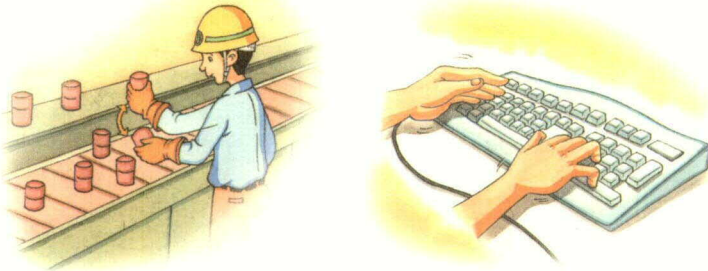


2) Work requiring abnormal amounts of hand strength

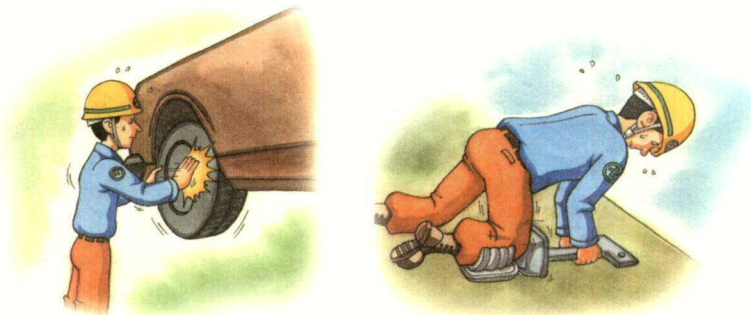


Ⅱ. 작업관련성 질환

3) 반복적인 동작이 필요한 작업

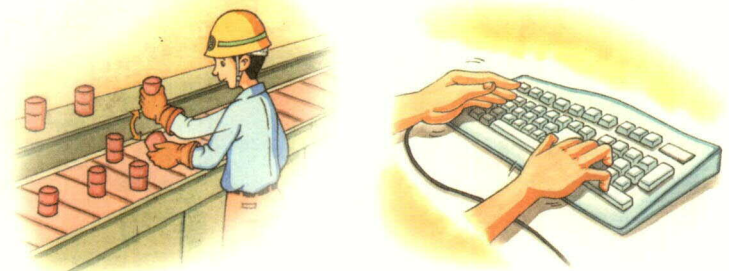


4) 신체 일부를 망치처럼 사용하는 작업

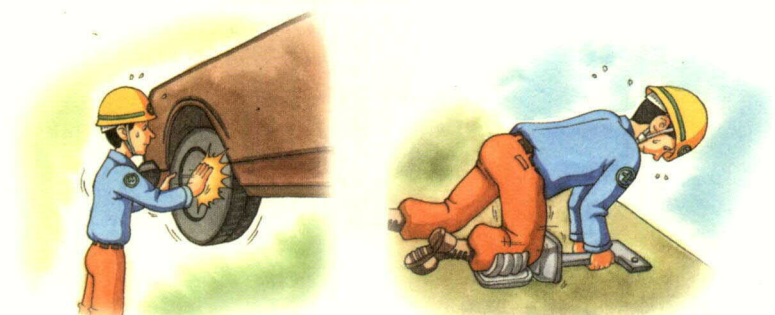


Ⅱ. Prevention of work Related Illnesses

3) Work requiring repetitive operations

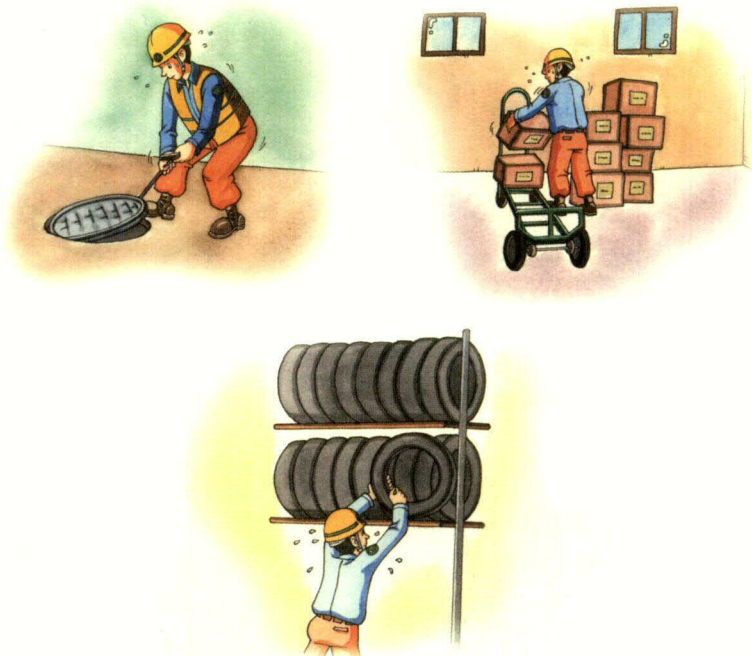


4) Work using the physical body as a hammer

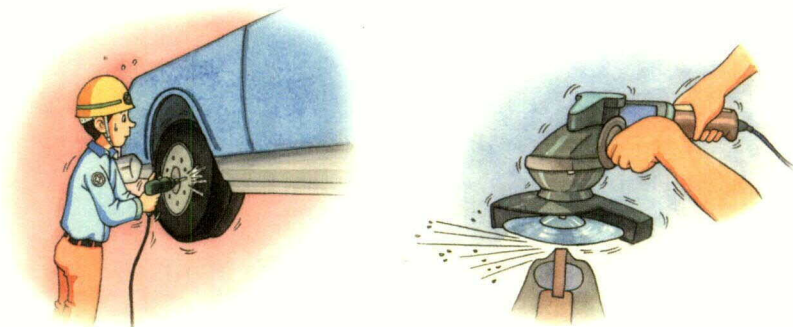


Ⅱ. 작업관련성 질환

5) 중량물 들기 및 운반 작업

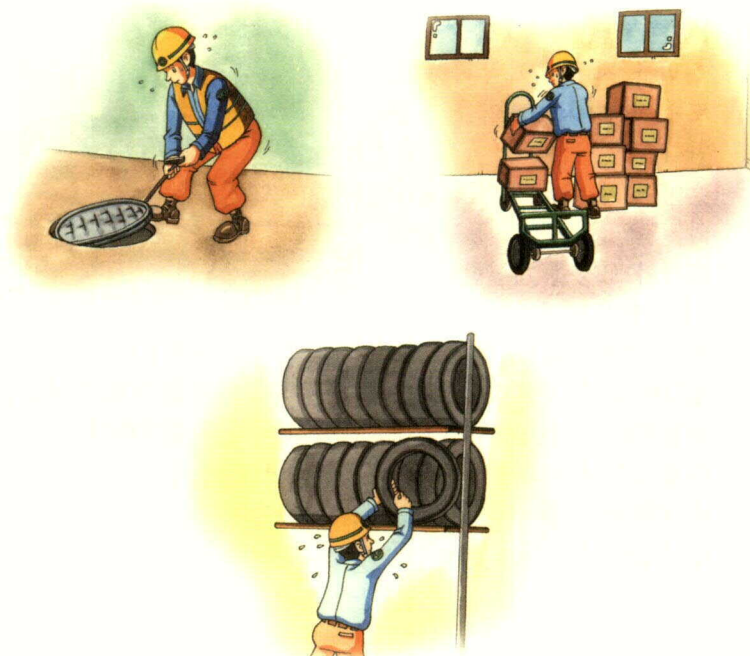


6) 진동공구 사용 작업

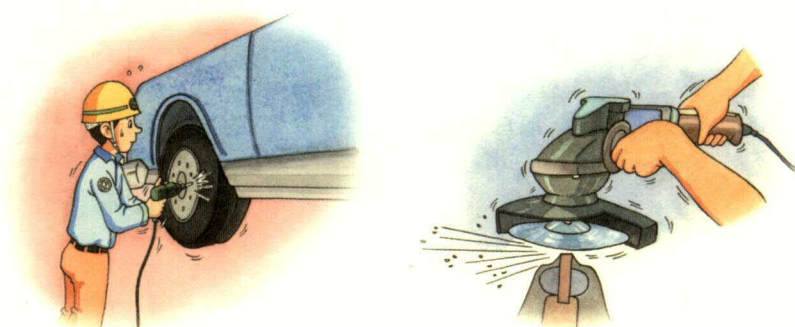


Ⅱ. Prevention of work Related Illnesses

5) Weight lifting and transport work



6) Work using vibration tools



II. 작업관련성 질환

9-3 근골격계 질환 예방

1) 작업환경 및 설비개선

- 허리를 지나치게 굽히지 않도록 작업대 높낮이를 조절한다.
- 손이 닿기 쉬운 위치에 공구와 부품을 두거나 공구함의 크기와 모양을 개선한다.
- 서서 일하는 작업자가 허리와 다리에 부담이 가지 않도록 입식의자를 사용한다.
- 높낮이 조절, 등받이, 팔걸이 등이 부착된 의자를 필요시 사용한다.
- 작업자가 서 있는 바닥에 내충격성 바닥재를 설치한다.
- 작업자의 손의 크기에 맞는 공구를 사용한다.
- 중량물 들기 및 운반 보조설비를 사용한다.
- 공구걸이대를 사용한다.



2) 작업방법 개선

- 여러 번 짧게 휴식시간을 갖는다.
- 동일한 자세를 30분 이상 유지하지 않는다.
- 의자에 앉을 때는 등과 엉덩이를 바짝 붙인다.

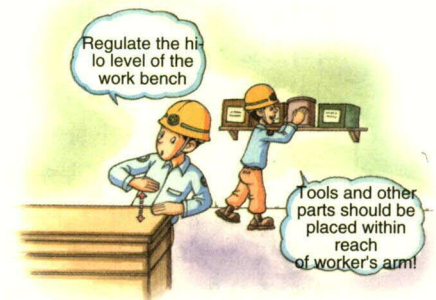


II. Prevention of work Related Illnesses

9-3 Musculoskeletal Disease Prevention

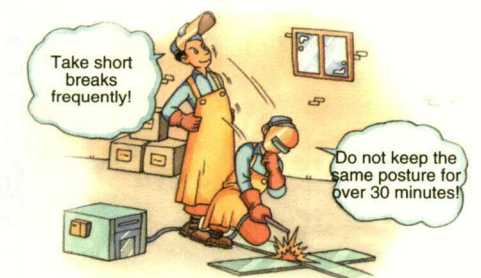
1) Working environment and facilities improvement

- The height of workbenches should be adjusted to prevent excessive bending at the waist.
- Tools and other parts should be placed within reach of worker's arm. The size and shape of the toolbox should be improved.
- A raised chair should be used to prevent excessive stress on the back and legs when performing work that requires employees to stand.
- Chairs with height control, a back, armrests, and other functional parts should be used when appropriate.
- Floors on which employees stand should be installed with anti-fatigue mats.
- Tools suitable to the hand size of the operator should be used.
- Lifting and transport devices should be used.
- Tool hangers should be used.



2) Improvement of Work Methods

- Rest periods should be provided regularly throughout the day.
- The same posture should not be kept for more than 30 minutes.
- The back and hips should be closely attached to the seat when sitting in a chair.



II. 작업관련성 질환

3) 건강관리

- 작업전·후 스트레칭을 실시한다.
- 전신운동과 근육운동을 매일 규칙적으로 한다.
- 장시간 앉아서 근무할 때 1시간마다 일어서서 허리를 풀어준다.
- 목·어깨·손·다리 부위에서 감각마비, 경련, 따끔거림, 뻣뻣함 및 요통이 있을 때 관리자에게 증상을 호소하여 조기에 예방한다.



4) 보호구 착용

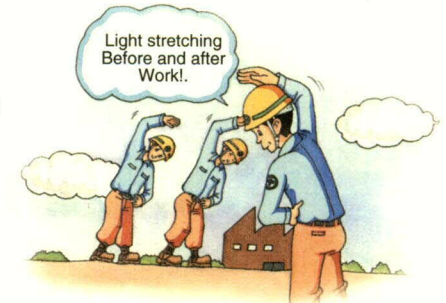
- 손목을 많이 사용하는 단순반복 작업자는 손목보호대를 착용한다.
- 신체의 접촉 스트레스를 예방하기 위하여 무릎보호대 및 어깨보호대를 착용한다.
- 진동공구 사용 시 방진장갑을 착용한다.



II. Prevention of work Related Illnesses

3) Health Care

- Stretching should be performed before and after work.
- Full-length exercise and muscle stretching should be performed daily.
- When working in the sitting position for long periods of time, employees should stand every hour to relax the waist.
- Symptoms such as loss of sensation, numbness, tingling, stiff joints, stiffness, and pain in the neck, shoulders, hands, and legs should be reported to the manager to prevent further injury.



4) PPE Application

- Employees performing simple and repetitive operations mainly involving the wrist should wear wrist protectors.
- Knee and shoulder pads should be worn to prevent stress from physical contact.
- Anti-vibration gloves should be worn when using vibration tools.



Ⅲ. 건설현장에서의 안전

Ⅲ. **Construction Site Safety**

Ⅲ. 건설현장에서의 안전

1. 비계작업

1-1 비계

고소작업에서 작업자가 작업장소에 접근하여 작업을 할 수 있도록 설치하는 작업대를 지지하는 구조물



1-2 비계작업 안전수칙

1) 비계 위에서의 작업

- 정해진 통로, 계단 등을 승강 하여야 한다.
- 안전난간과 교차 가새는 마음대로 해체하지 않는다.
- 비계발판은 마음대로 이동하지 않는다.
- 강풍, 호우, 폭설 등 악천후 시는 작업을 중지한다.
- 고소작업 시에는 안전망이나 안전대를 사용한다.
- 상하에서 동시에 하는 작업을 피하고 동시에 작업 시는 상하 작업자 간에 충분한 협조를하며 작업을 한다.
- 재료, 기구, 공구 등을 올리고 내릴 때에는 달포대 및 달줄을 사용한다.
- 부근의 전력선에는 절연 및 방호조치 또는 단전조치를 확실히 한다.
- 재료 등을 통로상에 방치하지 않는다.

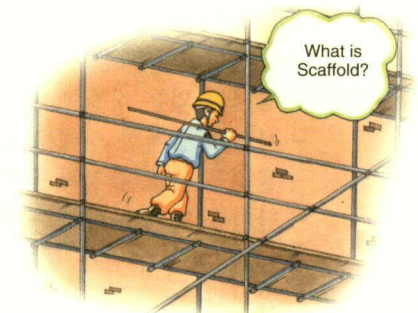


Ⅲ. Construction Site Safety

1. Scaffold Work

1-1 Scaffold

Any temporary elevated platform and its necessary vertical, diagonal, and horizontal members used for supporting workers and materials.



1-2 Safety Rules for Scaffold Work

1) Work on the scaffold

- Specified passages and stairs should be used to reach upper levels.
- Guide rails and diagonally crossed braces should not be randomly taken apart.
- Scaffold footboard should not be moved without permission.
- Work on scaffolding should be discontinued in the case of bad weather such as heavy winds, rain and snow.
- Safety nets or safety belts should be used when work is performed at elevated level.
- In principle, work should not be carried out simultaneously at both upper and lower levels at a worksite.
If it is not possible to avoid such a situation, there should be sufficient cooperation between all employees in both areas.
- Hanging sacks and rope should be used to transport materials, tools and appliances up and down the scaffold.
- The primary power cord in a work area with scaffold should be insulated and safeguard actions should be firmly implemented.
- Tools and materials should not obstruct any pathway.



Ⅲ. 건설현장에서의 안전

2) 이동식 비계의 사용

- 바퀴는 반드시 브레이크가 달린 것을 부착하여 사용한다.
- 승강설비를 사용하여 승강한다.
- 경사가 있는 장소에서는 사용하지 않는다.
- 사람이 승차한 상태로 절대 이동하지 않는다.
- 물건을 들고 승강하지 않는다.
- 난간을 멧대로 해체하지 않는다.
- 비계 위에서 몸을 내밀고 작업하지 않는다.



2. 가설통로

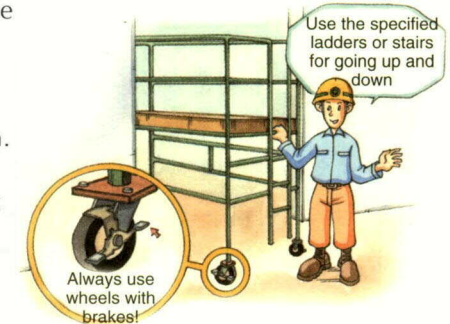
- 1) 지정된 장소로만 좌측 통행한다.
- 2) 통행로를 통행할 때는 긴급한 경우를 제외하고는 뛰어가지 않는다.
- 3) 지상에 설치된 시설물 위를 통행할 때는 지정된 통로를 따라 추락에 유의하면서 통행한다.
- 4) 출입문을 개폐할 경우 반대편 출입자와 충돌을 대비하여 서서히 개폐한다.



Ⅲ. Construction Site Safety

2) Rules for Using Portable Scaffold

- Brakes should be attached to wheels.
- Use the specified ladders or stairs for going up and down.
- Do not use areas with a slope.
- Movement of the scaffold should not be allowed when a person is on it.
- Do not ride up and down the scaffolding while holding objects.
- Guide rails should not be removed without permission.
- When performing work on scaffold, workers should not extend or protrude their bodies from the scaffold frame.



2. Temporary Pathways

- 1) When moving, keep to the left and only use designated passages.
- 2) Running is not permitted in passage areas, except in emergency cases.
- 3) When walking at elevated heights, use designated walkways, taking precautions against falls.
- 4) Care should be taken when opening and closing so as not to collide with persons entering from the other side.



Ⅲ. 건설현장에서의 안전

3. 이동식 사다리

- 1) 벽면 상부로부터 최소한 1미터 이상 연장되어 설치한다.
- 2) 상부와 하부가 움직이지 않게 고정한다.
- 3) 부서지기 쉬운 벽돌 등을 받침대로 사용하지 않는다.
- 4) 출입문 주위에 사다리를 설치할 경우에는 반드시 감시자를 배치한다.
- 5) 금속사다리는 전기설비가 있는 곳에서 사용하지 않는다.
- 6) 몸의 중심을 사다리로부터 이격시켜서는 안된다.



4. 개구부

- 1) 개구부 주위에서 작업을 할 경우 추락에 주의한다.
 - 난간, 뚜껑 등을 마음대로 해체하여서는 안된다.
 - 작업상 부득이하여 현장책임자 지시로 난간을 해체한 경우, 작업이 끝나는 즉시 원상태로 복구하여야 한다.
 - 개구부에서 물건을 들어올릴 때는 안전대를 사용하여야 한다.
- 2) 개구부에서 물건을 떨어뜨려서는 안된다.



Ⅲ. Construction Site Safety

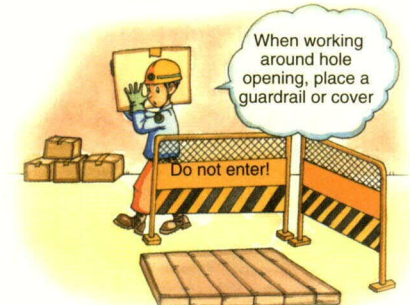
3. Portable Ladders

- 1) Portable ladders should extend at least one meter from the upper part of a wall.
- 2) Portable ladders should be fixed to prevent movement of the upper and bottom parts.
- 3) Do not use materials such as bricks for support, as they are likely to brake.
- 4) Persons serving as lookouts should always be present when a ladder is being used around entrances and exits.
- 5) Metallic ladders should not be used in areas where electric facilities are located.
- 6) When on a ladder, the center of the body should always remain positioned between the ladder's two vertical posts.



4. Open areas

- 1) When working around open areas, employees should always be mindful to prevent against falls.
 - Guide rails and covers should not be randomly taken apart or moved.
 - If an onsite supervisor calls for the disassembly of a guard/guide rail in order to carry out a particular job, the rail should be reassembled immediately after the work is completed.
 - Safety belts should be worn when lifting any object from an opening.



- 2) Objects should not be dropped from/into/through any opening.

Ⅲ. 건설현장에서의 안전

5. 안전대 착용

5-1 착용해야 할 작업

- 1) 비계 및 철골설치, 거푸집 조립·해체·변경작업
- 2) 개구부에서의 작업, 화물을 올리거나 내리는 작업
- 3) 비탈면 흙깎기, 댐 및 용벽에서의 작업



5-2 안전대 사용시 주의사항

- 1) 사용 전 점검 실시
- 2) 높이 2미터 이하라도 착용을 고려
- 3) 안전대는 허리에 착용



Ⅲ. Construction Site Safety

5. Light Weight Swing Type Safety Belt Use

5-1 Types of Work Requiring the Use of Safety Belts

- 1) Work involving the assembly, disassembly and moving of scaffolding, steel bars and forms.
- 2) Work near open areas and work involving the lifting and transport of cargo.
- 3) Soil cutting on the slope face, work on dams, and retaining work.



5-2 Precautions for Using Safety Belts

- 1) Inspections should be performed prior to using.
- 2) The wearing of safety belts should be considered even in situations where the height is less than 2 meters.
- 3) Light weight swing type safety belts should be worn.



Ⅲ. 건설현장에서의 안전

6. 철근조립 및 운반

6-1 철근운반

- 1) 긴 철근을 두사람이 1조가 되어 같은 쪽의 어깨에 메고 운반한다.
- 2) 양끝을 묶어서 운반한다.
- 3) 1회 운반시 1인당 무게는 25kg 정도로 한다.
- 4) 내려놓을 때는 천천히 놓고 던지지 않도록 한다.
- 5) 공동 작업시는 신호에 따라 작업한다.



6-2 기계운반

- 1) 철근 다발을 묶은 와이어는 항상 2줄이 겹치게 한다.
- 2) 철근 다발을 부득이 새로 달기를 할 경우에는 반드시 포대나 상자를 받쳐서 철근이 빠져나가지 않도록 한다.
- 3) 달아올리는 부근에는 사람의 출입을 금지시킨다.
- 4) 올리거나 내릴 때에는 신호수를 배치시켜 신호에 의해 운반한다.



Ⅲ. Construction Site Safety

6. Steel Bar Assembly and Transport

6-1 Steel Bar Transport

- 1) Two persons should work as a team and transport should be carried out by carrying the long bar on the shoulders, with each person using the same side of shoulder.
- 2) Both ends should be secured prior to transporting.
- 3) The maximum weight per person should be approximately 25kgs for one trip.
- 4) Object(s) should be slowly placed on the ground after being moved. Avoid throwing or tossing the object(s).
- 5) In case of group work, signals should be used to coordinate movement.



6-2 Machine Transport

- 1) Steel bundles should always be overlapped with two lines.
- 2) When vertically lifting a bundle of steel bars, use the sack or box so the steel bars do not fall.
- 3) Unauthorized employees should not be in the work area.
- 4) A person should be used for signaling purposes when lifting up and down.



Ⅲ. 건설현장에서의 안전

7. 콘크리트 타설작업

7-1 콘크리트 타설작업 시 준수사항

- 1) 콘크리트 펌프호스의 조인트 부분 연결상태를 확인 후 작업한다.
- 2) 펌프 선단부 작업자는 반동을 하지 않도록 주의한다.
- 3) 콘크리트 펌프의 배관 작업 시 주위상황을 파악하고 안전대 착용 후에 작업한다.
- 4) 타설장치 조작자와 호스 선단부 작업자와 신호방법을 협의한다.
- 5) 콘크리트 펌프의 수직 배관 조인트 작업은 안전대를 사용한다.



7-2 리어카에 의한 타설작업

- 1) 리어카의 통로는 작업자의 이동 통로와 구분되어야 한다.
- 2) 리어카로부터 콘크리트를 부울 때는 전락이나 추락을 방지할 수 있는 속도를 유지한다.
- 3) 진동기의 전선은 캡타이어를 사용하고 접지는 확실히 한다.
- 4) 리어카, 삽, 운반기구 등은 작업 종료 시 콘크리트를 제거하고 지정된 장소에 보관한다.

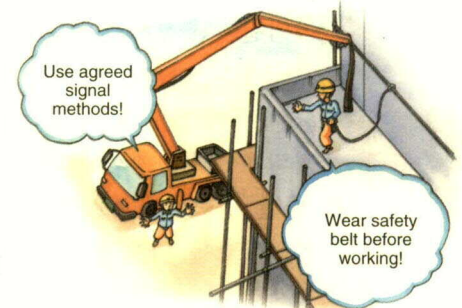


Ⅲ. Construction Site Safety

7. Concrete-Casting Work

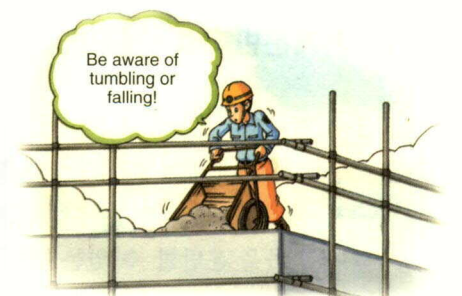
7-1 Precautions for Casting Concrete

- 1) Work should begin only after checking the connection status on the joint of the concrete pump hose.
- 2) Workers at the front end of the pump should not shift their position.
- 3) Work using concrete pump piping should only begin after the surrounding area has been checked and all workers are wearing their safety belts.
- 4) Concrete-casting equipment operators and workers at the front end of the hose should agree upon a set of signals to be used to coordinate their work.
- 5) Workers coupling the vertical piping joints of a concrete pump work should wear safety belts.



7-2 Concrete-Casting Work Using Handcarts

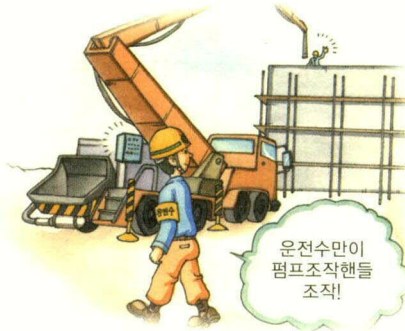
- 1) Handcart passageways should be separate from workers' passageways.
- 2) An even speed should be used to push/pull the handcart in order to prevent tumbling or falling.
- 3) Cabtyre cable should be used for the cable of the vibrator and the ground should be clearly performed.
- 4) Concrete should be removed from handcarts, shovels, and transport tools, and all equipment should be stored in designated places when work is completed.



Ⅲ. 건설현장에서의 안전

7-3 펌프카에 의한 타설작업

- 1) 펌프 조작핸들을 운전수 이외의 작업원이 조작하지 않는다.
- 2) 송급관의 이음은 확실히 연결하고 배관이 통로 및 작업장소에 근접되게 설치하지 않는다.
- 3) 배관을 빼어낼 때 조금씩 빼어 콘크리트를 나오게 하여 압력을 서서히 개방시켜야 한다.
- 4) 공기 세정 시에는 반드시 후렉시블 호스를 떼어내야 한다.
- 5) 슈트 굴절부분에 대한 협착 위험을 주지시키고 이를 통제하여야 한다.



8. 기계운반작업

8-1 리프트

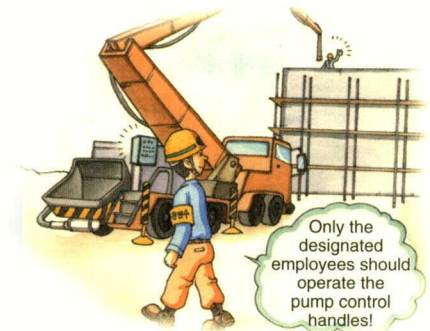
동력을 사용하여 가이드레일을 따라서 상·하로 움직이는 운반구를 매달아 화물을 운반할 수 있는 설비이다.



Ⅲ. Construction Site Safety

7-3 Concrete-Casting Work Using Pump Cars

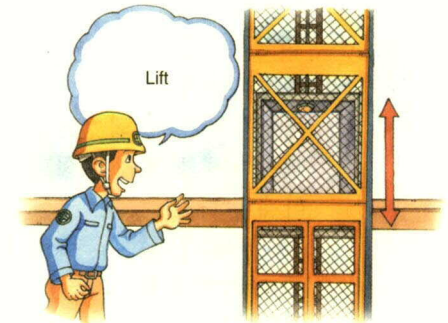
- 1) Only designated employees should operate pump control handles.
- 2) The joints on the feed pipe should be clearly connected and piping should not be laid too close to the passage way or the workplace.
- 3) When taking out the pipes from the concrete pump, concrete remaining in a pipe should be gradually removed by discharging it bit by bit, so as to release the pressure of the pipe slowly.
- 4) Flexible hoses should be always removed when cleaning the pipe by air.
- 5) Employees should always be mindful not to get caught in, under, or between the bending areas of the chute and appropriate measures should be taken to prevent such occurrences.



8. Transport Work using Machine

8-1 Lift

An electric powered lift transports cargo by moving a hanging cage up and down along the guide rails.



Ⅲ. 건설현장에서의 안전

• 작업안전수칙

- 물건의 적재상태를 확인하고, 적재량을 초과하여서는 안된다.
- 본체 문은 정확히 닫아 안전걸이를 완전히 걸고 운행한다.
- 상·하 서로 신호 후 운전한다.
- 운전 중 이상이 발생할 경우 스위치를 끄고 즉시 책임자에게 알린다.

* 지정된 운전자 외는 조작하여서는 안된다.



8-2 호이스트 · 크레인

동력을 사용하여 중량물을 매달아 상·하 및 좌우로 운반하는 것을 목적으로 하는 기계 또는 기계장치이다.

• 작업수칙

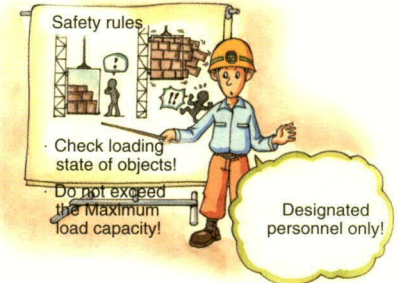
- 사람의 탑승을 절대 금한다.
- 화물은 정격하중 이상 적재를 하여서는 안된다.
- 운전자외의 신호는 단 한 사람만 해야하며 신호는 명확하고 확실하게 한다.
- 와이어로우프는 충격에 약하므로 급격하게 감아 올리거나 감아 내려서는 안된다.
- 체인이나 로우프가 비뚤어진 채로 매달아 올리지 않는다.



Ⅲ. Construction Site Safety

• Work Safety Rules

- Loading status of objects should be checked. Maximum load capacity should not be exceeded.
- Before moving the cage, the door of the main body should be closed properly and the locking hook should be locked.
- Employees stationed at both the top and bottom of the lift should provide proper signals to guide the operation of the cart.
- If problems occur during lift operation, the lift should be turned off and the problem should be reported to a supervisor.
- * Only designated employees should operate the lift.

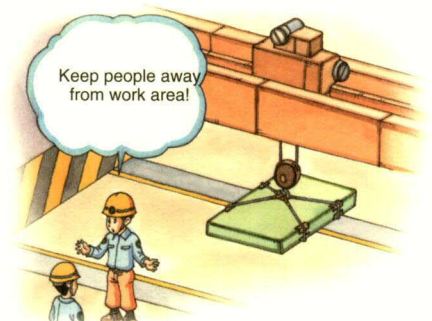


8-2 Hoist / Crane

Hoists and cranes are machines or mechanical devices that convey heavy cargo vertically and horizontally using power.

• Operation Rules

- Employees should not board a crane or hoist.
- The maximum cargo capacity should not be exceeded.
- Signals provided to the cranes/hoist operator should only be given by one person. Signals should be clearly and properly given.
- Crane and hoist operators should not roll-up or lower the crane/hoist wire rapidly, as the impact may cause the wire to snap or break.
- Lifting should not be performed when the chains and / or wire are twisted.



Ⅲ. 건설현장에서의 안전

- 물건 중심부에 후크를 위치하였는지 확인 한 후 권상 신호를 해야 한다.
- 작업반경 내에는 사람의 접근을 금하며 작업물을 작업자의 머리 위나 통로 위에 위치하지 않게 한다.
- 고장 시에는 운전을 즉시 중지하고 해당 부서에 통보하여 조치를 받아야 한다.
 - * 지정된 운전자 이외에는 조작을 하여서는 안된다.

Ⅲ. Construction Site Safety

- The signal to lift the cargo should be given only after the placement of the hook has been checked to verify that it is in the center of the object being lifted.
- Work areas where cranes and hoists are being operated are off limits to those employees not directly involved in the operation. Objects being lifted should not be held directly over pathways or the heads of any employees.
- If problems occur while operating the crane/hoist, all operations should be stopped and the problem should be immediately reported to a supervisor.
 - * Only designated employees should operate the crane/hoist.

IV.
Personal Information
Regarding
Worker's Benefits/
Compensation

IV. Personal Information Regarding Workers' Benefits/Compensation

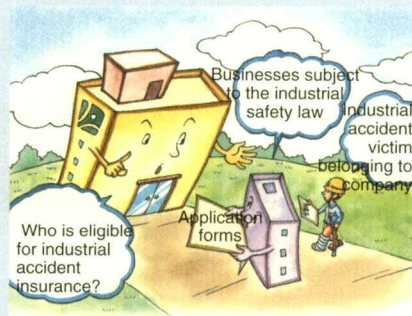
A. Industrial Accident Compensation Insurance

1. Compensation Guidelines of Industrial Accident Compensation Insurance

1-1 Eligibility

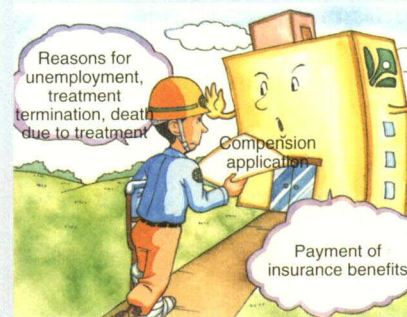
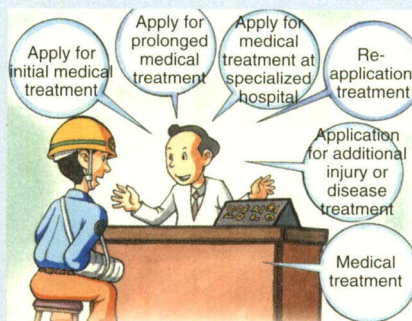
- 1) When a business or employee belonging to the corresponding company subject to Industrial Accident Compensation Insurance is injured, damaged, becomes ill or dies as a result of work performed.

Note : More than four days of medical treatment is necessary to be eligible for Industrial Accident Compensation Insurance in cases of injury or disease.



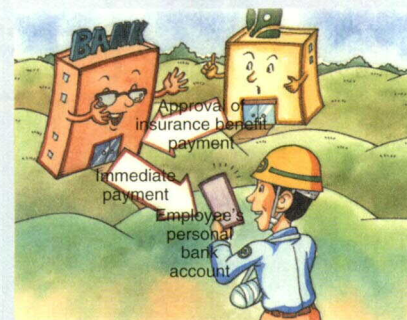
2) Medical Treatment

- Initial treatment:
After being injured as a result of work performed.
- Prolonged treatment:
When initial treatment period is extended for a period of time.
- Hospital transfer:
When patient is transferred from one hospital to another hospital.
- Reapplication of treatment:
When the injury or disease reoccurs after completion of the initial treatment.
- Additional injury or disease treatment:
When a new injury or disease occurs in addition to the original complication.



3) Compensation

Employees or employee families may require compensation as a result of unemployment due to treatment, completion of treatment, or death.



- 4) Insurance Compensation Payment
The Korea labor Welfare Corporation headquarters bank will send the money directly to the employee's personal bank account, even when the payment decisions have been made at branch offices.



1-2 Industrial Accident Compensation Insurance Coverage

- 1) Treatment Coverage Compensation is paid in kind, covering the costs involved throughout the entire length of the treatment process for work related illness/injuries.
- Compensation Details: Cost related to diagnoses, medicine, or diagnostic material and prosthesis are covered.

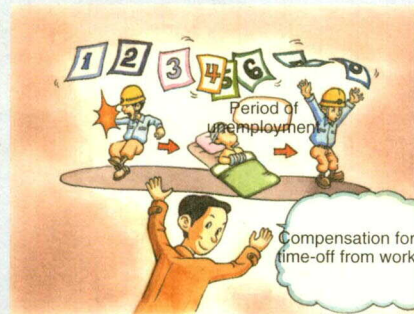
IV. Personal Information Regarding Workers' Benefits/Compensation

A. Industrial Accident Compensation Insurance

Treatment of surgery and other measures, hospitalization, transfers, and other relevant costs required during treatment as specified by the Ministry of Labor, i.e. re-treatment, rural sanatorium, etc., are covered.

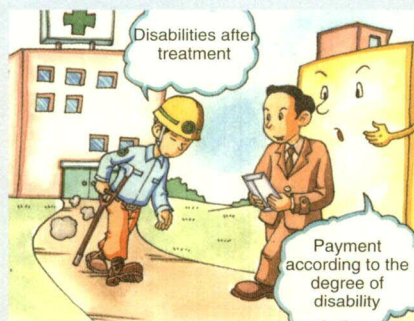
- 2) Compensation for Time - off from Work Compensation payments are made to replace lost wages during time-off from work as a result of work related injuries / illnesses.

- Compensation amount:
Approximately 70% of the employee's average wages for each day the employee cannot work.



• Compensation Pension for the Sick and Injured: If the injury/illness grade is between 1 and 3, and the employee has not recovered after two years of treatment and no work, the compensation benefits are upgraded and the employee may receive a pension.

- 3) Disability Compensation Distributed in accordance with the degree of disability resulting from corresponding accidents when employee continues to be disabled after treatment of a work related accident.



Classification	Lump-sum	Annual Allowance
Reason for Compensation	When disability grade is between 4 ~ 14 and disability remains	When disability between grades 4 ~ 14 continues (4 ~ 7 is optional)
When to File Request	After treatment is completed	Four (4) times per year, from completion of treatment until death
Compensation Details	Corresponding amount of 1,012 days to 55 days of the average wage according to the disability degree	Corresponding amount of 329 days to 138 days of the average wage according to the disability degree

- 4) Survivors' Compensation, Funeral Costs Survivors' Compensation is supplied to the family of the deceased employee and funeral costs are covered in the case of work related death.

- Survivors' Compensation Distribution Recipients: Spouse, children, parents grandchildren, grandparents, and siblings (brother, sister), in this order. Allowance can be paid in a lump sum, or in annual distributions according to the selection of the recipient's wishes.

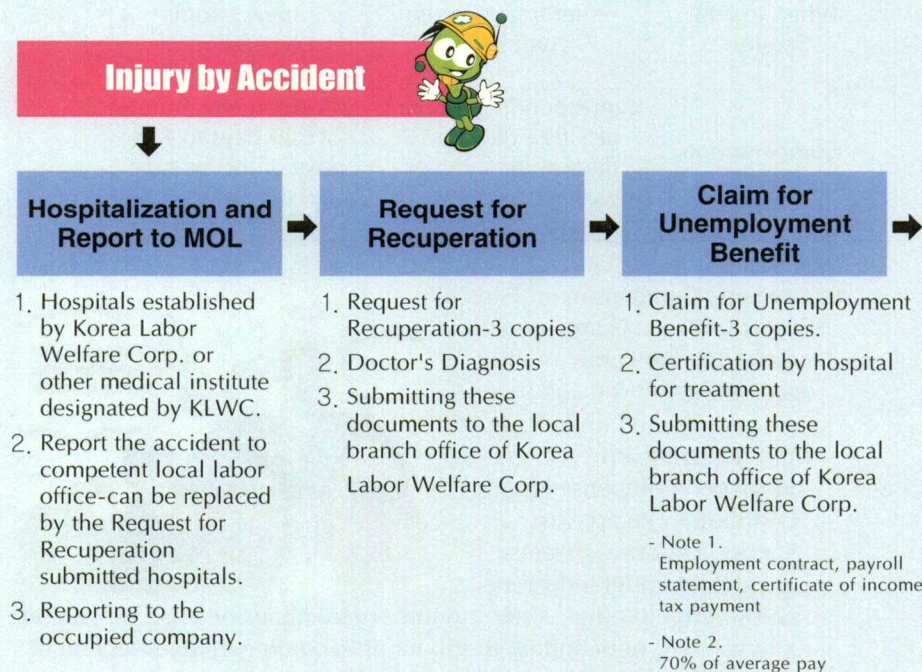
- Lump sum: Immediately after death. 1,300 days of average wage.
- Pension: Distributed four times per year (Feb, May, Aug., and Nov.), until the death of the recipient (Basic amount + Additional Amount).
 - Basic amount : Approximately 47% of the employee's basic annual salary amount (average wage x 365 days)
 - Additional amount : 5% of above states "Basic Amount" per additional recipient (maximum additional amount is four persons, or 20%).
- Funeral cost : Compensation is equal to 120 days of the deceased employee's average wages.



IV. Personal Information Regarding Workers' Benefits/Compensation

A. Industrial Accident Compensation Insurance

2. Follow up Procedures in Case of Industrial Accidents



IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

1. Ministry of Labor

Office	Location	Tel
Seoul Regional Administration	13-1 Hanseong Plaza Heungin-dong Jung-gu, Seoul	02-2250-5770
Seoul Gangnam Local Labor Office	1022-10 Bangbae 3-dong Seocho-gu, Seoul	02-598-1671
Seoul Eastern Local Labor Office	160 Grand Plaza Bangi-dong, Songpa-gu, Seoul	02-413-4949
Seoul Western Local Labor Office	156-1 Hanilcolor BD Yeomri-dong Mapo-gu, Seoul	02-701-1320
Seoul Southern Local Labor Office	121-103 Dangsang-dong Yeongdeungpo-gu, Seoul	02-2675-9101
Seoul Northern Local Labor Office	45-1 Yongdu BD Yongdu-dong Dongdaemun-gu, Seoul	02-963-0415
Seoul Gwonak Local Labor Office	222-30 Guro 3-dong Guro-gu, Seoul	02-3281-5021
Chuncheon Local Labor Office	757 Hyoja 3-dong Chuncheon-si, Gangwon-do	033-241-1916
Gangneung Local Labor Office	1117-14 Ponam-dong Gangneung-si, Gangwon-do	033-646-2515
Wonju Local Labor Office	Jeongbuhapdongcheongsa Dangye-dong Wonju-si, Gangwon-do	033-745-0009
Taebaek Local Labor Office	25-14 Hwangji-dong Taebaek-si, Gangwon-do	033-552-8603
Youngwol Local Labor Office	976-1 Yeongheung 5-ri Yeongwol-eup Yeongwol-gun, Gangwon-do	033-374-1724
Busan Regional Administration	1470-1 Yeonsan2-dong Yeonje-gu, Busan-si	051-851-7420
Busan Dongnae Local Labor Office	529-5 Myeongryun-dong Dongnae-gu, Busan-si	051-552-3025

Office	Location	Tel
Busan Northern Local Labor Office	761-2 Deokpo 2-dong Sasang-gu, Busan-si	051-305-4949
Changwon Local Labor Office	7-5 Yongho-dong Changwon-si, Gyeongsangnam-do	055-289-6609
Ulsan Local Labor Office	126-1 Ok-dong Nam-gu, Ulsan-si	052-228-1881
Yangsan Local Labor Office	695-6 Bukbu-dong Yangsan-si, Gyeongsangnam-do	055-387-0805
Jinju Local Labor Office	285-1 Sangdae-dong Jinju-si, Gyeongsangnam-do	055-758-1752
Tongyeong Local Labor Office	356-130 Mujeon-dong Tongyeong-si, Gyeongsangnam-do	055-643-2467
Daegu Regional Administration	1372-1 Gwaneum-dong Buk-gu, Daegu-si	053-321-6712
Daegu Southern Local Labor Office	78-2 Sincheon 3-dong Dong-gu, Daegu-si	053-753-4909
Pohang Local Labor Office	940 Daejam-dong Nam-gu Pohang-si, Gyeongsangbuk-do	054-275-6875
Gumi Local Labor Office	51 Songjeong-dong Gumi-si, Gyeongsangbuk-do	054-456-4676
Yeongju Local Labor Office	36 Hyucheon 3-dong Yeongju-si, Gyeongsangbuk-do	054-634-0913
Andong Local Labor Office	715-3 Taehwa-dong Andong-si, Gyeongsangbuk-do	054-852-0009
Gyeongin Regional Administration	1113 Guwol 3-dong Namdong-gu, Incheon-si	032-421-4721
Incheon Northern Local Labor Office	1077-1 Gyesan 3-dong Gyeyang-gu, Incheon-si	032-556-0933
Suwon Local Labor Office	528-5 Yuljeon-dong Jangan-gu Suwon-si, Gyeonggi-do	031-259-0251

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

1. Ministry of Labor

Office	Location	Tel
Bucheon Local Labor Office	1032-2 Jung4-dong Wonmi-gu Bucheon-si, Gyeonggi-do	032-323-9823
Anyang Local Labor Office	204-6 Anyang 7-dong Manan-gu Anyang-si, Gyeonggi-do	031-466-2622
Ansan Local Labor Office	526-1 Gojan-dong Ansan-si, Gyeonggi-do	031-412-1970
Uijeongbu Local Labor Office	526-1 Yonghyeon-dong Uijeongbu-si, Gyeonggi-do	031-746-0270
Seongnam Local Labor Office	2550 Sinheung 3-dong Sujeong-gu Seongnam-si, Gyeonggi-do	031-749-0270
Gwangju Regional Administration	1-4 Gwangsan-dong Dong-gu, Gwangju-si	062-227-3814
Jeonju Local Labor Office	807-8 Inhu 3-ga Deokjin-gu Jeonju-si, Jeollabuk-do	063-245-2088
Iksan Local Labor Office	626-1 Eoyang-dong Iksan-si, Jeollabuk-do	063-839-0031
Gunsan Local Labor Office	852-1 Jochon-dong Gunsan-si, Jeollabuk-do	063-452-4531
Mokpo Local Labor Office	976 Sang-dong Mokpo-si, Jeollanam-do	061-283-7814
Yeosu Local Labor Office	111-1 Munsu-dong Yeosu-si, Jeollanam-do	061-651-6885
Jeju Local Labor Office	417-3 Ido 2-dong, Jeju-do	064-755-0453
Daejeon Regional Administration	1303 Dunsan-dong Seo-gu, Daejeon-si	042-480-6301
Cheongju Local Labor Office	1427 Bunpyeong-dong Heungdeok-gu Cheongju-si, Chungcheongbuk-do	043-299-1114
Cheonan Local Labor Office	900 Dujeong-dong Cheonan-si, Chungcheongnam-do	041-556-2861

Office	Location	Tel
Chungju Local Labor Office	21-38 Bongbang-dong Chungju-si, Chungcheongbuk-do	043-845-7766
Boryeong Local Labor Office	58-6 Myeongcheon-dong Boryeong-si, Chungcheongnam-do	041-934-0009

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

2. Korea Occupational Safety and Health Agency (KOSHA)

Office	Location	Tel
Seoul Regional Office	14~15 Floor yuhanyanghaeng BD 49-6 Daebang-dong Dongjak-gu, Seoul	02-828-1691
Seoul North Area Office	7~8 Floor Uri BD 10 Bongnae-dong 1-ga Jung-gu, Seoul	02-3783-8350
Uijeongbu Area Office	5 Floor Solbeot BD 567-1 Uijeongbu 2-dong Uijeongbu-si, Gyeonggi-do	031-826-6091
Incheon Area Office	491 Gajeong-dong Seo-gu, Incheon-si	032-5707-290
Suwon Area Office	13 Floor 12, Gyeonggijungsogiep- jonghapjiwoncenter San111-8 lui-dong Paldal-gu Suwon-si, Gyeonggi-do	031-259-7161
Ansan Area Office	3 Floor Kiupbank BD 519 Gojan-dong Ansan-si, Gyeonggi-do	031-414-0049
Chuncheon Area Office	2 Floor Daehangyowongongjehoegwan 513 Onui-dong Chuncheon-si, Gangwon-do	033-243-8311
Busan Regional Office	1486-49 Banyeo 1-dong Haeundae-gu, Busan-si	051-5200-591
Daegu Area Office	Beomsanggong BD 1205-1 Nowon 3-ga Buk-gu, Daegu-si	053-609-0561
Gumi Area Office	3 Floor Samwon BD 34-2 Songjeong -dong Gumi-si, Gyeongsangbuk-do	054-450-1161
Changwon Area Office	7-3 Yongho-dong Changwon-si, Gyeongsangnam-do	055-269-0560
Ulsan Area Office	2 Floor Kookminbank BD 615-8 Dal-dong Nam-gu, Ulsan-si	052-266-0560
Pohang Area Office	6 Floor Hwangje BD 703-30 Jukdo2-dong Buk-gu Pohang-si, Gyeongsangbuk-do	054-271-2006
Gwangju Area Office	8 Floor Gwangjumuyeokhoegwan BD 1589-1 Usan-dong Gwangsan-gu, Gwangju-si	062-949-8750

Office	Location	Tel
Daejeon Area Office	449-7 Ojeong-dong Daedeok-gu, Daejeon-si	042-627-7017
Cheongju Area Office	Hanguktongsin 1171 Gagyong-dong Heungdeok-gu Cheongju-si, Chungcheongbuk-do	043-2307-115
Cheonan Area Office	3,4 Floor LGhaipeuraja BD 721-8 Seongjeong-dong Cheonan-si, Chungcheongnam-do	041-579-8901
Jeonju Area Office	4 Floor Jonghapcheongsang Nodongbu 807-8 1ga Inhu-dong Deokjin-gu Jeonju-si, Jeollabuk-do	063-240-8561
Yeosu Area Office	1285 Seonwon-dong Yeosu-si, Jeollanam-do	061-689-4917
Jeju Area Office	2 Floor Daeshin BD 251-1 Yeondong Jeju-si, Jeju-do	064-747-5431~3
Yeongdong Area Office	Seongho BD 173 Okcheon 2-dong Gangneung-si, Gangwon-do	033-644-3821~2
Yangsan Area Office	6 Floor Geuraendeu BD 483-14 Bukbu -dong Yangsan-si, Gyeongsangnam-do	055-372-6911

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

3. Korea Labor Welfare Corporation (KLWC)

Office	Location	Tel / Fax
Seoul Regional Headquarters	Hansung plaza BD 13-1 Heungin-dong Jung-gu, Seoul	02-2230-9400
Gangnam Seoul	Daijong BD 143-38 Samsung-dong Kangnam-gu, Seoul	02-3459-7280
Seocho Center	Gusan tower BD 3250 Bangbae 2-dong Seocho-gu, Seoul	02-6250-7200
Eastern Seoul	Worldtower BD 7-25 Shincheon-dong Songpa-gu, Seoul	02-3433-1499
Seongdong Center	Gaepung BD 656-766 Seongsu 1-ga 2-dong Seongdong-gu, Seoul	02-460-3500
Western Seoul	Gu plaza sinsu-dong Mapo-gu, Seoul	02-2077-0114
Southern Seoul	Dongyang Tower 93-1 4-street Dangsang-dong Yeongdeungpo-gu, Seoul	02-2165-3100
Northern Seoul	Girin BD 1080 Gileum 3-dong Seongbuk-gu, Seoul	02-9448-114
Kwanak Seoul	Sukchon BD 1655-24 Sillim-dong Gwanak-gu, Seoul	02-2109-2200
Chuncheon	Handuk Life BD 2nd Floor 4-1 Yosung-dong Chuncheon, Kwanwon-do	033-2406-114
Gangneung	Korea Leisure Town BD 1117-13 Ponam-dong Gangneung Gangwon-do	033-6409-114
Wonju	74-5 Usan-dong Gangwon-do	033-7492-300
Taebak	2/5 274-647 Hwangyun-dong Taebak, Gangwon-do	033-5500-600
Youngwol	Korea Telecom BD 950-5 Youngheung-ri Youngwol-Yeub Youngwol-Gun, Gangwon-do	033-3716-114
Busan Regional Headquarters	1145-1 Choryang 3-dong Dong-gu, Busan	051-6610-114

Office	Location	Tel / Fax
DongBusan Center	Gumho Life BD 91-5 Buzeon 1-dong Jin-gu, Busan	051-8014-114
Dongrae Busan	Daehan Life BD 510-6 Myungryun-dong Dongrae-gu, Busan	031-5503-114
Northern Busan	Hanvit BD 546-11 Gwoibub-dong Sasang-gu, Busan	051-3208-114
Changwon	2 Floor Korea Real Estate Corporation 4-2 Yongho-dong Changwon, Gyeongnam	055-2680-114
Ulsan	Gongok B/D 252-9 Ok-dong Nam-gu, Ulsan	052-2264-114
Yangsan	483-4 Bukbu-dong Yangsan, Gyeongnam	055-3808-333
Jinju	Ivi tower II 414-10 chiram-dong Jinju, Gyeongnam	055-7600-114
Tongyoung	Samsung-life 696 Buksin-dong Tongyoung, Gyeongnam	055-6407-114
Daegu Regional Headquarters	Gyeongil Composite Finance BD 272-1 Samduck 2-ga Jung-gu, Daegu	053-6017-114
Seobu Center	Korea Exchange Bank BD 1220-10 Igok-dong Dalseo-gu, Daegu	053-6095-405
Southern Daegu	Daegyo BD 78-1 Sinchun 3-dong Donggu, Daegu	053-6074-114
Nambu Center	Namsan BD 1795-3 Daemyong 2-dong Nam-gu, Daegu	053-6075-410
Pohang	968-1 Daejam-dong Namgu, Gyeongbuk	054-2885-114
Gumi	92-30 Imsu-dong Gumi, Gyeongbuk	054-4799-114
Yeongju	328-1 Hyuchun 2-dong Yeongju, Gyeongbuk	054-639-0114

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

3. Korea Labor Welfare Corporation(KLWC)

Office	Location	Tel / Fax
Andong	715-3 Tae hwa-dong, Gyeongbuk	054-8505-450
Incheon Regional Headquarters	Hanmi Bank BD 1127 Guwol-dong Namdong-gu, Incheon	032-4519-114
Northern Incheon	901-3 Jakjeon-dong Gyeyang-gu, Incheon	032-5404-950
Suwon	Dongyang Express Construction Dexville 1015 Kwonsun-dong Gwonsun-gu Suwon, Gyeonggi-do	031-2314-114
Pyeongtaek Center	5 Floor Gyobosaengmyeong BD 822-6 Seojeong-dong Pyeongtaek-si, Gyeonggi-do	031-6698-600
Bucheon	8, 9 Floor Daseong BD 448 Sangdong Wonmi-gu Bucheon-si, Gyeonggi-do	032-6500-224
Anyang	Gyobosaengmyeong BD 695-210 Anyang 3-don Manan-gu, Anyang-si, Gyeonggi-do	031-4630-567
Ansan	Korea Appraisal Board Building 520-1 Gozan-dong Ansan, Gyeonggi-do	031-4814-114
Uijeongbu	487-5 Uijeongbu 2-dong Uijeongbu, Gyeonggi-do	031-8283-114
Goyang Center	Hansol Tower BD 967-1 Hwajeong-dong Deokyang-gu Goyang, Gyeonggi-do	031-968-8670
Sungnam	Wuinam Culture Center 4529 Sujin 2-dong Sujung-gu Sungnam, Gyeonggi-do	031-7201-114
Gwangju Regional Headquarters	Geumkang BD 14-6 Yudong Bookgu, Gwangju	062-6080-114
Gwangsan Center	Gwangju Trade BD 1589-1 Woosan-dong Gwangsan-gu, Gwangju	062-6080-114
Jeonju	807-8 Inhu-dong 1-ga Dukjin-gu Jeonju, Jeonbuk	062-2408-114

Office	Location	Tel / Fax
Iksan	Kyobo Life BD 222-2 Namjung-dong Iksan, Jeonbuk	063-8500-114
Gunsan	Wonwu BD 844-11 Jochon-dong Gunsan, Jeonbuk	063-4500-114
Mokpo	9-1 Yudong Mokpo, Chungnam	063-2400-114
Yusoo	71-2 Hak-dong Yusoo, Chungnam	061-6800-114
Jeju	Construction Center 301-1 Yundong Jeju, Jeju	064-7100-700
Daejun Regional Headquarters	Historical Pen Center 929 Dunsan-dong Sugoo Daejun	042-8709-114
Yooseong Center	Samjeong BD 469-11 Bongmyong-dong Yooseong-gu, Daejun	042-8205-400
Cheongju	657-3 Naeduk-dong Sangdang-gu Cheongju, Chungbuk	043-2295-114
Cheonan	Daeah BD 85 Shinbu-dong Cheonan, Chungnam	041-6295-114
Chungju	452 Sungnae-dong Chungju, Chungbuk	043-8400-300
Boryeong	1176 Dongdae-dong Boryeong, Chungnam	041-9392-222
Ansan Rehabilitation Center	95 Il-dong Ansan, Gyeonggi-do	031-4008-215
Gwangju Rehabilitation Center	870-1 Daecheo-dong Bukgu, Gwangju	062-971-8811

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

4. Associations Providing Assistance to Foreign laborers

Contry	Location	Tel(Fax)
Russia	1001-13 Daechi-dong Gangnam-gu, Seoul	02-552-7096 02-538-8896 / 7
Malaysia	4-1 Hannam-dong Yongsan-gu, Seoul	02-794-0349
Mongolia	33-5 Hannam-dong Yongsan-gu, Seoul	02-794-1350
Myanmar	723-1 Hannam-dong Yongsan-gu, Seoul	02-796-9858
Bangladesh	2 Floor Useong BD 7-18 Dongbinggo-dong Yongsan-gu, Seoul	02-796-4056/7
Vietnam	28-58 Samcheong-dong Jongno-gu, Seoul	02-738-2318
Sri-Lanka	2004 Gyobo BD Jongno 1-ga Jongno-gu, Seoul	02-735-2966 / 7
Uzbekistan	701 Oegyosentoe 1376-1 Seocho-dong Seocho-gu, Seoul	02-576-4052
Indonesia	55 Yeouido-dong Yeongdeungpo-gu, Seoul	02-783-5675
China	83 2ga Myeong-dong Jung-gu, Seoul	02-756-9553
Kazakhstan	13-10 Seongbuk-gu, Seoul	02-744-9714
Thailand	653-7 Hannam-dong Yongsan-gu, Seoul	02-795-3098 0095, 3253
Pakistan	258-13 Itaewon-dong Yongsan-gu, Seoul	02-796-8252/0312
Philippines	901 Oegyosentoe 1376-1 Seocho-dong Seocho-gu, Seoul	02-577, 571-6147

5. Foreign Consulates in Korea

Ammi Foreign Church

- **Tel / Fax** 031)571-6554 / 031)571-6554
- **Address** 659 Janghyeon-ri Jinjeop-eup Namyangju-si, Gyeonggi-do
- **Major Subject Country**
Philippines, Peru, India, Pakistan, Bangladesh,
Uzbekistan, Sri Lanka, Nepal, Nigeria, Mongolia,
Korean Chinese, etc.

Ansan Jeil Church

- **Tel / Fax** 031)485-0955 / 031)401-2370
- **Address** 647-2 Gojan 2-dong Ansan-si, Gyeonggi-do
- **Major Subject Country**
Philippines, Korean Chinese, Vietnam

Ansan Migrant Shelter

- **Tel / Fax** 031)492-8785 / 031)492-4722
- **Address** 791-4 Wongok-dong Ansan-si, Gyeonggi-do
- **Major Subject Country**
Indonesia, Bangladesh, Sri Lanka, Korean Chinese,
Chinese, Vietnam, Mongolia, Pakistan, Uzbekistan, etc.

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Ansan Mission Church

- **Tel / Fax** 031)494-8409
- **Address** 799-13 Wongok-dong Ansan-si, Gyeonggi-do
- **Major Subject Country**
Philippines, Sri Lanka, Bangladesh, Korean Chinese, Chinese, Mongolia, Pakistan, Vietnam, Uzbekistan, Nepal, Indonesia, Nigeria, Iran, Thai, Myanmar, etc.

Antioch Mission

- **Tel / Fax** 041)555-5100 / 041)552-8500
- **Address** 224-7 Wonseong 1-dong Cheonan-si, Chungcheongnam-do
- **Major Subject Country**
Philippines, Sri Lanka, Bangladesh, Pakistan, Nigeria

Anyang Migrant Workers' House

- **Tel / Fax** 031)443-2876 / 031)446-2876
- **Address** 676-136 Anyang 4-dong Manan-gu Anyang-si, Gyeonggi-do
- **Major Subject Country**
Sri Lanka, Nepal, Pakistan, Bangladesh, Philippines, Vietnam, Mongolia, Morocco, Algeria, Congo, Indonesia, Thai, Nigeria, Korean Chinese, Myanmar, Iran, Chinese, Uzbekistan, etc.

Archdiocese of Seoul Philippine Community Counseling Office

- **Tel / Fax** 02)765-0870, 011-204-0870 / 02)765-0871
- **Address** Seongbuk Villa 115 Seongbuk 1-dong Seongbuk-gu, Seoul
- **Major Subject Country**
Philippines

Association for Foreign Workers

- **Tel / Fax** 062)951-8139
- **Address** 130 ho Gwangsanucheguk Post-Office Box, Gwangsanucheguk, Gwangju-si
- **Major Subject Country**
Korean Chinese, Chinese, Philippines, Vietnam, Uzbekistan, Sri Lanka, Bangladesh, Thai, Nepal, etc.

Bucheon Migrant Worker's House

- **Tel / Fax** 032)654-0664 / 032)668-0077
- **Address** 1093-1 Jung 2-dong Wonmi-gu Bucheon-si, Gyeonggi-do
- **Major Subject Country**
Philippines, Mongolia, Korean Chinese, Chinese, Uzbekistan, Nepal, Sri Lanka, Bangladesh, Pakistan, Indonesia, etc.

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Bupyeong Dongpu Church

- **Tel / Fax** 032)503-9211-4, 511-1401 / 032)515-1403
- **Address** 147-5 Bupyeong 5-dong Bupyeong-gu, Incheon-si
- **Major Subject Country** Philippines, Bangladesh

Catholic Labor Consultation Center

- **Tel / Fax** 063)852-6949 / 063)843-3330
- **Address** 235 Changin 1-ga Iksan-si, Jeollabuk-do
- **Major Subject Country** Philippines, Bangladesh

Catholic Workers' Center in Daegu

- **Tel / Fax** 053)253-1313 / 053)255-4861
- **Address** 35 Jongno 2-ga Jung-gu, Daegu-si
- **Major Subject Country** Philippines

Jeonju Andiok Church

- **Tel / Fax** 063)274-3228
- **Address** 1593-8 Geumam 2-dong Deokjin-gu Jeonju-si, Jeollabuk-do
- **Major Subject Country** Philippines, Vietnam, India, etc.

Cheon San Presbyterian Church

- **Tel / Fax** 032)672-6603, 682-7851 / 032)681-9491
- **Address** 9-1 Naedong Ojeong-gu Bucheon-si, Gyeonggi-do
- **Major Subject Country** Mongolia, Kazakhstan, Peru

Chung Hyeon Church, Mission Foreigner in Korea

- **Tel / Fax** 02)552-8200 / 02)556-9788
- **Address** 665-1 Yeoksam 1-dong Gangnam-gu, Seoul
- **Major Subject Country**
Uzbekistan, Mongolia, Sri Lanka, Bangladesh,
Korean Chinese, Indonesia, Iran, etc.

Dongan Presbyterian Church

- **Tel / Fax** 02)962-1781 / 02)962-0728
- **Address** 346-99 Imun 2-dong Dongdaemun-gu, Seoul
- **Major Subject Country**
Ethiopia, Nigeria, Thai, Bangladesh, Russia,
Mongolia, etc.

Elim Mission Center

- **Tel / Fax** 02)796-0170
- **Address** 736-3 Hannam 2-dong Yongsan-gu Seoul

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

ELLIM Foreign Missions

- **Tel / Fax** 032)773-9182,766-1061 / 032)777-0091
- **Address** 34-17 Sa-dong Jung-gu, Incheon-si
- **Major Subject Country** Chinese, Korean Chinese

Emmaus Migrant Workers' Counseling Office Catholic Diocese in Suwon

- **Tel / Fax** 031)257-8501 / 031)257-8535
- **Address** 100 Hwaseo-dong Jangan-gu Suwon-si, Gyeonggi-do
- **Major Subject Country**
Philippines, Bangladesh, Nepal, Sri Lanka, Nigeria,
Vietnam, Indonesia, Korean Chinese, Chinese,
Pakistan, Thai, Mongolia, Iran, Myanmar, etc.

Foreign Workers' Mission Church

- **Tel / Fax** 031)874-3004 / 031)874-8077
- **Address** San 101-3 Howon-dong Uijeongbu-si, Gyeonggi-do
- **Major Subject Country**
Nigeria, Philippines, Peru, Bangladesh, etc.

Foreigners Church

- **Tel / Fax** 031)718-6119 / 031)718-6353
- **Address** 362-17 Sinhyeon 1-ri Opo-myeon Gwangju-gun, Gyeonggi-do
- **Major Subject Country** Myanmar

"Galilea" Migrant Workers Pastoral Center

- **Tel / Fax** 031)494-8411 / 031)494-8483
- **Address** 201 ho Da-dong Inseyeollip 843 Wongok-dong Ansan-si, Gyeonggi-do
- **Major Subject Country**
Philippines, Thai, Bangladesh, Vietnam, Sri Lanka,
Pakistan, Korean, Chinese, Indonesia, Nepal,
Myanmar, Mongolia, etc.

Gerbang Church

- **Tel / Fax** 031)921-6979 / 031)921-9102
- **Address** San 112 Deogi-dong Ilsan-gu Goyang-si, Gyeonggi-do
- **Major Subject Country** Mongolia

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Good Friends(Jungto Society)

- **Tel / Fax** 02)587-8996 / 02)587-8998
- **Address** Jeongtohoegwan 1585-16 Seocho 3-dong Seocho-gu, Seoul
- **Major Subject Country** Korean Chinese

Good Neighbor Clinic

- **Tel / Fax** 02)2274-0161-3 / 02)2277-0798
- **Address** 26-6 Jangchung 1-ga Jung-gu, Seoul
- **Major Subject Country**
Bangladesh, Philippines, Korean Chinese, Nepal,
Mongolia, Pakistan, Uzbekistan, Thai, Vietnam,
Sri Lanka, Iran, etc.

Habiru Mission

- **Tel / Fax** 02)915-9262 / 02)913-1795
- **Address** 8-212 Jongam 2-dong Seongbuk-gu, Seoul
- **Major Subject Country** Philippines

Han Gil Prebyterian Church

- **Tel / Fax** 02)381-4979 / 02)371-2561
- **Address** San144 Ogeum-dong Duckyang Goyang-si,
Gyeonggi-do
- **Major Subject Country** Ghana, Philippines, Nigeria

Hanyang Presbyterian Church

- **Tel / Fax** 02)2292-0194
- **Address** 767-7 Majang-dong Seongdong-gu, Seoul
- **Major Subject Country** Mongolia, Korean Chinese

House of Seoul Migrant Workers in the Seonil Church

- **Tel / Fax** 02)423-0667/ 02)400-0673
- **Address** 80-13 Munjeong-dong Songpa-gu, Seoul
- **Major Subject Country** Philippines, Indonesia, Mongolia

Incheon Diocese Foreign Workers' Counselling Office

- **Tel / Fax** 032)765-1094 / 032)761-9546
- **Address** 104 Catholic Center 4 Dap-dong Jung-gu, Incheon-si

Incheon Namdong Industrial Complex Chinese Church

- **Tel / Fax** 032)815-1751 / 032)815-1751
- **Address** D-7 62 beullok 632-2 Gojan-dong Namdong-gu,
Incheon-si
- **Major Subject Country** Chinese, Korean Chinese

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Jang Chung Foreigners Fellowship

- **Tel / Fax** 02)2279-9331
- **Address** 115-1 Jangchung-dong 1-ga Jung-gu, Seoul
- **Major Subject Country** Mongolia, Philippines

Jincheon Migrant Brothers' House

- **Tel / Fax** 043)534-6251, 6009 / 043)534-6251
- **Address** 319-1 Gyoseong-ri Jincheon-eup Jincheon-gun, Chungcheongbuk-do
- **Major Subject Country**
Philippines, Bangladesh, India, Peru, Kazakhstan, Korean Chinese, Indonesia, etc.

Juan Mission for the Foreigners

- **Tel / Fax** 032)429-7071 / 032)429-9175
- **Address** 294-10 Sangok 4-dong Bupyeong-gu, Incheon-si
- **Major Subject Country**
Vietnam, Mongolia, Korean Chinese, Chinese, Uzbekistan, Nepal, Philippines, Sri Lanka, Bangladesh, Pakistan, Indonesia, etc.

Jubilee Mission Fellowship

- **Tel / Fax** 02)858-7829 / 02)861-4394
- **Address** Daemyung B/D 302-10 Doksan1-dong Geumcheon-gu, Seoul
- **Major Subject Country**
Nepal, Korean Chinese, Bangladesh, Philippines, Vietnam, Nigeria, Mongolia, Pakistan, Chinese, Sri Lanka, Uzbekistan, Indonesia.

Kimpo Foreigner Worker's House

- **Tel / Fax** 031)981-7795 / 031)983-7794
- **Address** 421-3 Yanggok-ri Yangchon-myeon Gimpo-si, Gyeonggi-do
- **Major Subject Country**
Bangladesh, Mongolia, Sri Lanka, Uzbekistan, Kazakhstan, Ghana.

Kongchon Foreigners Sarangbang

- **Tel / Fax** 032)561-3349 / 032)561-3349
- **Address** 18 Post-Office Box San 29-1 Gongchon-dong Seo-gu, Incheon-si
- **Major Subject Country**
Mongolia, Chinese, Uzbekistan, Philippines, Korean Chinese, Nepal, etc.

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Korea Christian Medical Association

- **Tel / Fax** 02)364-9430 / 02)312-0229
- **Address** 221-7 Bugahyeon-dong Seodaemun-gu, Seoul
- **Major Subject Country**
Bangladesh, Nepal, Philippines, Korean Chinese, Mongolia, Pakistan, Vietnam, Uzbekistan, Thai, Sri Lanka, Iran, etc.

Korea Church Women United' Counseling Center of Migrant Women Workers

- **Tel / Fax** 02)708-4181-3 / 02)708-4186
- **Address** 1110 ho Gidokgyoyeonhahphoegwan 136-56 Yeonji-dong Jongno-gu, Seoul
- **Major Subject Country** Philippines, Russia

Korea Islamic Propagation Organization (KIPO)

- **Tel / Fax** 031)765-0070 / 031)765-0071
- **Address** 48-9 Yok-ri Gwangju-eup Gwangju-gun, Gyeonggi-do
- **Major Subject Country** Iran, Uzbekistan, India, Malaysia, etc.

Korea Sharing Movement

- **Tel / Fax** 02)734-7060 / 02)734-8770
- **Address** 236-1 Mapo-dong Mapo-gu, Seoul
- **Major Subject Country** Korean Chinese

Gumi Catholic Workers' Center

- **Tel / Fax** 054)452-2314 / 054)452-6929
- **Address** San 24-1 Wonpyeong-dong Gumi-si, Gyeongsangbuk-do
- **Major Subject Country**
Philippines, Vietnam, Bangladesh, Pakistan, Sri Lanka, Chinese, Indonesia, Uzbekistan, Korean Chinese, etc.

Gwang Ju Migrant Workers Center

- **Tel / Fax** 062)971-0078 / 062)971-0079
- **Address** 816-11 Wolgye-dong Gwangsan-gu, Gwangju-si
- **Major Subject Country**
Indonesia, Korean Chinese, Sri Lanka, Philippines, Mongolia, Nepal, Uzbekistan, etc.

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Gyungnam Migrant Workers Counsel Office

- **Tel / Fax** 055)277-8779 / 055)277-8779
- **Address** 17-11 Paryong-dong Changwon-si, Gyeongsangnam-do
- **Major Subject Country**
Indonesia, Philippines, Pakistan, Bangladesh, Vietnam, Thai, Korean, Chinese, Uzbekistan, Chinese, Sri Lanka, India, etc.

Gyungsan Betel Foreign Workers' Church

- **Tel / Fax** 053)853-9888
- **Address** 434-1 Buk 1-ri Jillyang-myeon Gyeongsan-si, Gyeongsangbuk-do
- **Major Subject Country** Chinese, Korean Chinese

Gyungsan Foreign Workers' Church

- **Tel / Fax** 053)815-7842 / 053)815-7842
- **Address** 275-2 Sambuk-dong Gyeongsan-si, Gyeongsangbuk-do
- **Major Subject Country**
Bangladesh, Sri Lanka, Indonesia, Vietnam, Thai, Pakistan, etc.

Legal Aid Center for Foreign Workers

- **Tel / Fax** 031)878-4090-1 / 031)878-4092
- **Address** 304 Beopjeon BD 363-1 Ganeung1-dong Uijeongbu-si, Gyeonggi-do

Light to the World

- **Tel / Fax** 02)796-6052 / 02)796-7876
- **Address** 241-96 Seobinggo-dong Yongsan-gu, Seoul
- **Major Subject Country**
Mongolia, Myanmar, Nepal, Pakistan, Indonesia, Russia, etc.

Light World Mission

- **Tel / Fax** 053)746-0386 / 053)746-0387
- **Address** 854-3 Manchon 3-dong Suseong-gu, Daegu-si
- **Major Subject Country**
Korean Chinese, Philippines, Vietnam, Indonesia, Sri Lanka, Myanmar

Love Vietnam

- **Tel / Fax** 053)252-2205
- **Address** 2951-1 Namsan 4-dong Jung-gu, Daegu-si
- **Major Subject Country** Vietnam

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Masan Jaegun Church

- **Tel / Fax** 055)248-5156 / 055)241-7353
- **Address** 449-1 Hoewon 1-dong Hoewon-gu Masan-si, Gyeongsangnam-do
- **Major Subject Country** Chinese, Korean Chinese

Migrant Mission of Namsan Presbyterian Church

- **Tel / Fax** 053)253-8490
- **Address** 941-22 Namsan 2-dong Jung-gu, Daegu-si
- **Major Subject Country**
Chinese, Philippines, Korean Chinese, Bangladesh, Sri Lanka, Indonesia, Nepal, etc.

Migrant Workers Counselling Center in Daegu

- **Tel / Fax** 053)256-0696 / 053)256-0696
- **Address** 2635-5 Namsan 4-dong Jung-gu, Daegu-si
- **Major Subject Country**
Sri Lanka, Pakistan, Korean Chinese, Indonesia, Philippines, Chinese, Bangladesh, Vietnam, Mongolia, Uzbekistan, Nepal, Myanmar, etc.

Migrant Workers' Counselling Services

- **Tel / Fax** 031)878-6926 / 031)878-6927
- **Address** Nogyangdongcheonjugyohoe 83-6 Nogyang-dong Uijeongbu-si, Gyeonggi-do
- **Major Subject Country**
Philippines, Bangladesh, Pakistan, Iran, Sri Lanka, Myanmar, etc.

Migrant Workers' House in Sunnam / Korean Chinese House

- **Tel / Fax** 031)756-2143,4 / 031)757-8093
- **Address** 7288-11 Taepyeong 2-dong Sujeong-gu Seongnam-si, Gyeonggi-do
- **Major Subject Country**
Korean Chinese, Mongolia, Sri Lanka, Bangladesh, Chinese, Uzbekistan, Pakistan, Philippines, Vietnam, Indonesia, Myanmar, Nigeria, Peru, Thai, Nepal, etc.

Mission Counseling center for workers of Jeonju

- **Tel / Fax** 063)272-2794 / 063)272-2844
- **Address** 140-2 Deokjin-dong 2-ga Deokjin-gu Jeonju-si, Jeollabuk-do
- **Major Subject Country** Chinese, Korean Chinese, Bangladesh

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Missionary Committee of Bugae Dong Church

- **Tel / Fax** 032)503-9741/ 032)527-2474
- **Address** 257-6 Bugae 1-dong Bupyeong-gu, Incheon-si
- **Major Subject Country**
Chinese, Korean Chinese, Philippines, Vietnam, Thai, Mongolia, Myanmar, Ghana, etc.

Myung Sung Church

- **Tel / Fax** 02)3427-0365 / 02)442-0365
- **Address** 330-5 Myeongil-dong Gangdong-gu, Seoul
- **Major Subject Country**
Mongolia, Philippines, Thai, Chinese, Pakistan, Bangladesh, etc.

Nambu Church

- **Tel / Fax** 02)745-1903-4 / 02)744-5079
- **Address** 17-4 Changsin 3-dong Jongno-gu, Seoul
- **Major Subject Country** Uzbekistan, Russia, Kazakhstan, etc.

New Central Church

- **Tel / Fax** 031)25-3031 / 031)25-8461
- **Address** 158 Pyeongchon-dong Dongan-gu Anyang-si, Gyeonggi-do
- **Major Subject Country**
Korean Chinese, Chinese, Iran, Vietnam, etc.

Ong Jung Presbyterian Church

- **Tel / Fax** 031)987-7033 / 031)989-9033
- **Address** 527-3 Galsan 3-ri Wolgot-myeon Gimpo-si, Gyeonggi-do
- **Major Subject Country** Korean Chinese, Vietnam, Sri Lanka

Opo International Church

- **Tel / Fax** 031)718-6119 / 031)718-6353
- **Address** 362-17 Sinhyeon Opo-myeon Gwangju-gun, Gyeonggi-do
- **Major Subject Country** Myanmar

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Purun Civil Community

- **Tel / Fax** 02)964-7530 / 02)3293-7530
- **Address** 345-7 Imun 2-dong Dongdaemun-gu, Seoul
- **Major Subject Country**
Thailand, Bangladesh, Peru, Russia, Philippines, Mongolia, Nepal, Pakistan, Uzbekistan, Chinese, Korean Chinese, Bolivia, Paraguay, India, etc.

Pyeongang Church Foreign Mission Committee

- **Tel / Fax** 02)902-1227 / 02)999-9071
- **Address** 412-18 Beon 1-dong Gangbuk-gu, Seoul
- **Major Subject Country**
Mongolia, Thai, Uzbekistan, Philippines, India, Korean Chinese, Chinese, Nigeria, Sri Lanka, etc.

Raphael Clinic

- **Tel / Fax** 02)741-0767 / 02)741-4876
- **Address** 28 Yeongeon-dong Jongno-gu, Seoul
- **Major Subject Country**
Philippines, Bangladesh, Pakistan, Peru, Mongolia, Nepal, Chinese, Nigeria, Korean Chinese, Myanmar, Sri Lanka, Iran, Thai, Vietnam, Indonesia, Uzbekistan

Refuge PINAN

- **Tel / Fax** 017-298-5119 / 03033-130-3378
- **Address** 3 Floor Goryeo BD 1575-1 Seocho-dong Seocho-gu, Seoul
- **Major Subject Country** Korean Chinese, Bangladesh, Libya, etc.

Sae Moon An Presbyterian Church (Foreign Mission)

- **Tel / Fax** 02)733-8143 / 02)733-8070
- **Address** 42 Sinmullo 1-ga Jongno-gu, Seoul
- **Major Subject Country** Vietnam

Sanjunghyon Church

- **Tel / Fax** 032)862-1657, 857-3449
- **Address** B-2 Ujeongsangga 18-142 Juan5-dong Nam-gu, Incheon-si
- **Major Subject Country** Korean Chinese, Chinese

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Seoul Migrant Mission Center

- **Tel / Fax** 02)458-2981-2 / 02)456-4023
- **Address** Geumgang Kindergarden 611 Guui-dong
Gwangjin-gu, Seoul
- **Major Subject Country**
Mongolia, Indonesia, Philippines, Iran, Bangladesh,
Uzbekistan, Nepal, Sri Lanka, Vietnam, Nigeria,
Korean Chinese, Myanmar

Seoul Migrant Worker' s Center

- **Tel / Fax** 02)3672-9472 / 02)744-3594
- **Address** 130-102 Changsin 2-dong Jongno-gu, Seoul
- **Major Subject Country**
Korean Chinese, Uzbekistan, Bangladesh, Philippines,
Pakistan, Nepal, Iran, Chinese, Mongolia, etc.

Seoul Migrant Worker' s House

- **Tel / Fax** 02)863-6622 / 02)863-6633
- **Address** 146-1 Gasan-dong Geumcheon-gu, Seoul
- **Major Subject Country**
Korean Chinese, Chinese, Bangladesh, Iran
Philippines, Vietnam, Indonesia, Thailand, Mongolia,
Pakistan, Uzbekistan, Sri Lanka, Nepal, Myanmar,
Nigeria, etc.

Seoul Presbyterian Revived Church

- **Tel / Fax** 02)763-3679 / 02)742-6218
- **Address** 640-243 Changsin 2-dong Jung-gu, Seoul
- **Major Subject Country** Chinese

Shinpyeong-no Church

- **Tel / Fax** 051)206-6001-4 / 051)202-1454
- **Address** 18 Shinpyeong 1-dong Saha-gu, Busan-si
- **Major Subject Country**
Philippines, Bangladesh, Vietnam, U.S.A., etc.

Shinsung Persian Fellowship

- **Tel / Fax** 02)986-1235-8 / 02)982-3572
- **Address** 458-8 Mia 5-dong Gangbuk-gu, Seoul
- **Major Subject Country** Iran

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Sonu-ri Culture Center

- **Tel / Fax** 031)543-9201 / 031)543-9202
- **Address** 106-1 Songu-ri Sohol-eup Pocheon-gun, Gyeonggi-do
- **Major Subject Country** Bangladesh

The Association for Foreign Workers' Human Rights

- **Tel / Fax** 02)795-5504 / 02)749-6055
- **Address** Hanseong BD 401 303-2 Hangangno 1-ga
Yongsan-gu, Seoul
- **Major Subject Country**
Pakistan, Iran, Iraq, Yordan, Nepal, India, Indonesia,
Sri Lanka, Bangladesh, Algeria, Uzbekistan, Philippines,
Mongolia, etc.

The Association for Foreign Workers' Human Rights in Pusan

- **Tel / Fax** 051)802-3438, 818-4748 / 051)803-9630
- **Address** 4 Floor Yusin BD 193-9 Jeonpo 2-dong Busanjin-gu,
Busan-shi
- **Major Subject Country**
Philippines, Korean Chinese, Chinese, Pakistan,
Indonesia, Russia, Bangladesh, Uzbekistan, Sri-
Lanka, Mongolia, Myanmar, Morocco, India, Nepal, etc.

The House for Foreign Workers in Yangsan

- **Tel / Fax** 055)388-0988 / 055)388-0988
- **Address** 157-8 Jungbu-dong Yangsan-si, Gyeongsangnam-do
- **Major Subject Country**
Chinese, Vietnam, Korean Chinese, Pakistan,
Indonesia, Bangladesh, Philippines, etc.

The House of Shalom

- **Tel / Fax** 031)594-5821 / 031)594-5824
- **Address** San 33-9 Nokchon 2-ri Hwado-eup Namyangju-si,
Gyeonggi-do
- **Major Subject Country**
Bangladesh, Philippines, Pakistan, Korean Chinese,
Myanmar, Nepal, Uzbekistan, Nigeria, Sri Lanka, etc.

Uiyeongbu Migrant Center

- **Tel / Fax** 031)848-0266-7 / 031)848-0267
- **Address** 214-76 Uiyeongbu 1-dong Uiyeongbu-si, Gyeonggi-do
- **Major Subject Country**
Mongolia, Korean Chinese, Sri Lanka, Chinese, Iran,
Uganda, Pakistan, etc.

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

5. Foreign Consulates in Korea

Welfare Mission Center for Korean Chinese

- **Tel / Fax** 02)723-4821-3 / 02)723-4827
- **Address** 137-16 Hongje 4-dong Seodaemun-gu, Seoul
- **Major Subject Country** Korean Chinese

WFCA

- **Tel / Fax** 02)2229-5412 / 02)2294-2489
- **Address** 773 Hawangsimni 1-dong Seongdong-gu, Seoul
- **Major Subject Country** Philippines, Mongolia

Area Code

Seoul	02
Incheon	032
Gyeonggi-do	031
Gangwon-do	033
Chungnam	041
Daejeon	042
Chungbuk	043
Busan	051
Ulsan	052
Daegu	053
Gyeongbuk	054
Gyeongnam	055
Jeonnam	061
Gwangju	062
Jeonbuk	063
Jeju	064

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

6. Locations and jurisdiction areas for the Immigration Control office

Immigration Office	Branch Office	Location
•Incheon		2172-1 Unseo-dong Jung-gu, Incheon-si
•Kimpo		712-1 Banghwa 2-dong Gangseo-gu, Seoul (Kimpo International Airport Terminal 2)
	•★ City Terminal	159-6 Samsung-dong Gangnam-gu, Seoul (City Terminal 2 Floor)
★Seoul		319-2 Sinjong 6-dong Yangchun-gu, Seoul
	★ Uiyeongbu	493-4 Uiyeongbu 2 Dong, Uiyeongbu Si Gyeonggi-do (Seoyoung BD West hall 7 floor)
	•Osan	3 Post-Office Box. Songtan-si, Gyeonggi-do
	★ *Sejongro Branch office	Jeokson-dong 80 Jongro-gu, Seoul (Jookson Hyundai BD 501)
	★ Pyeongtaek Branch office	Manho-ri 570 Poseung-myeon Pyeongtaek-si, Gyeonggi-do
•Busan		17-26 4-ga Jungang-dong Jung-gu, Busan
	•Ulsan	139-16 Maeam-dong Nam-gu Ulsan-si, Gyeongsangnam-do
•Incheon		17-26 4-ga Jungang, Incheon
•Kimhae		2350 Daejeo 2-dong, Gangseo-gu, Busan (Kimhae International Airport 235)
•Jeju		673-8 Gonip-dong Jeju-si, Jeju-do
★Daegu		1012-1 Gomsa-dong Dong-gu, Daegu
	•Pohang	58-13 Hanggu-dong Pohang-si, Gyeongsangbuk-do
★Daejeon		16-8 Jungchon-dong Jung-gu, Daejeon
	•Daesan	197-10 Daesan-ri Daesan-eup Seosan-gun, Chungcheongnam-do

Tel	District Boundaries
(032)740-7386~7	Incheon International Airport
(02)664-7611~5 (02)551-6922~3	Kimpo International Airport
(02)650-6532/40 (031)876-5561~2	Seoul, Gyeonggi-do (excluding Kimpo Airport, Incheon office and Uiyeongbu branch office's jurisdiction), Uiyeongbu-si, Dongducheon-si, Guri-si, Goyang-si, Namyangju-si, Paju-si, Yangju-gun, Yeoncheon-gun, Pocheon-gun, Gapyeong-gun
(031)666-2677	Osan Air base, Pyeongtaek Port
(02)732-6214~5	
(031)683-6937~8	
(051)461-3031 (052)261-7545	Busan, Gimhae-si, Yangsan-si, Milyang-si (Gyeongsangnam-do), Ulsan
(032)889-9903~9	Incheon, Ansan-si, Guangmyung-si, Bucheon-si, Siheung-si, Kimpo-gun (Gyeonggi-do)
(051)972-1610~3	Gimhae International Airport
(064)722-3494	Jeju-do
(053)980-3505 (054)247-5363	Daegu, Gyeongsangbuk-do(excluding Pohang-si)
(042)254-8811	Daejeon Si, Chungcheongnam-do (excluding Seosan-si, Daean-gun, Janghang port, Boryoung port)
(041)255-0496	Seosan-si, Taean-gun, Boryoung port

IV. Personal Information Regarding Workers' Benefits/Compensation

B. Relevant Industrial Safety and Health Organizations and Information

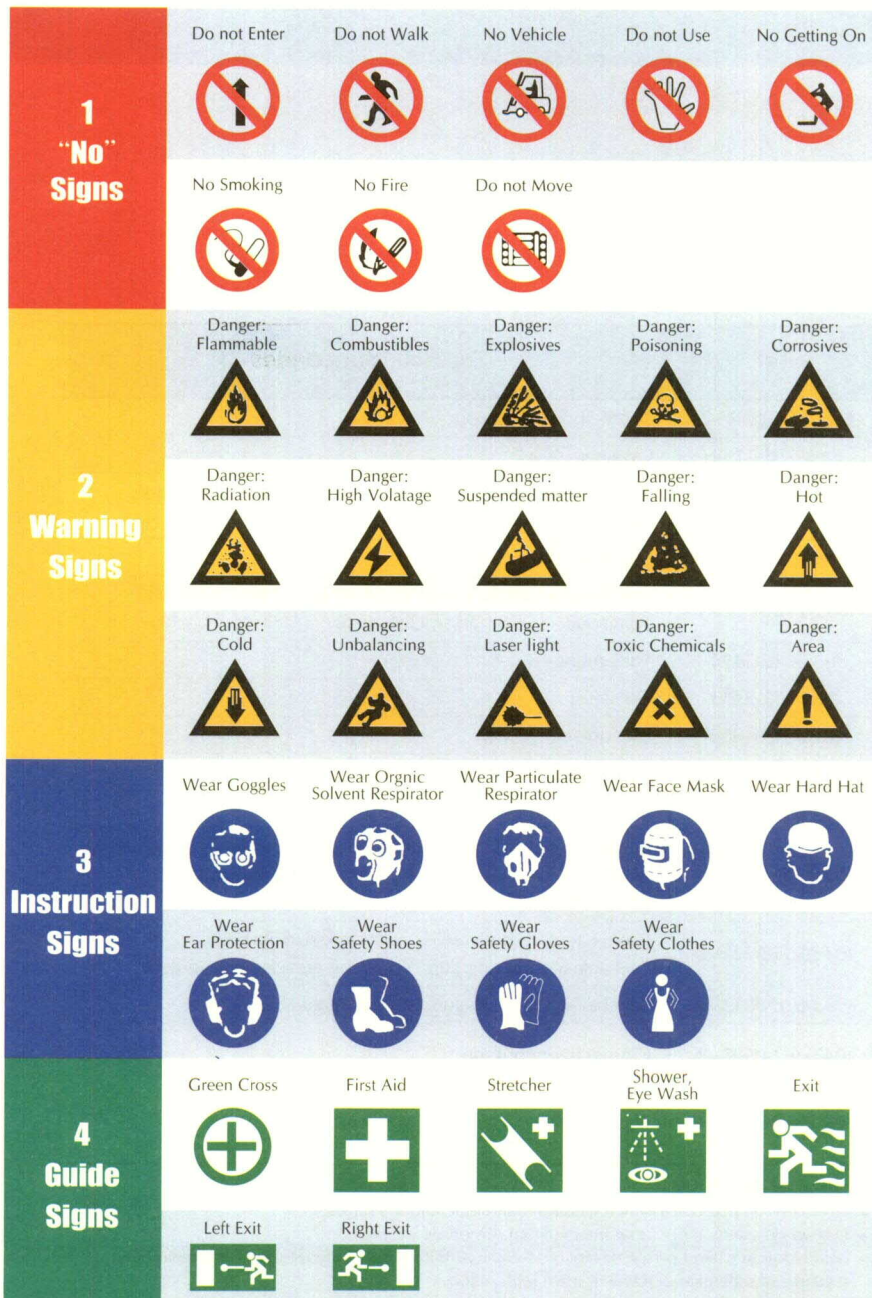
6. Locations and jurisdiction areas for the Immigration Control office

Immigration Office	Branch Office	Location
•Yeosu		332-3 Sujong-dong Yeosu-si, Jeollanam-do
	•Gwangyang	1359-5 Jung-dong Gwangyang-si, Jeollanam-do
★Gwangju		366-1 Hwajong 3-dong Seo-gu, Gwangju
	•Mokpo	80-14 Sanjung-dong Mokpo-si, Jeollanam-do
•Masan		2-6 Wolpo-dong Masan-si, Gyeongsangnam-do
	•Tongyoung	151-83 Hangnam-dong Tongyoung-si, Gyeongsangnam-do
	•Geojae	32-2 Majeon-dong Geojae-si, Gyeongsangnam-do
	•Sachon	94-1 Donggeum-dong Sacheon-si, Gyeongsangnam-do
★Jeonju		27 1-ga, Hyosung-dong Deokjin-gu, Jeonju-si, Jeollabuk-do
	•Gunsan	49-32 Jangmi-dong Gunsan-si, Jeollabuk-do
★Chuncheon		709-10 Hyoja 2-dong Chuncheon-si, Gangwon-do
	•Donghae	606-2 Songjung-dong Donghae-si, Gangwon-do
	•Sokcho	1411-152 Joyang-dong Sokcho-si, Gangwon-do
★Cheongju		770-2 Sugok 1-dong Heungdeok-gu Cheongju-si, Chungcheongbuk-do
•Seoul Immigration Center		43-1 Hwigyung 2-dong Dongdaemun-gu, Seoul

Tel	District Boundaries
(061)665-2441~3	Yeosu-si, Suncheon-si
(061)792-1139	Gwangyang-si
(062)381-0015~7	Gwangju-si, Jeonranam-do(excluding Mokpo-si, Yeosu-si, Suncheon-si, Gwangyang-si, Wando Port)
(061)245-1531	Mokpo-si, Wando Port
(055)222-9272~5	Gyungsangnam-do (excluding Kimhae-si, Milyang-si, Tongyoung-si, Sachon-si, Geojae-si)
(055)645-3494	Tongyoung-si
(055)681-2433	Geojae-si
(055)835-4088	Sachon-si
(063)245-6161~3	Jeollabuk-do(excluding Gunsan-si)
(063)445-2581	Gunsan Airbase, Gunsan-si, Janghang Port
(033)244-7351~3	Gangwon-do(excluding Donghae-si, Gangleung-si, Samchuk-si, Sokcho-si, Taebaek-si, Gosung-gun, Yangyang -gun, Jeongseon -gun)
(033)535-5721~2	(Donghae-si, Gangleung-si, Samchuk-si, Sokcho-si, Taebaek-si, Goseong-gun, Yangyang-gun, Jeongseon-gun)
(033)636-8613~4	Sokcho-si, Goseong-gun, Yangyang-gun
(043)262-0595~8	Chungcheongbuk-do
(02)2215-8011~4	Nationwide

- ★ District or branch office
- District or branch office which handles both of the above's duties.
- ◆ District or branch office at an International Airport or Sea port
- ※ permission to extend period of stay or re-entry permit for the holder of short term period visa - issuance of statement of travel or alien registration
- ※※permission to extend period of stay or re-entry permit, issuance of statement of travel or alien registration, reissuance of alien residence card

7. Safety Signs



외국인 근로자를 위한 안전 작업 길잡이

2000년 9월 초판발행

2004년 9월 3차 개정증보판

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8. Subway Maps

Seoul / Incheon

As of January, 2002



Busan

As of January, 2002



한국산업안전공단
KOREA OCCUPATIONAL SAFETY & HEALTH AGENCY

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www.kosha.net

Daegu

As of January, 2002

