ENVIRONMENT HEALTH SAFETY MANUAL

REV: 001-2014

Head office – Bangalore
Kaushal Interiors Pvt. Ltd.
#22, 2nd Floor B.V.R Reddy layout,
2nd cross, Ring Road , Kalyan Nagar,
Bangalore – 560043.
Tel: 080-25456086, Telefax: 080-25427044
E-mail: bangalore@kaushalinteriors.com
Website: www.kaushalinteriors.com

Regional offices:
Kaushal Interiors Pvt. Ltd.
23, Church road, K.K Puddur,
Coimbatore - 641038
Tel: 0422-3868842, Telefax: 0422-4384857
E-mail: coimbatore@kaushalinteriors.com

Kaushal Interiors Pvt. Ltd.
#34/1417, Near Gate No. Eara-46,
Arkkakkadavu Road, Edapally,
Kochi – 682024.
Tel: 0484 – 3071660/61/62/63, Telefax: 0484-3071824
E-mail: kochi@kaushalinteriors.com

Kaushal Interiors Pvt. Ltd.
H No.246, Block N, May Field Garden, Sector 51, Gurgaon – 122018.
Tele: 0124 – 3225344, Telefax: 0124 – 4087936.
E-mail: gurgoan@kaushalinteriors.com

EHS MANUAL REVISION SHEET

REVIEW NO.	DATE	REASON	SECTION	APPROVED

Contents

Kaushal Interiors Pvt. Ltd.

No. 22, 2nd Floor, B.V. Reddy Layout, 2nd Cross
Ring Road, Kalyan Nagar, Bangalore - 560 043.

Tel : 2545 6086, Telefax : +91 80 2542 7044
Cell : 98451 63751, 98451 63752
E-mail : Bangalore@kaushalinteriors.com
www.kaushalinteriors.com

ENVIRONMENT HEALTH AND SAFETY POLICY

It is the policy of Kaushal Interiors Pvt. Ltd to comply with the BOCW (Regulation of employment and Condition of Service) act 1996 (central act 27 of 1996) and all other current legislation relevant to business and operations carried out by Kaushal Interiors Pvt. Ltd and our employees. Kaushal Interiors Pvt. Ltd is committed to identifying new legislation and best practice and is committed to adhering to changing standards.

Our Commitments:-

The objectives of this EHS policy shall be achieved at our work places by:

- Incorporating EHS consideration in all business decisions.
- Promoting a positive EHS culture.
- Ensuring compliance to legal and legal requirements.
- Identifying hazards in the workplace, assessing the risks related to them and implementing appropriate preventive and protective measures.
- Providing and maintaining safe plant and work equipment.
- Establishing and enforcing safe systems of work.
- Recruiting and appointing personnel who have the skills, abilities and competence equal to their role and level of responsibility.
- Ensuring that tasks given to employees are within their skills, knowledge and ability to perform.
- Ensuring that technical competence is maintained through the provision of refresher training as appropriate.
- Promoting awareness of health and safety and good practice through effective communication of relevant information.
- Monitoring our safety performance by regular site inspections from our EHS Team.

It is the policy of Kaushal Interiors Pvt. Ltd., to consult all staff and employees on matters of health and safety. All employees are hereby notified of our policy. It is the obligation of all employees to act responsibly and to do everything that is reasonable to prevent injury to themselves, their fellow workers and any other person who may visit their place of work.

The senior management shall visibly uphold the principles of this policy and integrate them throughout the operations. The management and supervisory personnel shall be responsible for implementing and maintaining the EHS management system necessary to sustain this policy.

Raj Kumar

Managing Director

Kaushal Interiors Pvt. Ltd.

SAFETY AND HEALTH CONSIDERATIONS/AIMS/POLICY

Kaushal Interiors Pvt. Ltd considers the Health, Safety and Welfare of its employees and of other persons affected by its activities, to be a primary concern for all. Safe and healthy working can be achieved only by creating a proper organisation and arrangements for the purpose.

Kaushal Interiors Pvt. Ltd aim to maintain or improve working conditions and measures to control and reduce hazards which apply in respect of all their activities. Any new hazards shall be assessed as they become known.

It is the policy of Kaushal Interiors Pvt. Ltd to provide and maintain working conditions that are as safe and healthy as possible and to take all reasonable steps to attain this end. Project Managers are fully aware of their responsibilities for the health and safety of employees, but can achieve this objective only with the co-operation of employees in complying with the various regulations and instructions issued for their safety and by their constant care for the safety of themselves and their colleagues. Training and more specific instructions will be provided when appropriate to enable employees to work safely, to identify hazards and to protect themselves. It is the duty of everyone to do everything possible to prevent personal injuries to themselves and others and this duty extends to the design, construction, operation and maintenance of all buildings, vehicles, plant and equipment.

Kaushal Interiors Pvt. Ltd will take all reasonable steps to secure the safety of employees and others by ensuring that equipment and machinery under their control are safely installed and maintained. Any hazards to health and safety or defects in equipment or machinery are to be rectified as soon as possible and supervisors are required to take all reasonable precautions to safeguard employees and others from any such hazards until repairs have been satisfactorily carried out.

Consultation with employees on health and safety matters forms an important part of the organisation.

This safety statement is available to all employees whose active co-operation is an essential part in achieving safe working. Please read this statement carefully and keep it close at hand for future reference.

COMPANY SAFETY OBJECTIVES

The approach to ensuring safe and healthy work conditions at Kaushal Interiors Pvt. Ltd may be summarised by the following headings:

- Identification of hazards
- Provision of safety training and instruction
- Provision of protective equipment
- Creation of practical and safe working systems
- Consultation with staff on safety and health matters

Identification of Hazards

Kaushal Interiors Pvt. Ltd will carry out regular risk assessments internally on all hazardous work activities, both in our offices as well as on construction projects around the country. Where necessary written risk assessments will be developed to ensure that safe working systems and control measures are put in place to minimise the exposure to risks and hazards to all our employees and sub-contractors.

The company further commits to make use of the advice available through the Health and Safety Authority and other institutions for Safety, Health and Welfare at Work.

Safety Instruction and Training

It is recognised by Kaushal Interiors Pvt. Ltd that no one can be expected to perform their tasks and duties safely and efficiently unless that person is experienced and trained to carry out such tasks.

Kaushal Interiors Pvt. Ltd is committed to identifying training needs and to carrying out that training and instruction as appropriate. Certain operations require that strict safety procedures be followed, where such tasks are undertaken the employees involved will receive special instruction.

It is essential that no person attempt a potentially hazardous task without instruction and or proper training.

Induction of Employees

Upon commencement with Kaushal Interiors Pvt. Ltd all employees must attend safety induction training regardless of their position or of their experience.

Every employee attending a new project will be required to attend the project specific safety induction.

All Kaushal Interiors Pvt. Ltd employees commencing work on a project shall attend an induction training course. The project manager will inform all new starts, workmen and site visitors of the location of welfare facilities and first aid equipment.

Site visitors to the workplace are discouraged unless essential to the contract. Site visitors will be informed of the site rules. The managers / supervisors shall ensure that all operatives are fully aware of the established methods of work for the operations involved. Statutory notices will be posted in site accommodation. Managers / supervisors will be issued with a copy of the company's safety statement to be kept on site for reference purposes. Training will be given and updated as necessary.

Everybody must attend induction and a record must be kept.

Toolbox Talks

Toolbox talks will be held regularly at Site. The frequency will be established by management in conjunction with client / PMC's requirements on construction projects.

General Safety Training

Kaushal Interiors Pvt. Ltd expects that all employees will co-operate in the training provided. Certain tasks in our operations require strict safety procedures be followed. Where this arises, the employees involved receive special instructions. It is essential that no person attempt a potentially hazardous task without clear instruction.

The person(s) responsible for training and instruction shall identify the training needs and report on the options available to carry out the training. He / she shall present the options to Project Director for decision.

A Training Record for all training will be maintained in the head office.

Personal Protective Equipment

It is the policy of Kaushal Interiors Pvt. Ltd to provide the required protective equipment and to replace it on the presentation of the worn or defective item.

Responsibility for ensuring that the equipment is available and used properly shall rest with the project manager.

However the wearing of P.P.E. will be a last resort measure where hazards cannot be totally removed and a manageable risk level remains.

Disciplinary Actions will be issued to persons not conforming with statutory and site requirements for the wearing of Personal Protection Equipment.

SUBSTANCE ABUSE POLICY

The aim of this policy is to ensure acceptable standards of safety, health and welfare in the workplace.

The law imposes obligations on Kaushal Interiors Pvt. Ltd to ensure a safe system of work. In addition to the obligations on Kaushal Interiors Pvt. Ltd the law requires all employees, while at work, to take reasonable care of their own safety, health and welfare and for that of any other person who may be affected by their acts or omissions while at work. Furthermore, it is the duty of every employee to co-operate with Kaushal Interiors Pvt. Ltd in this regard.

The possession, use or supply of drugs or alcohol by any employee is strictly prohibited unless the drugs are prescribed by a duly qualified, registered medical practitioner. Possession or consumption of drugs or alcohol constitutes serious misconduct which may result in disciplinary action up to and including dismissal.

Possession or consumption of scheduled drugs and / or alcohol
Where Kaushal Interiors Pvt. Ltd suspects that you have consumed drugs and / or alcohol, they reserve the right to request that you attend a medical practitioner for an examination. The results of this examination will be sent directly to you Kaushal Interiors Pvt. Ltd will request that you forward to them a copy of these results. You may in these circumstances be asked to leave your place of work for health and safety reasons pending receipt of the results of the examination.
Where Kaushal Interiors Pvt. Ltd suspects that you are in possession of / or consuming drugs and / or alcohol, an investigation will take place following the principles outlined in the disciplinary procedure.

DIGNITY AND RESPECT AT WORK POLICY

Kaushal Interiors Pvt. Ltd is committed to implementing and promoting measures to protect the dignity of employees and to encourage respect for others at work. This is done by creating a work environment free from harassment, bullying and disrespectful behaviour and by dealing effectively with any complaints of such conduct as may arise. Harassment is unequal treatment and discrimination. Bullying is defined below. Lack of respect may be shown in words, conduct, acts or demeanour. Kaushal Interiors Pvt. Ltd value the contribution of all employees and this type of behaviour can demean and damage people.

Kaushal Interiors Pvt. Ltd recognises that the issue of whether harassment, bullying or disrespectful behaviour has occurred requires a factual determination based on all the evidence received. Kaushal Interiors Pvt. Ltd also recognises that false accusations can have serious effects on innocent men and women. We trust that all employees will continue to act in a responsible and professional manner to maintain a pleasant working environment free of harassment, bullying and disrespectful behaviour. To assist in achieving this goal, no record of a complaint shall be entered in an employee's file unless the matter is dealt with under the disciplinary procedure.

Kaushal Interiors Pvt. Ltd will not tolerate harassment, bullying or disrespectful behaviour by one employee of another for any reason. In particular employees cannot and should not;

- comment to or about another employee
- harass or bully another employee
- discriminate against each other on any of the following grounds;-
    - Gender
    - Marital Status
    - Family Status
    - Sexual Orientation
    - Religious Belief or Lack of Religious Belief
    - Age
    - Disability or the Nature of Disability
    - Race, Colour, Nationality or Ethnic or National Origins
    - Membership of the Traveller Community

Definitions

Harassment

Any act or conduct of an employee including spoken words, gestures or the production, display or circulation of written words, pictures or other material, is harassment of one person by another if the action or other conduct is unwelcome to the recipient and could reasonably be regarded, in relation to the relevant characteristics outlined above, as offensive, humiliating or intimidating to that person.

Sexual Harassment

Sexual or gender based harassment is unwanted conduct of a sexual nature, or other conduct based on sex affecting the dignity of women and men at work. It can include any act of physical intimacy, any request for sexual favours or any other act or conduct including spoken words, gestures, the production, display or circulation of written words, pictures or other material.

Conduct of this nature is sexual harassment if it is unwelcome to an employee and could reasonably be regarded as due to the employee's gender, or sexually offensive, humiliating or intimidating.

Conduct of this nature by an employee towards a fellow employee will constitute sexual harassment. Sexual harassment of any form will not be tolerated by Kaushal Interiors Pvt. Ltd.

Bullying

Bullying is behaviour directed at an individual which causes them or is calculated to cause them to feel, upset, threatened, humiliated or embarrassed, due to its persistent, offensive abusive, intimidating or malicious content.

Lack of Respect

Lack of respect can be shown by direct comments, sarcasm, snide remarks, inappropriate jokes or banter directed towards a colleague. It can also arise where colleagues are ignored, overlooked, avoided or shunned without good reason and in a manner likely to be hurtful or disrespectful. Jokes or comments directed at or referring to a colleague could be thought amusing by others but unpleasant, uncomfortable or hurtful to that colleague. Respect should be shown to all colleagues. Respect is also earned. By showing respect to others and honouring their personal dignity, you will earn their respect.

Reporting of Harassment, Bullying and Disrespectful Behaviour
Harassment, bullying and disrespectful behaviour of any form as set out above will not be tolerated by Kaushal Interiors Pvt. Ltd. Any person who encounters harassment, bullying or disrespectful behaviour themselves or of a colleague should inform Kaushal Interiors Pvt. Ltd immediately. You should also report any such behaviour directed at a colleague by any third party such as a supplier or customer. Allegations of harassment, bullying or disrespectful behaviour will be treated seriously and dealt with sensitively and confidentially. Where allegations are proven they will be dealt with under the disciplinary procedure. The penalty imposed will be appropriate to the gravity of the conduct involved and could result in the dismissal of the employee against whom a complaint has been proven.

Any victimisation of an employee for reporting an incident, or assisting with an investigation of alleged harassment is a breach of equality legislation and will also be subject to disciplinary action.

Depending on the gravity of an allegation or allegations made, Kaushal Interiors Pvt. Ltd may opt to deal with the issue under the disciplinary procedure.

ENVIRONMENTAL AND WASTE POLICIES

Kaushal interiors Pvt. Ltd is committed to providing a safe and healthy workplace and in carrying out our normal work to enhance the wider environment and minimise any harmful impacts as far as is reasonably practicable.

Environmental management is formally assigned to managers / supervisors who shall ensure compliance with this policy and best current practice.

Employees are reminded that minimising waste is good for the business and good for the environment and should both co-operate with environmental initiatives and also make positive suggestions as to how we may improve our performance.

Kaushal interiors Pvt. Ltd is committed to a high level of environmental protection and, where possible, enhancement. Our employees are strongly encouraged to participate and offer suggestions as to how we may improve our performance in this area.

Kaushal interiors Pvt. Ltd will seek to minimise the creation of waste by avoiding unnecessary wastage of materials and recycling materials that cannot be directly reused as far as practicable.

All employees are required to comply with this policy by minimising waste creation and co-operating actively with recycling programmes.

Where waste is created, it shall be safely placed in appropriate storage receptacles, care being taken not to overload the storage.

Where required, Kaushal interiors Pvt. Ltd shall take care to provide suitable waste receptacles and ensure that arrangements are made for the collection / emptying of receptacles at a suitable frequency.

All employees responsible for collecting waste shall avoid handling overfilled bags etc. to minimise the risk of a manual handling injury.

Waste collection points shall be kept in a clean, accessible condition with due regard to fire protection and suitable containers.

All waste, for recycling or disposal, shall be collected by either local authority employed refuse collectors or by authorised waste carriers.

STRESS AT WORK POLICY

Stress may be defined in many ways but a widely accepted definition is as follows:- Stress is a negative and unpleasant condition which may be experienced when a person perceives that they are unable to meet the demands and pressures placed upon them and which may be associated with a range of ill health effects both physiological and psychological.
The causes of stress may be any one of a number of factors or a combination arising in one's personal life or workplace.
Kaushal Interiors Pvt. Ltd recognises that personal problems / work pressures may cause stress. When this happens, both the individual and the organisation suffer.
If you feel that you are suffering from stress and would like to talk to an independent professional counsellor please contact Kaushal Interiors Pvt. Ltd in the strictest confidence.
Kaushal Interiors Pvt. Ltd accepts that some work activities have the potential to cause stress, particularly at busy times. Care is taken in recruitment policy to ensure each person's workload is reasonable.
When risk assessments are being undertaken special attention will be paid to potential risks from stress and signs of stress at work will be noted.
Kaushal Interiors Pvt. Ltd has an arrangement with an employee assistance scheme which offers confidential and individual counselling and other advice to employees who may need it.
Any individual with clear stress related problems shall receive appropriate counselling and help from Kaushal Interiors Pvt. Ltd or shall be encouraged to make use of the employment assistance scheme but is understood that this is not an alternative to looking at the cause of the stress and if work related seeking to alter the structure and working arrangements of the job.
Following actions to reduce the risks, they shall be reassessed. If the risks remain unsustainable by the employee concerned, efforts shall be made to reassign that person to other work for which the risks are assessed as tolerable.
If it is not possible to reassign the worker to work which the employee concerned is capable of carrying out, the procedure for long-term ill health shall be applied in accordance with the policy of Kaushal Interiors Pvt. Ltd on such matters.
Kaushal Interiors Pvt. Ltd will provide and maintain suitable, smoke free rooms for individuals to take breaks from their work activity at appropriate times. The timing and duration of such breaks are at the discretion of Kaushal Interiors Pvt. Ltd.
Responsibility on EHS

DISCIPLINARY PROCEDURE

Introduction

Kaushal Interiors Pvt. Ltd requires acceptable standards of conduct from their employees and need to ensure that employee's commitments to them are met. From time to time difficulties may arise where an employee's conduct, attendance or performance requires disciplinary action. The object of the disciplinary procedure is to ensure a fair and effective means of dealing with disciplinary issues as they arise, that any disciplinary action deemed necessary is imposed following proper and fair procedures and to ensure that the disciplinary action is appropriate in the circumstances.

Principles

- Disciplinary action will only be taken against you as an employee when the case has been fully investigated.
- At every stage in the procedure you will be advised of the nature of the complaint against you and will always be given the opportunity to state your case before any decision is given.
- At all stages you will be given the right to be accompanied by a person of your choice.
- You will have the right to appeal against any disciplinary penalty imposed on you.

Kaushal Interiors Pvt. Ltd reserve the right to select the appropriate stage of the disciplinary procedure based on the particular circumstances of each case.

Stage I - Verbal Warning

- If your conduct or performance does not meet acceptable standards you will normally be given a formal Verbal Warning by Kaushal Interiors Pvt. Ltd.
- Targets for improvement in both time and conduct / performance will be agreed between you and Kaushal Interiors Pvt. Ltd and further disciplinary action will be taken against you if there is not satisfactory improvement.
- A letter confirming that a Verbal Warning has been given to you will be confirmed to you in writing and a copy will be kept on your personnel file for a period of six months.
- A verbal warning will be given for minor offences which include minor damage to company property, minor breach of company rules and regulations, unexplained absences from work, poor timekeeping and poor job performance. This list is not exclusive.

Stage 2 - First Written Warning

If you commit an offence of a serious nature or are already in receipt of a verbal warning to which you have not responded satisfactorily within the agreed time scale you will be issued with a First Written Warning. The written warning will be issued by Kaushal Interiors Pvt. Ltd. A copy of this warning will be kept on your personnel file for a period of twelve months.

Stage 3 - Final Written Warning

If there is still a failure to improve and conduct or performance is still unsatisfactory, or if the misconduct is sufficiently serious in itself, a Final Written Warning will be given to you. This will explain the nature of the offence and indicate that any recurrence may lead to dismissal. The Final Written Warning will be issued by Kaushal Interiors Pvt. Ltd. A copy of this warning will be kept on your personnel file for a period of twelve months. Exceptionally, there may be circumstances where the misconduct is so serious - verging on gross misconduct - that it cannot realistically be disregarded for future disciplinary purposes. In such circumstances it will be made very clear that the Final Written Warning can never be removed from your personnel file and that any recurrence will lead to dismissal.

Stage 4 - Dismissal

If conduct or performance is still unsatisfactory and you still fail to reach the prescribed standard, dismissal will normally result. Kaushal Interiors Pvt. Ltd only can take the decision to dismiss. You will be provided, as soon as reasonably practicable, with written reasons for dismissal. One copy is to be retained by Kaushal Interiors Pvt. Ltd.

Serious Misconduct

The following types of behaviour during working hours, or in connection with your employment will normally be dealt with by the dismissal procedure.

- Physical violence, actual or threatened.
- Bullying, harassment and sexual harassment.
- Theft or unauthorized removal of materials or equipment.
- Malicious or wilful damage to property belonging to any employee of Kaushal Interiors Pvt. Ltd or belonging to Kaushal Interiors Pvt. Ltd.
- Falsification of records, including personal particulars and pay sheets, or falsely claiming expenses or other benefits.
- Professional misconduct such as, breaches of confidentiality, inappropriate sexual behaviour gross negligence or irresponsibility.
- Unauthorized absence from work
- Criminal offences outside working hours which may affect the employee's ability to perform his or her duties, particularly where there is an element of trust involved or it is felt there could be a risk to others.

This list is not exclusive nor does it imply that Kaushal Interiors Pvt. Ltd will not take

action in accordance with its rights or duties under criminal law, where appropriate.
Suspension from Duty
If you are accused of serious misconduct you may be suspended from work with or without pay or temporarily redeployed within Kaushal Interiors Pvt. Ltd, while Kaushal Interiors Pvt. Ltd investigates the alleged offence. Such action does not imply guilt. Immediate suspension from duty can only be authorised by Kaushal Interiors Pvt. Ltd. If, on completion of the investigation, Kaushal Interiors Pvt. Ltd is satisfied that serious misconduct has occurred, the result will normally be summary dismissal.
Appeals against Disciplinary Procedure
Employees shall have the right to appeal against the following disciplinary actions: -
(a) Dismissal
(b) Verbal Warning, First Written Warning and Final Written Warning

An employee who wishes to appeal against a disciplinary decision must inform Kaushal Interiors Pvt. Ltd in writing within five working days of the decision to be appealed. An employee will have the right to be accompanied by a person of their choice during the appeals procedure.

At the appeal the disciplinary procedure imposed will be reviewed but it cannot be increased. Should any disciplinary procedure be reconsidered and withdrawn any written references shall be removed from the employee's personnel file and the employee notified accordingly.

Accident Prevention Programme

Introduction

If the ultimate objective of lowering operational costs and accident reduction is to be achieved, this accident prevention programme has to be well planned and effectively monitored and controlled, at project sites. The code of practice being brought out is one such measure towards reducing accidents.

Scope: This accident prevention programme is applicable to all project sites.

Responsibility

The responsibility of ensuring this code of practice at various levels is as follows:

Regional Manager

Responsible for the total implementation of the code in all the sites in the region.

Regional Safety Engineer

Responsible for assisting Regional Manager in working out a programme in accordance with the code and to review the programme periodically according to the results achieved.

Visiting all work spots to detect any flaws in the programme and to monitor the performance of the programme.

Investigating all serious accidents to reinforce the safety programme or the code of practice itself. Compiling accident statistics.

Construction Manager / Resident Engineer

Responsible for the total compliance of this code in the project site.

Site Safety Committee

Evaluating a suitable course of action in the day to day activities for the effective implementation of the safety programme.

Meeting regularly once in a fortnight to discuss and decide the ways and means of eliminating the factors affecting safety.

To analyze all the activities of the coming fortnight, identifying the possible hazards and finalizing the precautions to be taken.

To monitor the performance of the safety programme and suggesting improvements whenever needed.

Inspecting the site twice a week to locate unsafe conditions, with reference to the self inspection checklist.

Investigating all accidents and strengthening the safety programme by additional precautions, if any on the basis of the accident investigation.

Site Safety Engineer / Safety Co-ordinator:

Inspecting the site along with the site engineers and making on the spot corrections of unsafe acts of the workmen and taking suitable steps to eliminate all the unsafe conditions.

Planning the requirement of first aid, fire fighting and safety appliances well in advance and ensure that they are maintained in good conditions.

Investigating all the accidents including near misses to compile causes of accidents and arranging to send Investigation reports to Regional Offices /Head offices.

Conducting periodical Tool Box meeting at site for various types of the workmen.

Working out the cost of all accidents in co-ordination with the site accountants.

Preparing agenda for the site safety meetings and recording the proceedings.

Sending the monthly accident statistics to Regional safety Engineer.
Organizing Safety promotional activities.

Site Engineer / Supervisor / Foreman:

Understanding the code fully and following the same in their day-to-day activities.

Giving on the job safety instructions to their workmen daily, highlighting the possible danger in that day's work and precautions to be taken.

Eliminating all unsafe conditions in their work area.

Keeping their work area neat and clean, especially at heights, and free from loose materials.

Taking an active part in the safety committee meetings.

Sub contractor:

The sub-contractor / his site in-charge shall adhere to the rules and regulations mentioned in this code of practice very strictly in his area of work in consultation with his concerned Engineer and the safety co-ordinator.

Safety Planning:

Safety should not be viewed as a separate entity.

It should be integrated with all the activities right from the Design, Estimate and Planning stages.

Then, during the execution stage, there will not be any difficulty in ensuring safety standards. During the preparation of estimates, accident prevention requirements should be carefully analyzed.

Adequate monetary allocations should be made for items such as Trench Bracing, Barricades, warning signs, Fire protection and first aid equipments, approach platforms, temporary supports, scaffolding, etc.

Total requirement of personal protective appliances like safety helmets, safety Belts, Safety nets, Goggles, Gloves, etc., also has to be estimated carefully and provision be made for these items also.

As soon as a job is obtained, key personnel should discuss about accident

Prevention procedure during the kick-off meeting.

Job layouts, plans and schedules should be studied to determine requirements of safety materials, as discussed in the above paragraph, and a procurement schedule should be developed.

Supervisory personnel assigned to the job should confer as soon as practical to review initial planning, to discuss any condition changes, and to alter safety plans accordingly.

On the basis of the decision reached, a brief supplemental safety programme be developed and distributed to all supervisory personnel on the job and to those who may later be assigned.

Subsequently, regular safety committee meetings shall be conducted to monitor the safety performance.

“Right man to fit the job” is obviously an important fact of any accident prevention programme and should be given basic consideration.

While selecting sub-contractors, their attitude towards safety and their past accident record should be checked carefully.

All their staff and workmen should be thoroughly screened to check their knowledge on safety.
Unless there is accurate means of measure, it is virtually impossible to determine progress in any management function and accident prevention is no exception. All accidents for which insurance claim is registered should be supplemented with an accident investigation report for our internal purpose.

INTERNAL SAFETY AUDIT PROCEDURE

- The safety advisor undertakes the site safety inspection with the site foreman / project Engineer and completes the safety checklist and hand writes his safety report.
- The safety report is discussed with the site foreman / project Engineer.
- The one copy of the report is left on site for the site foreman / project Engineer to start correcting highlighted issues.
- The second copy of the report is removed from site with the safety checklist for typing.
- The typed copy of the safety checklist and the safety report are emailed to the project manager and Project Director.
- The site foreman and / or the project Engineer sign off each issue when it is corrected.
- When all issues are corrected the project manager signs off the entire report and forwards the safety report and safety checklist to Project director.
- Project Manager Signs off the safety report to indicate that all issues have been resolved and files the signed off safety report and the safety checklist for future reference.

SAFETY HEALTH AND WELFARE ARRANGEMENTS

RESOURCES FOR HEALTH AND SAFETY:

Training and re-training for first aid personnel.
Acceptance by management of their responsibility for all employees. This involves ensuring that all employees are aware of the safety hazards and are adequately trained in safety practices to minimise the risk of accident / injury. Any potential hazards not within the scope of the managers responsibility to remedy must be reported immediately Kaushal interiors Pvt. Ltd.
Kaushal interiors Pvt. Ltd managers / supervisors have the authority and financial resources to immediately take corrective action on potential hazards when brought to their attention.
Time and resources involved in undertaking hazard audits.
Fire evacuation and training in the use of portable fire extinguishers.
Training in lifting and handling.

SMOKING POLICY:

It is the policy of Kaushal interiors Pvt. Ltd that all places of work are smoke free and that all persons have a right to a smoke free environment. Smoking is prohibited throughout all places of work. This policy applies to all office workers, employees, consultants, contractors, sub-contractors or visitors.

CONSULTATION:

Kaushal interiors Pvt. Ltd is committed to meeting its responsibilities with regard to consultation in compliance with the BOCW Act 1996. If there are any matters which are not covered in this safety statement that you feel should be addressed please bring them to the attention of Kaushal interiors Pvt. Ltd.

LONE WORKING:

Where possible lone working must be avoided. A buddy system should be operated. This would ensure that there is always someone to call for assistance and / or the emergency services in the event that this is deemed necessary.

GENERAL PRECAUTIONS WHEN USING CHEMICAL PRODUCTS:

This section must be read in conjunction with the material safety data sheets for all chemical products in use by Kaushal Interiors Pvt. Ltd. Kaushal Interiors Pvt. Ltd recognise that before using any chemical or dangerous substance, the user must be provided with the necessary information and necessary training to use the chemical or substance in a safe manner. The user must be made aware of the hazards associated with the chemical or substance and of the control measures including personal protective equipment requirements that must be in place before using the chemical or substance. Where less hazardous alternatives to the chemical products in use at present become available they will be used in place of existing products.

The necessary resources will be provided to handle any emergency situation including personal injury accident, fire, explosion and spillage. Where training is required, it will be provided. All chemicals and dangerous substances will be stored in accordance with information contained in their material safety data sheets.

DELIVERIES:

Local parking restrictions will be observed. Every effort will be made to avoid unloading of deliveries during peak periods. Parking at site shall be in accordance with good practice and agreement of site authority. All deliveries are to go directly to Kaushal interiors Pvt. Ltd storage.

DRIVING POLICY:

All Kaushal interiors Pvt. Ltd owned vehicles will be serviced and maintained in accordance with the manufacturer's instructions. Where defects are discovered the vehicle driver must bring these to the attention of managers / supervisors immediately. Materials stored in vehicles must be adequately secured to prevent damage to the materials, injury to operatives and accidental displacement into the public roadway. The cab and storage areas of vehicles must be regularly cleaned out. Only named drivers on the Kaushal interiors Pvt. Ltd vehicle insurance policy who have full drivers licenses may drive company vehicles. In all situations drivers must be authorised by Kaushal interiors Pvt. Ltd. The rules of the road must be obeyed at all times. Site-specific speed limits will be observed at all locations where Kaushal interiors Pvt. Ltd carry out its business.

ROOF WORK:

In all cases where roof work has to be undertaken a 'permit to work' must be prepared and signed off. In roof areas where edge protection has been installed, it shall not be necessary to wear safety harnesses. In all other roof areas safety harnesses secured to suitable anchorage must be worn by all operatives at all times.

MANUAL HANDLING:

Manual handling will only be undertaken when mechanical methods are unsuitable. When the load is too heavy for one man, additional manpower is to be used. There must be adequate room to lift an object, a clear path to its destination and sufficient space to put it down. When objects have an awkward shape or sharp edges, gloves must be worn. Manual handling over long distances is discouraged.

SIGNS & BARRIERS:

A sufficient quantity will be displayed and erected to identify hazardous areas around the site for operatives and public, where appropriate. Other contractors will be expected to discharge similar obligations, where appropriate.

WELFARE:

Kaushal interiors Pvt. Ltd will ensure that there are adequate canteens, drying rooms, toilets and washing facilities on all projects on which they are engaged.

ELECTRICAL EQUIPMENT / WORK:

Portable appliances to be 125 volt rated or less, or battery operated. Care to be taken with trailing leads and cables to avoid risk of damage, particularly from traffic, trip hazards in walkways and doorways and any kinking or knotting. Faulty or damaged equipment shall be removed from use. Employees are to check before each use that the flexible cable is not damaged and is firmly connected to the tool and plug. Tools shall be disconnected before any adjustments are made or attachments changed.

HOUSEKEEPING:

Kaushal interiors Pvt. Ltd will remove excess materials and waste on a regular basis and store / dispose of it in accordance with company policy and site procedure. All other contractors are expected to discharge their responsibility in a similar manner.

HOT WORK:

A documented Hot Work Permit System will be in place for the use of all welding, flame cutting and allied processes. Suitable fire extinguishers in sufficient quantity for the work in progress will be provided. Operatives will be trained in their use. Suitable first-aid facilities as required generally for the site will also be available. A continuous fire watch during Hot Work will be maintained and will continue for at least one hour afterwards. Hot slag or debris will not be left unattended at the work site. Combustible materials (flammable liquids, wood, paper textiles, packing or plastics) will be removed from within 10 meters of the Hot Work area. Combustible material that cannot be removed will be protected from sparks or hot slag with either metal shields or fire blankets. A local assessment should be made of adjacent areas (behind or under partitions and walls) for combustible materials. Gas hoses will be kept clear of the Hot Work area to prevent contact with flames, heat, sparks or splatter. Oxygen and other gas cylinders will be stored outside in clear open air. They will be segregated by type and hazard at a distance of at least 3 metres. Storage areas will be tamper and vandal proof and will not be positioned within 1 metre of boundary walls. Cylinders will be kept upright in their designated bottle racks and will be secured at all times. Only trained operatives will use oxygen / fuel gas welding or cutting equipment and / or other welding equipment. Training will include precautions to be taken during tasks, use of fire extinguishers and emergency procedures. Oxygen / fuel gas cylinders will be fitted with a shut off valve to isolate gas supply (cylinder valve), a pressure regulator to reduce and control gas pressure and flashback arrestors to protect cylinders from flashbacks and backfires. The blowpipe will be fitted with non-return valves to prevent oxygen reverse flow into the fuel line and fuel flow into the oxygen line. Only hoses, equipment, regulators, valves, welding leads etc. designed for the specific process

will be used. Work will be contained with suitable barriers (flash guards and welding screens), to protect other personnel in the vicinity. The work area will be kept free of debris underfoot. Hose and cable runs should not obstruct walkways or cause a trip hazard. Good ventilation should be in place for welding and cutting operations. Operative will wear the correct PPE for the task – flame retardant overalls, welder's gauntlets & suitable eye protection. A suitable dust mask / respirator should be worn to protect against specific processes e.g. welding or cutting galvanized material. No loose clothing will be worn.

EMERGENCY PROCEDURES:

Kaushal interiors Pvt. Ltd trained First Aid personnel will keep a First Aid Box and it is the duty of First Aid personnel to take charge of all first aid equipment provided on the site.

The site manager is able to handle emergency situations or to summon outside help as the need arises, i.e. 100 for Police, 101 for Ambulance and 102 for Fire. Emergency phone numbers will be posted in site accommodation. All accidents and dangerous occurrences will be recorded and controlled in accordance with BOCW (Regulation of Employment and Conditions of Service) Act 1996 (Central Act 27 of 1996). A preliminary accident report will be forwarded to head office and where appropriate entered in the company accident book. The H.S.A., client or PMC will be notified as appropriate. Dangerous occurrence reports shall in every instance be forwarded to the Kaushal interiors Pvt. Ltd head office without delay for review. The H.S.A., client or PMC will be notified as appropriate.
First aid accidents shall be recorded in the first aid log.

FIRE:

- In the event of fire the following procedures must be followed:
- Raise the fire alarm
- Tackle small fires using portable fire extinguishers if you are trained to do so and it is safe to do so.
- Keep yourself between the fire and the exit.
- Go immediately to the assembly point.
- On hearing the fire alarm you must Leave the premises by the nearest safe exit, and go to the assembly point.
- Upon reaching the assembly point, report to your fire marshal.
- Managers / supervisors are responsible for the evacuation of all work areas.
- Remain at the assembly point until a roll call takes place and all persons have been accounted for.
- Nobody may leave the assembly point until instructed to do so.

EMERGENCY CONTACT LIST

KAUSHAL INTERIORS PVT. LTD

EMERGENCY CONTACT LIST

Name	Position	Contact Number

SENIOR MANAGEMENT CONTACT NUMBERS

OTHER COMPANY CONTACT NUMBERS

HEAD OFFICE **Kaushal Interiors Pvt. Ltd.** #22, 2nd Floor B.V.R Reddy layout, 2nd cross, Ring Road , Kalyan Nagar, Bangalore – 560043. Tel: 080-25456086, Telefax: 080-25427044 E-mail: bangalore@kaushalinteriors.com	Tel: 080-25456086

GENERAL EMERGENCY CONTACT NUMBERS

POLICE	100	
AMBULANCE	101	
FIRE BRIGADE	102	
ELECTRICITY		

RESPONSIBILITY ON EHS

Kaushal Interiors Pvt Ltd strongly believes that safety is not only the sole responsibility of the management but that all personnel are responsible for their own safety as well as the safety of their fellow workmen and to their working environment.

Managing Director / Directors

Overall in-charge of the organization in Kaushal Interiors Pvt Ltd,
Instruct and support to implement all kinds of safety programmes & procedures.
Review and update the company's safety policy and other related duties as required by the relevant authorities and clients.

Safety In-Charge / Officers

Develop and implement safety management system and its compliance.
Conduct safety committee meeting with all the safety personnel and sub-conductor.
Ensure proper record keeping and Prepare reports and logs of workers.
Report to the management, relevant unsafe activities, incident and accident details.
Advice and assist with job safety analysis, job instruction training, safe work procedure, method statement and risk analysis.

Project Manager / Site Manager

Co-operate the safety programmes, rules and regulation.
Any kinds of abnormal works do not allow to work without proper control measures.
Conduct regular inspections and audits on safety provisions.

Site Supervisors / Team leaders

Supervise and ensure workers are complying and adhere to site safety rules and requirements.
Check and advice to the workers on compliance with the safe work practices.
Rectify unsafe conditions and correct unsafe act promptly on site.
Attend safety meeting to contribute to a safe working environment.

QUANTITY SURVEYORS RESPONSIBILITIES

The quantity surveyor(s) must:

Be familiar with the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 (Central Act 27 of 1996), and subsequent Regulations, and the company policy applicable to the work

undertaken.
Show a personal example by wearing the safety equipment provided.
Ensure all commercial aspects of the company are managed with safety at the forefront and included in all tenders and subcontractor documentation.

SUBCONTRACTORS RESPONSIBILITIES

Subcontractors must:

Provide their safety statement when requested to do so.
Produce evidence when requested; showing that appropriate employers and public liability insurance is in place.
Bring to the attention of Kaushal Interiors Pvt. Ltd without delay any dangerous practices or situation which could lead to the injury of another person on site.
Co-operate with Kaushal Interiors Pvt. Ltd in providing a safe place of work.
Ensure that all their employees and others under their care are provided with and wear appropriate personnel protective equipment.
Only use competent and suitable persons on site.
Ensure that their managers, supervisors and employees are aware of the obligations placed upon them with regard to health and safety.
Use correct tools and equipment.
Maintain tools in good condition.
Operate any site specific permit to work systems.
Ensure that all their employees engaged in construction / maintenance / fit out work have received or will receive Safe Pass training in accordance with the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 (Central Act 27 of 1996).
All sub-contractors employees carrying out work for Kaushal interiors Pvt. Ltd. should be aware of their own company's safety statement.

Every employee of a subcontractor should use his own company's tools and equipment, suitable for the task being undertaken.

No employee of Kaushal interiors Pvt. Ltd should be requested, or expected, to assist subcontractor's employees in the pursuance of their duties.

All equipment and the area where work is being undertaken must be left in a safe condition on completion of the work or at any time subcontractor's employees are not in attendance.

Note: All subcontractors are employers in their own right and as such have statutory non-transferable Safety & Health duties to their own employees regardless of who undertakes the role of Client / PMC or who the main contractor or contracting company may be.

First Aid Personnel

In-charge of First Aid Box

To provide first aid assistance in the need of any medical emergency

To assist in any investigation after any medical injury/ emergency

Sub-Contractors Manager, Engineer, Supervisor and Foreman

Responsible for the safety activities and respect all kinds of safety rules and regulation from main-con.

Conduct daily inspection and act on unsafe act and conditions.

Train and monitor workers for safe work practices.

Conduct daily safety meeting and keep the record for future reference.

Attend safety meeting and inspection as required.

GENERAL SAFETY GUIDANCE

ASBESTOS

Asbestos is a mineral fiber that causes cancer and various respiratory illnesses. Asbestos is commonly found in older appliances, insulation, shingles, siding, putties, and caulking. Generally, it is not a problem unless the material that contains it crumbles or flakes.

SOLVENTS

Solvents are used to dissolve oils, resins, varnishes, and inks. They are also used to remove paint and lacquer. Due to their common usage, solvents are one of the most underrated safety hazards. Most organic solvents are poisonous if swallowed or inhaled in sufficient quantities. They also cause dermatitis and narcosis.
Use the least toxic solvent possible. Denatured or isopropyl alcohol, acetone, and odourless mineral spirits are less toxic than solvents such as chloroform or ethylene.

AEROSOL SPRAYS

Aerosol sprays, such as fixatives, paint sprays, and adhesive sprays, are extremely dangerous if someone inhales the fine mists produced by these products. Air

brushes and spray guns are equally hazardous. Use aerosol sprays in a well-ventilated area and wear a dust/vapour mask to protect you from the hazardous vapours.

ACIDS AND ALKALIS

The acids and alkalis used in ceramics, photo chemicals, paint removers, and similar materials can be very caustic to the skin, eyes, respiratory system, and gastrointestinal system. Likewise the acids and alkalis used to etch metals and glass can be very dangerous. Strong acids, such as hydrochloric and sulphuric acid, require special handling as outlined in the MSDS. Alkalis, such as caustic potash, caustic soda, quicklime, and unslaked lime, also require special treatment.

Remember to add acid to water, not water to acid, when mixing chemicals.

PAINTS AND PIGMENTS

Many paints and colour pigments contain hazardous chemical compounds. Lead paint, for example, is extremely dangerous, and should never be used in its powder form. Other paint components, such as chromate, cadmium, and cobalt pigments, are equally hazardous. Do not inhale powdered paint or spray paint vapours or accidentally ingest pigment by placing the brush tip in your mouth. In addition, do not eat, drink, or smoke while painting. Any of these activities could result in chronic poisoning.
The table below outlines common paint pigments and their hazardous chemical component:

Hazardous Chemical	**Pigment (Paint Name)**
Arsenic	Emerald Green Cobalt Violet
Antimony	True Naples Yellow
Cadmium	All Cadmium Pigments
Chromium	Zinc Yellow Strontium Yellow Chrome Yellow

Cobalt	Cobalt Violet Cobalt Green Cobalt Yellow Cerulean Blue
Lead	Falk White Lead White Cremnitz White Mixed White
Manganese	Manganese Blue Manganese Violet Burnt Umber Raw Umber Mars Brown
Mercury	Vermilion Cadmium Vermilion Red

PLASTICS, ACRYLICS, EPOXY RESINS

Plastic hazards result from making plastic and working with finished plastic. The greatest hazards associated with making plastic come from the monomers, solvents, fillers, catalysts, and hardeners that are commonly toxic. The hazards involved with finished plastics result mainly from the methods used to work the plastic. For example, overheating or burning plastic produces toxic gases. Polishing, sanding, and sawing plastic produces harmful dusts.
Certain types of plastics, such as acrylics and epoxy resins are also hazardous. The components in acrylic, for example, include irritants, explosives, and flammables. The main hazard associated with acrylic compounds, however, is inhalation. Always maintain good ventilation when working with acrylic.
The epoxy resins used in laminating, casting, glues, and lacquer coatings, are also skin irritants, sensitizers, and suspected cancer-causing agents. Avoid skin contact and inhalation when working with epoxy resins.

LEAD PAINT

Lead poisoning is a leading environmental health risk. Lead accumulation in a person's system may lead to fatigue, sudden behavioural change, abdominal pain, anorexia, chronic headaches, joint aches, depression, anaemia, impotence, and severe fatal damage in unborn infants.
Contact the Safety Office if you have any questions about lead paint hazards.

WOODWORKING

The hazards associated with woodworking include sawdust inhalation, exposure to toxic solvents and adhesives, and excessive noise from woodworking tools. Long term inhalation of sawdust can cause chronic respiratory diseases. Depending on the type of wood, short term sawdust inhalation may also produce allergic reactions. Toxic preservatives, such as arsenic compounds and creosote, may cause cancer and reproductive problems. Epoxy resins and solvent-based adhesives, also pose potential hazards. Use dust collectors around woodworking machines, ensure proper ventilation, and wear personal protective equipment, as appropriate.

HEARING CONSERVATION

Excessive noise levels may permanently or temporarily damage a person's hearing. Whenever possible, employees should reduce noise levels to an acceptable level. The following table outlines OSHA limits for acceptable noise exposure indicated as decibels (dB).

Duration/Day (Hours)	Sound Level(dB)
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

Hearing loss can be permanent---wear protective equipment when noise levels are

high.
Before using personal protective equipment, such as ear plugs or muffs, to reduce noise exposure, try to reduce noise levels by changing work procedures. Maintenance practices such as the following can reduce noise levels:

- Replacing worn or loose machine parts
- Performing high-noise operations during hours when people are less likely to be affected
- Maintaining and lubricating equipment to eliminate rattles and squeaks

The following table illustrates various noise levels:

Whisper	10 dB
Quiet Office	30 dB
Street Sounds	70 dB
Factory	80-90 dB
Sander	85 dB
Subway	90 dB
Pneumatic Drill	100 dB
Artillery/Car Horn	120 dB

Engineering controls, such as the following, can also reduce noise levels:

- Replacing noisy materials
- Using large, low speed fans
- Considering the noise level of new equipment or processes before purchasing or implementing
- Placing heavy machines on rubber mountings
- Using sound-absorbing acoustical tiles or baffles
- Placing noisy machinery or operations in a separate area or room
- Enclosing noisy conveyors

Areas that may require hearing protection include machine shops, the power plant, etc. Observe all warning signs and wear hearing protection whenever necessary. Do not interfere with, remove, or modify noise abatement equipment. Keep all equipment properly maintained, and report any malfunctions immediately.

Refer to the chapter on Personal Protective Equipment for more information on hearing protection. Direct all questions regarding hearing conservation to the Safety Office. When requested and necessary, the Safety Officer monitors noise levels.

HEAT STRESS

People may suffer from heat stress during hot, humid conditions. Because the

climate at certain work places could be conducive to heat stress, people must take preventive measures to reduce their risk. To prevent heat stress, employees should limit strenuous physical activity during the hottest portion of the day, wear a brimmed hat when in the sun, take frequent breaks, and drink plenty of fluids. Heat stress occurs in two forms: heat exhaustion and heat stroke.

HEAT EXHAUSTION

Heat exhaustion is usually caused by strenuous physical activity and hot, humid conditions. Because heat exhaustion is the body's response to insufficient water and salt, it should be treated as quickly as possible.
Signs and symptoms of heat exhaustion include the following:

- Exhaustion and restlessness
- Headache
- Dizziness
- Nausea
- Cold, clammy, moist skin
- Pale face
- Cramps in abdomen and lower limbs

- Fast, shallow breathing
- Rapid, weak pulse
- Falling body temperature
- Fainting

Take the following steps to administer first aid for heat exhaustion:

1. Have the victim lie down in a cool or shaded place.
2. If the victim is conscious, have him/her slowly sip cool water.
   If the victim is unconscious or is conscious but does not improve, seek medical aid as soon as possible.
3. If the victim is sweating profusely, have him or her sip cool water that contains one teaspoon of table salt per pint of water.

HEAT STROKE

Heat stroke is usually caused by exposure to extreme heat and humidity and/or a feverish illness. Heat stroke occurs when the body can no longer control its temperature by sweating. Heat stroke is extremely dangerous and may be fatal if not treated immediately.

The signs and symptoms of heat stroke include the following:

- Hot, dry skin

- Headache
- Dizziness
- High temperature
- Strong pulse
- Noisy breathing
- Unconsciousness

Immediately take the following steps to administer first aid for heat stroke:

1. If possible, move the victim to a cool place.
2. Seek medical attention as soon as possible.
3. Remove the victim's clothing.
4. If the victim is conscious, place him in a half-sitting position and support the head and shoulders.
5. If the victim is unconscious, place him on the side with the head facing sideways, Fan the victim and sponge the body with cool water.

INDOOR AIR QUALITY

Indoor air quality refers to the condition of air within an enclosed workplace. The indoor environment of any building is based on several factors including location, climate, building design, construction techniques, building occupant load, and contaminants.

Four key elements are involved in the development of poor indoor air quality:

1. Multiple contaminant sources
2. Poor ventilation systems
3. Pollutant pathways
4. Building usage and occupant load

Outside sources for indoor air contaminants include pollen, dust, industrial pollutants, vehicle exhaust, and unsanitary debris near outdoor air intake vents. Other outdoor agents, such as underground storage tanks or landfills, may also affect indoor air quality.

Indoor contaminants are classified according to these categories:

- Combustion products (e.g., smoke)
- Volatile organic compounds (e.g., solvents and cleaning agents)
- Respiratory particulates (e.g., dust, pollen, and asbestos)
- Respiratory by-products (e.g., carbon dioxide)
- Microbial organisms (e.g., mould, mildew, fungi, and bacteria)
- Odours (e.g., perfume, smoke, mould, and mildew)

Additional examples of indoor contaminants include dust, dirt or microbial growth in

ventilation systems, emissions from office equipment, and fumes or odours from any source.
Employees are responsible for the quality of their indoor air. Because indoor air often contains a variety of contaminants at levels far below most exposure standards, it is difficult to link specific health problems with known pollutants. Employees must minimize all contaminants to reduce the low-level pollutant mixtures that commonly cause health problems.

The following practices will help ensure optimum indoor air quality:

- Fix leaks and drips. (Moisture promotes microbial [i.e., mold and mildew] growth.)
- Clean mold and mildew growths with a bleach/water mixture to prevent growth.
- Ensure that indoor ventilation filters are changed regularly.
- Minimize chemical and aerosol usage. Ventilate your area when chemical or aerosol usage is required. (These compounds include paint, cleaning agents, hairspray, perfume, etc.)
- Do not block air ducts to control the temperature in your office.
- Avoid smoking or cooking in enclosed areas. (Smoking is strictly prohibited within work facilities and vehicles.)
- If possible, open windows when it is cool and dry outside.

If you have any questions concerning indoor air quality, please contact the Safety Officer.

LIFTING

All employees must use proper lifting techniques to avoid injury when lifting heavy objects. In general, employees should seek assistance when lifting objects that weighs 20 Kg or more. Use your good judgement to determine if you need assistance, a dolly, back support belt, or other tool to safely lift an object.

The back supports the weight of the entire upper body. When you lift objects or move heavy loads, your back has to support even more weight. If you exceed your body's natural limits, your back cannot support both your body and the extra load. The excess, unsupported pressure is transferred to the lower back, where injury is imminent. By using the muscles in your arms and legs and exercising proper lifting techniques, you can move loads safely and protect your back from possible injury.

Follow these guidelines to help avoid back injuries:

- Avoid moving objects manually. Plan jobs and arrange work areas so that heavy items may be moved mechanically.
- Keep in good physical condition. If you are not used to lifting and vigorous exercise, do not attempt difficult lifting tasks.

- Think before you act. Use proper lifting techniques and lifting aides such as back support belts, dollies, etc. Get help if you need it.

When lifting heavy objects, follow these steps and refer to the illustration on the following page:

1. Test the object's weight before handling it. If it seems too heavy or bulky, get assistance.
2. Face the object, place one foot behind the object and one foot along its side.
3. Bend at the knees.
4. Get a firm, balanced grip on the object. Use the palms of your hands, use gloves if necessary.
5. Keep the object as close to your body as possible. (Pull the load in close before lifting.)
6. Lift by straightening your legs and slightly unbending your back.

    - If the object is too heavy or bulky, get help.
    - Do not twist the back or bend sideways.
    - Do not perform awkward lifts.
    - Do not lift objects at arm's length

7. When moving objects, proceed with caution through doors and around corners.

PREVENTING SLIPS AND FALLS

It is easy to prevent falling accidents. Employees should always follow good housekeeping practices and pay attention to their environment to avoid slips and falls.

In addition, employees should follow these guidelines:

- Turn on office lights. Ensure that passageways are adequately lighted.
- Avoid horseplay.

- Avoid unnecessary haste. Do not run in work areas.
- Use ladders or step-stools to reach high places. Never climb onto a chair, drawer, or shelves.
- Keep hallways and stairwells neat and free of obstacles.
- Remove items that may pose a potential slipping hazard.
- Clean up spills as soon as they occur.
- Never obstruct your view when walking.
- Do not wear clothing that is too long or shoes that have slippery heels or soles.
- Hold the handrail when using stairs.

- Be careful when walking on wet surfaces or when entering a building while wearing wet shoes.
- Report uneven surfaces, such as loose or missing floor tiles, to the Physical Plant for repair.

SMOKING

- Breathing secondary smoke causes various diseases and allergic reactions in healthy non-smokers.
- Separating smokers and non-smokers within the same air space does not eliminate exposure to environmental tobacco smoke for non-smokers.
- Tobacco smoke and secondary tobacco smoke are Class A carcinogens.

VISITOR SAFETY

Employees must take special care to ensure visitor safety. This is particularly important when bringing visitors to potentially hazardous areas such as construction sites or laboratories.

HOUSE KEEPING

Good housekeeping is an important element of accident prevention. It should be planned at the beginning of the job and carefully supervised until the final clean up while handing over the site to the client.

Housekeeping should be the concern of all supervisors and Engineers in their area of working. Housekeeping should be part of daily routine with clean up being a continuous procedure.

SIMPLE RULES FOR HOUSE KEEPING

Storage Areas: All materials should be maintained in neat stockpiles with well laid aisles and walkways for ease of access. There shall not be any projections in the walkways.

Work areas: Loose materials, scrap, tools, etc shall not be allowed to be lying in the working areas especially in the vicinity of ladders, ramps stairs etc. This is more important at heights where the loose materials are liable to fall down.
Spills of oil and grease should be removed immediately. An effective means of preventing loose pieces lying dangerously at heights is the provision of suitable receptacles for waste and scrap pieces.

Protruding Nails: Protruding nails in wooden pieces is a chronic problem in civil

construction sites. It is worthwhile to have one or helpers continuously retrieving protruding nails.

Scrap Yard: Wooden scrap yard should be well away from any gas cutting or welding operations and **"No Smoking"** shall be strictly ensured there. All other combustible scrap like cotton waste, wooden boxes, and empty paint tins shall be disposed off safely then and there.

Lighting: Adequate lighting should be provided in and around all work areas,passage ways, stairs, ladders and other areas used by personnel.

Opening in floors: All openings in floors where workmen are liable to work or even pass through shall be either closed or barricaded. If they are closed, a visible warning sign shall be kept to indicate the opening below the cover.

The approach road from and to the work site shall never be blocked by parking vehicles or stacking materials, etc. thus blocking the movement in case of emergencies.

PERSONAL PROTECTIVE EQUIPMENTS

Safety appliances play a vital role in protecting the workmen from injury during execution of jobs.

Some of the important safety appliances are listed below. They must be in good condition and conform to the specified standards.

Where work is carried out at different levels, all must wear SAFETY HELMETS.

Men working at height must wear standard SAFETY BELT of approved quality and lifeline should not be less than ¾" die and 3 meter long.

Persons doing material handling jobs, gas cutting, welding or operating paving breakers should wear HAND GLOVES prescribed for respective job.

While gas cutting, brick dressing, welding, grinding, operating pavement breakers etc, workmen must wear SAFETY GOGGLES recommended for the purpose.

EAR PLUG or EAR MUFFS should be provided to those working at places with high sound level, above 90 dB.

Fire fighting equipment of proper type to be used while working, where there is a chance of fire hazard. Fire fighting equipment shall be periodically checked for filling and it shall bear a label showing the details of due date of refilling and contact

person for refilling.

Workers employed on mixing asphalt materials, cement and lime mortar shall be provided with protective FOOT WARE, Masks and PROTECTIVE GOGGLES.

Safety Guards and Safety Devices of equipment should not be tampered with.

All safety appliances should be properly maintained and periodically serviced to maintain its original strength.

While procuring safety appliances, due consideration shall be given to refer the relevant IS Codes, or the concerned safety Engineers shall be consulted.

Applicable IS Codes:

Industrial Safety Helmet: IS 2925 – 1964
Eye & face protection during welding: IS 1179 – 1967
Protective filters for welding & cutting: IS 5983 – 1971
Rubber gloves for Electrical purposes : IS 4770 – 1968
Safety Belts: IS 3521 – 1965
Safety Boots: IS 3737 – 1966

FIRST AID

First Aid is an immediate and temporary care given to the victim of an accident or sudden illness until the services of medical practitioner can be obtained. It is important for the first aiders to know not only what to do but also what not to do to the victims. Improper and careless moving of the victim may increase the severity of the injury and may even cause death.

Great haste in giving first aid is usually unnecessary and sometimes harmful. However, in construction work there are two cases where great speed is necessary. They are

Cases of severe bleeding.
Cases where breathing is suspended requiring artificial respiration.

BLEEDING

Bleeding usually is best controlled by direct pressure applied to the wound with a sterile dressing or any cloth (cleaner the better); the bleeding limb (arm or leg) slightly raised and keeping the victim in lying position will control the bleeding to certain extent. Bleeding can be completely controlled by applying finger pressure against the artery, which supplies blood to the bleeding area. Direct pressure on the wound should always be applied in addition to pressure on the artery.

ARTIFICIAL RESPIRATION

In cases of electric shock, drowning, gas poisoning, suffocation, etc. where breathing has stopped, immediate action is necessary. Artificial respiration should be given using Resuscitator. However, mouth to mouth respiration should be started without any time loss. Until the victim starts breathing on his own or he is brought to the Doctor, artificial respiration should be continued.

FRACTURES

In case of visible fracture and even a suspected fracture, the adjacent joints should be temporarily immobilized. If the fracture is accompanied by bleeding, it should be controlled as said earlier. While carrying the victim or while taking the victim to a medical practitioner, care should be taken not to disturb the fractured bone.

FIRST AID EQUIPMENT

A fully equipped first aid box should be available as near the site as possible with adequate supply of various types of bandages. Potassium permanganate solution or crystals shall be kept to be used in case of snakebites. An artificial resuscitator will be of great help while dealing with electric shock cases where the victim stops breathing immediately. In most of these cases with the use of resuscitator, breathing can be revived. Important phone numbers of nearby hospitals, medical practitioners, Ambulance service and other contact persons in case of emergency shall be displayed at the notice boards in the site office.

FIRE PREVENTION & CONTROL

Basically, fire is a chemical reaction. Whenever fire occurs, there is combustion or burning, in other words, oxidation of substance accompanied by Heat, light and smoke. Three things are necessary for fire to take place. Fuel, Heat and Oxygen.

The danger of fire is greater during the period of construction than it is after the building is completed. To eliminate the causes of fire, it is important to locate how and where fire starts. The maximum frequency is due to Electrical causes which is about 25%. A summary of known causes are given below.

Electrical: Temporary or makeshift wiring, particularly if defective or overloaded, is a common cause of electrical fire. Water proof cords and sockets should be used in damp places and explosion proof fixtures and lamps should be used in the presence of highly flammable gases and vapours.

Smoking: Carelessly discarded cigarettes butts are a major source of fire.

Welding and cutting: Fabrication should be done in a special fire safe area with

concrete or metal plate floors. No welding or cutting should be done on a surface until various building materials like wood, cardboard straw, packing products, oil, paint, asphalt, bitumen, etc., have been removed. In erection sites, while the above mentioned fire prone materials cannot be removed totally, GI sheet may used to arrest the falling of molten metal down below, so that fire hazards are eliminated.

Classification of Fires

CLASS A FIRES	Wood, Textiles and paper, rubbish and the like.
CLASS B FIRES	Oil, Petroleum, Solvents, Grease Paint & the like
CLASS C FIRES	Gaseous substance under pressure
CLASS D FIRES	Reactive chemicals, active metals and the like
CLASS E FIRES	Electrical equipments, delicate machines & the like

Suitability of different types of portable fire appliances for different classes of fires as prescribed in IS 2190. All fire extinguishers shall bear the label showing the due date of refilling and contact person / agency for the same.

MATERIAL TRANSPORTATION, HANDLING & STORAGE

TRANSPORTATION

Materials should be properly loaded considering its weight, dimension, capacity of the carrier, centre of gravity of load, clearance required for safety, etc.

Only Licensed Driver shall be allowed to drive vehicles inside the site.

Load must be properly packed and stacked before transportation.

Trailer and other transport vehicles should be in good working conditions.

All vehicles must have efficient brakes, horns, lights.

The transport vehicles should not be overloaded. No material should project above the height of side panel or beyond the side panels. Materials may be allowed to project maximum 1.50 meters at the back of deck. Red caution flag or red lamp in the nights should be displayed on the projected end.
The vehicle should not ply beyond the permissible speed limit. Speed limits inside site premises should be strictly followed.

The driver should observe instructions for crossing the level crossing overtaking and taking turn etc.
None should get into or get down from a moving vehicle.

None should sit near the load or over the load where there is possibility of rolling or shifting due to sudden application of brakes.

If materials are transported in wagons, the route should be surveyed, so that the material will not foul with any fixed structure /object / another wagon while negotiating bend or turn.

STORAGE

All material in bags, containers or stored in tiers shall be stacked, blocked, interlocked, and limited in height so that materials are stable and secure against sliding or collapse.

Bagged materials shall be stacked by stepping back the layers and cross keying the bags at least every 10 bags high.

Material stored inside buildings under construction shall not be placed with 6 feet (1.83 m) of any hoist way or floor opening, nor within 10 feet (3.05 m) of an exterior wall, which does not extend above the material stored.

Flammable and combustible liquids in a storage building shall be in **NO SMOKING** area and separated from combustible construction and other materials by 50 feet.

Unauthorized persons shall be prohibited from entering storage areas. All persons shall be in safe positions while materials are being loaded or unloaded from railroad cars, trucks, or barges.

HAND TOOLS

Accidents arising out of hand tools can be attributed to any one of the following reasons:
Using the wrong tools.
Using tools which are in poor condition.
Using the tool in a wrong way.
Keeping tools in unsafe places.
If the above four conditions are taken care of, we can eliminate all the hand tool accidents.

PORTABLE ELECTRIC TOOLS

Maintenance of electric tools should be carried out in a systematic manner.

Safety guards provided in the tools should not be tampered with. Gloves, safety shoes, goggles, etc., should be worn by the operator wherever necessary.

Only experienced and authorized personnel should be permitted to operate power tools.

For all electric power tools, a running earth must be maintained and the supply cable should be handled very carefully.

Electric supply should be disconnected before attempting any repairs or servicing. Even a change of wheel in the grinding machine requires the supply to be disconnected.

DRILLING MACHINE

A prick punch or pilot hole should always be provided to guide the drill bit.

Suitable drill bit should be selected for the material being drilled.

If bit is long enough to pass through the object, care should be taken to avoid damage or injury on the far side.

If the object is small, it should be secured to prevent spinning.

Care should be taken to prevent sleeves and other clothing from being wound by the drill.

PORTABLE GRINDERS

HOOD GUARD provided in the machine should be maintained in place always.

Wheels of proper RPM rating should be used. Date of expiry of wheels should always be checked before mounting. If in doubt, a tap test may be conducted to check for minor cracks and the machine be allowed to run under no load in a safe place for some time.

The grinding wheel shall be stored & handled properly. It shall never be allowed to be dropped and stored in damp places.

Mounting blotter should be used when provided in the machine. The spindle to be dropped and stored in damp places.

Only experienced and skilled grinders shall be engaged.

The grinding machine shall not be allowed to be kept on the ground when the wheel is rotating.

PNEUMATIC TOOLS

Air hoses of Pneumatic tools should be protected against whipping. They should also be protected against damage by vehicles.

The airline should be depressurized before opening any joint.

Compressed air should not be directed against self or others. It should not be used for removing dirt from the clothes, etc.

Air hoses taken overhead or vertically should be sufficiently supported.

SAFETY PROMOTION
DESCRIPTION

Safety promotion is aimed at developing, and reinforcing employees' commitment to safety. Common safety promotional techniques include safety displays, posters, banners, videos, and publications. Safety promotion should also include incentive schemes that recognise and acknowledge good safety behaviours and performance either by individual, teams, trade, department or various worksites.

PURPOSE

The objective of safety promotion is to develop and maintain safety awareness among all personnel projecting an interest and commitment to safety.
Kaushal Interiors pvt ltd recognises that the promotion of safety is a valuable way of advancing the culture of safety in the workplace and of reinforcing the concept that safety and production are inseparable.
As a very basic approach towards safety promotion, Kaushal Interiors pvt ltd shall put up safety signs, posters, and other safety related newsletters or articles at appropriate locations (such as notice board and workshops etc.) to educate and remind workers on site to always be safety conscious. Video shows on safety awareness or training will be shown to workers to enhance their safety interest and knowledge from time to time.

SCOPE

Kaushal Interiors Pvt Ltd will develop promotional program aim at clearly demonstrating the Company's commitment to establish an effective safety management that will provide and maintain a safe working environment.

Programme

Displaying the companies' safety policy, safety posters, safety banners and other safety articles;

Conduct regular safety talk and showing of videos to workers in groups;

Organise safety quiz or contest for all workers working at the site;

Develop method in recognising and awarding good safety performance either by individual or group to ensure that their efforts and contribution in making the worksite a safe and healthy working environment.

PROCEDURES

Initiation

- Safety committee members may propose or suggest for a safety programme through the safety committee regular meeting.
- Presentation
- The sub-committee shall present the programme to the Safety Chairman after study and planning.
- After the Safety Chairman's consent and support, such programme will then be presented to the safety committee.
- Implementation
- After approval of the programme, the safety committee shall launch the safety programme by explaining, communicating and publishing its methods to all participants involved.

RESPONSIBILITY

Safety Chairman Safety

- Appoint and delegate programme sub-committee.
- Check, assess and comment on programme presented.
- Approve cost and implementation of programme.

- Assist and advise to planning of programme.
- Monitor with co-ordinate implementation of programme.

Safety Committee

- Plan and organise safety programme.
- Present the planned programme to the safety chairman and committee.
- Implement the programme through communication, publication.
- Encourage worker to participate actively.

Staff and Workers

- Actively participate in the programme.
- Give support and encouragement to colleagues and follow workers.
- Provide feedback for the activities.

SELECTION & CONTROL OF SUB-CONTRACTORS

DESCRIPTION

Studies indicate that contractors' employees are very prone to accident. This element is to ensure that a proper system is in place to evaluate the contractor engaged are suitable for the job before the contract is awarded, to select the right contractors for the job and to control the contractors working on site.

PURPOSE

The objective of contractor evaluation, selection and control is to ensure that contractors who intend to work in the worksite are reputable and fully aware of their safety obligations and that only contractors who can meet these obligations are employed.

SCOPE

When the need arises for the engagement of a contractor, the Company will base on a list of contractors whom the Company has maintained. Selection based on either their previous experience on work with the Company or from reports available elsewhere. For new contractors, they have to meet the work criteria and agree to fulfil the safety requirements.

PROCEDURES

The following sequence or procedures shall be adhered when evaluating and selecting a contractor to work on site:

- Specify the work including the technical content, the commercial, quality and safety conditions and any other requirements.

- Carry out regular reviews of the contractor's performance, including inspections of safety aspects of the work and adherence to the Company's rules, practices and procedures.
- In the event of non-compliance, company will give clear instruction on the action to be taken to prevent recurrence.
- Will develop a procedure to evaluate and control contractors' safety performance in the worksite. The result of these evaluation and control shall be used as a factor in selection of contractor for a particular job or project.

- A sample of the Contractor Safety Performance Records Form used by the Company is attached.

The detail of the above outline procedure are administered by the Appointed Person from the management

RESPONSIBILITY

- Safety Department
- To monitor contractor's safety performance on site.
- To evaluate contractor's safety performance as a whole.
- To maintain an evaluation record of each contractors on site.

ELECTRICAL SAFETY

To withstand rugged site conditions, only metal clad and interlocked type 15A/20A/30A combined switch-plug socket units should be used and this alone can eliminate the practice of insertion of loose wires.

All hand held tools shall be checked and certified safe by the Electrical Foreman every week and other equipment like welding transformers and generators shall be checked once a fortnight. A register shall be maintained by the Electrical foreman assigning one page for each hand tool and for each mobile equipment. The Resident Engineer / Construction Manager shall review this Register once in a month.

The use of gloves is an absolute must while operating hand held electric tools. Though this affects the dexterity of the fingers, under no circumstances the discarding of gloves shall be permitted while operating these tools.

The main switchboard and sub distribution board for construction power shall have two standard earth pits.

To economise the cost of armoured cabling, straight through jointing of armoured cables has to be resorted to at jobsites. While doing so, regular straight through jointing kits shall be used and no other jointing procedure, such as locally fabricated compound filled boxes, is permissible.

ELECTRICAL SAFETY GUIDELINES

Follow these guidelines for general electrical safety:

- Be familiar with the electrical hazards associated with your workplace.
- Unplug electrical equipment before repairing or servicing it.
- If a prong breaks off inside an outlet, do not attempt to remove it yourself. Call the Electrician for assistance.
- Ensure that outlets are firmly mounted. Report loose outlets.
- Report all electrical problems, including tripped breakers, broken switches, and flickering lights.
- Do not use an appliance that sparks, smokes, or becomes excessively hot, unless the appliance is specifically designed to exhibit these characteristics.
- Portable electrical heaters must be placed to avoid causing a trip hazard and must be kept away from combustible material. Never leave a heater unattended. Unplug the heater at the end of the day or when not in use.
- Keep electrical equipment away from water, unless the appliance is specifically designed for use around water, such as a wet-dry shop vacuum.

- Use GFCIs whenever possible.
- Be aware of overhead power lines when working with tall equipment (e.g., grain augers, cranes, sailboats, etc.).

ELECTRICAL EMERGENCY RESPONSE

The following instructions provide guidelines for handling three types of electrical emergencies:

ELECTRIC SHOCK:

When someone suffers serious electrical shock, he or she may be knocked unconscious. If the victim is still in contact with the electrical current, immediately turn off the electrical power source. If you cannot disconnect the power source, try to separate the victim from the power source with a nonconductive object, such as a wood-handled broom.

DEMOLITION

Before any demolition work is commenced and also during progress of work the following safety precautions are to be taken:

A definite demolition procedure shall be worked out after studying the entire structure and followed strictly throughout the demolition work.

All the roads and open areas adjacent to the work site shall be protected and Caution boards / Danger sign in local language, Hindi as required and English shall be displayed at prominent places. Unauthorised entry to the building under demolition shall be effectively controlled.

No electric cable or apparatus which is liable to be a source of danger shall remain electrically charged. Water and gas connections, if any, have to be removed, but a separate water source must be available nearby for quenching operations.

Glass panels of doors and windows are to be removed first.

When only a portion of a structure is to be demolished adequate props should be provided to prevent damage to the remaining portion due to shocks and vibrations. Shoring of other buildings may be necessary when the demolition operation exposes or breaches an adjoining wall.

Debris shall not be allowed to be thrown from heights. Remove all debris promptly, using chutes or through internal holes. Try to minimize production of dust, by

watering.

Permit no employee to work below others.

Safety appliances like safety belt, goggles, foot protection, gloves, etc. should be used, wherever necessary.

Use only proper and tested tackles while lowering heavy materials.

The cages, hoists, tackles should not be overloaded.

Before demolishing building with over hangs, chajjas, etc., they should be properly supported and demolished first before demolishing superstructure of the building.

The work should be carried out under strict supervision of a responsible supervisor. Only one man who is well experienced should give signal.

Masonry and other material should not be allowed to accumulate or fall in quantities liable to endanger the stability of any floor or structural support.

All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

While breaking roof slabs, workmen should not be allowed to sit on the same floor, but on a separate platform, supported independently.

Chimneys and walls should not be left in unstable condition where they may be toppled by wind or other forces. Walls may need temporary support unless designed to be free standing.

Demolition activities should not be continued under climatic conditions, such as high winds, which could cause collapse of already weakened structures.

SCAFFOLDING

Scaffolding can be defined as a temporary structure supporting one or more platforms and which is used either as a workplace or for the storage of materials in the course of any type of construction work, including both maintenance and demolition work.

Where work cannot safely be done from the ground or from the building or structure being worked upon, then there should always be suitable and sufficient scaffolding.

This must be properly constructed of sound material, which is of adequate strength to provide you with both means of safe access and a safe place of work.

INDEPENDENT TIED SCAFFOLDS

An independent scaffold consists of a platform resting on horizontal tubes, usually called transoms, which are fixed at 90o to the face of the building and which are secured at both ends to a row of uprights, or standards, and to horizontal tubes, often called ledgers, running parallel to the face of the building. An independent scaffold, although it must be tied to the building or structure, does not rely on it for its strength.

The uprights of the scaffolding should be placed on firm and level ground and the base plates at their feet should rest on timber sole boards. These help to ensure that the load carried by each upright is distributed over a fairly large area and so prevents the upright from sinking into the ground and affecting the balance of the scaffold.

Uprights should be kept equidistant and should be connected and strengthened by ledgers fixed on the inside of the uprights; for strength, joints in ledgers should be staggered.

Transoms should be set on top of ledgers and at right angles to them and the building or structure. Horizontal distances between transoms at working platform level will depend on the thickness of the boards you are using, and which rest on transoms. For 38 mm thick boards, transoms should be space so that no scaffold board overlaps by more than 150 mm (6 in.) or less than 50mm.

Ledgers and transoms should not project more than is necessary beyond the general outline of the scaffold, or they become la danger to pedestrians or passing vehicles. Bracing is essential to stiffen the scaffold and prevent sideways movement, and it should run diagonally from ledger to ledger or upright to upright. Braces may run parallel to each other or rise in zigzag fashion. If bracing has to be removed for the passage of workers and material, this should be only within one lift and it should be immediately replaced.

TIES

Make sure that the scaffold is tied or anchored to the building or structure at suitable intervals so as to prevent movement. Remember that the effect of wind is greater on a sheeted scaffold, and can cause a scaffold which is not adequately tied to move away from the face of the building and collapse. Ties may need to be removed in the progress of the work. (E.g. for the installation of glazing), but this should be done one at the time with the first tie replaced before the next is removed;

it may then be necessary to use a different form of tie. As a rough guide, the area of scaffold per tie should not, generally, be more than 32 sqm reduced to 25 sqm for a sheeted scaffold.

WORKING PLATFORMS AND GANGWAYS

The scaffold boards which make up a working platform should rest squarely and evenly on transoms to prevent the risk of tripping. Where the ends of boards meet, transoms must be doubled and so spaced that no board overhangs by more than four times its thickness. Too much overhang will cause the board to tip if you step on it, while to little – less than 50 mm- will mean that it is easily dislodged. Normally, each board should have three supports to prevent it bending or sagging. The space between the edge of the working platform and the face of the building should be as small as possible.

The width of a working platform should be sufficient for the work which is to be carried out from it, and recommended widths are:

not less than 60 cm if used as footing only;
not less than 80 cm if used also for the stacking of material;
not less than 1.10 metre if used for the support of a trestle platform;

Gangways or runs should be of adequate width for their purpose and should preferably be horizontal. If the slope exceeds 20°, or the surface is likely to become slippery with rain, laths should be fixed at 90° across the slope, allowing a small central gap to accommodate wheelbarrow wheels. Finally, precautions must be taken to prevent boards lifting in high winds.
Guard-rails and toe boards Guard-rails should be between 90 cm and 115 cm above the platform to prevent from easily falling over or under the rail. Toe boards, which are also intended to prevent material being knocked over the edge of the platform, must rise at least 15 cm above the working platform, and if materials are stored to greater than this height then additional boards maybe necessary or the space filled in with wire mesh. If guard-rails and toe-boards are removed for the passage of materials, replace them as soon as possible.

SINGLE POLE OR PUTLOG SCAFFOLDS

A common type of scaffold for smaller jobs is a single pole or putlog scaffold which consists of a platform resting on horizontal putlogs (called transoms in independent scaffolds) fixed at 90o to the face of the building. The outer ends of the putlogs are supported on horizontal ledgers fixed parallel to the face of the building and secured to a single row of uprights or standards, also parallel to
the wall. The flattened inner end of the putlogs rests flat on the wall, or in holes in the wall, rather than on ledgers. It follows that the scaffold cannot stand without the support of the structure. Putlog scaffolds are mostly used where brick structures are

being built.

A good base for the single row of uprights is essential and the base plates for each upright should again rest on a timber sold board – a sole board should be long enough to support at least two uprights. The uprights should be not more than 2 m apart and set at 1.3. mtr from the wall to allow for a five-board platform. Ledgers should be connected on the inside of the uprights, at a vertical distance of not more than 2 m – a lesser distance may be necessary for some types of work – a left in position as the scaffold rises.

Putlogs should rest on and be secured to the ledgers at horizontal gaps depending on the thickness of the boards used – of not more than 1.5 m for boards of 38 mm – while their flattened, or spade, ends should lie on the brickwork, or enter the wall to a depth of at least 75 mm.

A scaffold should not be left partly constructed or dismantled unless adequate notices warning against its use are displayed and all points of access are blocked off.

With both types of scaffold, there is often a need to provide sheeting, boarding, netting, fans or brick guards to prevent materials falling from the scaffold into the street or public places. Scaffolding is often easily accessible from the street and positive steps such as the removal of access ladders should be taken to prevent children climbing a scaffold, particularly after the close of the working day.

Points to remember

Where you cannot work safely from the ground or from part of the building, it is better to use a suitable scaffold than a ladder.

Use a scaffold only for the purpose for which it has been provided and make sure it is securely anchored or tied to the building.

Do not overload the scaffold. In particular, do not load it with plant and materials unless it has been erected for this purpose. Never keep materials on the scaffold unless they are needed for work within a reasonable time.

Make sure that timber used in scaffolding is not painted or treated so that defects can be seen.

TOWER SCAFFOLDS

A tower scaffold consists of a platform resting on horizontal ledgers connected to four uprights, supported on base plates if static or on castor wheels if mobile. It is devised for painters and others who do lightweight work of limited duration mainly in one place.

HEIGHT LIMITATIONS

The first precaution with tower scaffolds is to achieve stability. For this the ratio of height to base width should not be more than 4:1 for a static tower used indoors. For a static tower used outdoors the ratio is reduced to 3.5:1, while for a mobile tower used outdoors it should not be more than 3:1. Any loading on the platform will raise the centre of gravity of the tower and too great a load will endanger its stability.

Static towers should not exceed 12 m in height when free-standing,and above this height they should be tied. Mobile towers should not exceed 9.6.m in height when free-standing or 12 m when tied to a structure.

STRUCTURE

Towers should be vertical, have a single platform and be used only on a firm and level base, with the uprights of static towers on adequate base plates. Dimensions will vary according to need but
corner standards should never be less than 1.2.m apart. The uprights of mobile towers should have castor wheels of not less than 125 mm in diameter which are locked into the base of the uprights. The castor wheels should be fitted with locks or brakes which cannot be accidentally released, and it should be ensured that the brakes are applied whenever the tower is stationary.

THE WORKING PLATFORM

The platform should be equipped with a cover for the ladder access opening which is above to be fixed in both open and closed positions with a latch. This prevents an accidental step into the opening. The cover should be provided with a suitable handhold to provide support when you are climbing through the opening. Guard-rails and toe boards will be necessary for the sides of the working platform, erected as for independent scaffolds. The ladder provided for access to the working platform should be positioned inside the tower as a precaution against overturning.

MOVEMENT

Never move a mobile tower with persons or materials on the working platform. Move the tower by pushing and pulling at the base and not by towing with a vehicle.

Points to remember

Tie the tower into the adjacent structure where ever possible.

Use the locks on the wheels whenever the scaffold is in use.

Never climb a mobile scaffold unless the wheels are locked and on level ground.

Keep the material on the platform to a minimum.

Keep towers away from overhead electrical supply lines and check that mobile towers are free of overhead obstructions before moving them.

Avoid using a tower in windy or severe weather condition.

Soundness of the members used in the tower.

INSPECTION, MAINTENANCE:

Every scaffold should, before use, be examined by a competent person to ensure more particularly:

that it is in a stable condition;
that the materials used in its construction are sound;
that it is adequate for the purpose for which it is to be used; and
that the required safeguards are in position.
Scaffolds should be inspected by a competent person:
at least once a week
after every spell of bad weather and every prolonged interruption in the work.

Scaffold parts should be inspected on each occasion before erection. Every scaffold should be maintained in good and proper condition, and every part should be kept fixed or secured so that no part can be displaced in consequence of normal use. No scaffold should be partly dismantled and left so that it is capable of being used, unless it continues to be safe for use.

LADDERS

The following practice should be observed when placing ladders Place a ladder so that the horizontal distance from the base to the vertical plane of the support is approximately one fourth the ladder lengths between supports. For example place a 12 feet ladder so that the bottom is 3 feet away from the object against which the top is leaning.

Do not use ladder in a horizontal position as runways or as scaffolds. Single and

extension ladders are designed for use in a nearly vertical position and not be used in horizontal position.

Never place a ladder in front of a door that opens towards the ladder unless the door is locked, blocked or guarded.

Place the ladder feet on a substantial, firm and level base, and not on any other objects, like barrels, wooden boxes etc.

When using a ladder for access to high places securely tie or otherwise fasten the ladder to prevent its slipping.

Do not use a metal ladder close to live electric wiring or any operational piping like acid, gas, etc. which could be damaged.

No portable single ladder should be over 20 feet in length.

MECHANICAL WORKS

FABRICATION

Space should be marked for fabrication yard shall be at least 40 feet (12.2m) away from a rail track, road and overhead transmission lines.

All equipments electrically operated must have proper earthing and guards in position.

The use of rubber gloves or leather gloves in dry condition is an absolute must while operating hand held electric tools.

Drilling machine, grinding machine should have safety guards in position. If for any maintenance purpose guards are removed, it should be put back immediately after repair.
1.5. While unloading structural steel from trailers or wagons by crane, adequate precautions should be taken to make the trailers & wagons stationary by putting scotch block or wedge on wheels and nobody should stand under hanging / swinging load.

While fabricating heavy structures, adequate props should be given to avoid toppling of the component under fabrication.

While using rail mounted gantry cranes, two end stoppers should be installed and maintained. On completion of work, the gantry shall be guyed in wind prone areas.

Material should not be dumped haphazardly. It should be stacked properly.

Proper protective clothing & equipments such as goggles, leather gloves, face shield, apron, etc., shall be worn as protection against radiating heat and sparks.

All confined spaces such as tanks, boilers and compartments should be ventilated before welding operations are performed within them. When impracticable to provide such ventilations, air respirator should be used.

Arc welding operation shall not be watched with naked eyes.

When welding or gas cutting is performed in confined space, the cylinders should be kept outside.

In confined spaces, where means of exit is a manhole or other small opening, person should be provided with safety belt and long life line for quickly removing the worker in case of an emergency. An attendant should be stationed outside the exit, at all times, while the work is in progress.

WELDING

Major risks involved in welding are electrical shock, burns, fires, hazardous light radiations and fumes.

Avoiding electric shock

Electric shock may arise due to poor earthing. Though the operating voltage during welding is less, any voltage more than 24 V is not considered as safe. The shock hazard mainly depends on the body condition i.e. when the welder is in soaked condition due to perspiration or when he is standing on wet places, or when his gloves, shoes are wet, the severity of shock is likely to be
more. Normally there will be one work lead and return lead. These two leads should be maintained without any break in between with all rigid joints, if any. In addition to this, the job should be grounded to the main earth and also a body earthing for the welding machine is to be ensured. Earthing from job should never be connected to charged pipelines and running plant equipment.
The welding machine and the cables should not be kept in wet places. The inspection lamp provided to the welders should be preferably of 24 V type to reduce the shock hazard. Except the electrode holding jaw, the remaining part of the welding holder should be fully insulated. Gloves should not be taken as a substitute for holder insulation.

Avoiding Fires

All combustible materials such as oil, paint, rags etc., should be cleared off where

welding operations are likely to be taken up. While carrying out welding works in multi storied structures, the welding sparks should be contained to the floor in which welding is carried out by using asbestos cloth or sheets.

While doing hot work (welding, cutting etc.) in operational process plants, the joints in the pipelines carrying inflammable gases and liquids in the near vicinity should be covered and the atmosphere should be smothered with inert gases. The process drains and gutters should be covered not to allow any sparks entering inside.

While suspending the operations, even temporarily, the holder should be hung safely to avoid inadvertent contact with the job or structure causing spark. The supply should be disconnected when the welder wants to leave the place of work even for a short while.

At the end of the job, before leaving the place of work, smouldering fires, if any, should be put out.
The welding transformer body temperature should not be allowed to exceed 85°C. Otherwise it will lead to fire hazard. The transformers should be kept in well ventilated area to facilitate cooling.

All cable joints should be very rigidly made and properly insulated to avoid the cables getting heated up or producing sparks causing fires. Welding in closed containers should be carefully planned with adequate ventilation to ensure that there is no toxic gas inside and also sufficient percentage of oxygen content. Empty oil or paint container should never be welded or gas cut. The container shall be thoroughly cleansed and purged to remove all combustible material inside, before doing any hot work on it.

<u>Avoiding burns, heat effects</u>
There will be radiant heat while working on preheated job. To reduce the effect of radiant heat, asbestos curtain / apron should be used.

There should not be any pocket in the welder's dress and the shirt sleeves or the pant cuff shall not be folded back giving a chance to the sparks to get retained their burning the dress and the skin.

All hot objects should be clearly distinguished so that no workmen shall touch it by mistake. The helpers also shall use goggles to avoid getting burns while chipping, cleaning etc.

<u>Avoiding radiations and fumes</u>
Eye injuries are most common in welding. It could be caused

Due to seeing the arc welding rays directly / indirectly

Due to seeing the gas welding and cutting flames with naked eye.

Due to fumes that emanate during welding

Due to fall of flying materials while removing excess metal and slag

A welding shield or welding helmet made of fibre-glass, dark in colour and fitted with a proper shade filter glass protects the welder from radiations, spatter and hot slag. While working on highly reflective materials like aluminium, use of a welding hood which covers the head, neck and extending up to shoulders is recommended.

Welders should not be allowed to test the holders for arcing without using face shield. The helpers assisting welders must wear goggles with shatter proof lens of not less than 3 mm thick. If the surface of the metal to be welded is galvanized, the fumes evolved during welding can cause a temporary sickness. Also metals such as lead, chromium etc. can give off very toxic fumes. In such cases, exhaust ventilation must be adequately provided.

USE OF COMPRESSED GAS CYLINDERS

Unloading of Cylinders

From the truck, unload directly on a raised platform by rolling over a coir mattress. If a suitable raised platform is not available slide down each cylinder over a 15 cm thick reinforced coir mattress, taking care that the bottom end touches first.

Lifting magnet should not used for loading or unloading.

Cylinders should not be loaded loosely in a vehicle, failing which it will be subjected to heavy jolting and damage during the vehicle movement.

Storage

The cylinder stored room must be WELL ventilated.

Full and empty cylinders are to be stored separately.

Acetylene cylinders should be stored upright and properly secured.

Other cylinders, if stacked horizontally, proper chocks should be used to prevent rolling.

Do not keep cylinders in battery room or oil storage room.

Store cylinders well away from sources of heat.

Oxygen and Acetylene cylinders should be stored separately.

Care in usage of Cylinders

Oil or grease should not come in contact with the cylinder valve assembly or the regulator fittings.

Do not use cylinders as rollers, work supports or jacks.

Never allow cylinders to come in contact with electrical apparatus or live wires.

Do not use chain slings for lifting cylinders; only fibre sling should be used.

Use red hose for acetylene and other fuel gases and black / green hose for oxygen. Never interchange hoses.

Use hoses of equal length and do not coil the hoses around regulator or cylinder.

Nozzle tips shall be kept clean always; otherwise backfire may result.

Set the regulators to the recommended pressure and ensure leak free connections.

Always use the cylinders in upright position and use suitable trolley for transportation of cylinders.

USEFUL TIPS REGARDING GAS CYLINDERS

Do not issue a cylinder to site unless contents are clearly identified.

Do not use a gas cylinder unless contents are identified.

Do not handle cylinders or valve assemblies with greasy hands or oily rags.

Do not lubricate cylinder valve threads.

Do not use cylinders as rollers, work supports etc.

Do not stack cylinders near sources of heat or in direct sun.

Do not lay cylinders direct on wet soil.

Do not place cylinders against wall or bench unsecured.

Do not keep cylinders in battery charging room or in oil room

Do not allow cylinders to come in contact with live wires.
Anti-twister should be used to prevent rubbing of ropes against one another.

MOBILE CRANES

Following precautions have to be taken while using tyre mounted mobile cranes in addition to the precautions given above.

When travelling up a gradient, the load shall be derricked out and when travelling down a gradient, the load shall be derricked into the minimum radius, and this position shall be corrected on reaching level ground. Otherwise, constant watch on the radius should be maintained while
travelling on uneven surfaces.

The mobile crane shall be fitted with suitable horn, head lights, side lamps,rear and stop lights and flashing direction indicator. Cranes with cantilever type jib, while moving without load, the jib should be lowered to horizontal position. The pneumatic tyres shall be maintained at the correct pressure at all times.

SAFETY ASPECTS IN HANDLING CABLE DRUMS AND CABLING WORKS

To the possible extent cables should be transported by trucks / trailors, except for short distances. Loading into trucks can be done either by having ramp (excavated slope) such that body of the truck will be at ground level or by using cranes. Whenever cranes are used, slings should be of adequate strength. While deciding the capacity of the crane, safe working loads for the particular boom angle to be checked up. This is very important to avoid accidents. After loading the drums into vehicle, proper wedges are to be provided and the drums are to be tied properly to avoid rolling.

While rolling the drums care should be taken to roll in proper direction. Otherwise cable will get loosened and cause problems while laying. Before rolling the drum soil condition is to be checked up. Otherwise there is a possibility of sinking on one side and toppling. While rolling the drums in
slopes, wedges should be provided at regular intervals to avoid drum picking up uncontrollable speed. Persons handling the drums should be always behind and on the sides of the drums and never in the front. This precaution is very essential and non-observance while handling the drums at slopes can be dangerous.

While laying the cables at height workers should have proper base and use safety appliances like safety belts etc. Never use cast iron pips as shaft. Jacks should have proper and wide base to avoid tilting of jacks. Whenever the height of drum is more and packing is required, sleepers of appropriate sizes should be used.

A person is to be at the other end, whenever megger test is done on cables.Proper cordoning is to be done while high voltage test is carried out on cables. While using single core cables, proper checks are to be made to avoid short between phases.

Most important thing to ensure is that the gang leader should have basic knowledge of rigging work.

Control circuit fuses are to be removed before Meggering / High pot testing.

TESTING & COMMISSIONING

Ensure all men & materials are removed and bus bar chambers are closed before Meggering.

Ensure proper earthing before Meggering / High potential test is carried out.

Check the bus bar configuration etc in case a part of the panel is being energized. In some cases, manufactures extend the bus bars of one to the other, to save adopter panels.
Ensure thorough checking before carrying out high potential test, area should be cordoned off and suitable warning boards are to be provided.

Panel manufacturers normally provide barriers between bus bar chambers to avoid accidental contact with live parts, while opening the doors. Ensure all the barriers are in place before Testing / Commissioning.

CHEMICAL SAFETY

GENERAL SAFETY GUIDELINES

Almost everyone works with or around chemicals and chemical products every day. Many of these materials have properties that make them hazardous: they can create physical (fire, explosion) and/or health hazards (toxicity, chemical burns). However, there are many ways to work with chemicals which can both reduce the probability of an accident to a negligible level and reduce the consequences to minimum levels should an accident occur. Risk minimization depends on safe practices, appropriate engineering controls for chemical containment, the proper use of personal protective equipment, the use of the least quantity of material necessary, and substitution of a less hazardous chemical for the more hazardous one. Before beginning an operation, ask "What would happen if...?" The answer to this question requires an understanding of the hazards associated with the chemicals, equipment and procedures involved. The hazardous properties of the material and intended use will dictate the precautions to be taken.

Another important distinction is the difference between hazard and risk. The two terms are sometimes used as synonyms. In fact, hazard is a much more complex concept because it includes conditions of use. The hazard presented by a chemical has two components: (1) its inherent capacity to do harm by virtue of its toxicity, flammability, explosiveness, corrosiveness, etc.; and (2) the ease with which the chemical can come into contact with a person or other object of concern. The two components together determine risk (the likelihood or probability that a chemical will cause harm). Thus, an extremely toxic chemical such as strychnine cannot cause poisoning if it is in a sealed container and does not contact the handler. In contrast, a chemical that is not highly toxic can be lethal if a large amount is ingested.

Chemical safety is inherently linked to other safety issues including laboratory procedures, personal protective equipment, electrical safety, fire safety, and hazardous waste disposal. Refer to other chapters in this manual for more information on these topics.

Knowledge + Common Sense + Caution = Chemical Safety

Not all chemicals are considered as hazardous. Examples of nonhazardous chemicals include buffers, sugars, starches, agar, and naturally occurring amino acids.

The following sections provide general guidelines for chemical safety.

CHEMICAL SAFETY GUIDELINES

Always follow these guidelines when working with chemicals:

- Assume that any unfamiliar chemical is hazardous.
- Know all the hazards of the chemicals with which you work. For example, perchloric acid is a corrosive, an oxidizer, and a reactive. Benzene is an irritant that is also flammable, toxic, and carcinogenic.
- Consider any mixture to be at least as hazardous as its most hazardous component.
- Never use any substance that is not properly labeled.
- Follow all chemical safety instructions precisely.
- Minimize your exposure to any chemical, regardless of its hazard rating.
- Use personal protective equipment, as appropriate.
- Use common sense at all times.

The five prudent practices of chemical safety sum up these safety guidelines:

- Treat all chemicals as if they were hazardous.
- Minimize your exposure to any chemical.
- Avoid repeated exposure to any chemical.
- Never underestimate the potential hazard of any chemical or combination of chemicals.
- Assume that a mixture or reaction product is more hazardous than any component or reactant.

MATERIAL SAFETY DATA SHEETS

Before using any chemical, read the container label and the appropriate Material Safety Data Sheets (MSDSs). Container labels and MSDSs are good sources of information for chemical safety. They provide the following information:

- Hazardous ingredients
- Exposure limits
- Physical and chemical characteristics, including the following:
  - Boiling point
  - Vapor pressure
- Physical hazards, including the following:
  - Flammability
  - Explosives
  - Reactivity
- Health hazards, including chemicals that are:
  - Toxic
  - Carcinogens
  - Irritants

- First-aid procedures
- Proper leak, spill, and disposal techniques
- Proper storage and handling procedures
- Other special provisions

SAFE HANDLING GUIDELINES

Employees should treat all chemicals and equipment with caution and respect.

When working with chemicals, remember to do the following:

- Remove and use only the amount of chemicals needed for the immediate job at hand.
- Properly seal, label, and store chemicals in appropriate containers. Keep the containers clearly marked and in a well-ventilated area.
- Check stored chemicals for deterioration and broken containers.
- Learn how to dispose of chemicals safely and legally. Follow Tarleton State University waste disposal requirements.
- Clean up spills and leaks immediately.
- Know what to do in an emergency.

Likewise, when working with chemicals, remember the following:

- Do not store chemicals near heat or sunlight or near substances which might initiate a dangerous reaction.
- Do not transport unprotected chemicals between the work area and other areas. Use a tray, rack, cart or rubber carrier. Always use a secondary container when transporting hazardous or highly odorous chemicals on an elevator.
- Do not pour hazardous chemicals down the sink.
- Do not put fellow workers or yourself in danger.

HYGIENE AND CHEMICAL SAFETY

Good personal hygiene will help minimize exposure to hazardous chemicals.

When working with chemicals, follow these guidelines:

- Wash hands frequently and before leaving the laboratory. Also, wash hands before eating, drinking, smoking, or applying makeup.
- Remove contaminated clothing immediately. Do not use the clothing again until it has been properly decontaminated.
- Follow any special precautions for the chemicals in use.

In addition follow these special precautions:

- Do not eat, drink, smoke, or apply makeup around chemicals.

- Do not wear contact lenses near chemicals, especially corrosives or volatile solvents.
- Do not keep food or food containers anywhere near chemicals.
- Do not use laboratory equipment to serve or store food or drinks.
- Do not sniff or taste chemicals.

SPILL PREVENTION AND PLANNING

Prevention is the best safety strategy for any environment. Use safe handling procedures and be aware of the potential hazards associated with chemicals. For example, before working with any chemicals, review the appropriate MSDSs.

Be prepared to respond to a chemical spill. To prepare for a potential spill, follow these guidelines:

- Develop and periodically review written procedures for an emergency response plan.
- Keep a fully stocked chemical spill response kit available.
- Know the location and proper use of cleanup materials.
- Know how to turn off equipment, heat sources, electrical panels, etc.
- Review appropriate MSDSs.

SPILL RESPONSE KIT

Work areas that contain potentially hazardous chemicals should have a chemical spill response kit. This kit should include the following:

- Disposable laboratory/surgical gloves
- Disposable vinyl gloves
- Safety goggles
- Absorbent (e.g., spill pillows, vermiculite, litter box filler, etc.)
- Plastic scoop
- Plastic trash bags

RESPONDING TO CHEMICAL SPILLS

The following sequence provides a brief overview of proper chemical response procedures:

- Notify others in the immediate area that spill has occurred. Evacuate the area if necessary.
- Attend to injured and exposed people.
- Identify the spilled chemical(s).
- Based on the hazards and the personal protective equipment needed (e.g., respiratory protection), determine if you can safely clean the spill or if assistance is necessary. (Most spills can be cleaned safely by the people

who were using the chemical.)

If you determine that you can safely clean the spill without emergency assistance, follow these guidelines:

- Wear appropriate protective clothing and equipment.
- Have another person stand by during the cleanup.
- Clean up the spill and collect all wastes for proper disposal.
- Ventilate the area, as necessary, before it is reoccupied.
- Decontaminate reusable cleanup supplies such as scoops, rubber boots, etc.
- Restock the chemical spill kit and return it to the normal storage location.

Do not take unnecessary risks with chemical spills. Call the Safety Office whenever a spill involves the following:

- Large volume of spilled material
- Very hazardous material
- Vary hazardous conditions (e.g., fire, explosion, toxicity, etc.)
- Strong odor
- Personnel injury or exposure

CHEMICAL STORAGE

Proper chemical storage is as important to safety as proper chemical handling. Often, seemingly logical storage ideas, such as placing chemicals in alphabetical order, may cause incompatible chemicals to be stored together.

GENERAL GUIDELINES

Follow these guidelines for safe chemical storage:

- Read chemical labels and MSDSs for specific storage instructions.
- Store chemicals in a well-ventilated area; however, do not store chemicals in a fume hood.
- Maintain an inventory of all chemicals in storage.
- Return chemical containers to their proper storage location after use.
- Store glass chemical containers so that they are unlikely to be broken.
- Store all hazardous chemicals below eye level.
- Never store hazardous chemicals in a public area or corridor.

HANDLING ACCIDENTS

Introduction: In spite of following the accident prevention programme, accidents may occur due to human errors and other causes. Hence, it is necessary to be fully prepared to meet any exigency that may result due to accidents .In case of accidents, top priority shall be given to save the lives of accident victims. List of hospitals, ambulance service, and fire brigade with address and contact numbers should be displayed prominently in the office. Persons with knowledge of first-aid should be available in sites where medical facilities are not available nearby. If persons are injured, immediate medical help shall be given to them.

First-aid may be given to accident victims and they shall be taken to nearby hospital. Regional office and corporate office are to be informed immediately.

Accident occurrence report is to be faxed to corporate office.In case of major accidents resulting in loss of limbs, head injuries, fatal injuries concerned police station is to be informed.

First Information Report is to be filed.

In case of outstation job sites if there is any harassment by police local lawyer may be engaged for further guidance and assistance.

Regional Accountant shall depute a responsible person to visit the site and do the needful.

On receipt of Accident Occurrence Report, detailed accident investigation is carried out and Accident Investigation Report is completed by Regional Safety Coordinator.

Safety procedures followed at the site is reviewed. Necessary corrective and preventive actions are planned by Safety Coordinator and implemented by Project Manager / Resident Engineer.

Safety Performance Measuring Factors

Reportable Accident: It is the accident involving personal injury causing disability or absence from duty for more than 48 hours.

Total Man Hours: This will be the total man hours of permanent staff, workmen (including security & other casuals, sub-contractor's workmen, including overtime performed).

Man days Lost: It is the total disability period in days of all the injured persons arising out of the Reportable Accidents. Man days lost due to fatal accidents and permanent disablement will be calculated as per the Safety codes given in the Indian Standards.

RISK INDEX

Nature of Job Risk Index
Civil Works of multi storeys building up to 25 meter height – 1.25
Civil Works of multi storeys building beyond 25 meter height – 1.50
Mechanical Jobs – Structural erection upto 25 M height - 1.25
Mechanical Jobs – Structural erection 25 M – 50 M – 1.50
Mechanical Jobs – Structural erection above 50 M – 1.75

FREQUENCY RATE — Total Number of Reportable Accidents X 10,00,000 / Total Man hours worked in the Job site

SEVERITY RATE — No of Man days lost due to accidents X 10,00,000 / Total Man hours worked in the job site

ACCIDENT RATE — Frequency Rate X Severity Rate / Risk Index

CHECKLIST FOR SAFETY

Job Site Information:
Safety Awareness - slogans displayed at site?
Certificate of Insurance available?
Safety Posters on the job displayed?
Are First Report of Injury forms filled and filed?
Are Emergency Numbers displayed?
Are all the employees on the job aware of who should be contacted in case of an accident?
Are weekly safety meeting held with contractors?
Is there specific accident investigation follow up made?
Toolbox talks conducted daily?

GENERAL HOUSEKEEPING

Is Housekeeping on the Job satisfactory?
Is there regular disposal of waste and trash?
Waste containers provided on site, lunch areas, and at drinking water areas?

Are materials stacked properly?
Are Water hoses without water leakage?
Is housekeeping in order? Are mushroomed hammers, blunted chisel, worn-out and opened out hooks in use?

PERSONAL PROTECTION

Are personnel wearing Hard Hats?
Safety glasses are worn as required?
Safety belt is worn as required?
Construction grade work boots worn?
Gloves worn as required?
Is life line of safety belt ½" dia nylon rope or ¾"dia Manila rope?
Is life line damaged and needs replacement?
Is proper splicing of life line (9") from back
'D' ring of safety belt maintained?
Is inside cradles of Helmet in position and in good condition?
Whether chin strap is being used?
Are hard hats used by all persons working in erection site and work place where works at different levels are carried out?

LADDERS, PLATFORMS, SCAFFOLDING

Are scaffolds and ladders properly erected?
Adequate boards (planks) with cleats and wired down?
Do scaffolds have guardrails?
Do scaffolds have safe access?
All rungs / side rails on ladders in good condition?
Do ladders extend 36" above the floor/ & tied off?
Do platforms have guardrails, intermediate rails and toe boards?
Handrails and intermediate rails on stairways?
Are stairways free of tripping hazards?
Are openings covered?

ELECTRICAL

Are power tools equipped with guards?
Are power tools grounded?
Are ELCBs used?
Does the site have adequate illumination?
Are Distribution boards earthed?
Is earth conductor continued upto DB / SDB?
Is earth conductor disconnected / cut between?
Is failure to earth hand operated electric tools exist due to use of two-core wire?
Is hand held electrical tool in operation in the open air in light drizzle?
Is provision made for earthing fllodlights?
Is provisions made for 24-volt supply for hand lamp?
Is insertion of loose wires in sockets without using plugs in force?
Is use of gloves while using hand held equipment in force?
Is improper jointing of cables / wires prevailing at site?

Is proper cover for DB, SDB, etc., provided?
Is the work place properly illuminated?
Welding and Cutting:
Where welding is taking place, have fire hazards been removed?
Are compressed gas cylinders secured in upright positions? Caps secured on unused cylinders?
Are empties removed and not left lying around?
Are fire extinguishers immediately available near to the place?
Flash screens and shields provided where required?
Is there adequate ventilation?
Are there adequate Fire extinguishers? Are extinguishers identified by contents and purpose?
Are “No Smoking” procedures followed where applicable?
Are fire buckets available at site? Are fire buckets empty or filled up with water & sand?
First Aid Box
First Aid Medicine Availability

RISK ASSESSMENTS

INDEX OF RISK ASSESSMENTS

S.NO	Hazard	N/A	Low Risk	Average Risk	High Risk
1	Working at Height				
2	M.E.W.Ps				
3	Mobile Scaffold				
4	Access Scaffolds				
5	Portable Electric Tool				
6	Installation of Insulation Material				
7	Installation of Metal Studding				
8	Use of Hand tools				
9	Use of Abrasive wheel Machinery				
10	Manual Handling Operations				
11	Fire				
12	Use of Plant and Machinery				
13	Use of Cartridge Operated Tools				
14	Installation of Dry Lining Boards				

15	Installation of Suspended Ceilings				
16	Plastering				
17	Poor Housekeeping				
18	Raised Access Flooring				
19	Noise				
20	Vibration				

RISK ASSESSMENT PROCEDURES

The information contained in the following Risk Assessments includes;

- Identification of hazards.
- Likely outcome of accidents.
- Level of risk.
- Preventative procedures.

As new hazards are identified, risk assessments will be carried out and included in this Safety Statement.

RISK ASSESSMENTS

WORKING AT HEIGHT.
Likely outcome of an accident involving WORKING AT HEIGHT

	Level of risk
Fall of Persons	High
Falling Objects Striking Others	High

Preventative Procedures

- All work at height will be subject to detailed risk assessment. The risk assessment will identify the most appropriate access equipment for the task being assessed and will justify the choice of equipment.
- Suitable signs and barriers will be positioned directly below works to warn of overhead operations.
- Edge protection will be erected at all openings or edges where falls could occur.
- Where edge protection is removed for access or is not practicable, employees working at or near the edge will wear safety harnesses secured to suitable anchorage. Note: Safety harnesses will be inspected on a weekly basis.
- Where there is likely to be debris, materials or tools falling, control measures will be installed to protect third parties. These may include netting or the creation of exclusion zones using robust barriers complete with signage.
- Work below overhead operations is prohibited.
- Any unguarded opening will be notified to Kaushal interiors Pvt. Ltd. supervisor.

- Timber ‘A’ frame stepladders are prohibited on this project. Single sided stepladders can be used under a permit system strictly controlled by the main contractor. Ideally, podium stepladders will be used in all circumstances. No work is permitted from any stepladder above two metres.
- Additional information is contained in the following Risk Assessments;
    - MEWPs (Next Page)
    - Mobile Scaffolds
    - Access Scaffolds

RISK ASSESSMENTS

MOBILE ELEVATED WORK PLATFORMS

Likely outcome of an accident involving M.E.W.P.’S

	Level of risk
Fall of Persons	High
Falls of Materials	High
Unintentional Lowering of Platform	Medium
Striking against Overhead Obstructions	High
Platform Overturning	High
Vehicles or Plant Striking Platform	High

Preventative Procedures

- Control of traffic and pedestrians will be planned.
- Platform capacity will be checked to ensure sufficient height and SWL for the work undertaken, before use.
- All MEWP’s will be hired in. Copies of current certificates of test and inspection will be forwarded to the main contractor’s project safety manager before being used on site. MEWP’s will be inspected on a weekly basis. Maintain records of same will. A copy of record will be forwarded to the main contractor’s project safety manager.
- The area of work is to be fenced off using robust barriers and appropriate signage. Red and white barrier tape is prohibited on this project.
- Platforms must not be operated outside limits set by the manufacturer
- The operating area will be firm and level. Stabilizers, if fitted will be extended before the platform is raised.
- Platforms are not to be left unattended in the raised position.
- Platforms require regular maintenance, which must be arranged at 6 monthly intervals.
- The Kaushal Interiors Pvt. Ltd supervisor is responsible for ensuring that only trained and authorized personnel use the platforms.
- A safety harness will be worn at all times by employees working in MEWP’s. Harnesses will be secured to the anchorage point within the MEWP.

- Employees will not stand on the guardrails of the MEWP and will not under any circumstances climb out of the MEWP while elevated.
- Kaushal Interiors Pvt. Ltd must ensure by discussion with the main contractor that floor slabs on which they intend to use MEWP's can take the weight.

RISK ASSESSMENTS

ACCESS SCAFFOLDING

Likely outcome of an accident involving ACCESS SCAFFOLDING

Level of risk

Scaffolding collapse	High
Falls from scaffold	High
Injury from falling materials	High

Preventative procedures

- Only trained and authorized personnel will assemble modify or dismantle scaffolding.
- Proper access via tied ladders or scaffold stairs will be provided to all scaffold platforms.
- Adequate guardrails and toe boards will be provided at every side, from which a person could fall, and to prevent the fall of materials or articles.
- All working platforms will be fully boarded. Boards will be free from defects and they will be arranged to avoid tipping or tripping.
- A competent person will inspect scaffolding regularly, i.e. at least once a week, and always after bad weather. The results of these inspections to be recorded including defects that were put right during the inspection. The records will be signed by the person who carried out the inspection and maintain the record.
- Ties removed for any purpose will be replaced or alternative ties fitted, at once.
- Debris guards, debris netting and fans will be considered for high-rise scaffolds and those close to public areas.
- Traffic movements will be restricted around scaffold bases.
- Excavations adjacent to scaffold bases will be monitored to ensure the suitability of the structure is not affected.

RISK ASSESSMENTS

PORTABLE HAND HELD POWERED TOOLS (INCLUDING DRILLING MACHINES, ANGLE GRINDERS, CHOPSAWS & SCREW GUNS)

Note: It is policy on most construction sites that all hand held power tools receive portable appliance testing. Kaushal Interiors Pvt. Ltd will comply with this policy. All tools will be tested before use on site and at agreed intervals thereafter.

Likely outcome of an accident involving PORTABLE ELECTRIC TOOLS

	Level of risk
Hand Injury	Medium
Eye Injury	Medium
Electrocution	High
Fire	High
Damage to Equipment	Low

Preventative procedures
Only equipment operating at 110 volts will be permitted.

- A visual inspection of equipment will be carried out by the user on a daily basis.
- All damaged equipment will be switched off, returned to the Kaushal interiors Pvt. Ltd supervisor and labelled as damaged and not to be used. The Kaushal Interiors Pvt. Ltd supervisor will ensure that damaged equipment is not returned to service until it has been repaired.
- Extension leads will be checked before use. No taped joints or connector type joints will be permitted.
- All electrical equipment will be properly earthed.
- Only the correct type (molded plastic) sockets and plugs will be used.
- Pay due care and attention to the work at hand.
- Ensure your work will not result in injury to anyone else.
- Use the correct PPE to minimise the risk of injury. In particular, safety helmets, high visibility clothing, safety footwear (not rigger boots), and safety eyewear must be worn at all times on site.
  Note: gloves must not be worn when using rotating hand held or hand operated power tools because gloves are likely to be drawn in if contact is made between the glove and the rotating parts of the powered tool.
  Note: goggles must be worn when using drilling machines to drill steel or masonry and when using angle grinders. Full face shields must be worn in addition to safety

glasses when operating chop saws.

RISK ASSESSMENTS

INSTALLATION OF INSULATION MATERIALS

Likely outcome of an accident involving INSTALLATION OF INSULATION MATERIALS

	Level of risk
Falls of persons	High
Inhalation of particles	Medium
Eye injury caused by insulation particles	Medium
Hand injury from Stanley knives and saws	Medium
Accumulation of rubbish	Medium
Interaction with services in walls and ceilings	Medium
Cuts to hands from metal studs and screws	Medium

Preventative procedures

- MSDS's for all insulation material will be forwarded to site before work commences. Copies of these MSDS's will be forwarded to the main contractor's project safety manager.
- The control measures outlined in MSDS's will be adhered to in full at all times.
- All operatives handling insulation must wear appropriate respiratory protection as directed in the insulation MSDS.
- Ensure that all personnel in the work location are wearing respiratory protection as directed in the insulation MSDS.
- PPE including safety helmets, high visibility clothing, safety footwear (not rigger boots), safety eyewear and gloves must be worn at all times on site.
- Rubbish must be removed on an ongoing basis as work progresses and must be segregated and disposed of as per the project waste management procedures.

RISK ASSESSMENTS

INSTALLATION OF METAL STUDDING

Likely outcome of an accident involving INSTALLATION OF STUDDING

Level of risk

Falls of persons	High
Falls of materials	High
Interaction with existing services	Medium
Cuts and abrasions to hands	Medium
Electric shock from power tools	High
Noise induced hearing loss	Medium
Manual handling injuries	Medium
Harmful effects from silicones and adhesives	Low
Slip, trip and fall accidents	High
Studding collapse	High

Preventative procedures

- Ensure work area is cordoned off using robust barriers and appropriate signage and no personnel can gain access to areas under high work activities.
- Ensure that all high noise (above 85dB(A)) work is done in designated areas and that relevant signs are posted. Ensure the correct ear protection including ear protectors and ear plugs as recommended by the manufacturer of the power tools or cartridge operated tools creating the noise are available and worn.
- Ensure that all electrical equipment is checked and only operated by competent persons. When working at height a safe place of work with full guardrail protection must be provided.
- Ensure personnel are trained in the use and construction of all access equipment.
- Ensure work area is kept clear at all times and materials are stored safely.
- Liase with main contractor on any issues regarding the installation of studding.
- Ensure all equipment is stored correctly and leads are suspended off the ground where practicable.
- Ensure that adequate numbers of personnel are involved in the task and that the necessary PPE is worn at all times. PPE including safety helmets, high visibility clothing and safety footwear must be worn at all times on site.

- Utilize pallet trucks and fork trucks where possible.
- Ensure safe access to the work and always plan the route.
- Ensure that competent persons carry out all operations.
- Ensure that studding is fitted properly and fixed.
- Ensure that MSDS's are made available to all operatives along with any risk assessments specific to the work being undertaken.

RISK ASSESSMENTS

USE OF HAND TOOLS

Likely outcome of an accident involving HAND TOOLS

	Level of risk
Eye injury	Medium
Hand injury	Medium
Foot injury	Low
Injury to other Body Parts	Low

Preventative procedures

- Select the correct tool for the job.
- Visually inspect the tool to ensure good working condition.
- Reject the tool if it not in good condition or in any way unsuitable for the job. Knives should have retractable blades.
- Cut away from the body.
- PPE including safety helmets, high visibility clothing and safety footwear must be worn at all times on site.
- Knives and screwdrivers should be carried and used so as not to cause injury to the user and others.
- Check open-ended spanners for splayed jaws.
- Check wooden handled hammers and files for deterioration and exposed tangs.
- Check chisel heads for signs of wear.
- Use mushroom heads on chisels.
- Use non-ferrous (spark free) tools in flammable atmospheres.
- Use insulated tools where there is a possibility of live electrical work.
- Never pull spanners towards your face.

RISK ASSESSMENTS

USE OF DISK CUTTERS AND ABRASIVE WHEEL MACHINERY

Likely outcome of an accident involving DISK CUTTERS AND ABRASIVE WHEEL MACHINERY

	Level of risk
Eye injury	**High**
Hand injury	**Medium**
Face injury	**High**
Injury to other Body Parts	**Medium**

Preventative procedures

- Never use a chop saw or angle grinder if the guard has been removed or is wrongly adjusted.
- Never use any material to wedge the guard open.
- Never use the side of the wheel to file down rough edges. Use a hand file for this task.
- Ensure the abrasive wheel in use is suitable for the material to be worked on.
- Only nominated individuals should change wheels. These individuals should be adequately trained.
- A register should be kept by the nominated individuals of the time and date of every wheel change and should include the signature of the individual who changed the wheel.
- Warning posters should be put up to remind employees of the dangers associated with this machinery.
- The correct P.P.E. should be worn when using abrasive wheel and includes;
  - Eye protection - Goggles or glasses
  - Full face protection (full face visor)
  - Ear protection
  - Dust masks
- PPE including safety helmets, high visibility clothing, and safety footwear must be worn at all times on site.

Note: gloves must not be worn when using rotating hand held or hand operated power tools because gloves are likely to be drawn in if contact is made between the glove and the rotating parts of the powered tool.

RISK ASSESSMENTS

MANUAL HANDLING OPERATIONS

Likely outcome of an accident involving MANUAL HANDLING OPERATIONS

	Level of risk
Disc injuries	**Medium**
Ligament / Tendon injuries	**Medium**
Muscular / Nerve injuries	**Medium**
Hernias	**Medium**
Fractures, abrasions and cuts	**Medium**

Preventative procedures

- Review the potential for use of mechanical lifting devices and aids including board trolleys and pallet trucks relative to site conditions and implement as appropriate.
- If manual handling is unavoidable, ensure operatives involved are trained in basic lifting techniques. Selection may be required of suitable fit individuals depending on the nature of the task.
- Ground conditions should be firm and level.
- PPE including safety helmets, high visibility clothing, gloves and safety footwear must be worn during all manual handling tasks.
- Team lifting should be considered for the movement of all loads, which are unmanageable, by a single person.
- Force should be applied gradually when lifting. If strain is felt, the task should be re-evaluated.
- Avoid lifting boards or sheets in windy or adverse weather conditions.
- Manual handling training certificates must be forwarded to the main contractor's project safety manager before operatives can commence work on this project.

RISK ASSESSMENTS

FIRE

Likely outcome of an accident involving FIRE

	Level of risk
Serious or fatal burns	**High**
Explosions	**High**
Suffocation	**Medium**
Damage to site works	**High**

Preventative procedures

- Site planning and safety rules established by the main contractor should include fire detection provisions, supply and maintenance of fire fighting equipment, control of hot-work, emergency procedures in the event of fire, control of smoking on site as needed and prevention of the build-up of flammable materials such as in waste skips.
- Adequate means of escape and access for emergency vehicles should be considered by the main contractor during all stages of construction.
- Fire emergency exit routes should be established by the main contractor and should be adequately signed and kept free of obstruction.
- Security measures should be taken by the main contractor to restrict access to the site work areas, especially out of working hours.
- Hot work and use of naked flame appliances will be controlled by the main contractor, including the use of permit to work systems as necessary. Changes in electrical systems made necessary by contract conditions or practical requirements will be reviewed by a competent person to ensure that necessary precautions have been taken to accommodate changes, by way of design review where necessary and the provision of adequate fire arrangements. Temporary electrical systems will conform to standards set down by the Client and the main contractor.
- All Kaushal Interiors Pvt. Ltd site operatives will be trained on fire and evacuation procedures at project induction training provided by the main contractor.
- Site management will be aware of the requirements of the standards and regulations concerning fire safety.
- Gas, oil or electric heaters used for drying clothes must be mounted on and backed with non-flammable material and enclosed in a stout wire mesh with effective air space to prevent clothes being placed directly upon them. All power supplies, unless specifically required, should be switched off at the

end of each working day.

RISK ASSESSMENTS

USE OF PLANT & MACHINERY (INCLUDING TELEPORTER)

Likely outcome of an accident involving USE OF PLANT & MACHINERY

	Level of risk	
Injury to operatives from machinery		**High**
Injury to persons in the vicinity	**High**	
Injury to trespassers, especially children	**High**	
Environmental contamination	**Low**	
Damage to property, materials etc.		**Medium**

Preventative procedures

- Current certificates of test and inspection will be forwarded to the main contractors project safety manager before any item of plant and machinery is brought into use on this project.
- All items of plant and machinery will be inspected by the operator on a weekly basis. Keep records of these inspections. Copies of the record will be forwarded to the main contractors project safety manager.
- All operatives using plant & machinery will be competent, of legal age and fully trained in the use of the item of plant & machinery in question.
- The use of flashing beacons and reversing alarms will be used on mobile plant to warn persons in the vicinity of the machine of the existence of the hazard.
- All the requirements of Schedule Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 (Central Act 27 of 1996) will be adhered to in full on this project.
- If operators of mobile plant have to operate blind, then a competent watchman or Bandsman provided by Kaushal Interiors Pvt. Ltd will be used to guide the operator in all movements.
- Apart from security measures in place on site to prevent access of children, trespassers etc. all plant and machinery will be turned off, keys removed and protective screens fitted to prevent any access to plant and machinery by children, trespassers etc.
- All plant and machinery will be maintained on a regular basis to prevent any escape of hydraulic or fuel oils etc. that could pose a threat of contamination to the environment.
- Due care and attention will be paid at all times by operators to the work at hand to prevent accidents that could result in damage to the structure being

worked on or any other damage to property etc.

RISK ASSESSMENTS

USE OF CARTRIDGE OPERATED TOOLS (GAS POWERED)

Note: These tools are used to fix grid ceiling hanging wires, base and head channel and perimeter angle in position on masonry & steel surfaces.

Likely outcome of an accident involving CARTRIDGE OPERATED TOOLS

Level of risk

Injury to operatives from kickback	**Medium**
Injury to operative from ricochet	**High**
Injury to operative from material in eye	**Medium**
Injury to persons in the vicinity	**Medium**
Damage to hearing	**High**
Damage to eyes	**High**

Preventative procedures

- Only trained, authorised operatives over the age of 18 are permitted to use COT's on site.
- All COT's will be inspected for damage prior to every use and will be stored and used in accordance with the manufacturer's instructions.
- Any persons not directly involved with the work in progress will be kept away from the work area by means of signage etc. to prevent injury from ricochet.
- PPE including safety helmets, high visibility clothing, safety footwear (not rigger boots), safety eyewear and gloves must be worn at all times on site.
- The operator of the COT and any other persons in the vicinity will wear ear protection at all times while COT's are being used.
- The operator of the COT and any other persons in the vicinity will wear suitable eye protection at all times.
- Maintenance as per the manufacturer's instructions will be carried out on all COT's to ensure they are kept in good condition.
- All cartridges and gas containers must be stored in a careful manner and cartridges will only be issued on an as needed basis. Regular monitoring of the amount of cartridges on site will be carried out.

RISK ASSESSMENTS

INSTALLATION OF DRY LINING BOARDS

Likely outcome of an accident involving INSTALLATION OF DRY LINING BOARDS

	Level of risk
Manual Handling injuries	**Medium**
Hand injuries	**Medium**
Exposure to insulation dusts	**Low**
Head, Eye and Feet injuries	**Low**

Preventative procedures

- Manual handling tasks should be reduced to a minimum by the use of mechanical aids where possible – board trolleys, pallet trucks etc.
- Store sheet materials close to point of use and avoid double handling materials by careful planning of deliveries and lay down areas.
- Ensure operatives receive manual handling training.
- PPE including safety helmets, high visibility clothing, safety footwear (not rigger boots), safety eyewear and gloves must be worn at all times on site.
- Suitable gloves should be worn at all times avoid contact with wet and dry plastering materials and jointing compounds.
- MSDS's will be available for all materials in use including plasterboard, insulation materials and plaster skim coat. The controls outlined in these MSDS's will be fully implemented.

Note: If plaster skim coat materials make contact with the skin, the affected area should be washed immediately.

Note: Dry lining boards will be stored on their flat in agreed lay-down areas. If boards have to be stored on their edge a maximum number of ten boards will be allowed at any one location.

RISK ASSESSMENTS

INSTALLATION OF SUSPENDED CEILINGS

Likely outcome of an accident involving INSTALLATION OF SUSPENDED CEILINGS

	Level of risk
Falls of persons	**High**
Falls of materials	**High**
Interaction with existing services	**Medium**
Cuts and abrasions to hands	**Medium**
Electric shock from power tools	**High**
Manual handling injuries	**Medium**
Slip, trip and fall accidents	**High**

Preventative procedures

- Ensure work area is cordoned off using robust barriers and appropriate signage and no personnel can gain access to areas under high work activities.
- Ensure that all electrical equipment is checked and only operated by competent persons.
- When working at height a safe place of work with full guardrail protection must be provided.
- Ensure personnel are trained in the use and construction of all access equipment.
- Ensure work area is kept clear at all times and materials are stored safely.
- Liase with main contractor on any issues regarding the installation of suspended ceilings.
- Ensure all equipment is stored correctly and leads are suspended off the ground where practicable.
- All operatives to be trained in manual handling techniques.
- PPE including safety helmets, high visibility clothing and safety footwear must be worn at all times on site.
- Utilize pallet trucks and fork trucks where possible.
- Ensure safe access to the work and always plan the route.
- Ensure that competent persons carry out all operations.
- Ensure that suspended ceilings are fitted properly and fixed.
- Ensure that MSDS's are made available to all operatives along with any risk assessments specific to the work being undertaken.

RISK ASSESSMENTS

PLASTERING

Likely outcome of an accident during PLASTERING

	Level of risk
Falls of persons	**High**
Falls of materials	**High**
Interaction with existing services	**Medium**
Electric shock from power tools	**High**
Manual handling injuries	**Medium**
Harmful effects of wet and dry plaster	**Medium**
Slip, trip and fall accidents	**High**

Preventative procedures

- Ensure work area is cordoned off using robust barriers and appropriate signage and no personnel can gain access to areas under high work activities.
- When working at height a safe place of work with full guardrail protection must be provided.
- Ensure personnel are trained in the use and construction of all access equipment.
- Ensure work area is kept clear at all times and materials are stored safely.
- PPE including safety helmets, high visibility clothing, safety footwear (not rigger boots), safety eyewear and gloves must be worn at all times on site.
- Utilize pallet trucks and fork trucks where possible to reduce the need for manual handling.
- Ensure that MSDS's are made available to all operatives along with any risk assessments specific to the work being undertaken.

RISK ASSESSMENTS

POOR HOUSEKEEPING

Likely outcome of an accident involving POOR HOUSEKEEPING

	Level of risk
Slips, trips and falls	**High**
Falls of persons	**High**
Falling objects striking persons	**High**
Damage to equipment	**Low**

Preventative procedures

- All instructions issued by the main contractor will be followed to ensure acceptable housekeeping standards.
- A definite place for every item, article or substance will be provided.
- Each item, article or substance will be kept in its designated place or returned if removed.
- Adequate disposal arrangements for scrap, waste and surplus materials will be provided.
- All work areas and equipment will be kept clean.
- Sufficient working spaces and adequate passageways for safe access and egress (entry and exit) will be maintained.
- Adequate space for materials, tools and portable equipment will be provided.
- Waste, scrap, spillage, leakage, dust and splashing will be anticipated and controls including the provision of labour to 'clean as we go' will be provided. Wheelie bins will be available in all work areas. Skips will be provided to allow for the segregation of waste by the main contractor.
- Only the materials required for that day will be taken to the workplace and all surplus materials will be returned to the stores at the completion of the day or the end of the task.
- Adequate general illumination will be provided by the main contractor.
- Any obstruction found will be removed, all sharp objects especially nails will be controlled and removed.
- Housekeeping hazards should not be ignored they should be put right.

RISK ASSESSMENTS

INSTALLATION OF RAISED ACCESS FLOORING

Likely outcome of an accident involving INSTALLATION OF RAISED ACCESS FLOORING

	Level of risk	
Cuts and abrasions to hands	**Medium**	
Electric shock from power tools	**High**	
Noise induced hearing loss	**Medium**	
Manual handling injuries	**Medium**	
Harmful effects from substances in use		**High**
Slip, trip and fall accidents	**High**	
Eye injury	**Medium**	

Preventative procedures

- Ensure that all high noise work is done in designated areas and the relevant signs are posted. Ensure the correct ear protection is available and worn.
- Ensure that all electrical equipment is checked before use and only operated by competent persons.
- Ensure work area is kept clear at all times and materials are stored safely.
- Liase with main contractor on any issues regarding the installation of raised access floors.
- Ensure all equipment is stored correctly and leads are suspended off the ground where practicable.
- Ensure gloves are worn during all manual handling tasks.
- All operatives to be trained in manual handling techniques.
- Ensure that the necessary PPE is worn at all times.
- Utilize pallet trucks and fork trucks where possible.
- Ensure safe access to the work and always plan the route.
- Ensure that competent persons carry out all operations.
- Ensure that raised access floors are fitted properly and fixed.
- Ensure that M.S.D. sheets are made available to all operatives and that the control measures outlined are followed in full.
- Ensure that the findings of all risk assessments specific to the work being undertaken are made known to operatives engaged in these tasks.
- Ensure eye protection is worn where there is a risk of eye injury.
- Ensure all power tools including band saws, circular saws and jig-saws are used only by trained competent persons and in accordance with the

manufacturer's instructions.

RISK ASSESSMENTS

NOISE

Some of the main sources of noise in construction are:

- impacting tools (such as concrete breakers);
- use of explosives (such as blasting, cartridge tools);
- pneumatically powered equipment;
- Internal combustion engines.

Likely outcome of an accident involving NOISE

	Level of risk
Acute Effects (temporary)	
Temporary threshold shift	Low
Tinnitus	Low
Acute Acoustic Trauma	Low
Chronic Effects (permanent)	
Noise Induced Hearing Loss	Low
Permanent Threshold Shift	Low
Tinnitus	Low

Levels of Loudness

	DECIBALS db(A)
Rustle Of A Leaf	10
A Whisper	30
Normal Conversation	60
Busy Traffic	80
A Heavy Goods vehicle	90
The Factory Floor	100
A Grinding Machine	110
A Propeller Aircraft	200

Noise Action levels

- **First action level** - a daily or weekly personal noise exposure of 80 dB(A). At this level, your employer has a legal duty to provide - at your request - suitable ear protection.

- **Second action level** - a daily or weekly personal noise exposure of 85 dB(A). At this level, employers must take steps to reduce sound levels as far as is practicable and provide suitable ear protection.
- Third action level – a daily or weekly personal noise exposure of 87 dB(A).

RISK ASSESSMENTS

Managing noise on site

Noise must be actively managed once work starts on site. This can be seen as a four-stage process.

- **Assess**; a competent person should assess the noise risks.
- **Eliminate**; remove noise sources from site.
- **Control**; put in place measures to prevent exposure, with personal hearing protection as the last resort.
- **Review**; check to see if there are any changes in the work, and amend the assessment and control measures accordingly.

Assessment

Worker noise exposure should be assessed, with particular attention being paid to the following:

The workers and their exposure, including:

- the level, type and duration of exposure, including any exposure to impulsive or impact noise, and whether the worker belongs to a particular risk group;
- where possible, effects on workers' health and safety resulting from interactions between noise and vibrations, and noise and work-related toxic substances (substances that can harm your ears);
- risks to workers' health and safety from failing to hear warning signals or alarms;
- the extension of exposure to noise beyond normal working hours under the employer's responsibility;

Technical knowledge and information, including:

- The information on noise emission provided by manufacturers of work equipment;
- The existence of alternative work equipment designed to reduce the noise emission;
- Relevant information from health surveillance; the availability of suitable hearing protectors.

Elimination of noise

Where possible, the production of noise should be eliminated. This can be achieved by changing the construction or work method. Where elimination is not possible, then the noise should be controlled.

Control
There are three steps to the protection of workers from noise, using technical and organisation measures:

- control the noise at source;
- collective measures,
- including work organisation;
- Personal hearing protection.

RISK ASSESSMENTS

Control of noise at source

Such control measures include:

- using a machine with lower noise emissions;
- avoiding metal on metal impacts;
- damping to reduce noise or isolating vibrating parts;
- fitting silencers;
- Carrying out preventive maintenance: as parts become worn, noise levels can change.

Collective control measures

Collective measures include:

- isolating noisy procedures and restricting access to noisy areas;
- interrupting the path of airborne noise through the use of noise enclosures and barriers;
- using absorptive materials to reduce reflected sound;
- controlling ground-borne noise and vibration by using floating slab measures;
- organizing work so that the time spent in noisy areas is limited;
- planning to have noisy work done when as few workers will be exposed as possible;

Implementing work schedules that control exposure to noise.

Personal hearing protection

Personal hearing protection should be used as a last resort.
Where used:

- The personal hearing protection must be worn and its use enforced;
- It should be suitable for the job, type and level of noise, and compatible with other protective equipment;
- Workers should have a choice of suitable hearing protection, so that they can find the most comfortable;

- Training should be given on how to use, store, and maintain the hearing protection.

Training:
Training is an important part of noise control.
Persons requiring training include:

- Those carrying out the noise assessment;
- Those writing the tender documentation to ensure that contractors will control noise;
- Managers, so that they can meet their duties regarding control and record keeping;
- Workers, who need to know how and why to use work equipment and control measures to minimise exposure to noise.

RISK ASSESSMENTS

VIBRATION

Some of the main sources of vibration in construction are:

Chainsaws; concrete breakers / road breakers; cut off saws (for stone etc.); hammer drills;
Handheld grinders; jigsaws; needle scales; pedestal grinders; power hammers and chisels;
Powered sanders; scrabbles.

The health effects of hand arm vibration include:

- Tingling and numbness in the fingers;
- Not being able to feel things properly;
- Loss of strength in the hands;
- The fingers going white (blanching) and becoming red and painful on recovery (particularly in the cold and wet, and probably only in the tips at first).

For some people, symptoms may appear after only a few months of exposure, but for others they may take a few years. They are likely to get worse with continued exposure to vibration and may become permanent.

The effects on people include:

- Pain, distress and sleep disturbance;
- Inability to do fine work or everyday tasks such as fastening buttons;
- Reduced ability to work in cold or damp conditions (ie most outdoor work) which would trigger painful finger blanching attacks;

Reduced grip strength which might affect the ability to do work safely.

Exposure action value (EAV) and exposure limit value (ELV)

What is the exposure action value?

The exposure action value (EAV) is a daily amount of vibration exposure above which Cobec Engineering are required to take action to control exposure. The greater the exposure level, the greater the risk and the more action will need to be taken to reduce the risk.
For hand arm vibration the EAV is a daily exposure of 2.5 m/s2 A(8).

What is the exposure limit value?

The exposure limit value (ELV) is the maximum amount of vibration an employee may be exposed to on any single day.
For hand arm vibration the ELV is a daily exposure of 5 m/s2 A(8).

It represents a high risk above which employees should not be exposed.

RISK ASSESSMENTS

High risk (above the ELV)

Employees who regularly operate:

- Hammer action tools for more than about one hour per day; or
- Some rotary and other action tools for more than about four hours per day.

Employees in this group are likely to be above the exposure limit value. The limit value could be exceeded in a much shorter time in some cases, especially where the tools are not the most suitable for the job.

Medium risk (above the EAV)

Employees who regularly operate:

- hammer action tools for more than about 15 minutes per day; or
- some rotary and other action tools for more than about one hour per day.

Risk controls include:

<u>Alternative work methods</u>

- Look for alternative work methods which eliminate or reduce exposure to vibration.

- Mechanize or automate the work.

Equipment selection

- Make sure that equipment selected or allocated for tasks is suitable and can do the work efficiently. Equipment that is unsuitable, too small or not powerful enough is likely to take much longer to complete the task and expose employees to vibration for longer than is necessary.
- Select the lowest vibration tool that is suitable and can do the work efficiently.
- Limit the use of high vibration tools wherever possible.

Purchasing policy for replacing old equipment and tools

Work equipment is likely to be replaced over time as it becomes worn out, and it is important that you choose replacements, so far as is reasonably practicable, which are suitable for the work, efficient and of lower vibration.

- Discuss your requirements with a range of suppliers.
- Check with suppliers that their equipment is suitable and will be effective for the work.
- Compare vibration emission information for different brands / models of equipment.
- Find out about the equipment's vibration reduction features and how to use and maintain the equipment to make these features effective.
- Develop a policy on purchasing suitable equipment, taking account of vibration emission, efficiency and your specific requirements.
- Train purchasing staff on the issues relating to vibration so that they can deal effectively with equipment suppliers.

RISK ASSESSMENTS

Workstation design

- Improve the design of workstations to minimise loads on employees' hands, wrists and arms caused by poor posture.
- Use devices such as jigs and suspension systems to reduce the need to grip heavy tools tightly.

Maintenance

- Introduce appropriate maintenance programmes for your equipment to prevent avoidable increases in vibration (following the manufacturer's recommendations where appropriate).
- Do not use blunt or damaged concrete breaker and chipping hammer chisels and replace consumable items such as grinding wheels, so that equipment is efficient and keeps employee exposure as short as possible.

Work schedules

- Limit the time that your employees are exposed to vibration.
- Plan work to avoid individuals being exposed to vibration for long, continuous periods –several shorter periods are preferable.
- Where tools require continual or frequent use, introduce employee rotas to limit exposure times (you should avoid employees being exposed for periods which are long enough to put them in the high risk group).

Clothing

- Provide your employees with protective clothing when necessary to keep them warm and dry. This will encourage good blood circulation which should help protect them from developing vibration white finger.
- Gloves can be used to keep hands warm, but should not be relied upon to provide protection from vibration.

INCIDENT INTIMATION CUM INVESTIGATION REPORT						
Report No. :		Committee Members :				
		1				
Area :		2				
Section :		3				
Name of Injured person		Age:	Approx.	Sex:		
Emp Code :		Employer:				
Designation:		Department:		Section :		
Date of Incident		Time of Incident		Place of Incident:		
Nature & Location of injury:						
Description of the Incident : State exactly what the injured person was doing at that time						
Possible Causes for the Incident						
S.N.	Causes					Possibility
1						Yes / No
2						Yes / No
3						Yes / No
Please mention the authenticity or proofs identified against the causes :Yes						
S.N.						Proofs
1						
2						
3						
Please Identify the Reasons attributed for above causes						
S.N.	Reasons			Remarks		
1						
2						
3						
Actions suggested / taken to remove above reasons/ causes						
S.N.	Action		Responsibility			Target Date
1						
2						

3							
Witness if any: 1	Signature		2	Signature			
	Name:			Name:			
	E.Code:		Dept.	E.Code:		Dept.	
	Designation			Designation			
	Employer			Employer			

Copy of the report to be sent to: **1. Health Centre** **2. Incident Investigation Sub-committee** **3. Safety Department** **4. Office Copy**	**Submitted by:** **Date:** **Name & Signature:** **(Shift In-charge / Section Head / HOD)**

Accident /incident report

Company:- **Location**	**Department:-**	

Type of event:	**Injury**	**Ill health**	**Incident(near miss)**	

Harm (or potential for harm):	**Fatal or major**	**Serious**	**Minor**	**Damage to property only**

Employee involved in event:	**Name:** **Address:** **Position:** **Contact number:**
Brief description of event: (Details of what happened ,when, where, and emergency action taken)	
Details of witness (es), if any :(Name, position, contact number etc…)	

Investigation required: **Investigation level:** **Priority :** **Leader of investigation:**	**Yes /No** **High Medium** **Low** **Minimal**	**Entry in accident book:** **Date /time entered:**	**Yes/No**

Reported By:	**Position:**
Date:	**Signature:**

ELCB TEST RECORDS

Date of Testing	ELCB number and location	Is ELCB sensitivity maintained at 30mA	Test result/Observation	Last tested On	Next Due On	Any other comments	Signature of authorized person

ELECTRICAL SAFETY CHECKLIST

Date:-

Sl.No.	Contents	Yes/ No	Remarks
A	**Cables**		
1	Whether the condition of the cable is checked?		
2	Are cable received from other site checked for insulation resistance before putting them into use?		
3	Are all cables are taken either underground/ overhead?		
4	Are welding cables routed properly above the ground?		
5	Are welding and electrical cables are overlapping?		
6	Is any improper joining of cables- wires prevailing at site?		
B	**DBs/SDBs**		
1	Is earth conductor confiding up to DB/SDB?		
2	Whether DBs &extension boards are protected from rain/water?		
3	Is there any over loading of DBs/SDBs?		
4	Are correct/proper fuses &CB's provided at mainboards &sub- boards?		
5	Is energized in wiring junction boxes, CB panels &similar places covered all times?		
C	**ELCB(Earth Leakage Circuit Breaker)**		
1	Whether the connections are routed through ELCB?		
2	Is ELCB sensibility maintained at 30mA?		
3	Are the ELCB numbered & tested periodically & test results recorded in a logbook countersigned by competent person?		
D	**Grounding**		

1	Is natural earthing ensured at the source of power (main DB at generator or Transformer)		
2	Whether the continuity & tightness of earth conductor are checked?		
3	Mention the gauge of earth conductor used at site.		
4	Mention the value of earth Resistance.		
E	**Electrically operated Machines /Accessories**		
1	Whether the plug top provided everywhere?		
2	Are all metal parts of equipment's &light fittings /accessories grounded?		
3	Is there any shed/Cover for welding machines?		
4	Are Halogen lamps are fixed at proper places?		
5	Are portable power tools maintained as per norms?		
6	Any other information?		

Site In Charge Sign :

Authorized Safety Officer Sign **:**

HAND AND POWER TOOLS CHECKLIST

Project : **Date:**

Yes/No	Particulars
	Are all tools and equipment's (both company & employee owned) used by employees at their workplace in good condition?
	Are hand tools such as chisels and punches, which developed mushroomed heads during use, reconditioned or replaced as necessary?
	Are broken or fractured handles on hammers, axes and similar equipments replaced promptly?
	Are worn or bent wrenches replaced regularly?
	Are appropriate handles used on files and similar tools?
	Are employee made aware of the hazards caused by faulty or improperly used hand tools?
	Are appropriate safety glasses, face shields, etc. Used by using hand tools or equipment which might produce flying materials or be subject to breakage?
	Are jacks checked periodically ensure they are in good operating condition?

	Are tools handles wedged tightly in the head of all tools?
	Are tool cutting edges kept sharp so the tool will move smoothly without binding or skipping?
	Are tools stored in dry, secured locations where they won't be tempered with?
	Is eye and face protection used when driving hardened or tempered spuds or nails?
	Are grinders, saws and similar equipment provided with appropriate safety guards?
	Are power tools used with the correct shield, guard, or attachment, recommended by the manufacturer?
	Are portable circular saws equipped with guards above and below the base shoe? Are circular saw guards checked to assure they are not wedged up, thus leaving the lower portion of the blade unguarded?
	Are rotating or moving parts of equipment guarded to prevent physical contact?
	Are all cord connected, electrically operated tools and equipments effectively grounded or of the approved double insulated type?
	Are effective guards in place over belts, pulleys, chains, sprockets, on equipment such as concrete mixtures, and air compressors?
	Are portable fans provided with full guards or screens having openings 1/2 inch or less?
	Is hoisting equipments available used for lifting heavy objects, and are hoist ratings and characteristics appropriate for the task ?
	Are ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits, using during periods.
	Are pneumatic and hydraulic hoses on power operated tools checked regularly for deterioration or damage?
REMARKS :-	

Site In charge

Authorized Safety Officer

PEP TALK REPORT

Identity / Name of the Site :

Location :

Name of the Section In charge :

Name of the HSEO :

Name of the Sub-Contractor/Dept. :

Number of workmen present :

Date & Time :

Topics discussed :

Response of workmen :

Remark / Any significant problem Identified :

Signature:

---------- ----------

HSEO Site Engineer

Kaushal Interiors Pvt. Ltd.

No. 22, 2nd Floor, B.V. Reddy Layout, 2nd Cross
Ring Road, Kalyan Nagar, Bangalore - 560 043.

Tel : 2545 6086, Telefax : +91 80 2542 7044
Cell : 98451 63751, 98451 63752
E-mail : Bangalore@kaushalinteriors.com
www.kaushalinteriors.com

HOT WORK PERMIT

(**Hot work would mainly comprise –** Welding, Gas – Cutting, use of open Flames or other source of fire in a fire-prone place containing inflammable substances, explosives &/ or other such highly combustible materials susceptible to spontaneous ignition & / or explosion.)

A. **The person taking permit (Pemittee) to fill up:**

1. Exact location where hot work is being planned. _____
2. Approximate duration of work. From : Date : _____ Time : _____

To : Date: _____ Time : _____

Points To Be Checked

Sl. No.	Details	Remarks Yes	No	Not required
1.	Has the area immediately below the work spot been cleared / removed of oil, grease & waste cotton etc?			
2.	Has Gas concentration been tested in case there is gas valve / gas line nearby?			
3.	Have fire extinguishers been kept handy at site?			
4.	Has tin sheet / wet gunny bag / fire retardant cloth / sheet been placed to prevent sparks from causing fire?			
5.	Has water hose connection been made for continuous water spray?			
6.	Have all the drain inlets (if any) been closed/			
7.	Any other precautions taken (Specify):			

The above points have been complied with and conditions rendered safe / hazards innocuous to undertake the hot work.

Name of Permittee / Site Engg. _____ Signature _____

B. **The person giving permit (Issuing authority) to fill up:**

After checking all the above precautions the hot work can be carried out in the above area.

Name & Signature of issuing authority: _____ HSEO: _____

C. Time_____ Date: _____ at which the permit closed & file.

Signature of HSEO_____

Note: Hot work permit can be obtained for one shift only & it can be extended for the immediate next shift if the work could not be completed within one shift. In no case the permit is valid more than two shifts. If required Fresh Permit has to be obtained again.

Kaushal Interiors Pvt. Ltd.

No. 22, 2nd Floor, B.V. Reddy Layout, 2nd Cross
Ring Road, Kalyan Nagar, Bangalore - 560 043.

Tel : 2545 6086, Telefax : +91 80 2542 7044
Cell : 98451 63751, 98451 63752
E-mail : Bangalore@kaushalinteriors.com
www.kaushalinteriors.com

ELECTRICAL WORK PERMIT (HT / LT)

Place of Work : _____
Group : _____
Date : _____

Name of the person taking Shutdown / Power Block **Mr.**_____
Designation _____

Why Shutdown / Power Block is required _____

_____

Apparatus / equipment on which shutdown required _____

Approximate time of shutdown / power block from _____Hrs to _____Hrs

Signature of person taking Shutdown_____

Action taken to make the apparatus safe to work _____

Earthing done (Checked / Not Checked) : _____

Caution tag placed at: _____

I declare that the apparatus / equipment mentioned above is safe to work and shutdown is given and the same will not be made alive till permit is cancelled in writing by the person taking shutdown.

Name of the person issuing shutdown / power block _____

Signature _____ Designation _____ Date & Time _____

I declare that the work has been completed and men and materials have been removed from the place of work and apparatus / equipment is safe for Commissioning / energizing.

This shutdown is hereby cancelled.
Name _____ Signature _____ Date & Time _____

Note: Form should be made available in three copies. Person taking shutdoiwn should hold two copies with him. One copy should be retained for documentation and other copy to be handed to person issuing permit after completion of works and duly signed.

KAUSHAL INTERIORS PRIVATE LIMITED

Near Miss Report

Reported By name:-

Department :

Incident details

Time

Location

Witness(If applicable)

Nature of near miss

Near miss was due to or almost resulted in a :

Slips and trips		**Fire Inhalation of Sub.**	
Falls from height		**Pollution**	
Manual handling accidents		**Manual handling failure**	
Lifting device failure		**Road accident**	
Pollution			
Others (pls. Specify)			

Near miss could have result in

Injury		**Damage**	
		Minor	
		Medium	
		Major	

Additional comments

Signature