



**SAFETY
GUIDE LINES
FOR
PORT USERS
OF
MUMBAI PORT**

Objectives

To make Mumbai Port free from accidents and dangerous occurrences by collective efforts of all stakeholders in preventing their occurrences of accidents.

We propagate the –

- Safety of all dock workers is our prime concern
- Prevention of accidents is important rather than corrections after occurrence.
- Dangers/hazards involved in port working should be known to all who are deployed in docks irrespective of their employers.
- Safety and productivity go hand in hand.

Expectations from Port Users

We expect from our port users –

- Use of Personal Protective Equipment by one and all working in cargo handling areas.
- Compliance of Set Safety Rules or Norms
- No misuse of any equipment
- Help port in maintaining Safe Working Environment
- Deployment of only the trained personal in the docks.

Safety Policy of Mumbai Port

The Chairman and Board of Trustees of Port of Mumbai believe in human life as a great resource to the organization. The main objective of the organization is to develop safety consciousness and to ensure that employees at all times are kept familiar with the general and special rules, procedures and practices for safe conduct of their work in particular and to the community in general.

The policy of the organization is:-

- Acceptance of safety as an integral part of a job. It is as much important as one's daily work. It is as essential as completing the work assigned to each employee.
- Avoiding of accidents to persons and property.
- Train and motivate employees for safe work practices.
- To maintain neat, clean, safe, healthy and attractive working conditions.

AND

- To comply with statutory safety requirements

Safety Organization

A safety Cell has been constituted to look after the enforcement of safety regulations to the docks and other cargo handling areas, as per the provisions of 'The Dock Workers' (Safety, Health and Welfare) Regulation, 1990'. The Safety Cell is situated at Ambedkar Bhavan, Indira Dock and has the following set-up.

- | | | |
|---|-----------|-------------------|
| 1. Senior Safety Officer, I/C Safety Cell | | Tel. No. 66565068 |
| 2. Safety Officer | Zone-I | Tel.No. 66565070 |
| 3. Safety Officer | Zone-II | Tel.No. 66565067 |
| 4. Safety Officer | Zone-III | Tel.No. 66565078 |
| 5. Welfare Officer | Docks | Tel.No. 66565071 |
| 6. Welfare Officer | Ex. Docks | Tel.No. 66565066 |

Safety Regulatory Authority

Safety Enforcement/Regulatory Authority for the Port is Deputy Director (Safety), Inspectorate of Dock Safety, Mumbai. The Officer of Inspectorate of Dock Safety is situated at Operations Service Centre Building, opp. GPO, P. D'mello Road, Mumbai.

Dy. Director (O)	Ins. of Dock Safety	Tel.No.66565511
Dy. Director (R)	Ins. of Dock Safety	Tel.No.66566950
Asstt. Director	Ins. of Dock Safety	Tel.No.66565558

Understanding about Accidents

Definition

Accident is unforeseen, uncontrolled and unplanned event, which interferes with work and may or may not cause injury to person or damage to property. Accidents do not just happen, they are caused.

How Accidents occurred

- 1) An accident is that occurrence in sequence of events that usually produce unintended injury, death or property damage.
- 2) If we do not like the end result of an event and want to escape personal responsibility, then we call it an accident.
- 3) It is our prime duty to find out the cause to highlight the control measures to avoid recurrence. Our aim of accident investigation is to find out facts, not to find fault.
- 4) An analysis of the Industrial accidents revealed that the accidents do not just happen, but they are caused. Common sense prevents many accidents.

Cause of Accidents

1. **Unsafe Act:**

Not following applicable safety norms.

Safety rules

Working guidelines

Safety Instructions

Dock Workers (Safety, Health & Welfare) Regulations 1990

Not using:

Personal Protective Equipment (PPE)

Safety guards

Safety gadgets

Horseplay at the work place

Disturbing the concentration of others by talking

Operating without training, without knowing, without experience or without orders etc.

Right tool for right job / Use of worn out tools / Misusing of tools etc.

Good house keeping practice

Personal attitude

Faulty attitude

Accident will not happen to me, happens to other only

Accident is an act of God, a punishment

Failure to recognise potential dangers

Personal factors

Impulsiveness

Lack of attention

Irresponsibility

Defective vision

Lack of sleep

Temperamental dash

Accident proneness

Food habits and drinks/drug habits

Psychophysical characteristics

Worry and emotion

Bad starting of day from home

Age, Sex, Physical fitness

2. **Unsafe Conditions**

Bad selection of man, machine, material and methods

Faulty design of machine

Insufficient and inadequate guards

Inadequate air, light and environment

No caution boards/Notice boards

Improper maintenance or no periodical maintenance

Faulty purchase / Lowest Quotation

3. **Natural Calamities**

Heavy down pour
Lighting
Floods
Landslide
Collapsing of building
Earth Quake
tornado etc.

Consequences of Accidents

To the workers	:	Pain from injury
	:	Loss of incentives
Direct Losses	:	Loss of Limb
	:	Loss of earning capacity
	:	Expenditure for medical treatment
	:	Compensation
Indirect Losses	:	No peace of mind in family
	:	Frustration in life
	:	Future plans upset
	:	Loss to the family if death or disablement occurs
Social Losses	:	Children become orphans
	:	Loss of parent of son/daughter
	:	Burden of society

Prevention of Accidents

Following three methods can prevent accidents

1. **ENGINEERING METHODS**

- To keep the danger zones on continuous watch/guard
- To keep the person away from danger zone
- To maintain the work place in good condition

2. **ENFORCEMENT (Statutory)**

Through legislations International
 National
 State
 Associational
 Institutional
 Standing orders

3. EDUCATION AND TRAINING

Safety orientation programme for new recruits about safety rules, safety procedures, accident reporting systems etc.

Workers Training	Intensive training Need based training Special training
Demonstration / Presentation Management	Seminar Industrial visits etc.

Importance of Safety Training in Mumbai Port Trust

As dock working is considered to be accident prone world over, it is essential that workers deployed in the docks are trained. As per the Regulation-111 of the Dock Workers (Safety, Health and Welfare) Regulations, 1990, imparting training to the dock workers is essential. The Safety Cell of Mumbai Port conducts regular training courses for its employees and port users employees.

Accidents Reporting and Investigation in Mumbai Port

As per Regulations 91 of the Dock Workers (Safety, Health and Welfare) Regulations, 1990, it is mandatory on the part of port users (All employers) to report accidents involving their employees, during work inside the port. The accident shall be reported to the area in-charge immediately in Form-XII.

Each and every accident that occurred in our port is investigated and therefore, it is essential on part of every port users to co-operate and provide all evidences to the Investigation Officer during the course of investigation.

General Safety Tips

1. Do not enter in the docks without a valid Dock Entry Permit/Smart Card.
2. Do not smoke in the port premises
3. Obey Traffic signal and note ----, Do not drive your personal vehicles like bike, car etc. on the wharves.
4. Driving speed limit on MbPT dock roads is 20 Km/H and on wharf it is 8 Km/H.
5. Park your vehicles in the ear-marked parking areas only.
6. Resting/sleeping/climbing on stacked cargo is prohibited.
7. Do not sleep below vehicles or on heap of cargo.
8. At work place, work cautiously. Do not run and do not play.

9. Employee / worker should reveal the true reasons behind the cause of accidents (lack of training, lack of supervision or perhaps, poor communication between supervisor and workers).
10. If you get injured, get "FIRST AID FIRST" and inform your supervisor.
11. Keep gangways and aisles free from obstructions.
12. Walk carefully on a wet or oily floor.
13. Practical jokes are forbidden.
14. Do not take short cuts, when a safe road or safe method is available.
15. If you observe any unsafe working conditions or unsafe methods practiced by a colleague, report immediately to your supervisor.
16. Accidents do not occur, if there is good teamwork and co-operation.
17. Do not distract the attention of a worker while he is working.
18. Comply with the warning signs displayed at various locations of the port.
19. Do not use make shift arrangements, like using a barrel as a Ladder, Spanner for plies etc.
20. While climbing down the stairs, hold the railings and climb down slowly.
21. Comply with all safety practices/rules and take active part in all safety activities. Also insist on observance of safety.
22. During break or shift change over, sleeping in-side the dock is prohibited.
23. After completion of shift, no worker should continue to remain on board without valid permission from approval authority.
24. Only professional security guard are authorised to work for cargo/equipment protection.
25. While operating the hatch covers, the ship's Officer/crew member shall ensure that nobody is on the hatch cover.
26. Nobody should be allowed to rest or sit or sleep on the hatch cover, irrespective of whether loading/unloading operations are going on or not as it is an accident prone area.
27. The contractors engaged by the agents for lashing, supply of dunnage, etc. should be directed to have strict control and supervision on their workers.

Guidelines for handling steel cargo

1) Handling on board the ship

- (a) Slings/chains used for handling cargo shall conform with statutory requirements.
- (b) All slings/Chains/Belts used for handling cargo shall duly tested by competent person. Also test certificate / Register etc. shall be made available to the port authorities as and when demanded.
- (c) All equipment / machines used on board shall conform with statutory required.
- (d) Winchmen and signal foremen deployed on board shall be well trained.
- (e) All employees deployed on board must wear PPE. (use of helmet, Safety Shoes and Handgloves are mandatory while working on board the ship).
- (f) While preparing kachha/pacca sling, no person should go below the cargo to pull sling or chain etc. A pulling device or metallic stick shall be used to pull the sling/chain to other end.
- (g) No unauthorised person shall be allowed to enter inside the hatch.
- (h) No person should be allowed to take rest or sleep inside the hatch or ship.
- (i) No person should be allowed to read or listen FM Radio on board vessel.
- (j) While loading cargo inside hatch stacking should be done as per stowage plan.
- (k) While stacking cargo inside the hatch proper dunnage should be used and lashing shall be done under strict supervision.
- (l) Loitering on board is strictly prohibited.
- (m) Sitting/walking on hatch cover or beam is prohibited.

2. While unloading the steel cargo: -

- (a) Sling/chain belt etc. used shall be in conformity with statutory requirement.
- (b) Sling/chain/Belt etc. used shall be done by tested by a competent person.
- (c) Winchmen and Signalmen shall be trained and shall use standard signals during hoisting lowering slinging operations etc.
- (d) No person shall walk or stand below hanging cargo.

3. Transportation of steel cargo:-

- (a) Vehicle deployed for transportation of steel cargo shall be certified fit by RTO Authorities to carry steel cargo safely.
- (b) Vehicle can be driven by authorised drivers along with cleaners.
- (c) No vehicle is allowed to carry load beyond it's designed capacity.
- (d) Stanchions shall be provided on trailer where cargo like angles, steel pipes etc.
- (e) All steel cargo to be carried on in vehicle shall be tied with the help of steel rope or chain. Especially carrying coils without lashing will be viewed as a serious offence.
- (f) Vehicle driven in the dock without cleaner will be viewed as serious offence.
- (g) Vehicle parked in prohibited area or in between road causing traffic jam will be viewed as serious offence.
- (h) Cooking inside vehicle will be viewed as serious offence.
- (i) No vehicle shall overtake queues or line. Breaking lines /queues is a serious offence.

4. Storing of steel cargo in the shed and open spaces:-

- (a) Floor strength shall be examined before stacking steel cargo in multi-layer or stages.
- (b) Proper wedges should be provided to prevent stack failure.

5. Delivery of steel cargo:-

- (a) At the time of delivery of steel cargo, no person shall be allowed to stand below the slinging path of steel coil.
- (c) All persons shall wear PPE

Guidelines for handling project cargo

While Handling Project Cargo following safety procedure shall be taken

1. Safe Unloading from ship to Vehicle or Shore

- a. The Vessel Supervisor or Foreman shall supervise the activity continuously. If any unsafe action and condition is noticed, immediate action should be taken in consultation with the sectional Asst. Manager.
- b. Project cargo shall be engaged for lifting or shifting as per directives given on packing. Proper size of gears shall be used to lift cargo.
- c. The Vehicle used for carrying project cargo shall have all required facilities like multi wheels, special braking system etc.

- d. Prior to unloading of cargo on condition of trailer bed shall be examined for stability of cargo. Further cargo shall be lashed properly on truck/trailer before the movement of truck / trailer.
- e. If cargo is to be unloaded on wharf or to be stored in the dock premises strength of surface should be examined first for required strength. Also cargo shall be supported for all directions, if it does not have solid stable base.
- f. While delivering project cargo, the concerned Shed Supt. / Labour Supervisor of MbPT and supervisor/s of port user shall take all necessary precautions for safety of cargo.

Guidelines for handling dry bulk cargo

1. The wire ropes used for fixing grabs should be of good condition, properly tested and certified by a competent person.
2. The 'save all' net used for ship to shore transfer should be of good condition and properly fastened by means of nylon ropes.
3. The hoppers / sling nets wherever used should be of good condition and free from defects.
4. Trucks used for transportation should be of good condition and must be driven by authorised driver only.
5. Truck should be loaded only up to the body level, properly trimmed and covered by tarpaulin to avoid spillage and flying of dust.
6. Spilled over cargo should be cleared immediately.
7. Speed limit of trucks should not exceed 20 Km/h on roads inside docks and 8 km/h on wharf.
8. Transportation of workers in the bucket of JCB / Pay Loader is totally prohibited.
9. Better co-ordination between Winch Operator and Signaller is necessary.
10. Use of Personal Protective Equipment like safety helmet, safety shoes, hand gloves and dust mask etc. is compulsory.

Guidelines for container handling

- Always make use of the suitable spreaders for handling containers after the same are tested and certified by a competent person.
- Use only the trailers having twist lock facility for transporting containers to prevent them from falling off the chassis.
- The container shall be firmly secured on the chassis of the Truck / Trailers by means of twist locks before transporting.
- Use ladders only of sound construction, provided with anti-skid devices to reach the top of the containers whenever necessary.
- Do not use single or multi legged slings of lifting containers.
- Do not permit men / workers to ride over spreaders / containers while handling at berth / yard.
- The speed limit of trucks / trailers should not exceed 20 Kms/8 kms as the ear-marked.

- Observe corners of containers while lifting, clewing and lowering operations.
- Better co-ordination should be maintained between Winch Operator, Signalman and workers.
- Use of Personal Protective Equipment is made compulsory.

Guidelines for automobile vehicles handling

- Vehicles brought inside the docks should be parked in such an order, that, at time of loading, there is a smooth movement.
- Drivers deployed to load the vehicles should drive vehicles in slow speed as safety norms.
- Driver deployed to load the vehicle should be trained for loading vehicles on board.
- High speed driving is prohibited.
- Agents should post their own staff to control vehicular movement.

Guidelines for Use of Transportation Equipment

- Forklift trucks/Automobiles speed should not exceed 20 Km/h and 8 Km/h respectively on the Dock roads & wharves, especially in the congested docks area.
- Drivers must sound horn at all intersections, blind corners and while reversing.
- At the junctions of road, stop, observe and then proceed.
- Do not get 'IN' or get "OUT" of moving vehicles.
- Do not park the trucks near gangways, aisles or extreme near to the wharf.
- Travel at a safe distance when you are driving behind another truck and at a safe speed that will allow you to stop in case of an emergency.
- Driving in standing position and horseplay should be avoided.
- Look behind and be sure all is clear while reversing.
- No passenger or fellow worker should be permitted to sit on a Forklift Truck. It is the responsibility of the driver to keep off the rider.
- If the truck is left on the gradient, set the brakes/gears and block the wheel.
- The driver of the mobile crane handling containers must not allow anybody to ride on spreader.
- The cargo handling equipment operators operating cranes, fork-lifts, pay loaders, etc should not leave the keys of the equipment on the unattended equipment but should hand over the same to the reliever or the operator of the next shift.

Guidelines for use of gears

- Gears used in dock working shall be of an appropriate nature, means where steel rope is to be used no other gear should be used.
- Gear used for dock working should be made of sound material and have adequate strength.
- Each gear to be used in dock working shall be tested for Safe Working Load (SWL) by a competent person.
- No gear used by dock worker should be over loaded by any means.
- Gears under use in dock working shall be regularly inspected by a responsible person and if any defect is noticed during work, it should be reported to the supervisor immediately.
- Tandem lifting should be done preferably in day shift only under strict supervision.

Guidelines for Handling hazardous chemicals

1. Acids and alkalis are highly corrosive. If a chemical falls on the skin, it may cause burns. Do not handle them without wearing protective equipment.
2. When there is an acid or alkali splash, flush it with lot of cold water. Then obtain medical attention.
3. Absorb acid spillages with a mixture of sand and soda ash only.
4. Do not smoke or carry open flame where inflammable solvents/chemicals are handled or stored.
5. Before starting maintenance work on chemical / gas pipelines / chemicals are handled or stored ensure utmost safety precautions.
6. When it is necessary for a person to work in a gas tank/holder where there is possibility of poisonous gas existing, it is a MUST for him to wear Gas Mask with life belt attached with a safety line and at least one man at the top of gas tank/holder should stay as a watchman who can control the safety line if it is necessary to pull him out.
7. When you are suspecting that there is a poisonous gas existing, do not enter the area without wearing suitable gas mask.
8. If any gas leakage occurs or is suspected, immediately inform the concerned authority.
9. If light is required in a chemical/gas tank for maintenance work, use only a 6V torch or Flameproof light.

Safety in use of Cranes

1. A crane should not be loaded beyond its rated load.
2. The load should be attached to the hooks by means of tested slings or other approved devices by a competent person.
3. The load should be well secured and balanced in the sling or lifting device before it is lifted.
4. During hoisting care should be taken that there is no sudden acceleration or deceleration of the load and also that load does not cause any obstruction.
5. The operator should test the brake each time by raising the load a few inches and applying the brakes.
6. The crane should not be used for side pulls.
7. Before hoisting / lifting a load, the operator should ensure that slingers and others are well clear of the load.
8. The load should not be lowered below the point where less than two full turns of rope remain on the drum.
9. The operator should not leave his position at the control while the load is suspended.
10. The hoist limit switch should never be used as an operating control.
11. Only one person should be authorised to give signals to the crane operator.
12. Before commencing travelling or when the hook approaches near or over personnel, warning signal should be sounded.

Safety Tips on House Keeping

1. Every employee/worker should consider, that it is his/her responsibility to maintain good house keeping at his/her work place. A clean place is necessary for safe working.
2. Report all oil leaks, chemical leaks or water pipe line leaks promptly to the concerned departments.
3. You may prevent a serious accident by picking up tripping hazards such as nails, pieces of wires, scrap etc. Dispose them to a safer place.
4. A slip can cause a serious accident. Spillage of oil, water or chemical should be immediately cleaned and disposed off.
5. Report wherever conduits/pipes/materials projected or running on the work area to the section heads or maintenance personnel. This will help them to embed and avoid tripping hazard.
6. Keep your lockers clean and tidy.
7. Report worn out / broken work areas and steps of the stairs. They should be repaired promptly.

Safety in use of Ladders

1. Get a ladder for any work that you cannot reach. But be sure that you are using required type of ladder and it is properly secured. You should not climb on machinery or use make shift ladder like boxes, drums or barrels.
2. Before using a ladder inspect for missing cleats or cracked rungs or broken spreaders.
3. Before using a straight ladder, the distance from the base to the will should always be maintained at a Quarter of the length of the ladder itself.
4. While ascending or descending a ladder, the person should hold the body in position facing the ladder. He should have a firm grip on the ladder with the hands and care to ensure proper feet contact with the rungs.
5. Step ladder more than 10 feet high should be held by another person. Do not step on the last rung from the top.
6. When working on a ladder, the person should not work farther than permissible reach. Excessive leaning or sidewise movements should be avoided.
7. After work do not leave the ladder at the work place.
8. Do not use two short ladders together to make a long ladder. Extension ladder only may be used in such a case.
9. Ladder should not be painted.
10. Metallic ladders should not be used for repairing of electrical equipment.

Handling of Materials

1. Inspect the object you are going to lift to determine its size, weight etc.
2. A good pair of hand gloves plays an important role in preventing hand injuries while handling materials.
3. Before lifting a material make a trial to ascertain whether you can lift it without strain. If you can't get a good grip, keep your feet apart and bend your knees. Then keep your back relatively straight and lift by strengthening your legs in order that your strong leg muscles do the job rather your back muscles.
4. When the material is heavy, call for help/assistance.
5. Where crane is used for material handling, the persons working under it should keep away from the swing circle area of crane.
6. Never stand under a load carried by cranes.
7. Only authorised persons should handle / operate the cranes.
8. While handling materials, wear hand gloves, goggles and safety shoes.
9. If more than two persons are involved in material handling, there should be good co-operation and team spirit.

Safety in Cargo Handling Timber Logs

1. Wire ropes/slings in good condition, properly tested and certified by a competent person and should only be inspected by a responsible person before used for cargo handling.
2. The wire rope slings should have tag / punch mark indicating its safe working load.(SWL)
3. Timber Logs shall be safely slung before being hoisted and while swinging it should be kept horizontal to ground.
4. Timber logs inside the hatch must be discharging in a levelled manner to avoid formation of ditch, which results in rolling over of logs. This should be ensured by Cargo Supervisor / Harch Tindel.
5. Trailers used for transportation should be of good condition and must be driven by an authorised driver only.
6. Place the timber properly on the trailer and lash by means of rope to avoid falling / rolling on wharf and roads.
7. Use of stanchion of a minimum height of 90 cms. Of at least three at each side of trailer is compulsory.
8. Use of red flag / light indicating danger for the logs projecting beyond the trailer platform is compulsory.
9. Speed limit of trailers should not exceed 20 Km/h inside the wharf and roads.
10. Use of personal protective equipment like safety helmet, safety shoes and hand gloves etc. is compulsory.
11. Better co-ordination between Winch Operator, Signalman, Supervisory staff and workers should be maintained.
12. Private vehicles or person not connected with cargo handling operations should remain away from the work place.

Responsibility and Punitive Actions

Responsibility towards safety will be fixed as per Dock Workers (Safety, Health and Welfare) Regulations – 1990. Punitive actions will be taken against the employees or the port users who ignore or disobey safety guidelines. The forms of punitive actions are as follow

- Warning Memo
- Show Cause Notice
- Suspension of Dock Entry Permit
- Cancellation of Dock Entry Permit
- Black Listing of Firm
- Action as per Recommendation of Accident Investigation Report.
- Action decided by the Management.

References

1. Safe handling of cargo in the docks by Addl. Docks Manager vide letter No.TM/A/1-36/5564 of 06-07 dated 10.9.2007.
2. Prevention of occupational accidents during loading and unloading operations on board ships by Nautical Surveyor cum DDG(Tech). Directorate General of Shipping, Mumbai vide letter No.11-NT(46)/2007 dated 26.6.2007.
3. Handling of dangerous goods by Dy. Docks Manager (Gen.) vide letter No.TM/Z/1-10/1 93-94 dated April, 2004.
4. Safety measures to be adopted for handling wooden logs on board vessel by Addl. Docks Manger vide letter No.TM/Z/1-10/33 93-94 dated 29, October, 2004.
5. Handling of dangerous goods by Dy. Docks Manager (Gen.) vide letter No.Z-1-10/TM/10 of 93-94 dated 3/9/2007.
6. Handling of dry bulk vessels at BPX by Traffic Manager vide letter No.TM/B/1-6/20 of 2003-04 dated 29.01.2004.
7. Handling of coal at Haji Bunder, Mumbai Port by Traffic Manager vide letter No.TM/C/2-3/3142/96-97 dated 23.06.2005.