



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
ARIYALUR
CIVIL DEPARTMENT MANUAL**



Issue No. 02	Rev. No: 00	Effective Date: 18.07.2022	SOP/CIVIL/20
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Issued By: M.R	Approved By: HOD (Civil)
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SOP FOR PLUMBING WORK (OPERATION & MAINTENANCE)

Scope : This SOP is applicable to Safe working for civil related plumbing works which includes providing, operating & maintenance of domestic water supply including garden watering, all sanitary fixtures, soil pipes & fixtures, sanitary drainage system to carry the waste water from the domestic plumbing fixtures to the available disposal system, storm water draining system to collect & carry the rain water from RCC roof top of all buildings, for various heights.

Responsibility : Concern contractor & manpower.

Accountability : Civil-Section In charges.

PPE:

1. Safety helmet,
2. Safety shoe,
3. Mask.
4. Safety full body harness.
5. Hand gloves
6. Safety goggles.

Tools:

1. Plumbing tools kit like hammer, chisel, cutting-plier, adjustable-plier, wrench spanner, spanner set, screw driver set, etc.
2. Plunger
3. Electric operated hand cutting machine
4. Electric operated drilling machine

Hazards:

Risks associated

- 1) Fall from heights
- 2) Injury to person
- 3) Electrical hazards
- 4) Dust generation during cutting/drilling
- 5) Unsafe condition while handling screws/nail
- 6) Water slippery

Mitigating Measures

- DCBL height work standard to be followed
- Deploying experienced/skilled person with proper PPEs
- Ensure Fitness certificate for all electrical equipments.
- Deploying skilled person with proper PPEs
- Proper housekeeping at the work place
- Proper PPEs shall be ensured



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Training needs:

1. Emergency preparedness
2. Work at height

Procedure:

1. An adequate quantity of clean water shall be supplied for various domestic purposes like, Guest House consumption, O&M colony consumption, Canteen building consumption, CCR & all other building consumption, all toilet blocks, rest rooms & dining rooms, domestic RO unit's input line & its treated water storage, all plant's garden maintenance consumption & civil construction related consumption.
2. Proper functioning of required pumping system with adequate standby arrangements shall be ensured in co-ordination with other department's respective co-ordinators
3. All the pipelines shall be made of durable materials & connected by suitable & satisfactory joints of good workmanship, for satisfactory service during its reasonable life expectancy
4. All pipelines shall be laid with easy accessible for inspection, working & repairs
5. All the pipelines shall be ensured for its proper alignment, verticality & sealing
6. Ensure minimum wastage while cutting of full length pipes. Even small pieces of lengths of upto 6" can be used as a barrel nipples or double nipples with proper threading
7. All shall be tested for leakages, defects, etc.
8. All sanitary & drainage system shall be properly ventilated & have adequate trap system provided with necessary water seals to avoid foul gases
9. All drainage system pipelines, chambers & traps shall be checked for its proper gradient with required invert level for ensuring smooth gravity flow of sewages
10. Proper fixing & its smooth operation shall be ensured for all sanitary fixtures in all toilets
11. No leakage shall be ensured at all fixtures/pipelines
12. Required water pressure shall be maintained at all fixtures/pipelines
13. If any underground pipeline found damaged, the same shall be rectified in coordination with the supporting team for excavation with proper excavation permit & the respective joints to be made or pipeline to be replacement as required including completing back-filling of the same
14. All scraps due to cutting / joining / replacing of PVC pipes, sanitary fixtures, used solvent containers & other consumables shall be properly handed over to respective stores for proper disposal



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15. Scale formation shall be checked periodically in all pipelines, sanitary fixtures, garden water sprinklers & all other plumbing valves (both internal & external) and the same shall be cleared with water/acid flushing, pressure blowing & pores cleaning and its smooth operation shall be ensured
16. During scale removing if required only diluted hydrochloric acid shall be used with proper PPEs like goggles, nose mask & rubber hand gloves with due care
17. All the rain water down take pipeline from all the building terrace shall be checked periodically for its blockage especially before & during monsoon to ensure its proper water flow
18. RO unit backwash shall be done on daily basis. If any abnormalities found which shall be informed immediately to the admin/maintenance team for its required repairing & maintenance
19. All domestic over head water tanks shall be cleaned monthly to ensure its hygienic with proper safety precautions like height work standard being considered

Emergency / Emergency Shut OFF:

1. If anybody fall from height, inform to the Safety department or Call Emergency number 3108/9865152222/9750963761.
2. If any injury is there, give First aid and inform to the Safety department or Call Emergency number 3108/9865152222/9750963761

Records/Annexure:

1. JSA as enclosed below.



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JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis	Job: This SOP is applicable to Safe working plumbing work for various heights	Date: 18.07.2022	Analysis by: M.I.Shameem Sufiyan	Reviewed by: S.Chandra Bose
Title of employee doing job: Concern contractor & Workers	Supervisor: Section In charge	Department: Civil	Section: plant area	Approved by: S.Chandra Bose
Req'd/recommended PPE: Safety helmet, safety shoes, hand gloves, nose mask, safety goggles, safety full body harness				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
During working at height	Fall from heights	DCBL height work standard to be followed	Fall from heights-major injury or fatality.	DCBL height work standard to be followed
During working at height	Height fear	Vertigo test to be done who is going to do the job	Major injury or fatality	Vertigo test to be done who is going to do the job
While doing cutting/drilling work with electric equipment	Injury to person	Competent contractor and worker to engage for the particular works.	Cut injury or fatal	Deploying experienced/skilled person with proper PPEs
During screwing/nailing	Unsafe condition while handling screws/nail	Proper housekeeping at the work place.	Injury	Proper housekeeping at the work place with proper PPEs
During accessing floor	Water slippery	Proper housekeeping at the work place.	Slip & fall	Proper housekeeping at the work place with proper PPEs
During operating electric equipments	Electrical hazards.	To ensure the fitness of electrical equipment (cutting/drilling machine) and damaged wires should not used for connection of tools & light fittings etc	Electric shock / fatality	Ensure Fitness certificate for all electrical equipments
De-scaling activity	Handling acid	Only diluted acid shall be used	Acid injury	Deploying experienced person with proper PPEs
While doing cutting/drilling work with electric equipment	Dust generation during cutting/drilling	Competent contractor and worker to engage for the particular works.	Entry of dust particles inside the body parts	Deploying experienced/skilled person with proper PPEs