



DALMIA CEMENT (B) LIMITED – DALMIAPURAM



MECHANICAL SOP

Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/MEC/38
Issued By: S & P		Approved By: Head- Mech	
SOP FOR HANDLING & USE OF COMPRESSED GASES			

Scope

This procedure ensures employee safety during the handling and use of compressed gas cylinders. The compressed gases most commonly used are:

- Carbon Dioxide
- Acetylene
- Oxygen
- Nitrogen

RESPONSIBILITIES : Welder

ACCOUNTABILITY : Section Engineer

PPE:

1. Safety glasses
2. Appropriate footwear
3. Close fitting/protective clothing to cover arms and legs
4. Oil free leather gloves.
5. Fire extinguisher

TOOLS:

1. Chipping hammer
2. Wrench spanner
3. Cylinder key
4. Lighter
5. Wire brush

Hazard Analysis:

Risks associated

Burn injury
Fire
Eye injury
Explosion

Mitigating Measures

Wear Kevelar suit (Fire proof suit)
Use suitable fire extinguisher
Wear safety glasses in addition to mask
Follow safe handling of compressed gas cylinders

TRAINING NEEDS:

1. Fire fighting
2. First aid procedures
3. Emergency preparedness
4. Potential health hazards and precautions to use compressed gas cylinders



DALMIA CEMENT (B) LIMITED – DALMIAPURAM



MECHANICAL SOP

Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/MEC/38
Issued By: S & P		Approved By: Head- Mech	
SOP FOR HANDLING & USE OF COMPRESSED GASES			

Procedures

The following procedures define the proper receiving, transporting, handling and use and disposal of compressed gases at DCBL.

RECEIVING

1. When a cylinder is received from a supplier it should have a valve protection cap, a DOT label, the date of the last hydrostatic test and labels identifying the contents.
2. Cylinders received with only color coding should NOT be accepted, as there is no universal color code for identifying gas cylinders.
3. Cylinders must be secured against falling upon receipt, or transferred to the point of use and secured there.

STORAGE

1. Store in a level, dry fire resistant area that is well ventilated.
2. Store cylinders away from sources of ignition or excessive heat.
3. Store oxygen away from flammable gases.
4. Oxygen should be stored at least 25 feet away from flammable gases
5. Do not store cylinders in locations where moving objects may strike or fall on them.
6. Cylinders must be chained or strapped in place to prevent them from falling over.

TRANSPORTING

1. Always use a hand truck to transport cylinders. Do not drag, roll or slide cylinders. Leave the valve protection cover ON until cylinders are secured and ready to use. Do not transport a cylinder with the regulator installed. Do not use a transport device to hold a cylinder in use unless it is adequately secured from falling.
2. Do not transport compressed gases in closed vehicles. Cylinders must be chained or otherwise secured during transporting in a open or well ventilated vehicle.
3. Flammable gases and oxygen should not be transported in the same vehicle.
4. Always handle cylinders as if they were full. Accidents have occurred when containers were under partial pressure and were thought to be empty.
5. If it is necessary to transport gas bottles with a crane, forklift, or other lifting fixture, an approved carrier designed for that purpose must be used.

HANDLING AND USE

1. Before use, an evaluation of the operation should be made
2. The cylinder valve should be positioned so that it is accessible at all times.
3. The main valve MUST be closed when the cylinder is not in active use.
4. NEVER use wrenches or pliers to open the main valve
5. NEVER crack open valves on unregulated cylinders.
6. The main valve on a regulated cylinder should be opened slowly.
7. The main valve should NOT be opened all the way.
8. Never face a gage while opening a cylinder.



DALMIA CEMENT (B) LIMITED – DALMIAPURAM



MECHANICAL SOP

Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/MEC/38
Issued By: S & P		Approved By: Head- Mech	
SOP FOR HANDLING & USE OF COMPRESSED GASES			

9. With the cylinder valve open and the flow control valve in the closed position, set the desired delivery pressure by turning the delivery pressure adjusting screw clockwise until the desired pressure is reached.
10. While the function of the regulator is to set and maintain a given gas delivery pressure, flow control is achieved by the use of the flow control valve located at the regulator outlet or by a supplementary needle valve.
11. Always turn off the cylinder by first closing the main cylinder valve and then the regulator. The pressure gauges should be brought back to zero.
12. NEVER strike an electric arc on or direct a flame at a cylinder.
13. Wear appropriate PPE (goggles, face shields, gloves)
14. Do not use a transport device to hold a cylinder in use unless it is adequately secured from falling.

LEAK DETECTION

1. Suspected cylinder leakage should be tested by covering the cylinder with soapy water.
2. Keep connections to piping, regulators and other appliances tight.
3. Check that hoses are in good condition.
4. If a gas cylinder is leaking, inform the supplier

DISPOSAL

1. Mark empty cylinders "empty" and store separately from full ones.
2. NEVER refill a cylinder.
3. A cylinder is empty at 25 psi. DO NOT EMPTY COMPLETELY

Emergency / Emergency Shut OFF:

1. If any injury is there, and inform to the Security Havildar / safety department or call
Emergency number 516 / 222 / 523/9865177444

Records/Annexure:

1. Handling and use of Compressed Gases
2. JSA is enclosed below.



DALMIA CEMENT (B) LIMITED – DALMIAPURAM



MECHANICAL SOP

Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/MEC/38
Issued By: S & P		Approved By: Head- Mech	
SOP FOR HANDLING & USE OF COMPRESSED GASES			

Job Safety Analysis	Job: Handling of Welding Equipment	Date:	Analysis by:	Reviewed by:
Title of employee doing job:	Supervisor: Section Engineer	Department: Mechanical	Section: Mechanical	Approved by:
Req'd/recommended PPE: Insulated Tools, Safety shoes				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
RECEIVING & STORAGE	Hand /leg injury	Cylinders must be secured against falling upon receipt, or transferred to the point of use and secured there.	Engaging untrained people	Ensure only trained people are engaged
USAGE	Burn injury	Follow safe procedure given in this SOP. Use fire proof suit	Not following safe procedures Not using fire proof suit	Ensure safe procedure is followed. Wear Kevelar suit
	Eye injury	Use goggles	Not using goggles	Ensure usage of goggles while using cutting set
	Explosion	Follow safe handling of compressed gas cylinders	Keeping cylinders near heat source	Keep cylinders away from heat sources

HEAD MECHANICAL

HEAD TECHNICAL