



## DALMIA CEMENT (B) LIMITED



ARIYALUR

MECHANICAL

Issue No. 01	Rev. No: 00	Effective Date: 01-11-2019	SOP/MECH/195
Issued By: M.R		Approved By: HOD (Mech)	
SOP-JSA FOR HDPE PIPE WELDING			

**Scope** : This SOP is applicable to Safe working for HDPE pipe welding .

**Responsibility** : **Section Engineer – Mech.**

**Accountability** : **Section Manager – Mech.**

**PPE:**

1. Helmet,
2. Safety shoe,
3. Ear plug,
4. Safety goggles.
5. Rubber hand Gloves.
6. Hand Gloves.
7. Nose mask.

**Tools:**

1. Box Spanner set
2. Ring Spanner set
3. HDPE welding machine.
4. Hacksaw frame with blade
5. Waste for cleaning



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## Hazards:

### Risks associated

Electrical shock

### Mitigating Measures

- 1.Safe and tested tools and tackles
2. on job training

## Training needs:

1. Fire fighting
2. Emergency preparedness
3. Electrical prevention training
4. Assembly procedure

## Procedure:

1. Take the Mechanical LOTO for pump or valves
2. The line clearance paper should be with the person who is working in the site.
3. Depressurized the water or liquids in the pipe lines by using of drain valve or other necessary actions.



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4. Use PPE'S like Rubber Hand Gloves when using of HDPE welding mirror
5. Take the Electrical fitness of welding mirror
6. First joining part pipes end position to be in round face for the both the ends of joining it should be even.
7. Marked the both the pipe with any marker.
8. Now heat the welding mirror by electrically it will comes around rated temperature .
9. If temperature reaches we put the pipes in the both end of the mirror .
10. Now the HDPE pipe end potion is to be melting that times we can check the all the areas it should be even melting (based on pipe line size & grade melting time will be differ).
11. When reached the required melting that time we removed the welding mirror and immediately joining the pipe ends with both side give some pressure up to it will cool .that time we would give hand soothing the joined the surface.
12. Electrical supply put on OFF of welding mirror. Clamp the pipes as required.



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13. Clear the loto for temporarily to take the leakage testing,if the any leakage again same procedure to be followed if not there clear closed the work permits and clear the loto .

14. After clearance .given operation to CCR or other operating mode.

#### Emergency / Emergency Shut OFF:

1. If body injury is there, First aid will be given and inform to the Safety department or Call Emergency number 3108/ 9865152222

#### Records/Annexure:

1. JSA is enclosed below.
2. Isolation Matrix.

#### JOB SAFETY ANALYSIS :( JSA)

Job Safety Analysis	Job: HDPE pipe line welding	Date: 04- 04 - 2020	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section Engineer	Supervisor: Section Engineer	Department: Mech.	Section: UTILITY	Approved by: HOD Machanical
Req'd/recommended PPE: Safety helmet, Safety shoe, Safety goggles, Ear plug, nose mask & Rubber hand Gloves.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action



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Valve operation	Hand injury / Fatal	Closed the out let valve and open the drain (manual) valve	System will be pressure raised it will blasting the system	Ensure valve condition before start the work
Open the drain valve	Leg and hand injury	Use proper PPE and use the door opening key and spanner	Bowel will be fall down Tools will be slip	Ensure tools and tackles conditions
HDPE welding Mirror	Electrical shock	Fitness to be taken for the electrical equipments		Rubber hand gloves to be used
Pipe line usage	Resource usage	Waste HDPE pipes to be removed by properly (used to AFR)	Land contamination	clean the area

#### Isolation Matrix:

SL No	Activity			Isolation Matrix for Utility & General Equipment.									
				Isolation Type									
				Electrical Energy					Other Energy				
1	HDPE pipe line welding	Name and Tag for the Equipment	Isolate the Related other energy isolation						Isolate or closed the valves				



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