



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
ARIYALUR
MECHANICAL SOP**



Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MECH/123
Issued By: M.R		Approved By: HOD, Mechanical.	
SOP FOR HYDRULIC CYLINDER VENTING FOR VRM(PFEIFFER)			

Scope : This SOP is applicable to Safe working for VRM Hydraulic Cylinder venting after oil replacement or Accumulator replacement

Responsibility : **Section Engineer – Mech.**

Accountability : **Section Incharge – Mech.**

PPE:

1. Goggles
2. Full body safety harness.

Tools:

1. Allenkey
2. Oil can.
3. Cloths for cleaning (do not use marking cloth or cotton waste).

Hazards:

Risks associated

High pressure oil Flush.
Oil leakage

Mitigating Measures

Neutralize (make 0 bar) the pressures at Hydraulic station.
Ensure minimum 5man power for this operation.(1.Pump operation, 2.communication,3,4&5 at each cylinder.

Training needs:

One time Onsite job training.

Procedure:

- 1) De-presurise the Hydraulic system (ensure at pressure gauges at Hydraulic tank / station)
- 2) Take the system in local mode (Ensure at panel on applying specified key).
- 3) Open the vent plugs of all the three Hydraulic cylinders at top and bottom. Use proper ALLENKEY (collect the leakage oil without spillage)
- 4) Start the Hydraulic pump for pre-tension, let the oil fill in the Cylinder barrel
- 5) Close the vent plug as oil starts to come out of the vent hole, Stop the pump-tighten the plug properly.
- 6) Start the Hydraulic pump for lifting-close the plug as oil starts to come out of the Vent hole-stop the pump-tighten the vent plug properly.
- 7) Start the hydraulic system local or Remote as required.



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Records/Annexure:

1. LOTO is not applicable for this operation.
2. JSA is enclosed below.

JOB SAFETY ANALYSIS: (JSA)

Job Safety Analysis	Job: Hydraulic Cylinders venting	Date: 01– 09 - 2012	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Site in charge (Shree)	Supervisor: Section Engineer	Department: Mech.	Section: Cement Mill	Approved by: HD Mechanical.
Req'd/recommended PPE: Safety helmet, Safety shoe, Safety goggles & Asbestos Gloves.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Open the vent plugs	High pressure oil may flush out	De-pressurize the system	A little amount of oil may leak out.	Collect in can without spillage / wastage. Clean the spillage oil without any delay to avoid slippery floor.
Start the Hydraulic pump	Oil may spill out	Keep proper communication resource to stop the pump as and when required.	System presurise during plug-in	Stop the pump as oil starts leak out and during vent plug fixing.
Close the vent plug	System may presurise	Stop the pump as oil leaks out form specified hole.	1. Plug may slip down. 2. Miss mach & threads damage.	1.Safe guard the plug until it is fixed properly 2. Be conscious during plug in(competent person only)



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S L N o	Activity			Tag / Name of the Equipment							
				Isolation Type							
				Electrical Energy				Other Energy			
1	VRM Hydraulic Cylinder venting	Name and Tag for the Equipment	361 MD2 Mill Main Motor		361 HD 1Hydraulic Pump						