



MECHANICAL

Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MEC/04
Issued By: M.R		Approved By:	
REPLACEMENT OF THE FAN INLET AND OUTLET EXPANSION JOINT			

**Scope:** To replace the fan outlet and inlet expansion joint.

**Responsibility:** Engineer

**Accountability:** Section Head

**PPE:**

1. Safety harness(Full body),
2. Safety helmet,
3. Safety shoe,
4. Mask,
5. Safety goggles
6. Gloves.
7. Fall arrester.

**TOOLS:**

1. spanner set
2. chain blocks
3. Crowbar
4. Slings
5. D-shackles

**Hazard Analysis:**

**Risks associated:**

Fall from height,

**Mitigating Measures**

Use of safety harness

**Procedure:**

1. Stop the fan drive and take the work permit as per LOTO.
2. Use PPE's while working.
3. Lock the position of the inlet & outlet duct with the C- clamp.
4. Remove all the bolts and take out the expansion joint.
5. Place the new expansion joint between the flanges and care to be taken that the direction marked on the expansion joint is in correct direction.
6. Fix all the flange bolts with washer and put the asbestos rope with the sealant in between.
7. Tighten the bolts, diagonally opposite; finally re-check for the final tightness of all the bolts.



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8. Release the Lock plates & Remove the C - clamp.
9. Clear the work permit and inform to the CCR.
10. Run the fan for few minutes and check for any leakages from the flange.

#### **Emergency / Emergency Shut OFF:**

11. If any injury takes place, provide First aid and inform to the Safety department or Call Emergency number 3108/9865152222.

#### **Records/Annexure:**

#### **Job safety Analysis.**

#### **Isolation Matrix,**

#### **JOB SAFETY ANALYSIS :( JSA)**

<b>Job Safety Analysis</b>	Job: Expansion Joint Cloth replacement.	Date: 30/10/2012	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Fitter	Supervisor: Section Engineer(Mech.)	Department: Mechanical.	Section: Pyro. & Mills	Approved by: HOD Mechanical.
Required/recommended PPE:				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Working at height	Fall of person from height.	Use Full body Safety harness with double lanyard	One of the Lanyard may fail	Tie Lanyards separately(don't inter link)
Working at height	Fall of material	Use Tool bag	Tools may slip down during work.	Tie the spanners with holding Rope / Restrict the area with safety Barricade Tape.
Ascending / dissent for height working	Slip while climbing	Use safest way or use Double lanyard one by one engaged	Slippery	Check the shoes for free of grease & oil before start.
Ascending / dissent for height working	Improper Holding	Keep the hands free of material /Tools	Difficulty for tools	Use carry Tool Bags



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#### Isolation Matrix:

SL No	Activity			Isolation Matrix for Utility & General Equipment.						
				Isolation Type						
				Electrical Energy			Other Energy			
5	Expansion Joint Cloth replacement	Name and Tag for the Equipment		Fan Related to that circuit		Pre & Post feeding Equipment				