

METHOD STATEMENT FOR FETTELING WORK

A

Job Description: Fettling Work- Job Work	
Area/ Location: Plant: LPDC- Fettling area	
Aux Permit Type:	NA

B

Major hazards associated with the job: <ol style="list-style-type: none"> 1. Electric Shock 2. Fire and Explosion 3. Slip, Trip and Fall hazard 4. Fall from height (if height work is carried out) 5. Falling Object. 	<ol style="list-style-type: none"> 6. Burn injury during Hot work 7. Eye and Cut injury During cutting work 8. Dust Fumes inhalation during drilling work.. 9. eye irritation. 10. Human Injury 11. Any Other.
What Worst can Happen? <ol style="list-style-type: none"> 1. Fatality or permanent disability due to Electric Shock, Amputation etc. 	

C

PPE's Required for Jobs: Safety Shoes, Safety glasses, Hand Gloves , Ear Plug etc. Resources /Tools Required for the Job: Hand Tools, Chisel, and Hammer etc.
--

D

Activities Sequence: (What, Who & How?)				
S. No	Activity	Who Will do	Risk involved	Risk Mitigation / Control Measure
	FETTLING OPERATION			
1	Collect the castings after heat treatment by trolley	Operator	Sprain due to manual pushing/pulling of the trolley Falling of material at working level on the level	Safe Material handling, dedicated trolley, trained person etc.
2	Fixing the casting inside the bench vice	Operator	STF, Material Hazards, material fall down, foot	Material handling training, OJT, etc.

SAMARTH ENTERPRISES

Proprietor

			injury, Body injury etc. Sharp edges that may be contact with skin	
3	Removal of the unwanted material with the help of file and chisel	Area Owner	Slip Trip Fall etc. Deafness, Mental stress, eye injury, Body injury	Adherence of required PPE – Hand gloves, Ear plug, goggle etc. Trained person, Closed supervision etc.
4	After completion of filing Keep the casting in the designated bin.	Approved Contractor	Trip hazard due to improper handling Equipment's and machines. Body injury, Material hazards	Ensure the PPE adherence, closed supervision, proper stacking etc.
5	Collect the chips	Trained and experienced persons from contractor	Burr may contact with skin, Hand Injury.	Ensure that all work must be done by train person. Ensure the PPE adherence
6	Disposal of chips	Contract Employees	Burr may contact with skin. Hand Injury	Ensure that all work must be done by train person. Ensure the PPE adherence
MELTING OPERATION				
	Receiving of ingots and rej from stores	Trained and experienced persons from contractor	Sprain due to manual handling of the trolley.	Ensure that all work must be done by train person.
	Charging into the melting furnace.	Trained and experienced persons from contractor	Sprain due to manual handling of the trolley.	Ensure the PPE adherence
	Melting operation	Trained and experienced persons from contractor	Smoke that may inhale Fire & explosion High noise	Ensure that all work must be done by train person.
	Temperature measurement	Trained and experienced persons from contractor	Exposure to heat radiation Exposure to electrical energy Manual handling of the burner Hot laddle may contact with skin	Ensure the PPE adherence
	Tapping of the liquid metal	Trained and experienced persons from contractor	Exposure to heat radiation Exposure to heat radiation Fall of molten metal	Ensure that all work must be done by train person.
	Degassing	Trained and experienced persons from contractor	Fall of cylinder Explosion of the cylinder Fall of dross on body	Ensure the PPE adherence

SAMARTH ENTERPRISES

(Signature)
Proprietor

Density checking machine(Vaccum tester)	Trained and experienced persons from contractor	Exposure to electrical energy Manual handling of the lid Fall of molten metal	Ensure that all work must be done by train person.
Degassing rotor changing	Trained and experienced persons from contractor	Exposure to hot environment Manual handling of the damaged rotor(Hot rotor)	Ensure the PPE adherence
Lining of the melting furnace	Trained and experienced persons from contractor	1)Fall of bricks on working level	Ensure that all work must be done by train person.
Storage of consumables(fluxes)	Trained and experienced persons from contractor	Fall of consumables Residue may contact with skin	Ensure the PPE adherence
Disposal .	Trained and experienced persons from contractor	Residue may ingest through mouth	Ensure that all work must be done by train person.
Power hack saw operation	Trained and experienced persons from contractor	Sharp edges may contact with skin	Ensure the PPE adherence
Dross Reclamation	Trained and experienced persons from contractor	Falling of dross Exposure to heat radiation	Ensure that all work must be done by train person.

E

Special Instructions/Note:

1. Follow all the work instructions strictly as per ETL Policy.
2. No Tobacco, Gutkha, allowed in premises
3. Follow HSE Golden Rule and ECOC policy.
4. Close Supervision while performing the work.

SAMARTH ENTERPRISES

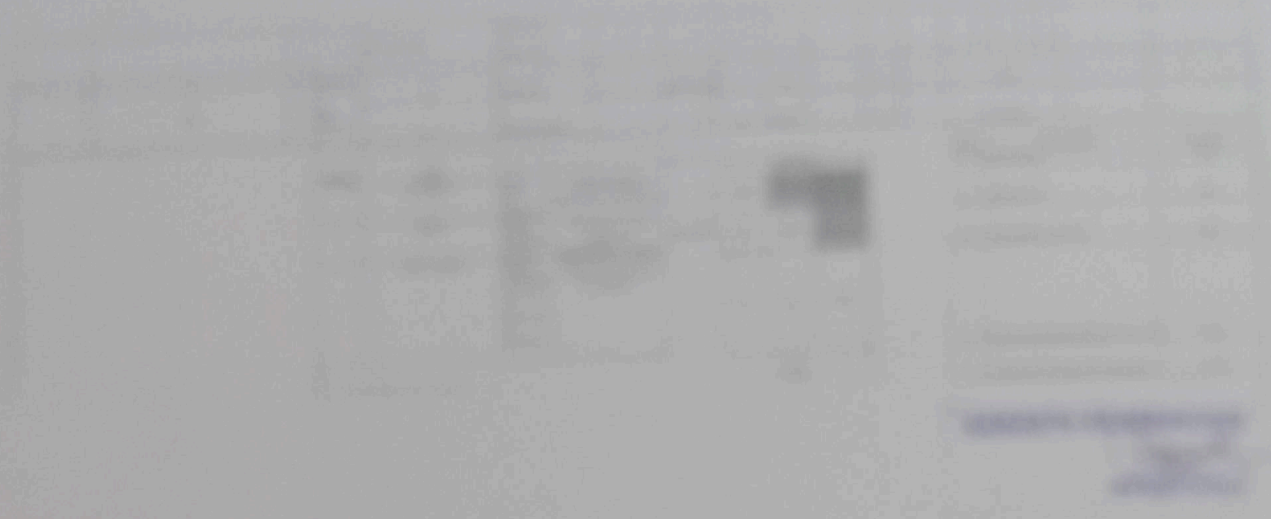
(Signature)
Proprietor

Hazard Identification, Risk Assessment And Risk Control Register (HIRA)

Page No.

Activity	Sub-Activities	E	R / NR	Hazard	Risk	Legal	Probability	Consequence	Result	Risk level	Sig Hira No	Priority No	Objective No.	Additional Controls						
														Operational Control						
														E	S	E	C	W	P	OCF No
ing of ind re) nes	Retention given to stores		R																	
	Transfer the ingots bundle and rejection by fork-lift to melting		R	Site transport	1	Incident		2	2	4	M									
			R	Fall of material on the level	2	Incident		2	2	4	M									
g into the furnace			NR	Wetting of material due to rain	3	Incident		2	2	4	M									
	Cut the ingots strip		R	Strip may contact with skin	4	Cut Injury		2	2	4	M									
	Lift the ingots with hands(manual lifting) and throw it into the furnace		R	Manual lifting of Al ingots	5	Sprain		2	2	4	M									
			R	Fall of ingot/rey casting from height	6	Foot Injury		2	2	4	M									
	Lift the ingots with hands(manual lifting) and put it in trolley		R	Manual lifting of Al ingots	7	Sprain		2	1	2	L									
			R	Fall of material on the level	8	Foot Injury		2	1	2	L									
	Put oily cotton inside the furnace		NR	Oily cotton may contact with skin	9	Skin irritation		2	1	2	M									
			NR	Smoke that may inhale	10	Respiratory irritation		2	1	2	M									
	Keep the fire		NR	Fire & explosion	11	Incident		2	2	4	M									
			NR	High noise	12	Partial deafness		2	2	4	M									
Starting of the Melting furnace blower: Furnace oil pump and burner&Exhaust blower and Scrubber pump			R	Exposure to electrical energy	13	Electric shock		2	2	4	M									
	Adjustment the flame		R	Fall of person on the level	14	Body injury		2	2	4	M									
	Melt the charge		R	Exposure to heat radiation	15	Skin irritation/Dehydration		2	2	4	M									
	Wrapping the charge with scrapper		R	Exposure to heat radiation	16	Skin irritation/Dehydration		2	2	4	M									
			R	Molten metal may contact with skin	17	Burn		2	2	4	M									
	Take the molten metal sample into the sampling cup with spoon		R	Fall of molten metal	18	Burn		2	1	2	L									
			R	Exposure to heat radiation	19	Skin irritation		2	1	2	L									
	Quench the solidified sample in water		R	Hot sample may contact with skin	20	Burn		2	1	2	L									
	analysis	Collect the Argon cylinder from stores		R	Fall of cylinder	21	Injury		2	2	4	M								
		Store the cylinder in site		R	Fall of cylinder	22	Injury		2	1	2	L								
Scratch surface of the sample on table telt grinder			R	Slipping of the tool	23	Cut injury		2	1	2	L									
			R	Chips may contact with eye	24	Eye injury		2	2	4	M									
			R	Slipping of the Job	25	Incident		2	1	2	L									
ature cement	Analyse the sample		R							0										
	Print the report		R							0										
	Measure the temperature with thermocouple		R	Exposure to heat radiation	26	Skin irritation		2	1	2	L									
	Switch off the blower and burner		R	Exposure to electrical energy	27	Electric shock		2	1	2	L									
	ing of the	A/C connect the preheating burner to the supply(LPG and air)		NR	Manual handling of the burner	28	Incident		2	2	4	M								
Keep the ladle in right position			NR	Hot ladle may contact with skin	29	Burn		2	2	4	M									
Put the burner above the ladle(Preheating stand)			NR	Manual handling of the burner	30	Incident		2	1	2	L									

	Collect the chips	R	Chips may contact with skin	Cut injury	2	2	4	M
		R	Burr may inhale	Respiratory inhalation	2	1	2	L
	Disposal of chips	R						
	Ring/Band							
	Receive the castings from the GDC department by fork lift	R	Fall of casting	Foot Injury	2	1	2	L
		R	Site transport	Incident	2	2	4	M
	Keep the casting on table	R	Manual handling of the casting	Sprain	2	1	2	L
		R	Sharp edges that may contact with skin	Cut injury	2	2	4	M
	Switch on the machine	R	Exposure to electrical energy	Electric shock	2	1	2	L
	Push the casting against the vertical moving plate	R	Sharp edges that may contact with skin	Cut injury	2	2	4	M
		R	Slipping of the casting	Cut injury	2	2	4	M
		R	Sliding of hand between stationary and movable part	Cut injury	2	2	4	M
		R	Hot casting may contact with skin	Burn	1	1	1	L
	After completion of gate cutting remove the casting runner and gates and deposit in the respect bin	R	Sharp edges that may contact with skin	Cut injury	2	2	4	M
	Collect the castings from hand saw	R	Fall of casting	Incident	2	1	2	L
	Fixing the casting inside the bench vice	R	Sharp edges that may contact with skin	Cut injury	2	2	4	M
	Removal of the unwanted material with the help of file	R	Sliding of hand between stationary and movable part	Cut injury	2	2	4	M
		R	Fall of casting from height	Foot injury	2	1	2	L
	Keep the casting in the designated bin	R	Manual handling of the casting	Sprain	2	1	2	L
	Collect the burr	R	Burr may contact with skin	Cut injury	2	1	2	L
		R	Burr may inhale	Respiratory inhalation	2	1	2	L
		R						
	Collect the castings from filing	R	Fall of casting	Incident	2	1	2	L
	Switch on the belt grinder	R	Exposure to electricity	Electric shock	2	1	2	L
	Hold the casting against the abrasive wheel	R	Sliding of hand between stationary and movable part	Cut injury	2	2	4	M
		R	Burr may contact with eye	Eye injury	2	1	2	L
		R	Burr may ingest through mouth	Respiratory inhalation	2	1	2	L
		R	All dust may inhale	Respiratory inhalation	2	1	2	L
	Keep the casting in the designated bin	R	Manual handling of the casting	Sprain	2	1	2	L
		R	Hot casting may contact with skin	Burn	2	1	2	L
	Collect the burr	R	Burr may contact with skin	Cut injury	2	1	2	L
		R	Burr may inhale	Respiratory inhalation	3	1	3	M
		R						
	Collect the castings for grinding	R	Fall of casting	Incident	2	1	2	L
	By the application of pneumatic grinder remove the unwanted material	R	All dust may inhale	Respiratory inhalation	2	1	2	L
		R	Slipping of tool	Cut injury	2	2	4	M
		R	Burr may fall in the eye	Eye injury	2	1	2	L
	Keep the casting in the designated bin	R	Manual handling of the casting	Sprain	2	1	2	L
	Collect the burr	R	Burr may contact with skin	Cut injury	2	1	2	L



		R	But may inhale	Respirator or isolation	2	1	2	L											
	R	Routine	P	Probability	RISK LEVEL			L	Low		H	High							
	NR	Non-routine	C	Consequences				M	Medium		E	Emergency							

Rating	PCO	Injury not calling for first aid	Illness having momentary discomfort
1	UNLIKELY	Injury calling for first aid	Illness due to acute exposure or hospitalisation for more
2	LIKELY	Injury leading to temporary or permanent disability	Illness due to chronic exposure having long effect
3	VERY LIKELY		

PCO Probability of Occurrence

		MATRIX		
Insequence	3	3/M	6/H	8/E
	2	2/L	4/M	6/H
	1	1/L	2/L	3/M
		1	2	3
		Probab		

Abb	Description	Input For
E	Elimination	MP
S	Substitution	MP
EC	Engineering Control	MP
W	Warnings/Signage/Admin Controls	OCP
P	Personal Protective Equipments	OCP

SAMARTH ENTERPRISES

Proprietor