

# STANDARD OPERATING PROCEDURES

Form No. : EHSMSM/446/4013

SOP No .	CRM/TS/SOP/SPM/009	Effective Date	20.08.2018	REVISION No	07
SOP DESC	Scrap & Sample handling (Pup coil and entry-exit shear)	Section	SPM		
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## Standard Operating Procedure

1. Purpose: This Standard Operating Procedure defines the steps involved in the Skin Pass Mill for handling scraps while ensuring safety, in order to improve the quality and proper disposal of wastegeneration.
2. Scope: Applicable to Skin Pass Mill.
3. Reference: Refer Skin Pass Mill
4. Definitions:
  - POR– Pay Off Reel
  - O/D – Outer Diameter
  - I/D – Inner diameter
  - PPE – Personal Protective Equipment
  - ECC#1 – Entry coil conveyor 1
  - ECC#2 – Entry coil conveyor 2 TR – Tension Reel
5. Distribution List: Head (ECL BAF SPM)
  - DCI
  - Shift In-charge, SPM
  - Sr. Associate (Entry ,Exit and Pulpit Operator)

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Step No.	Activity (WHAT)	Associated Requirements/Hazards/Impacts	Responsibility (WHO)	Process / tools / PPEs (HOW)	Remarks / Reference
1.	Placement of the scrap trolley near the mill shutter and time to time removal of it.	<b>Safety:</b> The trolley has to be placed manually in front of the mill shutter for collecting the scraps. Also it has to be removed from the area either before every roll change or when the scrap has to be evacuated. 1. Follow the instructions of entry operator very closely. 2. Injury to the persons during pulling/pushing of the trolley. 3. Injury due to slip/trip/fall on oily mill surface. 4. Dashing of the trolley will associated structures. 5. Dashing of roll changing car with the trolley if RC car is operated and the trolley is not removed.	Entry pulpit operator and contract worker of SPM.	1. Open the sliding gate of the RC car track fence. 2. Two workers must be engaged in placement of the trolley. One will pull from the front and the other to push it from behind. 3. Take care that the trolley should not touch with the fence or damage it. 4. Slowly by push/pull place the trolley near the mill shutter. 5. Lock the wheels of the trolley with the lock screw fitted to the wheel. 6. Load at a max of 30-40 pieces of strip in the trolley. Depending on the thickness of the coil it may vary. Do not overload the trolley. It will be difficult to move the trolley manually if over loaded. 7. Once loaded, unlock the wheels and push/pull the trolley out of the RC car track, outside the fencing area. 8. Unload the scrap pieces with the help of forklift and then place the trolley back to its original position of scrap receive. 9. Be cautious to remove the trolley from its receiving position every time before roll changing activity.	Use required PPE's Mill shutter to be always closed during trolley movement Clean the path through which the trolley is to be moved frequently with dry markin cloth.
		<b>ENVIRONMENT:</b> No issue			
		<b>Quality:</b> No issue			

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Step No.	Activity (WHAT)	Associated Requirements/Hazards/Impacts	Responsibility (WHO)	Process / tools / PPEs (HOW)	Remarks / Reference
2.	Removal of O/D damaged portion from entry shear.  Collection of annealed sample as and when required	<b>SAFETY: -</b> 1. Physical injury and cut to the person removing the scrap pieces. 2. Follow the instructions of entry operator very closely. 3. Do not touch the sheet when it is being cut by the shear. 4. Always be watchful of shear operation 5. Avoid use of oily hand gloves for handling scraps/samples. 6. Use double leather cum canvass hand gloves for handling scrap pieces.(CUT RESISTENT)	Entry Operator & Contract labour	1. For O/D damaged or any surface defects cut the defective/damage portion at entry in such a size that it can be handled easily by contract labour, standing on the platform. Cut the sheet of approx. 500mm width only. 2. Use all PPE like helmet, safety goggles, shin guard, full hand sleeve and safety shoe & hand gloves properly 3. Entry operator should be watchful while operating the shear and should give clear signal to casual. 4. Contract labour should collect the cut sheet manually, wearing hand sleeves and gloves and put it in scrap <b>Trolley placed near the mill shutter. Scrap pieces may also be placed in the scrap bin placed near the Entry conveyor#2 depending on the situation or as advised by entry associates.</b> 5. Maximum 2 pieces at a time could be collected depending on the weight of the strips. 6. If annealed sample has to be taken, then as per instruction of entry operator collect full width sample from entry side (max 300 mm width) and place it on the table at entry. Do necessary markings for the sample and keep it at designated place.	Entry operator should be fully alert while operating shear  <b>Do not touch the strip while the shear is in operation or the strip is moving.</b>
		<b>ENVIRONMENT:</b> Resource depletion due to metal scrap generation.	Contract labour/fork lift operator	1. Put the scrap pieces in scrap trolley/bin placed near mill shutter or entry conveyor#2 by lifting with hand carefully. 2. Time to time get the bin evacuated by forklift in to scrap bin outside the mill.	
		<b>QUALITY:</b> Rework in RCL in case of sample missing	Entry operator	Check the strip at exit side for roll marks/pinch marks in case of feeding treated wraps.	

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Step No.	Activity (WHAT)	Associated Requirements/Hazards/Impacts	Responsibility (WHO)	Process / tools / PPEs (HOW)	Remarks / Reference
3.	Removal of scrap and collection of samples from exit side	SAFETY : 1. Physical injury and cut to the person removing the scrap pieces. 2. Follow the instructions of exit operator very closely. 3. Do not touch the sheet when it is being cut by the shear. 4. Always be watchful of shear operation. 5. Hold the scrap/ sample pieces firmly with both hands so that they cannot slip from hand. 6. Avoid use of oily hand gloves for handling scraps/samples. (oily /damaged hand gloves should not be used) 7. Use double leather cum canvass hand gloves for handling scrap pieces. (cut resistant)	Contract Labour & Exit Operator	1. Use all PPE like helmet, safety goggles, shin guard, full hand sleeve, safety shoe & hand gloves properly 2. Cut the sheet of 500mm width so that it can be removed easily by the person. 3. Exit operator should be watchful while operating the shear and should give clear signal to casual. Contract labour should collect the sheet manually from the exit shear after being cut, wearing proper hand sleeves guard and hand gloves and put in the scrap <b>trolley /bin kept by the side of the mill shutter or near ECC#2 depending on the situation or as advised by entry associates.</b> 4. If sample is taken (max size 300 mm), collect it and place it on the entry table for necessary markings and then place the sample at designated sample rack. Also keep a record of the sample in the sample register. 6. Sometimes the strip gets fold on TR and the damaged sheets are cut by jogging either backward or forward. Insist on scrap width in damaged case of max 300 mm. <b>Collect the scraps manually one at a time from the exit and place it either in the trolley or bin</b>	Exit operator should be fully attentive while operating shear.  <b>Do not touch the strip while the shear is in operation or the strip is moving.</b>
		ENVIRONMENT: Resource depletion due to metal scrap generation.		Put the scrap piece in scrap bin and sample on sample table for marking	
		QUALITY: Rework in RCL in case of sample missing		Proper marking of coil id on sample and entry in the sample register.	

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4.	Removal of Pup Coil from POR	SAFETY : 1. Isolation switch must be used.  2. Entry operator should give clear signal for binding the pup coil to casual.  3) Chances of physical injury while binding the pup coil due to moving equipment & damage ends of pup coil. 4) Chances of body parts being entrapped between coil car and mandrel	Contract Labour  Entry operator	1. Use all PPE like helmet, safety goggles, shin guard, full hand sleeve, safety shoe & hand gloves properly. 2. Use isolation switch near stair before going near POR for isolating POR, hold down roll and coil car. 3. Bind the pup coil with old band pieces and come out of that area. 4. Remove the isolation of that area by operating the switch. 5. Operate #8 when the casual is at safe distance from POR by the entry pulpit operator. 6. No manual interface is required to guide the pup coil onto the spool ramp.	Entry operator should be alert during this process and should not leave the work place until pup coil is loaded on spool ramp. No pup coil should be more than 1000 kgs
		ENVIRONMENT: Resource depletion due to metal scrap generation	Contract Labour	Collect the pup coil in spool ramp and get it placed at pup coil storage area behind SPM ECR with the help of fork lift	
		QUALITY: Roll marks due to damage edge	Entry operator	Avoid passing of damage portion to mill bite.	

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5.	Removal of pup coil from Tension Reel	SAFETY : 1. Chances of physical injury while binding the pup coil and moving equipment's. 2. Chances of falling in pit while crossing the pit. 3. Chances of getting caught between belt wrapper and tension reel. 4. Use Sliding platform for crossing the coil car pit and close the railing of sliding platform from both sides to prevent falling in pit. 5. Apply lock pin in sliding –platform and belt wrapper. 6. Press emergency switch of belt wrapper from exit pulpit. 7. Chances of slipping due to oily area. 8. The exit coil car must be placed under the tension reel while binding the pup coil.	Contract labour Contract labour Contract labour Contract labour Exit operator Exit operator	1. Use all PPE like helmet, safety goggles, shin guard, ear muff, full hand sleeve, safety shoe & hand gloves properly. 2. Press the emergency stop button of belt wrapper from pulpit. 3. Move the sliding platform in and close the railing of sliding platform and put lock pin in safety platform and belt wrapper. 4. Bind the pup coil and come out of that area after removing pins of belt wrapper and sliding platform. 5. Remove the pup coil from TR manually in maintenance mode and bring it up to the spool charging point. Lower the coil car up to desired height and get it evacuated by forklift. 6. If in some cases forklift is not available, depending on the weight of the pup coil (max 700 kgs), manually unload the coil by pushing it on to the platform and put a wedge underneath.	
		ENVIRONMENT: Resource depletion due to metal scrap generation		1.Remove the pup coil from pup coil ramp/exit coil car with the help of fork lift and place in pup coil storage area behind SPM ECR	
		QUALITY:Nil		Nil	

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Step No.	Activity (WHAT)	Associated Requirements/Hazards/Impacts	Responsibility (WHO)	Process / tools / PPEs (HOW)	Remarks / Reference
6	Removal of pup coil and scrap pieces by forklift.	<p><b>SAFETY :</b></p> <p>Forklift operator should wear safety belt while operating the forklift.</p> <p>The hooter and indicative light should be in operation during movement. The indicative laser light should be functional.</p> <p>The forklift operator should ensure the health of the vehicle and should comply with the daily checklist before starting the vehicle.</p> <p>The forklift operator should be careful about the movement of crane in the shop floor and other vehicles or person during movement. The operator with the vehicle to be at least 15 feet's away from the crane movement/hanging load. He should always drive his vehicle through designated pathway in the shop floor. No over-speeding with /without load.</p> <p>The operator should ensure no overloading.</p> <p>Pup coils/scrap sheets to be stacked at designated stand not more than four hi.</p>	Forklift operator.	<ol style="list-style-type: none"> <li>1. Use all PPE like helmet, safety goggles, shin guard, florescent jacket, and face mask.</li> <li>2. The scrap sheets to be evacuated on timely basis. Insert the fork under the sheets and lift the fork up. Gradually lift it up at a safe height, clear from the bin, tilt it towards the operator such that the sheets rest over the vertical beam.</li> <li>3. Drive the forklift with the scrap sheets through designated area outside the SPM area and place the scraps in the bin placed outside. Take care for no spillage outside the bin. If the bin is full place the sheets as instructed by shift in charge.</li> <li>4. For pup coil removal from the entry spool ramp, the operator may handle at max two coils at a time. He should insert the fork inside the ID of the coil fully, lift it at a safe height, and tilt it towards operator such that it touches or rest with the vertical beam. Then the operator will move the vehicle back and drive it up to the pup coil stand placed outside SPM shopfloor through designated path. He will place the coil in the stand either in the ground or over another coil (at max 4 hi ).</li> <li>5. For pup coil removal from exit, the operator will lift the coil either from the coil car or from the ramp and will place it in the stand outside SPM shopfloor either on the ground or one above the other (at max4hi).</li> <li>6. If both the stands are full will keep the coils at a place as instructed by the shift in charge.</li> </ol>	
		<p><b>ENVIRONMENT:</b></p> <p>Resource depletion due to metal scrap generation</p>		<p>1.Remove the pup coil from pup coil ramp/exit coil car with the help of fork lift and place in pup coil storage area behind SPM ECR</p>	
		<p><b>QUALITY:</b>Nil</p>		<p>Nil</p>	

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