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|  | VEDANTA LIMITED – VALUE ADDED BUSINESS | Format No.: | VL/IMS/PP2/MECH/WI/12 |
| | INTEGRATED MANAGEMENT SYSTEM | Revision Date: | 05.04.2021 |
| | <u>Work instruction for Grinding activity</u> | Revision No.: | 02 |
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Objective Safe grinding procedure
Scope Power Plant
Responsibility Engineer in charge and workmen at job
PPEs to be used Helmet, Safety shoes, Hand gloves, Dust mask, and Safety goggles

Aspect-Impact

Generation of scrap Land contamination
 Fire Air Pollution

Hazards Identified

Mechanical Hazard Contact, Entanglement, Impact, Cut injury
Physical Hazard Electric shock
Human behavior Non use of PPEs, Alcoholism, overconfidence, Negligence, Height phobia


Safety precautions:

- Avoid using mobile phone while working.
- Use appropriate tools required for the job.
- After job always do proper housekeeping.
- Always prevent body from line of action of force.
- Perform proper communication verbal and non-verbal as required.

Procedure

- Only trained personnel will carry out grinding activity.
- Grinding machines to be used for Grinding should be certified by Company's Authorized Representative.
- While grinding ensure that there is no man or combustible material within 5 meter range.
- While using the machine first start the machine and wait till the machine takes its speed.
- If the job to be ground is very small, hold the work piece in a vice with proper jig and fixture
- Operator should ensure that the wheel guard covers at least half of the wheel to protect the user in the unlikely event of wheel breakage.
- Perform the grinding operation with goggles . If gloves are used, it should not be loose to avoid entanglement with wheel
- Grinding operation should be carried out below the chest level and with the usage of safety goggles only as the grind particle can flew and fall in eyes.
- Do not allow any other person to operate in the area coming under the influence of grinding without proper PPE's.
- To ensure optimum performance, the machine should be held at an angle of 20 degree.
- To avoid over loading of electric grinder, do not press the machine excessively on work piece.
- For obtaining maximum wheel out put, operate the wheel at a speed close to the Maximum operating speed indicated on the wheel.
- Select the smooth or rough grinding wheels for grinding as per requirement of the job.
- Do ensure proper shutdown while grinding gas lines/highly inflammable material containers/Pressurized vessels as spark generated can lead to the explosion.
- Stop the machine after completion of the job and place on designated places (grind rest)

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| Prepared & Reviewed: | Approved: | Issued: |
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- Before fixing the grinding/cutting wheel on the machine, following things will have to be ensured.

Do's

- Guard on the machine is in good condition. Expiry date of the wheel is marked on the wheel. Any wheel beyond the expiry date shall not be used under any circumstances.
- Speed marked on the wheel should be greater than or equal to speed of the machine. Under no circumstances, machine with higher RPM shall be used with a wheel of lower RPM.
- Ensure use of PPEs before start of work.
- Cable to be checked for any damages.
- Scrap material to be collected & stored in allocated places.
- Use proper spanner for removing the grinding wheel.

Don't

- Remove guard from grinding machine.
- Do not over tighten the grinding wheel.
- Do not tap or hammer or force the grinding wheel on shaft.
- Do not use wet wheels
- DO not use machines without guard

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