Ball Mill Maintenance Manual [Complete Version]

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Ball mills are common grinding equipment that play a vital role in industrial production. To ensure their efficient and stable operation and extend their service life, regular maintenance are essential. Below we detail the maintenance procedure for ball mills.

Daily Maintenance

1. Inspect the mill body daily, removing debris and dust from both the interior and exterior to ensure cleanliness.

2. Clean and sanitize the ball mill daily after use to maintain hygiene and product quality.

3. Check fasteners (such as bolts and nuts) on all parts of the body daily to ensure they are securely tightened.

4. Inspect electrical equipment and cable connections for wear or damage daily; replace immediately if issues are found.

5. Monitor the lubrication status daily, ensuring the oil level is within the normal range (typically between 1/2 and 2/3 of the oil gauge) to prevent excessive wear due to oil shortage.

Routine Maintenance

1. Conduct regular inspections of the transmission system, including gear drives, belt drives, etc. Replace any damaged or worn parts promptly.

2. Perform periodic checks on the mill's bearings to ensure proper lubrication. Replace bearings showing signs of wear or looseness immediately.

3. Lubricate and maintain gears, bearings, drive belts, chains, and other components. Check the meshing clearance between the pinion and girth gear; proper clearance ensures transmission efficiency and prevents excessive tooth surface friction. Adjust if clearance is too large or too small.

4. Regularly inspect electrical equipment (motors, controllers, fuses, etc.), repairing or replacing faulty parts promptly.

5. Periodically inspect and maintain the pneumatic system, including air filters, compressors, and pipelines.

Key Component Maintenance

1. **Liners**: Liners protect the inner wall of the grinding drum and require regular inspection and replacement. Replace liners when wear reaches about 2/3 of the original thickness.

2. **Grinding Balls**: As critical components for material grinding, inspect grinding balls regularly. Replace any balls showing wear, deformation, or breakage immediately.

3. **Gears**: Gears are essential for power transmission. Inspect and lubricate them regularly. Replace gears exhibiting wear or damage promptly.

4. **Motor**: The motor is the primary driving component. Perform regular inspections and maintenance. Address issues like overheating, excessive noise, or unstable speed promptly through repair or replacement.

Long-Term Shutdown Maintenance

1. Before a long-term shutdown, empty the material and clean the inside of the ball mill drum to prevent material hardening. Apply anti-rust oil to metal parts like bearings and gears to prevent oxidation and corrosion.

2. When shutting down your ball mill, first stop the vibrating feeder. Only stop the ball mill and pumps after the ore materials has been processed.

3. During extended shutdowns, manually rotate the cylinder 1-2 times per week to prevent bearing deformation or seizing.

4. During the shutdown period, it is necessary to protect electrical components and metal parts from moisture.

Regular maintenance of ball mill can also reduce machine failure rates, enhance productivity and product quality, and bring greater economic benefits to the enterprise.
If you have any questions, feedback or comments. Please feel free to give your inquiry. We will reply you in 24 hours.

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