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MAINTENANCE TIPS

Cone Crusher Liner Change: Complete Step-by-Step Procedure for Safe Replacement

Safe cone crusher liner replacement guide. Covers preparation, backing compound, bowl liner removal, mantle installation, and startup verification.

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Cone crusher liner change is among the most critical maintenance operations in an aggregate plant—a 24-36 hour procedure that determines whether the crusher returns to service producing specification product or develops problems requiring immediate re-intervention. This step-by-step guide ensures safe, efficient liner changes that maximize liner life while protecting crusher components.

Pre-Change Preparation

Safety Requirements

- Lock out/tag out all energy sources (electrical, hydraulic, pneumatic)
- Verify zero energy state before entry
- Confined space procedures for chamber entry
- Fall protection when working at height

- Hot work permit if cutting/welding required

Parts and Tools Checklist

ITEM	QUANTITY	PURPOSE
New bowl liner	1	Replacement
New mantle	1	Replacement
Backing compound	Per specification	Liner support
Torch ring/cutting equipment	As needed	Backing removal
Lifting equipment	Rated for liner weight	Liner handling
Torque wrench	Calibrated	Fastener tensioning

Bowl Liner Removal

1. **Lower bowl assembly** to access position (hydraulic system)
2. **Remove feed cone** and associated components
3. **Verify backing condition** before attempting removal
4. **Heat backing compound** evenly around circumference
5. **Extract liner** using lifting points or jack assemblies
6. **Inspect bowl surface** for damage, cracks, or deformation
7. **Clean all surfaces** of residual backing material

Mantle Removal

1. **Remove head nut** using appropriate tooling
2. **Heat backing compound** if mantle is backed
3. **Lift mantle** using eye bolts or lifting lugs
4. **Inspect head surface** for wear or damage
5. **Check head nut threads** for damage
6. **Clean head surface** completely

Surface Preparation

SURFACE	INSPECTION POINT	ACTION IF DAMAGED
Bowl bore	Scoring, out-of-round	Machine if >1mm deviation
Head taper	Wear, galling	Build up and machine
Thread condition	Stripped, damaged	Chase threads or repair
Sealing surfaces	Flatness, finish	Re-machine if worn

New Liner Installation

Mantle Installation

1. Verify liner matches head taper specification
2. Apply release agent to head surface (if backing)
3. Position mantle centered on head
4. Install torch ring or backing forms
5. Pour backing compound per manufacturer instructions
6. Allow backing to cure (typically 2-4 hours)
7. Install and torque head nut to specification

Bowl Liner Installation

1. Verify liner dimensions match bowl bore
2. Apply release agent to bowl surface
3. Lower liner into position
4. Center liner in bowl
5. Pour backing compound
6. Allow curing before reassembly

Backing Compound Guidelines

FACTOR	SPECIFICATION	CONSEQUENCE IF WRONG
Mix ratio	Per manufacturer	Incomplete cure, weak bond
Pour temperature	15-35°C typical	Too cold: won't cure; Too hot: flash set
Gap dimension	3-6mm typical	Too thin: hot spots; Too thick: cracking
Cure time	2-8 hours by type	Premature operation = liner movement

Post-Installation Verification

CHECK	METHOD	ACCEPTANCE
CSS setting	Lead ball measurement	Within specification
Liner clearance	Feeler gauge	Even gap around circumference
Head nut torque	Torque wrench	Per manufacturer spec
Lubrication system	Pressure/flow check	Normal values
Hydraulic function	Operational test	Smooth adjustment

Break-In Procedure

1. Run empty for 30 minutes monitoring temperatures
2. Introduce feed at 50% rate for 2 hours
3. Increase to 75% rate for 2 hours
4. Full production after successful break-in
5. Re-check CSS after first 8 hours of production
6. Re-torque head nut after 24 operating hours

Conclusion

Proper liner change procedure protects your investment in new liners while ensuring safe return to production. Follow preparation checklists, respect backing cure times, and complete break-in procedures. Rushed liner changes create problems that require second interventions—taking the time to do it right the first time saves total downtime and protects crusher components for years of reliable service.

Topics: #Cone Crusher #Liner Change #Maintenance #Wear Parts

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