

SUPPLIERS' TIPS

The hammers in my hammermill are wearing out very quickly. How can I address this problem?

Here are a few things to consider that could be causing excessive wear:

- The rolls could be set too close together and may be rubbing against each other when the mill is running empty.
- The bearings in the rolls could be worn.
- The jack bolt or holding device that adjusts the rolls could be worn, allowing the rolls to contact one another.
- If the rolls are replacements, compare their hardness to the original specification by using a durometer or contacting the manufacturer or a university for testing. The hardness specification may have been overlooked.

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Take pictures and contact your hammermill manufacturer. Ask whether the hammermill you have fits the application and, if so, whether any advanced material options are available for your hammermill.

Be prepared to answer for the hammer manufacturer:

- Has there been any change to the particle size, Mohs hardness, or moisture content of your feed-stock material?
- Are you achieving your finish grind? Are you overachieving?
- Are other critical grinding components in good condition? Components such as hammers, deflector plates, and screens are designed to work together; excessive wear on one component can magnify wear on others.
- Is the throughput measured? Overfeeding and uneven feeding across the feed inlet can cause problems.
- Is the material able to leave the hammermill freely?

The answers to these questions can help your hammermill manufacturer resolve your wear issue.

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Has wear been an issue since the mill was new? This could be a sign of improper equipment setup or suboptimal equipment choice.

Have you changed anything in the system or the feed materials? Are other mill components wearing quickly? Slight increases in material hardness or abrasiveness can have extreme consequences for mill wear.

Does your feed material contain excessive fines or moisture? Screening out fines and reducing moisture content before milling can reduce wear and save energy.

Are you running the mill at a higher speed than required? Slowing down the mill to a speed just high enough to maintain an acceptable material gradation will reduce wear.

Are all the hammers wearing evenly? If the hammers in the middle or on one side of the rotor are wearing faster than the others, it could be a sign of improper feeding. The ideal feed design evenly spreads the material across the entire mill width. If the hammers are wearing on the sides, it could be a result of overfeeding. Overloaded mills take longer to discharge the material.

Check adjustments! Is the grinding plate properly spaced? Are the screens or grates clean and free of obstructions? If not, correctly sized material can build up inside the mill, causing hammer wear.

Inspect the hammer mounting holes and hammer bolts or rods for excessive wear, which can cause variations in the space between the hammer tip and the grinding plate, grate bar, or screens.

If you changed suppliers recently, ensure that the hammers meet or exceed the original specifications. Be sure to verify specific tolerances, construction materials, and metallurgies.

Hammermill wear is inevitable. Hammers, grinding plates, liners, and screens or grate bars are wear parts that you must monitor. The better you understand your wear-part usage in relation to your feed materials, the easier it is to predict and schedule routine preventative maintenance. Consulting the OEM for periodic inspections can help keep your hammermill working optimally.

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