

## Managing Maintenance

### *Tips for Effective Screen Media Maintenance*

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It doesn't matter how much aggregate is produced in a day if it is contaminated or not sized correctly. Though screen media is a minor cost when compared to larger equipment in a quarry or mine, it is a crucial part of any operation's profit machine. One unexpected break and thousands of dollars can be lost in terms of downtime and repairs.

For that reason, producers need to put a large focus on proper screen media maintenance, including selection, installation, preventative maintenance and storage. Best practices result in fewer changeouts, less unplanned downtime, higher quality product and a more efficient operation.

#### **How to Choose?**

Where it used to be as simple as choosing the right size of woven wire for their material, producers now face a choice of dozens of different styles and brands of screen media. And while it may be tempting to think a cheap, off-the-shelf option will get the job done, plant managers should take a moment to think about what the wrong choice could mean. Not choosing a screen media suitable for an individual application could mean unexpected breaks, ruined piles from contamination, and overall expensive downtime.

Work with a screen media manufacturer to figure out what media is the best fit for each area of the screen deck. In some cases, a heavy-duty option may be necessary to take the punch at the feed end, followed by something durable but with more open area.

However, in many applications, high-vibration wire screens are suitable for the entire deck. A producer could choose higher gauge or double wire screens for high tonnages at the feed end and increase open area for the rest of the deck to boost stratification. Sometimes referred to as self-cleaning screen media, this media can be especially beneficial in an application with a lot of fines and clay deposits or where an operation has had difficulty with contaminated piles caused by too much organic material. The high-vibration qualities also tend to go far in solving issues with blinding and pegging.

#### **Don't Slack on Installation**

It's not uncommon for an operation to send the newest crewmember to complete the undesirable job of screen media change-outs, but the task benefits from someone with a bit more experience. The best screen media in the world won't do any good if it's installed incorrectly. This could mean improper tensioning or even installing it the wrong way around, something that happens more often than it should. The resulting issues can include accelerated wear, panels broken too soon and just overall inefficient screening.

While specifics vary depending on the type of media, there are a few overall best practices for screen media installation. To start, clean and check the condition of components that touch the screen, make sure that the screen panel matches what was ordered, and install the screen based on instructions from the manufacturer for that particular type. During installation, make sure each support bar touches the screen and that the tension matches manufacturer recommendations. Some manufacturers include a “do’s and don’ts” sheet with screen media to make the process easier. Also, crews should make sure they are following safety procedures, including having more than one person working on the installation and using the lock out procedure to prevent the equipment from being turned on while personnel are working on it. Certain types of screen media are safer to install than others, including shrouds of metal to cover the sharp hooks, no sharp edges and a lighter weight than standard woven wire.

Consider looking into screen media installation and maintenance training seminars to prolong screen life. Manufacturers often offer the service either through site visits or via a nearby dealer. The benefit will be a crew with shared knowledge of proper installation that could be worth thousands in unexpected downtime prevention.

### **Keep Your Eye on the Screen**

Once installed correctly, it’s still best to check screen media at least weekly to make sure tensioning is proper and the panels aren’t showing unusual signs of wear. A little bit of extra time during routine preventative maintenance can have a noticeably positive effect on profits.

While checking tension, also look at the clamp bars themselves. Check for wear, corrosion or cracks and examine the rail for straightness, which is necessary for even tension. Examine all nuts and bolts and replace any that are worn, stripped or corroded. Shaker bolt threads with excess build-up can be cleaned by running them across a wire wheel. Also, replace clamp bars that are thin or caving in to greatly improve screen media wear life and be sure to choose OEM versions for proper operation.

Screen box diagnostics systems can help prolong media life and improve screening by checking and monitoring a machine’s health. Use a vibration analysis system to inspect the machine for balance and excessive vibration, which can lead to screen media failure or unintended machine wear. Vibration analysis systems are becoming easier to use. Some of the newest include only a single sensor, no wires and work quickly with a smartphone.

When it’s time to remove and replace the screen media, pull off the bar rail or crown liners and inspect the steel bar rails for wear or warping. Best practice is to replace the bar rail liners during each change-out for longer screen media life.

### **Storage Matters**

Just like it's best to keep the expensive new car out of the harsh elements to lengthen its lifespan, so too should screen media be kept out of harm's way to maximize its effectiveness. Leaving the media in a pile near the screen box structure is convenient, but can lead to wires rusting, something that can reduce durability. Another common issue is screen media on the ground simply being run over by heavy equipment. Wire screens also get damaged when stored standing upright. The best solution to prevent damage during storage is a simple rack that allows crews to hang the screens from the hooks. This prevents damage and improves accessibility by allowing personnel to find the right screen without sifting through a pile of panels. Also, keep extra panels covered and in a well-marked area out of the path of heavy equipment.

### **Screen On**

Though minor compared to the rest of an aggregate or mining operation, producers benefit from staying proactive with screen media maintenance. From choosing the right media for the job and installing it correctly, to proper storage and preventative maintenance, treating screen panels right can mean less downtime, fewer headaches and more profits.