How to Minimize Screen Blinding

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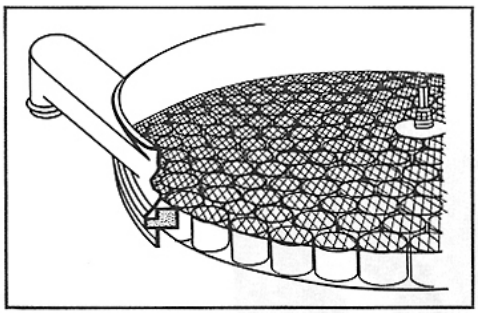
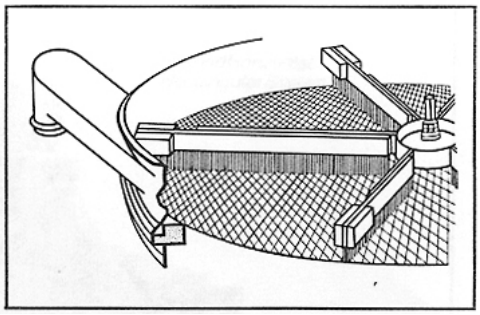
The best laid schemes of mice, men and responsible plant engineering people go by the boards when screen blinding takes place. It becomes almost impossible to project throughput with any degree of accuracy. The problem becomes particularly acute when the screens operate in a state of partial blinding. As the various apertures become clogged, reducing the available screening area, production and efficiency go down.



Kleen Screen Rings for dislodging wedged particles.

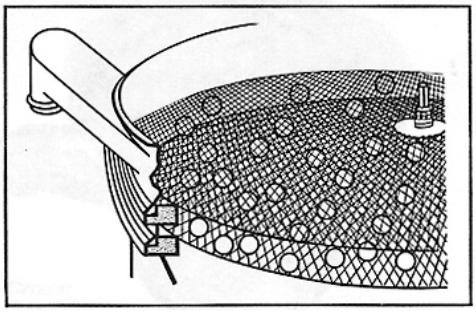
Blinding may be caused by a variety of problems. The screen apertures may become clogged with near-size particles (particles from ½to 1½times the opening size). Blinding may also be caused by long, flexible, usually fibrous material which tends to wrap around the wires. In some cases, very fine material tends to cling to the wire due to inherent stickiness or electrostatic attraction. Screen blinding may be caused by resinous or fatty materials, or matted fibers which tend to cover the top surface of the screen and remain unaffected by the vibration. Still another cause of screen blinding is the fact that beds of fine electrostatically charged particles or interlocked fibers forming islands tend to move as a group in response to vibration.



Rotating nylon brushes or rubber wipers combine wiping with shearing to remove resinous for fatty materials or matted fibers, on the top surface of the screen.

Whatever the cause, screen blinding is costly and should be dealt with as soon as it is discovered. The first step is to determine the cause of the screen blinding. The next step involves examining the various anti-blinding devices that exist. The simplest answer is of course, to change to a screen with larger or smaller openings, provided such a change does not impair the quality of the final product. For many causes of screen blinding however, the answer can be found by varying the vibratory motion of the separator itself. Screen blinding caused by near-sized particles lodging in the openings, can usually be relieved by increasing the lower weight thus increasing the vertical force to dislodge the particles from the aperture.

Another approach to dislodging near-sized particles involves the use of a series of hollow plastic cylinders which we call Kleen Screen® rings. These are supported on a perforated plate below the screen. They eliminate blinding by contacting the screen to dislodge the wedged particles. The upper edges of these hollow cylinders tend to put a shearing force on fibrous materials that protrude through the screen apertures and offer some release from fiber blinding.



Bouncing rubber balls effectively relieve screen blinding caused by coarse particles (over 20 mesh).

When the cause of blinding is clogging of the screen aperture due to coarse particles, about 20 mesh or larger, rubber balls can be used in place of the hollow plastic cylinders. Incorporating a large number of these balls within the screen frame provides a high momentum impact on the screen, releasing the wedged particles.

When fine material tends to cling to the screen wire due to stickiness or electrostatic attraction, good results have been achieved by increasing the lower and upper weights as well as by adding a more coarse material in the feed. If the problem is electrostatic, you might try grounding the screening deck. This approach will be discussed in greater detail in another issue. The use of Kleen Sweep radial arms with rubber wipers or brushes can also be used with good results. The rubber wipers are particularly useful when the problem can be traced to resinous or fatty materials, or matted fibers, covering the top surface of the screen and refusing to move in response to vibration. For severe blinding problems both the Kleen Screen cylinders and the blade or brush may be required.

Blinding takes many forms. They all rob you of screening area and affect the efficiency of your operation. If you have a screen blinding problem that won't respond to one of the suggestions made here, our

Customer Service Representatives will be glad to analyze the problem and make recommendations for eliminating it, without cost or obligation.

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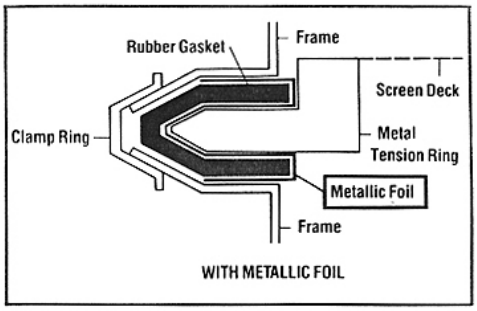

Grounding the screening deck will often minimize blinding caused by electrostatically charged particles.