Are your cross tension screens operating at Peak Efficiency?

For any cross tension screen deck to operate at peak efficiency and return maximum screen cloth wear life you need more than just the best screen media. Your screen cloths must be installed and tensioned correctly. Poor cloth tension can result in wire breakage, accelerated wear, pegging, blinding, premature cloth failure and most importantly, inefficient screening performance.

Think for a moment about the conditions under which the average screen cloth will operate. With around 1000 vibrations every minute, 10 or so hours a day for days, weeks, months on-end along with the impact from thousands of tonnes of abrasive material, it is easy to see how even the slightest movement from a loose cloth has the potential to cause significant problems. Woven mesh wires will rub, wear and fatigue, significantly reducing wear life. If not tensioned correctly even synthetics or self-cleaning wire screens can peg, blind over, flap & flog-out, resulting in premature cloth failure and inefficient screening if they are not tight enough.

Broken wires

Loose poly cloth flogged-out over support bar

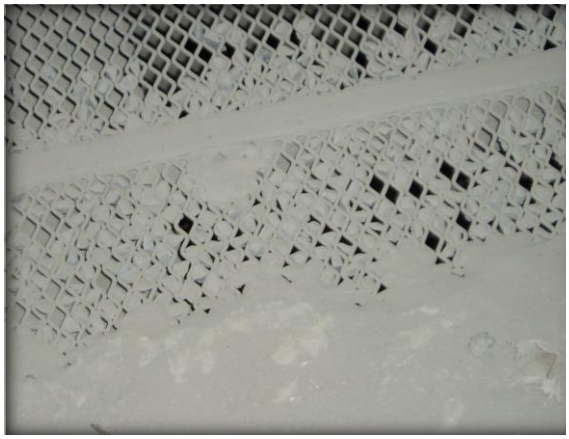
Screen cloth tension and Screening efficiency

Incorrect screen cloth tension can severely hamper screening efficiency.

Picture in your mind a Jig Saw cutting through a piece of timber. If the timber is not firmly secured the timber will just move up and down along with the Jig Saw blade. Whilst the example given is somewhat exaggerated this is much the same action as would occur with an under-tensioned screen cloth. The screen cloth can move up and down in unison with the material with less than ideal material stratification or screening taking place.

When installed correctly the individual wires in the self-cleaning style wire screens vibrate independently at different frequencies, preventing material from accumulating between wires as it typically does with woven wire. The vibrating wires also aid stratification, further enhancing screening efficiency. If not sufficiently tight the wires can't vibrate as designed, allowing near size material to peg in the apertures or damp fines to cling to the wires, eventually blinding them over.

Loose rubber and poly screens can flick the material into the air, giving very little opportunity for stratification or screening to take place.



Tension related pegging & blinding of self-cleaning wire screen

Middle section of these rubber screens are pegged, outer sections are clear. It can be very difficult to get good tension on triple camber decks

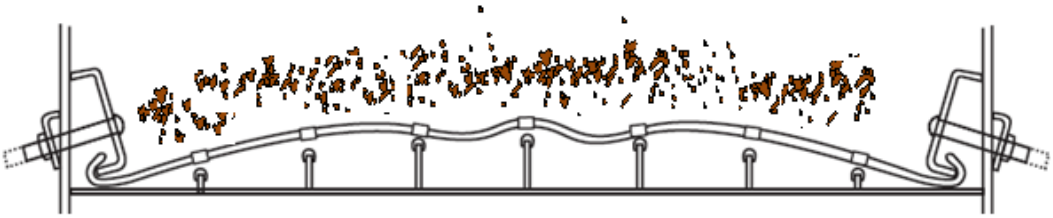
Screen crown

It can't be stressed enough just how important having the right screen crown (camber) can be to the performance of a screen. Poor screen crown is surprisingly common and often evident by the presence of J-bolts to secure screen cloths to the support rails or failed screens in the bone yard.

For optimum screen cloth tension the screen box must have a good even crown across the whole screen box. Without good crown it is impossible to apply enough tension on the screen cloths to hold them firmly down on the support bars and the wider the screen the more critical it becomes.

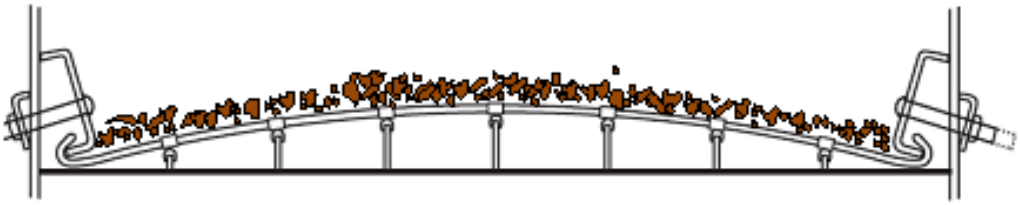
Equally important is the use of the correct profile side clamping bars. To save money many producers get the local steel fabricator to make their side clamping bars. If the profile isn't right it can actually pull the screen cloth side hook up off the support bar instead of down on to the side support rail which could lead to hook breakage and screen cloth failure.

Uneven crown will make it impossible to tension screen cloth properly



Too little or uneven crown will also make it impossible to get the screen cloth good and tight

For proper screen cloth tension there must be sufficient & even crown across the whole deck



Screening Plant Audits

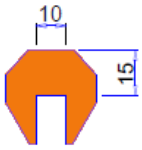
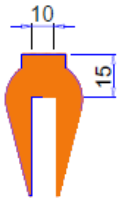
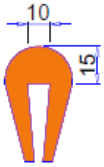
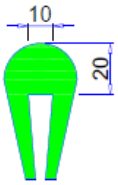
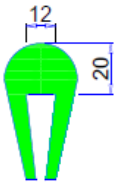
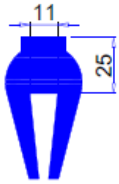
Nepean Rubber has been conducting the Major Wire style **Screening Plant Audits** for a number of years. The aim of the Audit is to identify where and how the screening operation can produce more material for less cost. We review the screen box and screen media condition, screen cloth installations and screening accessories. The screening plant is inspected from top to bottom, inside and out, from primary crushing to final product.

The problems identified during the audits can be many and varied, however the greater majority of screen cloth failures, pegging, blinding or screening efficiency problems detected are related to screen crown and to be more specific, support bar capping rubbers.

Capping rubber is available in numerous profiles. It is quite common to see two or three different profiled capping rubbers with height difference of up to 10mm used simultaneously supporting a screen cloth. Under such conditions it is absolutely impossible to achieve good cloth tension and screening problems are almost guaranteed.

Around 70% of all crushing plants audited to date were found to be using 2 or more different profiled capping rubbers on their screens.

To prevent the use of odd capping Nepean Rubber now supply our capping in different colours. Orange for 15mm profile, Green - 20mm profile for use on self-cleaning wire or synthetic screen media and Blue - 25mm profile for those screens that require a little extra crown

DESCRIPTION	SB7/F	FT-10/15	RT-10/15	RT-10/20	RT-12/20	FT-11/25
				RECOMMENDED FOR FLEXMAT AND SYNTHETIC SCREEN CLOTH		
PROFILE SECTION						

Screen Maintenance Seminars

Nepean Rubber offers Seminars for aggregate producers to help them understand the screening issues and problems most have or will experience & how to fix or avoid them.

Developed by Major Wire, the popular operator-oriented **Screen Maintenance Simplified Seminar** identifies the common problems operators have with their screening plants – screen breakage, blinding/pegging/clogging, out-of-spec product and premature screen media failure.

The Seminar clearly identifies how these problems left unfixed seriously increase downtime, reduce production capacity, product quality and profitability of the entire operation.

Both our Screening Plant Audits and Screen Maintenance Seminars are a free service offered to our customers.