



Shown in action at Nelson Aggregate's Burlington Quarry, the Flexco 840 series belt cutter safely delivers a controlled straight cut.



Flexco's FSK belt skiver is designed to extend the life of mechanical joints and reduce component wear.

Conveyor belt hand tools improve safety, belt life

By Andy Bateman, Engineering Editor

Two hand tools that cut and groove conveyor belting are delivering improved field safety and reduced component wear at the Burlington, Ont. quarry of Nelson Aggregate Co.

Aggregate operations make extensive use of conveyor belts to transport and stockpile material as part of the production process. As a result, belt cutting and mechanical jointing are regular field operations during belt repair and replacement. Field belt cutting can be an awkward and potentially risky business, even for experienced operators. Cuts are typically made with a hand held utility knife, with the inherent risk of serious finger or hand cuts should the knife slip. In addition, slight irregularities in the cut edge are almost inevitable, leaving small gaps where the two hand-cut edges meet. According to its manufacturer, the Flexco 840 series belt cutter provides a safe and effective alternative by delivering a controlled, straight cut. To complete a cut, the belt is clamped into the cutter and the operator turns a hand crank to draw the shielded, two-sided blade through the belt in a single pass. This design is said to optimize blade life, as each cutting edge is used alternately for successive cuts.

The second hand tool is designed to extend the life of mechanical joints and reduce component wear. A conventional mechanical belt joint utilises a series of belt clips that typically protrude slightly above the surface of the belt, even when fully tightened down. As a result, the clips come into contact with head pulleys, tail pulleys and return idlers, causing additional wear of these components as well as the clips themselves. In some instances, the protruding clips also reduce the effectiveness of belt cleaners by causing scraper blades to skip and miss a section of belt downstream of the joint.

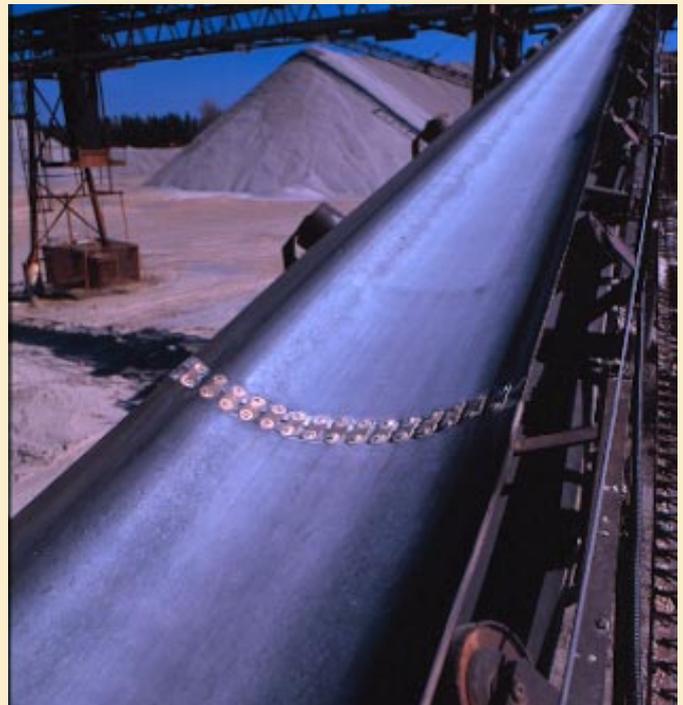
Flexco's FSK belt skiver is said to eliminate these problems by skiving (cutting) a small slot in the belt before the clips are installed. The slot is cut in the surface rubber along each cut edge to be joined, such that the clips in the finished joint are flush with the belt surface. Both the depth and width of the skive can be adjusted to suit belt and clip size. Skives between 1.6 and 9.5 mm deep can be made in a single pass, while deeper skives are made with multiple passes if required. The skiver can accommodate overall belt thicknesses between 6.4 mm and 32 mm.

These two tools make extensive use of aluminium to minimise

weight and are fully portable with no power, either mains or battery, required for operation.

Nelson's Bill White has now utilised them in a number of situations and found both to be user friendly. White adds that the skiver's flush joint means more options when it comes to belt cleaning in problem areas. "Belts carrying sticky fine material can now be cleaned with heavy-duty belt cleaners such as carbide tipped scraper blades, without risk of damage to either the joint clips or the belt cleaner."

White is responsible for plant maintenance at the Burlington quarry, reporting to production superintendent Chester McComb. □



Belt clips in the completed joint are flush with the belt surface to minimize contact with conveyor pulleys, return idlers and belt cleaners.