



CEMA CONVEYOR CHAIN SECTION

CONVEYOR CHAIN FACT SHEET 2007-03

COMMON SENSE FACTS ABOUT CHAIN DESIGN, MAINTENANCE AND USES

Chain maintenance is critical to prolonging chain life in drive and conveying applications. It sounds obvious yet the lack of proper preventative maintenance is the leading cause of premature chain wear.

The facts are that by spending a little time and money at planned intervals, we can eliminate or postpone major expenses. We all know this, but we are human and it seems human nature to postpone these kind of expenses. When the breakdown happens, we're sorry we didn't take the necessary actions earlier, but in our busy schedules, it is easy to postpone those projects that have not reached the crisis stage.

You can increase your chain life and reduce costly breakdowns by following some very simple rules and practices. Here are some ideas for you to consider in setting up a Chain Preventative Maintenance Program.

Chain and sprockets should be inspected after three months service and at six-month intervals thereafter. These visual inspections will uncover potential problem areas before they become more serious. Always correct apparent problems as they are uncovered to assure all steps are taken to guarantee long life and trouble free service.

INSPECTION CHECKLIST

1. Wash chain and sprockets with a heavy stream of clean water or steam to remove excess material build-up. While doing so, try to direct the water spray to flush out the joints.
2. Inspect the sprockets for unusual or excessive wear. Look for an uneven wear pattern on the sprocket teeth, deep grooves in the pocket, any evidence of a hooking wear pattern or for any other signs of misalignment. Check for cracked welds and retighten any set screws or ring bolts.

3. Check the inner face of the sidebars for signs of shiny surface which could signal a misalignment problem especially if the wear is more obvious on one side than the other. The chain should run freely and without interference with the sprocket teeth.
4. Check for loose, cracked, unseated, or rotating pins. Any of these conditions indicate a danger signal that can lead to chain breaks, work stoppages and lost production. Check for signs of corrosion, or corrosion build-up which, if left uncorrected, will result in tight joints or premature fatigue breaks.
5. Check barrels for signs of uneven or excessive wear, cracks, or broken welds. These conditions usually indicate there is a problem from sprocket scrubbing, misalignment, overload, or possibly improper tooth design. If any of these conditions exist, correct the problem immediately before further damage is done. It may be as simple as adjusting the take-ups or the sag of the chain.
6. Check the joints for signs of “wallowing out” which is a sign of loss of press fit and excessive wear of the sidebars and pins at the pitch holes. This is a serious condition that will result in chain stretch, jumping of sprockets, a surging conveyor, and more likely early pin or sidebar breakage. It is very important that if this condition is discovered, the faulty link should be removed and replaced. If there are many links with this condition, the whole chain should be replaced as soon as possible.
7. Lubricate the chain immediately, directing the lubricant into the chain joint area where it is most effective. Good lubrication is the most important factor in good chain life so make sure the lubricant seeps into the cavity between the pin and the bushing. The extra time it takes to do a complete job will pay big dividends.

These are just a few tips for inspecting the chain. Although these seven tips can help increase chain life, the most important of these is to set a regular schedule. As recommended, a complete inspection should take place after three months service and at six-month intervals thereafter. Try to avoid “Tomorrow is good enough for me” attitude. Preventative Maintenance pays big dividends.

***Presented as a service to the Conveyor Industry by the CEMA Conveyor Chain Section.
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