Chain Link Conveyor Belt

Installation Guidelines

Friction and Chain Edge Positive Driven

Preparation

Before installing a new belt, always check the conveyor structure;

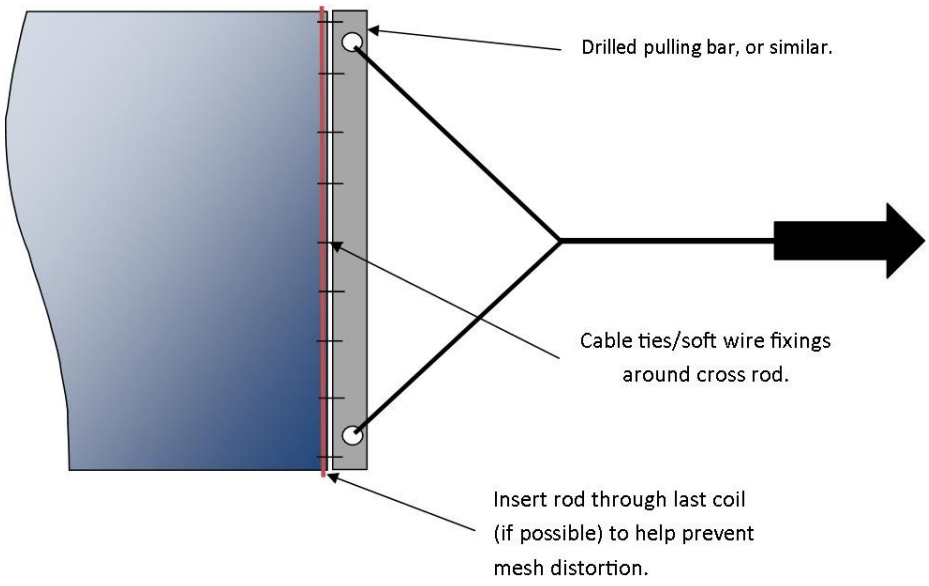
- Shafts to be at 90° to direction of travel, and horizontal.
- Rollers to be free to rotate
- Positive Drive Belts—Sprockets to be correctly positioned, and aligned.
- Belt supporting surfaces are smooth and level with adequate belt edge clearance. Check that there are no parts of the structure that can catch the belt.
- If a take-up mechanism is fitted, ensure that it is functioning correctly.

Caution: It is a characteristic of spiral mesh belts, that coils can twist and so tighten the mesh pitch. This can happen in packing/transit, and in the process of feeding the belt on to the conveyor. Whilst the belt is first being installed, it should be relatively easy to shake out these twisted coils (or scrape them flat). If this is not done, the twisted coils will lock in place as tension is applied. If the conveyor is then run, with twisted coils, belt damaged can occur.

Tools you will need:
• Safety glasses • Flat end pliers • Side cutting pliers • Needle Nose Pliers • Cable ties/soft wire/rope (optional) • Pulling rope (optional—for long new conveyor installations) • Necessary tools for conveyor belt take up adjuster • Welding set to complete the belt edge at the join strand.

Installation Procedure

1. First ensure that the electrical supply to the conveyor is turned off and the power supply locked out.
2. Release any conveyor belt tension take up mechanism to allow maximum adjustment during use.
3. There is no top or bottom side to the belt—either side can be up.
4. There is no direction of travel to the belt.
5. The belting should be pulled through the conveyor circuit until the two ends meet. There are 2 approaches to this:
    a. Where the belt is being replaced for a belt in situ on the conveyor. In this instance the existing belt would be cut at the non-drive (normally idle infeed end) and then temporarily attach the lead of the new belt roll to the lagging end of the existing belt. By means of supporting the new belt roll (whether on a roll or layered on a pallet) you will be able to carefully drive the belt (operate at slow speed) into the conveyor using the existing belt – always maintain suitable belt tension to ensure there is no belt slip on the drive roll. Whilst the belt is being driven in the old belt should be collected and layered carefully onto a pallet or suchlike for disposal. Then continue the process from step 6
    b. If fitting the belt to a conveyor where there is no existing belt (such as a new installation) then the belt will have to be fed through the conveyor circuit by hand. For long conveyors you will need to attach a steel bar to the leading edge of the belt with cable ties or such like (see below). To this bar then attach a pulling rope which is first fed through from the infeed of the carry way section of the conveyor to the discharge. From here the belt can be pulled through the carry way part of the circuit. Once the lead edge of the belt is at the discharge end the rope should then be fed back through the return way of the belt circuit to the infeed end. It can then be pulled (maybe with slow speed drive assistance) to the infeed end. Then continue the process from step 6.



6. Excess mesh should be cut off whilst maintaining the correct coil handing assembly. Please note that friction driven meshes without side chains are often supplied in alternating panels of right and left hand coil assemblies. When cutting to length try to maintain this pattern as near as possible to alleviate any potential tracking problems.
7. Temporarily, the two ends can be tied together; this may make joining easier.
8. The mesh is joined by winding a coil wire through the intermeshing coils at each end of the belt.
9. The joining coil wire should then be cut to length and welded to the corresponding coil wire, at the edges, maintaining the continuous pattern of the belting.

Note: If side guards or cross flights are fitted, their pattern and construction need to be taken into consideration

10. Re-tension the belt enough to maintain adequate drive without over tensioning the belt.
11. Check there are no belt parts or tools left on, or in the conveyor.
12. Remove power lock off and then start the conveyor and test run under slow running conditions before running at normal operating speed.

- Longer belts may be supplied in sections and therefore multiple belt joins will be necessary.
- If the belt drive shaft is fitted with chain edge positive drive sprockets then you will have to disengage the geared motor drive from the drive shaft or operate the conveyor in a slow speed mode to allow the return way belt section to be pulled back whilst being driven. Always ensure that the new belt section locates correctly into the sprocket teeth.
- If the belt is fitted with side chains and cross rods then it will also be necessary to maintain the side chain pattern when joining the belt. Side chain driven belts are supplied with two sets of chain connecting links.

Operating Notes!

Sometimes a belt can show signs of surging, hunting or jerking. What could be happening may be an effect sometimes referred to as “slip-stick” which can afflict some longer slow running conveyors using many belt styles. The belt can act something like a spring. The idle end of the belt can remain stationary until belt tension increases to the point that static friction is overcome; the belt can then surge ahead and the resulting drop in tension may then allow the belt to slow, or even stop. The cycle of surging can then become repetitive; if this problem persists then consult the designer or manufacturer of the conveyor.

This effect is normally a function of the following:-

- Low belt speed
- Belt tension
- Nature of belt support (coefficient of friction)

To help alleviate some of this effect it may be necessary to change any of the above or a combination of all.

© 2021 Wire Belt Company Ltd |Castle Road, Eurolink Industrial Centre, Sittingbourne, Kent ME10 3RF
An ISO 9001:14001 Registered Company | Registered office and factory as above
Phone: +44 (0) 1795 421771 | Fax: +44 (0) 1795 428905
Website: www.wirebelt.co.uk | Email: sales@wirebelt.co.uk