

Balanced Spiral Woven Belt

Trouble Shooting Guide for Positive Driven Belts

Problem	Possible Cause(s)	Solution(s)
Belt slips on mesh drive sprockets	<ul style="list-style-type: none"> Conveyor too long for belt specification Load too heavy for belt specification Operating temperature too high for belt specification 	<ul style="list-style-type: none"> Check with Wire Belt Company Technical Sales with full description of application
	<ul style="list-style-type: none"> Increased friction between belt and wear strips/support rollers 	<ul style="list-style-type: none"> Consider reducing the friction between wear strips and the belt by using an alternative wear strip material. Check all support rollers are free to rotate
	<ul style="list-style-type: none"> Drive sprockets too small for application 	<ul style="list-style-type: none"> Increase the size of the drive sprockets. Call Wire Belt Company for the most suitable replacement sprockets
	<ul style="list-style-type: none"> Sprocket teeth worn 	<ul style="list-style-type: none"> Check and replace sprockets. Always order authentic replacement sprockets from Wire Belt Company
	<ul style="list-style-type: none"> Drive sprocket teeth mis-aligned on drive shaft. Sprockets may have moved out of position 	<ul style="list-style-type: none"> Check alignment of sprocket teeth across width with a straight edge and reset if necessary. Ensure that the sprockets are locked securely to the shaft key
	<ul style="list-style-type: none"> Position of sprockets teeth is rubbing against coil wire 	<ul style="list-style-type: none"> Check and ensure there is some degree of mesh free float across width on drive and other shafts that are fitted with sprockets
	<ul style="list-style-type: none"> Belt catching against leading edge of wear strip or another conveyor frame component 	<ul style="list-style-type: none"> Check circuit and correct if belt catches on conveyor system structure
	<ul style="list-style-type: none"> Belt back pressure tension to low 	<ul style="list-style-type: none"> Increase general belt tension by adjustment of belt take up device. Do not exert excessive tension on belt as Balanced Spiral Positively driven belts should work with the minimum of tension to ensure proper drive
	<ul style="list-style-type: none"> Belt take-up shaft is at the end of its travel creating excessive slack in the belt 	<ul style="list-style-type: none"> Remove a section of belt, adjust take-up and reconnect the belt ends. Refer to <i>"Installation Guidelines"</i> for correct procedure

Rapid belt wear	<ul style="list-style-type: none"> Belt slipping on mesh drive sprockets 	<ul style="list-style-type: none"> Check alignment of sprocket teeth across width with a straight edge and reset if necessary Check and ensure there is some degree of mesh free float across width on drive and other shafts that are fitted with sprockets. See above <i>"Belt Slips on Drive Sprockets"</i>
	<ul style="list-style-type: none"> Support wear strips have sharp edges in contact with belt 	<ul style="list-style-type: none"> Remove all wear strip sharp edges to present a smooth surface for belt to run over. There should be no abrupt corners or edges of the support structure to impede smooth belt operation
	<ul style="list-style-type: none"> Surface level of carry way belt support wear strips are set too high in relation to the belt underside level as it exits the in-feed roller/sprocket shaft or discharges to the outfeed drive shaft 	<ul style="list-style-type: none"> The surface level of the carry way wear strips should be adjusted to the level of the infeed & discharge belt support rollers and mesh drive sprockets
Distortion of belt	<ul style="list-style-type: none"> Wear to belt support rollers 	<ul style="list-style-type: none"> Check and replace any rollers that are worn and uneven across width
	<ul style="list-style-type: none"> Product debris build up on mesh drive sprockets or belt support members 	<ul style="list-style-type: none"> Remove all debris and fit constantly operating scraper to any in circuit driven roller if debris build up persists
	<ul style="list-style-type: none"> Infeed and other rollers with belt wrap do not give full support to belt 	<ul style="list-style-type: none"> Check all rollers to ensure that belt is supported fully across width. Shafts where sprockets are fitted should have correct belt support and diameter between sprockets. Support blanks are available from Wire Belt Company
Damage to belt mesh coils	<ul style="list-style-type: none"> Incorrect installation of belt. Balanced spiral belt coils locked in vertical manner when installed 	<ul style="list-style-type: none"> Relax belt tension and smooth out by hand the locked coils. See <i>"Balanced Spiral Installation Guidelines"</i>
	<ul style="list-style-type: none"> Support wear strips have sharp edges 	<ul style="list-style-type: none"> Remove all wear strip sharp edges to present a smooth surface for belt to run over
	<ul style="list-style-type: none"> Mesh sprockets have moved laterally out of position or have not been set to the correct mesh pitching across the width 	<ul style="list-style-type: none"> Check the positions of all sprockets (all shafts) to ensure the teeth are aligned and are acting in the same mesh opening positions across the width Check to ensure there is some side float of the belt across the width at all mesh sprocket shaft positions Check central belt alignment to ensure it is equal at all mesh sprocket shaft positions
Belt corroding prematurely	<ul style="list-style-type: none"> Operating atmosphere or temperature not suited to belt specification. May lead to <i>"Stress Corrosion Cracking"</i> 	<ul style="list-style-type: none"> Consult with Wire Belt Company Technical Sales with full details of process application
Belt edge damage	<ul style="list-style-type: none"> Belt may have come into contact with conveyor edge frame, with excessive force 	<ul style="list-style-type: none"> Ensure conveyor edge frame is set clear of the belt edge Check for the straightness of the conveyor and re-align if necessary
	<ul style="list-style-type: none"> Improper belt support on drive shaft and/or free rotating shafts with mesh sprockets 	<ul style="list-style-type: none"> First sprocket tooth at edge should be set into the first clear belt underside opening
	<ul style="list-style-type: none"> Free rotating belt support rollers do not give full belt width support 	<ul style="list-style-type: none"> Ensure width of rollers are 50mm to 100mm wider than the belt

Belt vibration	<ul style="list-style-type: none"> Belt passing over either rough or uneven surfaces or obstructions such as an angle, wear strip edge, etc 	<ul style="list-style-type: none"> Check complete belt circuit and remove any rough or uneven surfaces or obstructions
	<ul style="list-style-type: none"> Belt passing over rollers that are set at a distance which is a multiplication of the cross-wire pitch down the length 	<ul style="list-style-type: none"> Check position of rollers in relation to the cross-wire pitch multiplicity and alter position if necessary
	<ul style="list-style-type: none"> Where belt wraps around small diameter transfer rollers 	<ul style="list-style-type: none"> Due to the linkage pitch of the belt there will always be a small amount of rise and fall in the belt over the roller. Maximise roller diameters to minimise vibration at roller. Contact Wire Belt Company Technical Sales for minimum diameters that relate to each mesh
Belt surging on carry way infeed	<ul style="list-style-type: none"> Belt speed is slow in relation to working friction between belt and rollers/ wear strips. This surging action is known as the "Slip-Stick" effect where the belt overdrives when moving forward. It then momentarily stops to allow the belt coils to expand and then moves forward again 	<ul style="list-style-type: none"> Change the nature of wear strip belt supports to raise or lower friction. If friction is increased this may have a detrimental effect on the belt and should only be considered after full consultation with Wire Belt Company Technical Sales
	<ul style="list-style-type: none"> Bearing failure of any of the rollers within the belt circuit that are in contact with the belt 	<ul style="list-style-type: none"> Check all bearings are free rotating and not damaged. Replace as necessary
Excessive belt stretch	<ul style="list-style-type: none"> Product load too heavy for belt specification Friction between belt and support rollers & wear strips too high Operating temperature too high for belt specification and/or belt material. 	<ul style="list-style-type: none"> Consult with Wire Belt Company Technical Sales to reassess application and belt details.
Black debris build up on belt and conveyor frame structure	<ul style="list-style-type: none"> Normally occurs in the belt "Break In" phase of installation 	<ul style="list-style-type: none"> As new all wire of the belt mesh and wear support surfaces have microscopic peaks at the surfaces. This black debris is caused by the peaks of these surfaces rubbing against each other in operation until they become polished and "seat in". After the "Break In" phase of the belt the system should be thoroughly cleaned. This process may have to be repeated before this black debris is reduced to an acceptable minimum

Curve to wire strands across width or Convex/Concave belt camber	<ul style="list-style-type: none"> Belt drag on one edge or position across belt width 	<ul style="list-style-type: none"> Check for uneven friction across width. It could be a rough wear strip, catching edge, product build up on rollers, uneven temperature across width, etc. There are many causes so a thorough investigation of the belt circuit and process is necessary. Contact Wire Belt Company Technical Sales if you are unable to locate and clear the problem. Note: Belt can be taken off periodically and refitted in the reverse providing camber is not excessive. Camber will try to straighten and form a new camber as per previous installation. Do not attempt this procedure if the wire has work hardened and become liable to fracture.
	<ul style="list-style-type: none"> Belt spirals worn 	<ul style="list-style-type: none"> Inspect belt thoroughly particularly on its underside and replace belt if wear is excessive. Belt can be turned over if wear is not too excessive
	<ul style="list-style-type: none"> Uneven pressure of belt on drive roller if conveyor is fitted with a drive press roller 	<ul style="list-style-type: none"> Check and adjust drive pressure roller so that it is acting parallel and with even pressure across the width of mesh on the drive roller
	<ul style="list-style-type: none"> Temperature difference across belt is greater than 12°C 	<ul style="list-style-type: none"> Reset heat distribution pattern and check for ingress of cool air into the operating environment