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## Importance of Grounding Wide Belt Machines

Statically grounding wide belt machines is a simple, cost effective way to improve several aspects of the sanding process. A static charge is generated when the conveyor rubs across the metal bed plates of the machine. In order to dissipate this charge, a grounding rod, preferably copper (but any metal will do), needs to be driven through the concrete floor and at least three feet into the soil beneath. As with most things, more is better, though, six feet is the recommended depth. However if your soil is very dry, adding another foot or so will help immensely. It is also critical that the rod is driven into the original ground - if fill dirt was used to build the building, it is important to go through the fill dirt and into the original ground beneath. The rod should attach to the metal conveyor bed with a 3/8" thick or thicker copper wire, preferably on the side of the machine closest to the platen, if you have one.

*NOTE: It is VERY important to attach the ground wire to the actual bed and not a plate (see illustrations below). Do not attach the ground wire to the foot of the machine, it does very little to help. If the bed is painted then the paint around where you attach the wire should be removed. Make sure to leave enough slack in the wire to allow your bed to move up and down.*

Grounding the machine helps to get rid of dust. When a machine isn't grounded, dust will build up on the work piece, sanding belts, inside the machine (tracking eyes included), in the dust collection system, and on the conveyor. The dust tends to stick inside cross grain on the work piece, making it that much harder to remove the cross grain. If dust is sticking to the work piece and the sanding belt, then you're sanding dust with dust, which will lead to burns. When dust sticks to the conveyor, the pores of the rubber accumulate dust, causing your conveyor to become slippery prematurely. Dust inside the machine leads to build up on tracking eyes causing belts to mis-track and potentially break. The dust that is collected will also have a static charge, which will cause a build up inside the dust collection system.



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Sanding defects caused by static are usually raised lines and sometimes a shiny line that follows the oscillation of the belt. Static raised lines generally skip spots instead of being a continuous line that goes from one end of the work piece to the other; they resemble a raised “dashed line.”

If you are unsure if your machine is grounded, look for dust on vertical surfaces—what causes the dust to defy gravity and not fall?

Static. By improving finish, dust collection, belt life, and conveyor life, this simple procedure usually pays for itself quickly.

Remember to attach the wire from the grounding rod to the bed of the machine; this will only be a few inches away from the rubber conveyor on the side. The difference between attaching the wire to the bed instead of a plate on the frame of the machine is significant. If your soil tends to be very dry it may be beneficial to pour some water around the grounding rod. If static is still an issue, hanging tinsel over the belts and running another wire to the grounding rod will help. This is usually seen in areas where temperature and humidity are high or low. That’s why static is a more noticeable issue during early summer and in the middle of winter. Most customers will notice increase belt usage during these times and grounding the machine can alleviate that.

Many machine operators tell of being zapped when they touch their machines. Static and dust can be a very bad combination for safety, machine and belt life, and finish quality.

See pictures below for the correct way to attach the wire to the machine.



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**INCORRECT** – Ground to a plate on the machine.



**CORRECT** - Ground to the actual bed of the machine.

**YOUR TOTAL SANDING SOLUTION**