

Controlling Material Flow

How to Maximize Output, Minimize Clean-up



This is the second bulletin on keeping your Telebelt clean. In the previous issue, we discussed scraper maintenance and repair. Now, our focus is on belt speed and controlling material flow, especially concrete where variations can occur with consistency and adjusting belt speeds becomes more important. We also address how these factors can affect your equipment's proper operation and cleanliness.

How to Slow the Flow

If asked, "How do you slow the flow of material out of the end hose," many would say "reduce belt speed." But this answer is wrong.

By slowing down the belt speed, one critical element has been forgotten – the ready-mix truck. If you do not instruct the ready-mix driver to slow the flow rate into the hopper, the belt will accept the extra material and attempt to convey it through the system.

When reducing belt speed and keeping mixer flow constant, volume per sq. inch on the belt increases. Many times, this causes the hopper to fill up and over-supplies the conveyor system.

Therefore, material spills onto the aluminum rails and rollers, resulting in increased cleaning times and eventually premature wear problems.

Remember, a belt is not like a boom pump. With the boom pump, ready-mix drivers know when you are slowing down; but with a belt, these same drivers may be untrained as to how to properly handle the flow.

For a belt, the hopper is for guiding material; for a boom pump, the hopper is designed for filling.

Minimizing "Wave-Back"

"Wave-back" is material sliding down the belt because the belt speed is insufficient for the amount of wet material on the belt.



To reduce "wave-back", achieve greater belt utilization and keep the belt cleaner, the belt speed and ready-mix discharge flow must be altered. Various alternatives include increasing belt speed, reducing mixer output or doing both.



Right



Above: Correct approach with the operator at a strategic “V” position between hopper and main boom.

Wrong



Above: Incorrect positioning especially with the operator at the end hose.

Solutions

It is important to control the belt speeds for the material being conveyed, the required output at the end hose, and the angle of conveyance. All of these factors need to be considered when trying to optimize the output rate and help keep the belt clean.

1. To avoid a mess, the operator should stand between the hopper and main boom, watching to ensure the flow is appropriate for the belt speed. Do not venture out to the end hose. You can see the pour from the hopper area and use hand signals to communicate with the crew at the end hose.
2. Communicate with the ready-mix driver, telling them what to do. They will be better trained for handling future belt conveying jobs.
3. Understand how to maximize your output and minimize your clean-up time by following the suggested Putzmeister guidelines below.

It is impractical to provide a chart that will tell the exact belt speed for each specific material, as there are so many variables. However, Putzmeister technology incorporates infinitely individual belt speed adjustments to handle changing materials and job site conditions.

For More Information

We hope that this bulletin helps in cleaner equipment operation. Please share this information within your organization to ensure that everyone associated with the Telebelt is informed.

If extra copies are needed, please call the marketing department at (262) 886-3200 or log onto www.putzmeister.com and simply download the pdf file.

If you should have any questions or ideas for future “Tricks of the Trade”, please send them via e-mail to pmr@putzam.com or fax to (262) 884-6338.

Suggested Start Up Settings

Telebelt® Feeder Guidelines

- A. As a general rule, the feeder should be run at setting 6.
- B. If it is very dry material or low slump concrete below 4", run the feeder at lower speeds.
- C. For wet material, run the feeder at higher speeds.
- D. If rocks are bouncing on the feeder or the material slides away from the belt for the first 6 feet, slow the feeder down.
- E. If the material is “waving-back”, speed up the feeder. If it continues, close the hopper gate and increase to maximum speed. If it still continues, slow down the mixer or material supply.

Telebelt® Main Conveyor Guidelines

- A. Rule of thumb is to run main belt between 5 and 6 for all materials.
- B. If rocks are bouncing, the belt speed is too fast.
- C. If material is backing up in the transfer area, belt speed is too slow.
- D. If concrete is leaking around the scraper blade, belt speed needs to be increased; this normally occurs with wet materials like concrete.

Keep In Mind...



For a belt, the hopper is for guiding material (see above). For a boom pump, the hopper is for filling.



See our site at www.putzmeister.com