ERIE STRAYER
FOUNDED 1912

ERIE STRAYER COMPANY

CONCRETE BATCH PLANTS TILT MIXERS BATCH CONTROL SYSTEMS
ENVIRONMENTAL CONCRETE RECLAIMERS CRANE ATTACHMENTS

Transit Mix Charging Procedure

TECHNICAL SERVICE BULLETIN ESC103020

One of the keys to producing a quality concrete is having the proper charging sequence of water, aggregates, cement, and admixtures from the plant into the truck. Pairing an ERIE transit mix plant with our Liberty Computer Control System gives one the ability to produce an optimal mix consistency. While there are several control systems on the market that will operate an ERIE transit mix plant, the Liberty Computer Control System allows for proportional discharge of materials, ensuring the best blend of those materials. This will result in the greatest consistency from the first batch out of the truck until the last.

The following is ERIE's recommended transit mix charging sequence, developed from decades of feedback from our customers. Water is the first material to enter the mixing truck. Aggregates should start after 45-65% of the water is added to the truck. Cement is started into the drum after 5-10% of the total aggregates have entered. The introduction of admixtures into the charging cycle of the mixer drum should be specified by the admix supplier. Water can continue along with the aggregates and cement while reserving the remaining tailwater for washdown.

The materials finish charging the truck in reverse order. The cement finishes discharging when approximately 80-90% of the aggregates have been discharged into the truck. After the aggregates have finished, 10-25% of the water will be discharged as "tailwater" to make sure all of the aggregates and cement are washed from the truck charging chute and top of the truck mixer.

Here is a summary of ERIE's recommended charge sequence for quick reference:

Headwater	Starts
Aggregate	Starts after **45-65%** of water
Cement	Starts after **5-10%** of aggregates
Admixtures	As required by the admix manufacturer
Blend Water	**0-15%**
Cement	Finishes with **10-20%** of aggregates remaining
Aggregate	Finishes with **10-25%** of the water remaining
Tailwater	Finishes

Properly blending the materials into the truck will minimize mix time, provide a more consistent mixture (from the start to finish of the truck's discharge), ensure a superior blend

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of mixed concrete, and limit concrete build-up on the truck's drum and blade. Additionally, even blending of the sand and stone before entering the mixer drum will further enhance the resulting quality of mixed concrete. The best way for pre-blending aggregates prior to entering the mixer drum is by utilizing ERIE's individual aggregate batcher design. This allows for ultimate control of each aggregate's discharge rate onto the conveyor belt; pre-blending the aggregates on the belt. If individual batchers are not available, most ERIE plants feature two sets of aggregate gates with independent solenoid valves. This design aids in the control of aggregate blending onto the batch transfer conveyor belt.

Please keep in mind that the above charging sequence is ERIE's recommendation based on customer feedback. The ranges used can vary from customer to customer and based on mix type. Whatever charging sequence you determine suits your company best, an ERIE Liberty Computer Control System allows you the flexibility to set the parameters accordingly, i.e. headwater amount, blend water amount (if any), and tail water amount. Feel free to contact our team if you have any additional questions regarding concrete mixes or charging sequence.