



# IMPROVE YOUR CONCRETE. AND YOUR BOTTOM LINE.

UltraFiber 500® is a complete concrete reinforcement system that delivers higher profits through automation savings and increased fiber sales.

Here are three major reasons to step up to the UltraFiber 500® System right now.

# UltraFiber500<sup>®</sup> Dispenser

Our exclusive automated dispenser puts an end to dangerous loading practices such as throwing bags or climbing on top of mixing trucks, so the chance of injury and associated costs are minimized. And ready-mix producers report that jobs can be completed 5-10 minutes faster with the dispenser, resulting in greater efficiency and cost savings.

## *Reliable and Efficient Operation*

The standard dispenser is composed of a waterproof bin capable of holding 1000lbs of fiber, a motor-driven flexible auger, and a timing system for automated or integrated operation. It accepts 500-lb. super-sized bags for high-volume loading, which results in time savings on every job.

## *Enhanced Safety*

Integrating the dispenser into your operations helps eliminate potential injuries caused by lifting and throwing bags or climbing on trucks for loading. By reducing the chance of injury, you could save thousands every year on down time and medical expenses.

## *Greater Precision and Quality*

Product amounts are metered precisely into the mix for correct dosage every time. With batch ticket confirmation on every load, there's no need for batch operators to leave their stations or for any worry that trucks will leave for a job without fiber. The system will link directly to most integrated control systems including but not limited to Command Alkon systems. Make sure you have the correct dosage of fiber every time.

### **Specifications:**

Height: 10' 8"  
Length/Width: 9' x 9'  
Base size: 12' x 12'  
Feed rate: ~15 lbs/minute  
Capacity: 1000lbs  
Auger length: up to 100'  
Auger angle: maximum of 60°

### **Includes:**

Flexible auger allows for easy routing of dispenser discharge  
Low level bin indicator  
Camera at discharge point

### **Customer Requirements:**

12' x 12' concrete slab  
Electricity for 110v motor  
Electrician and welder at installation  
Connecting to control panel  
Compressed air

### **Foolproof Operation:**

- 1) Easy loading into bin
- 2) Simple feeding into auger
- 3) Convenient configuration
- 4) Rugged electric motor
- 5) Precise high-volume discharge
- 6) Automated or integrated controls

. The customer must provide the electrical installation, computer interface if selected and a 12'x12' concrete slab.

# UltraFiber 500®

## UltraFiber 500® Dispenser Calibration Instructions and Worksheets

### Scope

These instructions specifies how to verify the correct operation and reliability of the service for the UltraFiber 500 Fiber Dispenser.

### Principle

The flow of the UltraFiber 500 dice (chicklets) is a repeatable constant rate after a suitable break-in period. Initial installation of a new unit and/or the installation of a new auger/tube, the protective “shipping oil” is cleaned from the surface of the auger. This “time-metric” system can be verified at any time after the initial break-in period. An initial calibration sampling process will be provided as part of installation.

It is recommended that a calibration verification be conducted by the ready mix plant every 6 to 12 months as is conducted on other batching equipment. Visual inspection of the inside of the fiber dispenser to confirm no packing in the cone section, no product build ups along sides, flow at the bottom is unobstructed and that the auger is running smoothly. If build up or packing does occur remove this product from the bin or if considered usable, knock down, make sure no large compacted product exists and confirm un-obstructive flow to auger.

Calibration is required for use of either the “automatic timer control box or “directly connected to the “Computer Batch System”.

## **Installation Procedure**

Break-in can begin once the storage bin is set in place, anchored and the auger has been installed with power supplied to the motor. The power supply to the motor can be provided by a “pig-tail” connection at the motor or from a completed control box installation. Sometimes the control box installation is not completed until later by the electrician provided by the ready mix plant. During the break-in period and calibration operation it is acceptable to route the discharge pipe to a safe accessible spot for ease of catching the dice for recycle.

The following procedures are to be completed as part of the Break-in process:

1. Load at least 400 lbs. of UF500 dice into discharge bin
2. Operate the dispenser for a total of 45 minutes run time
3. Discharge from the dispenser should be caught in a clean bulk bag or containers
4. Note that the initial dice discharge maybe a grayish color due to the protective coating on the auger
5. The flow rate will initially be higher first few minutes of operation and will gradually decrease during the initial break-in process. Constant flow rate will quickly be reached.
6. It is acceptable to recycle the collected dice into the storage bin and used in concrete

## **System Inspection**

- A. New system install - will involve technical assistance representative(s) from Solomon Colors and ready mix plant maintenance. Once all the equipment is installed visual inspection will be followed by the “break-in” run. During the “break-in” run all component will be inspected for proper operation, assure flow and close any opening that would allow dice not to be dispensed correctly.
- B. Existing fiber dispenser systems - Visual inspection of the entire system both running and not running is required. Before each calibration and each time it is refilled.
  - a. Look for Holes, opening, that would allow dice to fall out are to be closed or repaired.
  - b. Inspect turns in the auger tube for small opening caused by auger wear - this is generally associated with large volume use and older installs.

- c. Listen for unusual noise from the motor and auger tube; within reason determine if this is causing stress or wearing issues. Adjust components accordingly or determine if possible replacement is necessary, call Solomon Colors Equipment Service Manager.
- d. Bin - look in the bin - this should be done when close to empty to confirm no packing in the funnel section or adhering to the sides.
- e. Bin - also look for signs of moisture, all new bins installed are waterproofed from the manufacturer. If moisture is detected call Solomon Colors Equipment Service Manager for suggestions in correcting this.
- f. Inspect electrical including timer or batch system communication

### **Calibration**

The calibration procedure is required to determine the actual flow rate of the dice (lbs. / minute) of the dispenser discharge. This flow rate is used to provide a dosage chart for the ready mix plant if the ready mix plant is using an **“Automatic Timer Control Box”** or to calculate the calibration factor for the **“Computer Batch System”**.

The following equipment is required for the calibration procedure:

1. Electronic Scale - certified calibration - 0 to 60 lbs. minimum range - tenths display
2. Calculator
3. Stop-watch (automatic timer control box can be used)
4. 6-pillow cases or clean muck buckets
5. Calibration data sheet and pen/pencil

It is important to insure that no dice is trapped in the discharge piping between samples throughout the sampling steps of the calibration procedure.

If the “automated timer control box” is used during the calibration the calibration procedure, the timer should be set for 30 seconds of run time.

It is acceptable to use an extension cord with pigtail connectors at the motor during the calibration procedure along with a stop watch and to start/stop the motor using the toggle switch at the motor.

### **Sampling**

The following steps should be followed to collect samples for calculating the average flow rate of the dispenser:

1. Inspect each pillow case (or clean muck bucket) to ensure there are no holes or tears, clean and no debris.
2. Record the tare weight of each pillow case (or muck bucket) on the Calibration Data Sheet (appendix A Calibration Sheet for this analytical method)
3. Run the auger for 30 seconds to confirm flow then start calibration process
4. Catch the dice for each 30- second run time
  - a. Document the sample weight for each sample (discarding each sample before next, inspecting pillow case or muck bucket for any dice not cleaned out)
  - b. Subtract the tare weight of the pillow case (or muck bucket) used for each sample and record the net weight of the sample
  - c. Caution - a sample should be discarded if there is any disturbance , bumping or shaking of the discharge tube during the sample collection
    - i. Only use the dice that are discharged - do not hand clean any dice from discharge tube
    - ii. If spillage occurs, do not collect and place into pillow case (muck bucket, instead discard sample and resample for an entire 30-second run time
  - d. Sample shall be considered "bad" if there is a variation exceeding 0.3 lbs. between any 2 consecutive net weights during the sampling process.
    - i. New installation - if this continues to occur multiple times it is probably an indication of inadequate break-in run time.
    - ii. Existing dispenser recalibration - if variations exceeding the limits described - stop calibration and re-inspect bin, auger, auger tube and motor for leaks, packing and surges in auger RPM.
  - e. Math/Calculations
    - i. After completing (10) 30-second samples, average the net weights and multiply by 6 to determine the "Dispenser Rate" in lbs. / minute.
    - ii. The range of weights is typically +/- 0.15 lbs. of the average - compare the calculated "Dispenser Rates".
    - iii. A dosage chart can be obtained by calling the Solomon Colors Equipment Service Manager
    - iv. Computer batch controlled systems will typically require a "factor" in lbs. / second or ounces/second.
  - f. Review:  
Average Net Weight = sum of net weights 1 thru 10 divided by 10 (average lbs. / 30 sec)  
Dispenser Rate (lbs. / Minute) = the average net weight times 2  
Lbs. / Second = Dispenser Rate (lbs. / Minute) divided by 60

**Ounces / Second = (lbs. /second) divided by 16**

# UltraFiber 500<sup>®</sup>

## Solomon Color UltraFiber 500 Calibration Data Sheet New Install

Customer Name: \_\_\_\_\_

Location: \_\_\_\_\_

Date of Install: \_\_\_\_\_ System Number: \_\_\_\_\_

Install Crew Names: \_\_\_\_\_

Sample #	Sample 30 seconds (Report weights to tenths)		
	Sample Wt.	Tare Weight	Net Weight
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
9	_____	_____	_____
10	_____	_____	_____
			Total
		Total Net Weight/10	Average Net Weight
		ANW + .015	High
		ANW - .015	Low
		ANW * 2	lbs/Min
		(Lbs/min)/60	Lbs/sec
		(lbs/sec)/16	oz/sec



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