

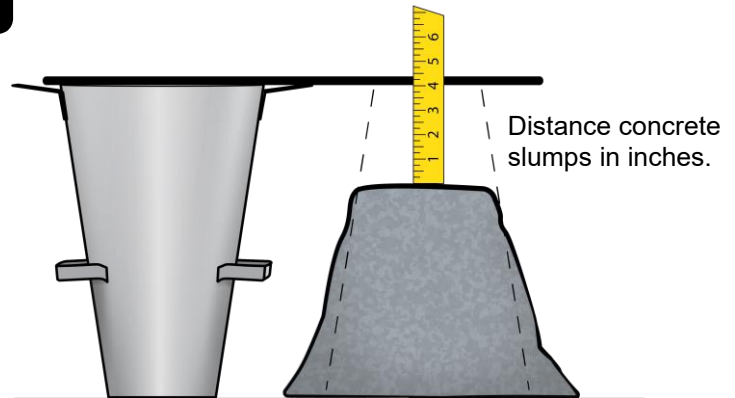
Slump Monitoring

Slump is a measurement of workability (how wet the concrete is when poured). The higher the water content, the greater the slump (*not accounting for add mixtures used*).

Slump is determined by the ASTM standard Slump Cone test, see image.

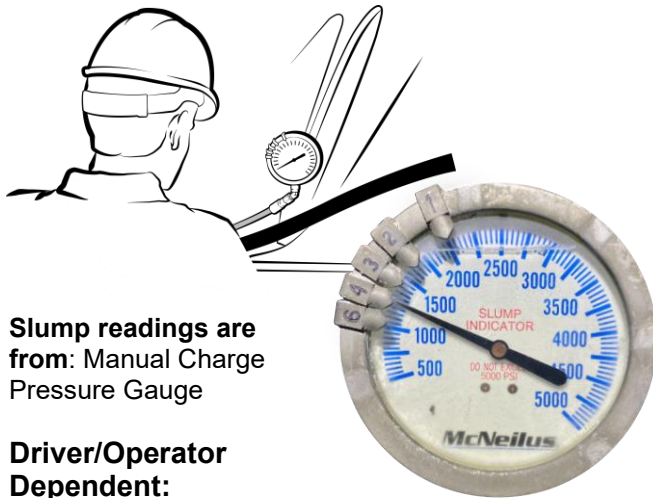
Certain jobs require a slump cone test at the jobsite where QC personnel confirm the load delivered matches the slump ordered.

Other than doing a slump cone test, the only way to monitor the slump is by reading the charge pressure psi. The driver monitors the psi (manually or digitally) to make sure the concrete poured meets the target slump ordered, see below.



Slump Cone Test: Fill the 12" cone with concrete, remove the cone and use it to measure the distance the concrete slumps down in inches. *Reference the ASTM standard for specific information.*

Manual Slump Monitoring



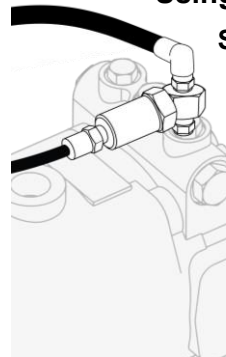
Slump readings are from: Manual Charge Pressure Gauge

Driver/Operator Dependent:

- **Driver monitors psi** to maintain the target slump (*slump delivered is rarely recorded or relayed back to the company*).
- **Driver responsible for having correct truck idle/drum speed** when reading psi (*RPM variations make the reading invalid, actual truck data/record of RPMs used completely relies on the driver*).
- **Driver determines water added** at the jobsite to meet target slump (or per contractor request) (*amount added is rarely recorded or relayed back to company*).
- **Lack of historical jobsite data** on slump delivered, charge pressure psi, water added (*typically, there no long-term records of the jobsite data*).

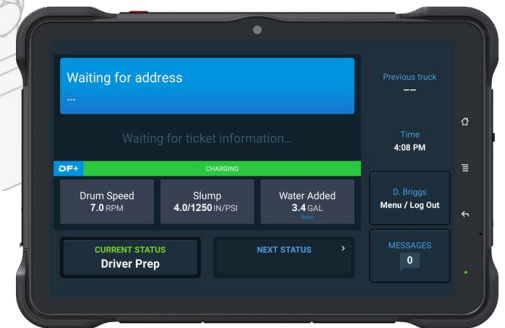
Automatic Slump Monitoring

Using DigiTrack and DF Web Platform



Slump readings are from:

- Charge pressure sensor installed, or
- Integrating with an existing built-in, OEM charge pressure sensor.



Digital Monitoring:

- **Slump sensor relays charge pressure** (*slump reading is auto interpreted per your company profile*).
- **Tracks truck idle/drum speed** at slump psi reading. (*The DF+ system monitors mixer RPM to determine if slump reading is within a valid parameter range*).
- **Tracks water added** in transit and at jobsite (*reliably monitor when water is added and how much*).
- **Provides consistency** in slump delivery (*remote monitoring of slump delivered vs. slump ordered*).
- **Track job trends**, find inefficiencies.
- **Statistics available** in real time (on tablet and web platform), and long-term with DigitalFleet.com.



Measuring Slump

To measure slump by reading charge pressure psi, the driver must follow their specific company profile. An accurate slump reading is based on that profile, so any changes to it make the slump reading invalid.

What makes up a Profile?

1. **Truck idle RPM** (see B)
2. **Drum charge speed** (see B)
3. **Conversion table** (charge pressure psi to slump, see A)

A The company profile (conversion table) was created after many slump cone tests were made with their trucks and mixtures. For each slump cone test, charge pressure psi was read while at a **specific drum speed* and truck idle***. The test data was charted to create a consistent table where psi is converted into inches of slump.

B * **Each company determines RPMs used when reading psi.** Not all trucks have a gauge or tablet to see drum RPM—to get a consistent reading, always **charge drum at full speed** while at your profile truck idle speed.

Using the Hydraulic Charge Pressure Gauge (reading slump manually)

When manually taking slump readings, truck/job data is not available unless it is relayed by the driver.

Companies typically have a profile sheet in each of their trucks and/or inch markers on the gauge, see images.

Note: Typical RPMs (800 RPM; ~7 RPM) are used for example here. Your company truck idle/drum speeds, and conversion profile may vary, see Measuring Slump, A & B above.

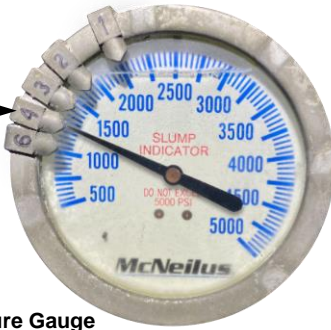
Example Profile–Manual Reading:

At the jobsite, idle the truck engine (800 RPM), spin the drum at full **charge** speed—when a **stable** drum speed is established (~7 RPM), look at the psi.

For this profile example, it shows 1250psi, which converts to a 4" slump.

Inch Marker
(indicates slump when profile is followed)

Example shown for reference (inch marker positions may vary, per your company profile).



Charge Pressure Gauge

Slump	Idle (psi)
0"	2260psi
1"	2000psi
2"	1650psi
3"	1400psi
4"	1250psi
5"	1100psi
6"	1000psi
7"	900psi
8"	800psi

Conversion Profile

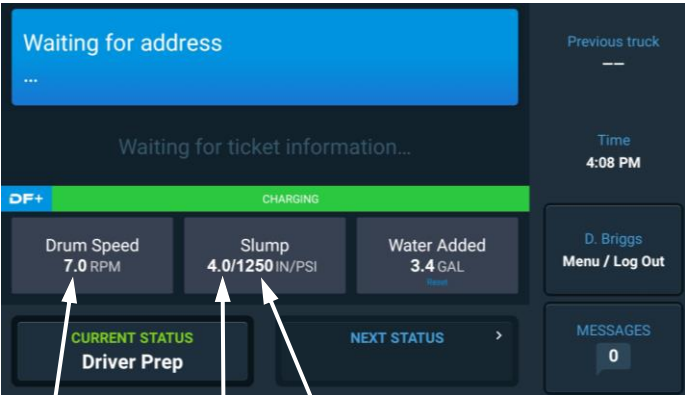
Digital Fleet+ (slump monitoring system)

Truck and job data is monitored by the driver on the tablet (using DigiTrack) and remotely by the company on the Digital Fleet web platform.

Note: This DF+ example uses a typical truck idle of 800 RPM, which generates a full drum charge speed of ~7 RPM (a higher idle RPM will produce a higher drum speed). DF inputs your profile speeds to calculate slump, see Measuring Slump, A & B above.

Example walkthrough using Digital Fleet:

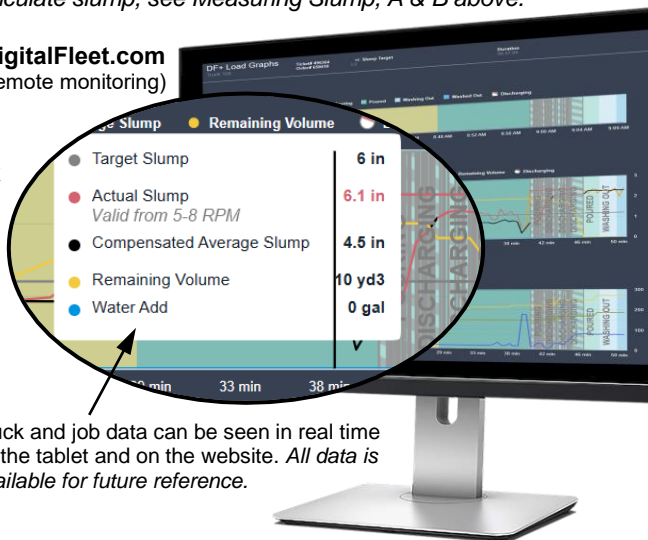
At the jobsite, idle the truck engine (800 RPM) spin the drum at full **charge** speed until a **stable** drum RPM is established, see tablet screen below.



7.0 Drum RPM **4.0" Slump** **1250psi Charge Pressure**
(at 800 RPM truck idle)

DigitalFleet.com
(remote monitoring)

DigiTrack
(tablet monitoring)



Truck and job data can be seen in real time on the tablet and on the website. All data is available for future reference.

Your profile settings can be found on the tablet or website. For questions, please reach out to your administrator, or contact DF Support.