

Slump

Tech Bulletin #46 - October 2025



What is slump?

Slump is a measure of the workability and consistency of concrete. It is measured by filling up and consolidating a cone with concrete, and then slowly lifting the cone to allow the concrete to "slump" under it's own weight. The amount of movement in the height of the concrete is measured. That movement is reported as the slump of the concrete. 1" slump would be very dry concrete and not very workable, whereas a 9" slump would be very wet concrete and at risk of segregation of the paste and aggregate. The maximum true slump that can be recorded would be 12" minus the nominal maximum aggregate size (so, often 11" slump), but with admixtures we can make concrete have better flow characteristics which are measured by a similar test called a "spread" test.

For many years, and still in the eyes of many engineers, slump is a measure of the quality of concrete. To be fair, there was a time this was largely the case. However, in the current age of water reducing admixtures, (<u>Tech Bulletin #10</u>) this

is most definitely NOT the case. Concrete slump tells us little to nothing about the concrete's strength, durability, air content, or any other measurement of quality.

So why do we test for slump?

The slump of the concrete can be critical for certain types of placements. For example, you can't effectively slip-form pave or build a curb with a 7" slump and you can't pump or pour an interior floor with a 2" slump. As a producer, it is important for us to deliver the concrete as near to the requested slump as possible. It can also be relevant if a high slump is measured when a high range water reducer is not utilized, as it may mean way too much water was added to the mix.

Who needs to understand slump?

Eyeballing slump is an important skill for pretty much everyone involved in concrete construction. Ready Mix drivers should be able to look at the concrete in their truck and closely estimate the slump, as should concrete batchers and quality control personnel. On the field side, contractors need to know slumps to accurately order the slump they want when the concrete arrives. It's always preferable to not add water on a jobsite - both from a quality and time efficiency standpoint. Inspectors, while often required to physically test the concrete, should also have a good understanding of slump. New technologies are emerging to monitor concrete slumps in the truck to save time and effort for each of these groups. In the meantime, we thought it would be helpful to share pictures of each whole numbered slump likely to be seen on a jobsite (0"-9") and a video of what concrete at that slump looks like coming down the chute of the truck.

Zero Slump

A zero slump is typically only used for roller compacted concrete, although slipform barrier rail sometimes targets a .5" slump. Completely unworkable for hand work and even most paving work.





https://youtube.com/shorts/ViCvCT4nCrQ

A 1" slump is often just used for curb or barrier rail applications. Difficult to work with or consolidate, but exhibiting exceptional strength and durability.

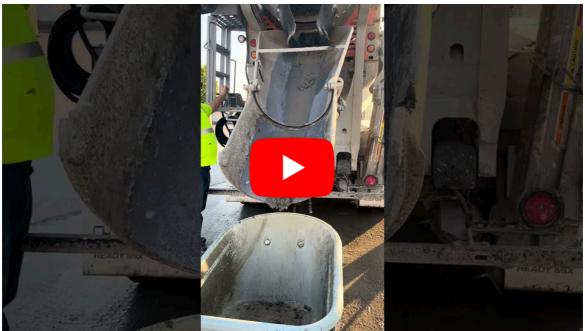




https://youtube.com/shorts/YsNtwSlzqcM

This slump is commonly used for slip form paving operations, especially when building curb through the paver.





https://youtube.com/shorts/k2CyHY7BZX0

A common slump for slip form paving operations without curb.





https://youtube.com/shorts/9-TrYh-clpc

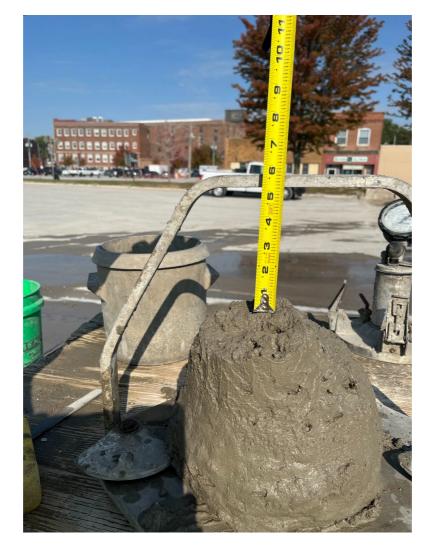
Traditionally, a 4" slump would be considered a "standard" slump and is still the most commonly ordered slump. Our experience, however, is that very little concrete is actually poured at a 4" slump. This slump would be appropriate for structural pours, flatwork on slopes, and various other uses.





https://youtube.com/shorts/nflKco5HG1s

A 5" slump is an often used slump for truss screeded flatwork, and probably should be the target slump for most residential handwork as well.





https://youtube.com/shorts/Q9f4DxjvOD8

A 6" slump is most commonly seen on exterior parking lots placed with a laser screed, although it can be a good slump for wall pours where proper consolidation is important.





https://youtube.com/shorts/TuWv8L6VFck

A 7" slump likely should have a high range water reducer in the mix to preserve strength and durability. This is a common slump for residential flatwork that we see, as well as commercial interior floors.





https://youtube.com/shorts/EXZs-COgrww

An 8" slump is a highly flowable mix that definitely should have a HRWR involved. Often poured on walls, it can segregate if exposed to vibration.

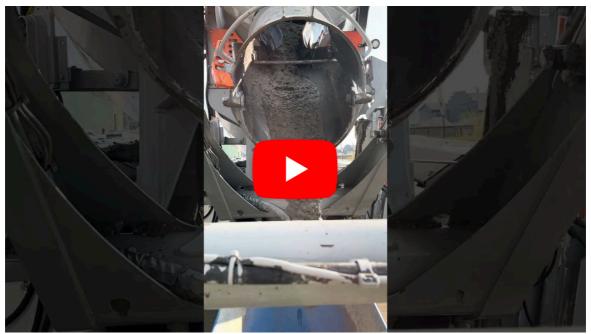




https://youtube.com/shorts/2Lz6crFICyY

As seen in the picture below, a 9" slump will struggle to hold itself together unless a viscosity modifier is used in the mix. 9" slump concrete will be a real candidate for segregation and excessive bleeding.





https://youtube.com/shorts/wUBbodLhtv4

Click for Previous Tech Bulletins

Hahn Ready Mix

3636 West River Drive, Davenport, IA 52802

This email was sent to {{contact.EMAIL}}
Click Unsubscribe below if you no longer wish to receive Tech Bulletins

<u>Unsubscribe</u>

