

Why Pump Concrete?

Concrete that is delivered to a project is generally between 4-6 slump inches. It should contain enough mix water to produce a workable mix, which is placeable and does not segregate. Placement of the concrete with a pump truck does not require additional water.

Adding an excessive amount of water:

- Will reduce the durability and strength of the concrete.
- Will increase the cracking potential of the concrete due to shrinkage!

What are the potential results of adding additional water?

If only one gallon of water is added to a yard of 3000 PSI concrete mix:

- The slump is increased about one inch.
- The compressive strength is reduced by as much as 200 psi.
- The effect of about 1/4 bag of cement is lost.
- The shrinkage potential (cracking) is increased.
- The possibility of moisture penetration through the concrete is increased.
- The freeze-thaw resistance is reduced - scaling is increased.

Water added (gallons per cubic yard)	Approx. slump increase in inches	Strength reduction* in psi	Strength reduction in percent
1	1	200	7%
2	2	400	13%
3	3	600	20%
4	4	800	27%
5	5	1000	33%
6	6	1200	40%

* These strength reductions are approximate and may vary from region to region depending on cement, aggregates, and conditions (information courtesy of Holnam).