

Concrete Mix —Rules of Thumb

Use these rules of thumb for quick evaluations of concrete mix changes. Don't forget, however, that these general guidelines may not apply to all situations.

Adding 1 gallon of water to a cubic yard of concrete will . . .

- Increase slump about 1 inch
- Decrease compressive strength about 200 to 300 psi
- Increase shrinkage potential about 10%
- Waste as much as $\frac{1}{4}$ bag of cement

If the mix is too stiff, ask the testing laboratory or engineer to adjust the mix proportions. The concrete may not need additional water.

If fresh concrete temperature increases 10° F, then . . .

- About 1 gallon of water per cubic yard maintains equal slumps
- Air content decreases about 1%
- Compressive strength decreases 150 to 200 psi

If air content of fresh concrete . . .

- Increases 1%, then compressive strength decreases about 5%
- Decreases 1%, then yield decreases about $\frac{1}{4}$ cubic foot per cubic yard
- Decreases 1%, then slump decreases about $\frac{1}{2}$ inch
- Decreases 1%, then durability decreases about 10%

