

TECHNICAL BULLETIN: #18-101

**MIX DESIGN CONSIDERATIONS*****MOXIE SHIELD 1800***
CONCRETE WATERPROOFING ADMIXTURE

MOXIE SHIELD 1800 CONCRETE WATERPROOFING ADMIXTURE IS COMPATIBLE WITH ALL OTHER ADMIXTURES WITH THE EXCEPTION OF CALCIUM CHLORIDE SET ACCELERATORS. DOSE OTHER ADMIXTURES SEPARATELY ACCORDING TO MANUFACTURER'S PROCEDURES.

1. MIX DESIGN ADJUSTMENTS

There are no specific adjustments required for the mix design. Simply subtract the amount of water equal to the amount of MOXIE SHIELD 1800 Concrete Waterproofing Admixture to be used in the mix design.

2. SUPPLEMENTARY CEMENTITIOUS MATERIALS

The benefits of fly ash and ground granulated blast furnace slag are substantially enhanced with the use of MOXIE SHIELD 1800 Concrete Waterproofing Admixture. Compressive strength is increased, less water is required, plasticizer is reduced and shrinkage cracking is reduced or eliminated. Recommended slump is 2 ½" to 3" maximum. However, do not exceed the water to cement ratio regardless of slump. Fly ash may be added to concrete at maximum rate of no more than 20% replacement by weight of scheduled amount of cement when using MOXIE SHIELD 1800 Concrete Waterproofing Admixture. Consult with the Moxie Technical Department when using any other supplementary cementitious materials (SCM) combinations in the mix design. Moxie always recommends trial batching for quality assurance.

3. WATER TO CEMENTITIOUS MATERIALS RATIO

Moxie International recommends the water to cementitious materials ratio of the mix design to be between 0.42 to 0.52. The slump may be increased provided water to cement ratio does not exceed specified mix design. MOXIE SHIELD 1800 Concrete Waterproofing Admixture requires approximately three additional days after complete hydration of the slab to complete its chemical

process. Concrete placed with water to cementitious materials ratios greater than 0.52 will require longer concrete drying times. A higher water to cementitious materials ratio causes longer drying times which extend the time for flooring material installation. Additionally, comply with ASTM C94 for proper mix times when adding water, only up to the specified water/cement ratio, at the job site.

4. COMPRESSIVE STRENGTH

MOXIE SHIELD 1800 Concrete Waterproofing Admixture will not decrease the designed strength of any mix design.

In fact, there will be a corresponding increase of strength relative to the decrease of capillary voids produced by the given water to cement ratio. Typical compressive strength increases of 10% - 40% or more may be achieved. Corresponding flexural strength increases will be realized as well.