



Vapourproofing Concrete. Strengthening Foundations.

## **MOXIE SHIELD 1800 ADMIXTURE SHOTCRETE PROCEDURES**



### **NEED MORE HELP?**

Please contact our technical experts at [tech@moxieshield.com](mailto:tech@moxieshield.com) or call (888)-550-7998

**It is recommended that the Technical Department be contacted prior to the use of Moxie Shield 1800 Admixture.**

#### **PRODUCT OVERVIEW**

Moxie Shield 1800 Admixture is a liquid chemical admixture for cement based shotcrete that converts the byproducts of cement hydration into a higher density cementitious material creating an impermeable substrate. Use Moxie Shield 1800 Admixture to reduce water vapor migration, resist acids, sulfates, erosion, and protect internal steel from corrosion.

#### **SHOTCRETE PREPARATION**

All equipment should be appropriate and suitable in accordance with the requirements of ACI 506.2. Ensure all surfaces are prepared in accordance with ACI 506.2. It is recommended to not place shotcrete during inclement weather. Shotcrete should not be sprayed onto any surfaces with standing water present.

#### **SHOTCRETE MIXING PROCEDURES**

Moxie International always recommends trial batching when using additional admixtures. If other admixtures are specified, please see Moxie Chemical Interactions Technical Bulletin #18-103.

**DOSAGE RATE:** 10-24 oz per 94 lb sack of cement, or 10.64-25.53 oz per cwt (692-1561 ml/100 kg) of cementitious materials. Do not exceed a .52 w/(c+p) ratio regardless of slump. Adequate aggregate and sand moisture must be maintained in order to control proper water/cement ratio. Contact the Moxie Technical Department for exact dosage recommendation based on individual mix design and application.

#### **MIXING:**

1. Start with a clean mixing drum.
2. Add the proper dosage of Moxie Shield 1800 Admixture to a minimum of 20% of the batch water. In central mixing plants Moxie Shield 1800 Admixture may be added to the entire amount of batch water. Reduce batch water volume by the same amount of Moxie Shield 1800 Admixture that was added.
3. Begin rotating the drum to insure thorough blending of the Moxie Shield 1800 Admixture with water.
4. Add the cementitious materials, aggregate, and sand, and then the remaining amount of water (minus the amount of Moxie Shield 1800 Admixture used).
5. Ensure minimum mixing as per ASTM C94.
6. There are no special cleaning procedures required for trucks returning to the plant, wash as usual.

#### **SHOTCRETE APPLICATIONS**

ACI 506R Guide to Shotcrete must be followed by the applicator to ensure proper application of shotcrete. Any and all shotcrete nozzlemen must be prequalified and properly certified to shoot on the project. Refer to ACI 506R Guide to Shotcrete for further information or instruction.



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### **ON-SITE CONDITIONS**

1. **PROTECTION:** Ensure that fresh shotcrete is protected from rain, wind, direct sunlight and freezing temperatures.
2. **CURING:** Moxie Shield 1800 Admixture has characteristics of a curing agent. If extreme evaporative conditions exist, refer to ACI 506 guidelines for additional curing options. ACI 308.1 Specification for Curing Concrete guidelines must be followed to ensure proper curing after finish. For further questions refer to Moxie Engineering/Construction Considerations Technical Bulletin #18-102.
3. **TEMPERATURE:** During cool ambient temperatures, a non-chloride set accelerator may be used. Do Not Use chloride accelerators. Moxie Fastset50 Accelerator is a non-chloride set accelerator and may be used to reduce set time. Consult the Fastset50 Accelerator Specification Data Sheet or Moxie International Technical Department for dosage.
4. **WORKABILITY & PUMPING:** Less line pressure in shotcrete pump.
5. **SPECIAL REQUIREMENTS:** If there are any additional requirements or concerns please contact Technical Department.

### **NOTE**

TAKE NECESSARY SAFEGUARDS AND PRECAUTIONS—PROVIDE ADEQUATE PROTECTION FOR FINISHED PRODUCT DURING THE FIRST 72 HOURS AGAINST FREEZING OR 7 DAYS IN HIGH TEMPERATURES.