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APPLICATION PROCEDURES

# MOXIE SHIELD 1850

## SHOTCRETE WATERPROOFING ADMIXTURE

### *NEED MORE HELP?*

Please contact our technical support experts at tech@moxieinternational.com or call (844) 845-1975.

## *BATCH PLANT & PLACEMENT PROCEDURES*

IT IS HIGHLY RECOMMENDED THAT THE TECHNICAL DEPARTMENT BE CONTACTED PRIOR TO THE USE OF MOXIE SHIELD 1850 ADMIXTURE.

### PRODUCT OVERVIEW

MOXIE SHIELD 1850 Shotcrete Waterproofing Admixture is a liquid chemical admixture for wet shotcrete that converts the byproducts of cement hydration into a higher density cementitious material creating an impermeable substrate. Use MOXIE SHIELD 1850 Shotcrete Waterproofing Admixture to reduce liquid water and water vapor migration through the shotcrete, resist acids and sulfate degradation, and protect internal steel from corrosion. The dry-mix shotcrete process does not allow for proper distribution of the MOXIE SHIELD 1850 Shotcrete Admixture within the shotcrete material and is not advised.

### SHOTCRETE & CONSTRUCTION

All equipment, construction methods and shotcrete materials should be consistent with ACI 506R Guide to Shotcrete.

### BATCH PLANT 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

16 to 24 oz per cwt (1040 to 1565 ml/100 kg) of cementitious materials. Include any other cementitious materials, such as fly ash, in the calculation.

### MIXING

1. Start with a clean mixer.
2. Pre-blend the proper amount of MOXIE SHIELD 1850 Shotcrete Waterproofing Admixture with a minimum of 20% of the mix design batch water. In central mixing plants, MOXIE SHIELD 1850 Admixture may be pre-blended with the entire, weighed amount of water. Reduce batch water gallons by the same amount of MOXIE SHIELD 1850 Admixture that was added. Do not exceed a 0.52 w/(c+p) ratio regardless of slump.

## BATCH PLANT & PLACEMENT PROCEDURES (continued)

3. Continue the batching process including cementitious materials, aggregates, remaining batch water, and other additives. Do Not Use chloride-based set accelerators.
4. There are no special cleaning procedures required for trucks returning to the plant, wash as usual.

### ON-SITE CONDITIONS

5. Start with a clean mixer.
6. Pre-blend the proper amount of MOXIE SHIELD 1850 Shotcrete Waterproofing Admixture with a minimum of 20% of the mix design batch water. In central mixing plants, MOXIE SHIELD 1850 Admixture may be pre-blended with the entire, weighed amount of water. Reduce batch water gallons by the same amount of MOXIE SHIELD 1850 Admixture that was added. Do not exceed a 0.52 w/(c+p) ratio regardless of slump.
7. Continue the batching process including cementitious materials, aggregates, remaining batch water, and other additives. Do Not Use chloride-based set accelerators.
8. There are no special cleaning procedures required for trucks returning to the plant, wash as usual.
9. PROTECTION: Ensure that fresh concrete is protected from rain, wind, direct sunlight and freezing temperatures.
10. FINISHING: If additional protection of surface moisture evaporation is needed, fog misting or an evaporation retardant/finishing aid may be applied per manufacturer instructions.
11. CURING: MOXIE SHIELD 1850 Shotcrete Waterproofing Admixture functions as a curing compound to significantly reduce surface moisture evaporation of the fresh shotcrete.8. SLUMP: Maximum benefits have been achieved maintaining a workable slump consistency while using only the necessary amount of batch water for spraying and placement. Do not exceed a 0.52 w/(c+p) ratio regardless of slump.
12. TEMPERATURE: In harsh environments, follow ACI guidance for hot and cold weather shotcrete applications. During cool ambient temperatures, a non-chloride set accelerator may be used. Do Not Use chloride-based set accelerators.
13. WORKABILITY: Shotcrete may appear to be too stiff. It will, however, have the workability and finishing characteristics of a slump that is 1½" to 2" more than the tested slump. At the above w/(c+p) ratio there will virtually be no bleed water; inform finishers not to use bleed water as the primary indicator for finish timing. If there is any bleed water present, this indicates the water-to-cement ratio is too high, reduce the amount of water.
14. PUMPING: MOXIE SHIELD 1850 Shotcrete Waterproofing Admixture has characteristics of a pumping aid. There will be less line pressure in shotcrete pump/spraying equipment.

NOTE: CONTACT THE MOXIE TECHNICAL DEPARTMENT (844) 845-1975 WITH ANY ADDITIONAL QUESTIONS. TAKE NECESSARY SAFEGUARDS AND PRECAUTIONS. PROVIDE ADEQUATE PROTECTION FOR FINISHED PRODUCT DURING THE FIRST 72 HOURS AGAINST FREEZING OR 7 DAYS IN HIGH TEMPERATURES.