



03 DIVISION
SHOTCRETE

WET PROCESS SHOTCRETE



Superior Bond. Fast Setting.

SPEC MIX® Wet Process Shotcrete is a preblended concrete designed for pneumatically applied wet process applications. SPEC MIX wet process shotcrete products are specifically formulated to produce a highly finishable material with excellent shooting characteristics. SPEC MIX Wet Process Shotcrete formulations come in ACI gradation 1 (WP-01) and gradation 2 (WP-02 & WP-03) to allow the applicator the ability to select a product specifically designed with an aggregate gradation formulated for the depth of the application. SPEC MIX Wet Process Shotcrete products are suited for, but not limited to, the repair of bridges, parking structures, dams, or any concrete structure. Available in 80 lb (36.2 kg) and 3,000 lb (1,360.7 kg) bags, SPEC MIX Wet Process Shotcrete is engineered for optimal adhesion and durability.

SPEC MIX Wet Process Shotcrete is produced under strict manufacturing standards supported by complete quality control measures. A digital printout displaying the proper proportions per batch may be kept as a permanent record. SPEC MIX shotcrete products are designed to meet applicable shotcrete ASTM and ACI standards..

TYPICAL MATERIALS

- PORTLAND CEMENT
- FLY ASH
- SILICA FUME
- SYNTHETIC FIBERS
- AGGREGATES
- SPECIAL CHEMICAL ADMIXTURES



- ACI GRADATION 1 (WP-01)
- ACI GRADATION 2 (WP-02)
- ACI GRADATION 2 (WP-03)

WET PROCESS SHOTCRETE

INSTALLATION/APPLICATION

Thoroughly tested and trialed by certified nozzlemen, SPEC MIX Wet Process Shotcrete is designed for wet process shotcrete repair applications where water is added at the jobsite. SPEC MIX shotcrete should be installed in accordance with the provisions of the national or local building code and The American Concrete Institute's recommended practices ACI 506R, "Guide to Shotcrete". Shotcrete products should be applied only by an experienced, certified nozzleman.

Substrate preparation is critical for promoting good bond. When applying shotcrete materials to concrete surfaces, any deteriorated concrete should be removed until sound concrete is exposed. The exposed surface should be free of loose and/or friable material, and dust.

When combining water with the shotcrete mixture, always use clean, potable water.

SPEC MIX Wet Process Shotcrete should be installed before a loss of consistency is experienced after the addition of mixing water. This time period may be shorter in hot weather conditions. Hot and/or dry conditions may cause the shotcrete to harden more rapidly; therefore, a fog mist may be required to ensure proper curing. Prior to the application of shotcrete, the substrate should be cleaned and evenly moistened, but not saturated.

Although SPEC MIX Wet Process Shotcrete products are designed to reduce rebound, some rebound is to be expected. Do not incorporate rebound material back into the applied shotcrete. Once the shotcrete is applied, a variety of finishing techniques can be used to achieve the desired surface texture. Some applications may require a finish (flash) coat. After the desired finish is achieved, provide sufficient moisture to permit continuous hydration of the cementitious materials for optimum curing.

SIZES AND EQUIPMENT

SPEC MIX shotcrete products are available in 80 lb (36.2 kg) packages for easy hand loading, or in 3,000 lb (1,360.7 kg) reusable bulk bags to be used with the various SPEC MIX silo systems. When using the silo system, once the bulk bags of shotcrete mix are delivered to the project site, the portable silo is loaded with a job site forklift and the product is dispensed into the shotcrete mixer as needed. Just add clean water to the concrete mixer, mix adhering to instructions, and the shotcrete is ready to shoot.

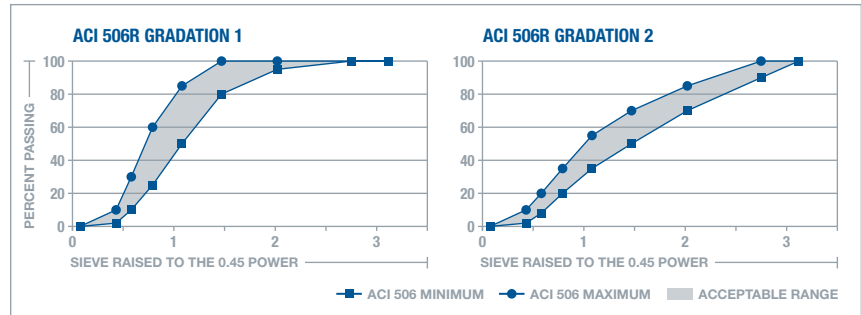
MIXING INSTRUCTIONS

WEAR IMPERVIOUS GLOVES, such as nitrile.

1. Add the appropriate amount of clean potable water into the mixer for each 80 lb (36.2 kg) bag to reach the required water to cement ratio.*

TYPICAL AGGREGATE GRADATION DATA

AGGREGATE GRADATION PLAYS A CRUCIAL ROLE IN THE PERFORMANCE OF SHOTCRETE. SPEC MIX SHOTCRETE PRODUCTS ARE DESIGNED TO MEET ACI 506R GRADATION 1 OR 2.



TYPICAL FIELD DATA AT 70 °F (21 °C)

	WP-1	WP-2	WP-3
COMPRESSIVE STRENGTH (ASTM C 42)			
3-DAY	4,000 PSI (27.5 MPa)	3,400 PSI (23.4 MPa)	3,400 PSI (23.4 MPa)
7-DAY	5,000 PSI (34.4 MPa)	5,000 PSI (34.4 MPa)	5,000 PSI (34.4 MPa)
14-DAY	6,000 PSI (41.3 MPa)	6,000 PSI (41.3 MPa)	6,000 PSI (41.3 MPa)
28-DAY	7,000 PSI (48.2 MPa)	7,000 PSI (48.2 MPa)	7,000 PSI (48.2 MPa)
MINIMUM FLEXURAL STRENGTH (ASTM C 78)			
28-DAY	900 PSI (6.2 MPa)	900 PSI (6.2 MPa)	900 PSI (6.2 MPa)
HARDENED AIR CONTENT (ASTM C 457)	6.0% (±2%)	6.0% (±2%)	6.0% (±2%)
RAPID CHLORIDE PERMEABILITY (ASTM C 1202)	700 COULOMBS	700 COULOMBS	700 COULOMBS
MAXIMUM WATER SOLUBLE CHLORIDE ION % (ASTM 1218)	0.06	0.06	0.06
MAXIMUM ASR EXPANSION (ASTM 1567)	0.16	0.16	0.16
RAPID FREEZE/THAW (ASTM C 666) DURABILITY FACTOR	90	90	90

ACTUAL RESULTS MAY VARY DUE TO WORKMANSHIP, REGIONAL MATERIAL VARIATIONS, AND JOBSITE CONDITIONS.

2. Slowly pour SPEC MIX Wet Process Shotcrete product into the mixer.
3. Mix for 5 minutes until a workable consistency is achieved. Avoid over mixing as this may affect the integrity of the finished product.

*To determine the gallons of water required per bag to achieve the desired water to cement ratio, contact your local SPEC MIX sales representative.

For consistent results hand mixing is not recommended. Only mechanical batch mixers ensure consistency and workability.

LIMITATIONS

When applying SPEC MIX Wet Process Shotcrete in adverse weather conditions, follow ACI recommendations for hot and cold weather concrete construction at temperatures below 40 °F (4 °C) or above 100 °F (38 °C) respectively. The performance of a shotcrete product is dependent not only on the material, but the equipment and jobsite personnel mixing and placing the shotcrete material. A nozzleman and crew that is properly trained in construction methods for applying shotcrete material is critical to the project's success. Shotcrete should be cured in accordance with ACI 308 "Guide to Curing Concrete" to minimize plastic shrinkage. Properly mixed and installed shotcrete requires little to no maintenance.

LIMITED WARRANTY

SPEC MIX, Inc. warrants this product to be of merchantable quality when used or applied in accordance with the instructions hereon. This product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is LIMITED to the replacement of its product (as purchased) if found to be defective, or at the shipping company's option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to SPEC MIX, Inc. in writing at: One Securities Centre, 3490 Piedmont Road, Suite 1300, Atlanta, GA 30305. THIS WARRANTY IS ISSUED AND ACCEPTED IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND EXPRESSLY EXCLUDES LIABILITY FOR CONSEQUENTIAL DAMAGES.

TECHNICAL SUPPORT

- CONTACT YOUR LOCAL SPEC MIX® MANUFACTURER
- VISIT WWW.SPECMIX.COM
- CONTACT SPEC MIX®, INC.
PHONE: 888-SPEC MIX FAX: 651-454-5315