



HIGH-STRENGTH 5000 CONCRETE MIX

High early strength concrete mix

1. PRODUCT NAME

Tech-Mix® High-Strength 5000 Concrete Mix

2. MANUFACTURER

Tech-Mix® is a registered trademark of TCC Materials
2025 Centre Pointe Blvd., Suite 300
Mendota Heights, MN 55120 USA
Phone: 1.651.688.9116
Web: techmixpro.com

3. PRODUCT DESCRIPTION

Tech-Mix High-Strength 5000 Concrete Mix is a commercial grade blend of aggregate, sand, and cement specifically designed for higher early strength. This product is ideal for cold-weather application and it achieves 5000 psi after 28 days. Can be open to traffic after 10 to 12 hours and can be used for any application requiring concrete in a minimum thickness of 2 in. (51 mm).

FEATURES AND BENEFITS

- Early high-strength concrete
- Ideal for freeze-thaw climates when mixed with Akona Liquid Air Entraining Admixture
- Just add water, mix, and use

WHEN/WHERE TO USE

- Driveway aprons
- Deck supports
- Patios
- Sign footings
- Concrete projects 2 in. (50 mm) thick or more that require high strength

SAFETY

READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website: techmixpro.com

CAUTIONS

Read complete cautionary information printed on product container prior to use.

This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of the covered Tech-Mix brand product(s) under normal environmental and working conditions. Because each project is different, TCC Materials cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

4. TECHNICAL DATA

Meets or exceeds the requirements of ASTM C387 for High Early Strength Concrete.

Typical Values • Tech-Mix High-Strength 5000 Concrete Mix	
Slump range	2-3 in. (51-75 mm)
Compressive Strength, psi (ASTM C109)	
1 day	1,500 psi (10.3 MPa)
3 days	2,500 psi (17 MPa)
7 days	3,500 psi (24 MPa)
28 days	5,000 psi (34 MPa)

Note: Test results obtained under controlled laboratory conditions at 73°F (22.7°C) and 50% relative humidity unless otherwise specified.

AVAILABLE SIZE

- 60 lb. (27.2 kg.) bag (BOM #101122)
- 80 lb. (36.3 kg) bag (BOM #104882)

SHELF LIFE

Best when used within 12 months from the date of manufacture when stored in the original, unopened container, away from moisture, under cool, dry conditions, and out of direct sunlight.

5. INSTALLATION PREPARATION

Read all directions before starting work. Air, mix, and substrate temperatures should be between 40-90°F (4-32°C) with no rain forecasted 24 hours before application. Stake out the planned area and remove sod or soil to the desired depth. Nail and stake forms securely in place. Tamp and compact the sub-base until firm. Subgrade surface should be brought to a saturated surface dry (SSD) condition with potable water. All repair overlay surfaces must be sound and be clean of any contaminants. Dampen adjoining concrete surfaces to SSD condition with potable water. Do not leave standing puddles.

Note: It is the responsibility of the installer/applicator to ensure the suitability of the product for its intended use.

FORMING

For rectangular slabs, construct forms out of 2 in. x 4 in. boards. For curbed slabs, use ¼ in. (6 mm) plywood for forms. Forms must be sealed to prevent material from escaping. Release agents are recommended for pre-treating wood form surfaces that can absorb moisture. The design of the form work should take into consideration the consistency of the mix, the method of placement and the distance the material must travel. Form sides must be squared off.

MIXING

A barrel-type concrete mixer or paddle type mortar mixer is recommended, although hand-mixing can also be used. Always stir powder into the liquid for easier blending. Use potable water for mixing, no bonding additives are needed. Addition of cold water at high temperatures or warm water at low temperatures will aid in adjusting the mix temperature.

Machine mixing:

1. Choose the mixer size most appropriate for the size of the job. Allow at least ¾ cu. ft. (21 L) of mixer capacity for each 60 lb., or at least 1 cu. ft. (28 L) of mixer capacity for each 80 lb. bag to be mixed at one time.

- Using the chart for approximate water amounts, add starting amounts of fresh water to the mixer. Turn on the mixer and begin adding the bags of concrete to the mixer.
- Mix for 3-5 minutes to ensure a uniform lump free consistency. If the material becomes too difficult to mix, add additional water in small increments until a workable mix is obtained. Do not overwater. If a slump cone is available, adjust water to achieve a 2-3 in. (51-76 mm) slump.

Approximate Water Amounts for Mixing		
Bag Size	Starting Water Amounts	Final Maximum Water Amounts
60 lb. (27.2 kg)	4.5 pt. (2.1 L)	7 pt. (3.3 L)
80 lb. (36.3 kg)	6 pt. (2.8 L)	10 pt. (4.7 L)

Hand mixing:

- Empty concrete bags into a suitable mixing container.
- Using the chart for approximate water amounts, add potable water to the mixing container. Work the mix with a shovel, rake, or hoe. Add additional water sparingly as needed until a stiff, moldable consistency is achieved. Do not overwater. If a slump cone is available, adjust water to achieve a 2-3 in. (51-76 mm) slump.
- Be sure there are no dry chunks of concrete or standing water left in the mix.

Exterior applications in freeze / thaw climates: Akona® Liquid Air Entraining Admixture should be used in place of "equal amount" of water when mixing Tech-Mix High Strength 5000 Concrete Mix. This admixture will increase the freeze-thaw durability, improve strength, and workability. Refer to Liquid Air Entraining Admixture data sheet for concrete mixing ratios.

APPLICATION

Pouring a slab:

- Slab work, such as sidewalks and patios should be at least 4 in. (100 mm) thick. For rectangular slabs, construct forms out of 2 x 4 in. boards. For curved slabs, use ¼ in. (6 mm) plywood.
- Thoroughly dampen forms and base, but do not leave puddles. Shovel mixed concrete into the pre-dampened forms immediately after mixing to completely fill at a uniform depth and approximately ½ in. (12 mm) above the forms. After the concrete has been spread and compacted to completely fill the forms without air pockets, strike off and level. using a straight board (screed), moving the edge back and forth with a saw-like motion. Float the surface smooth using a wooden or metal float.
- Cut the concrete away from forms by running an edging tool or trowel along the forms to compact the slab edges.
- Cut 1" (25 mm) control joints into the slab every 6-8 ft. (1.8-2.4 m) using a grooving tool. For repair overlays, do not bridge over existing expansion or control joints. Joints should be 1/3 slab thickness.
- Allow concrete to stiffen slightly, waiting until all surface water has evaporated and the concrete has lost its sheen before finishing. For a smooth surface, use a steel trowel, or for more texture apply a broom finish. Under typical conditions, forms may be removed after 2 hours. Surface can be walked on in 24 hours.

Note: For best results, do not overwork the material. Finishing too early or over-working can cause dusting, cracking, scaling, and a weak surface.

Note: For load-bearing applications, follow local building codes for proper footing specification.

FINISHING

Any standard concrete finishing technique is acceptable for use with Tech-Mix High-Strength 5000 Concrete Mix. Concrete can be hand troweled, power troweled, broom finished, or finished with specialty finishes.

CURING

Concrete can be moist cured by keeping the surface wet with a gentle mist of water applied to the surface with a lawn sprinkler or covering the concrete surface with plastic sheeting. Curing should be started as soon as possible without damaging the concrete finish and should continue for a period of 5 days in warm weather at 70°F (21°C) or higher or 7 days in colder weather at 50°-70°F (10°- 21°C). Protect concrete from freezing during the first 24 hours; if temperatures are expected to fall below 32°F (1°C), plastic sheeting and insulation blankets should be used. Curing with plastic or burlap can cause patchy discoloration of the repair. Make sure plastic sheets are laid flat, thoroughly sealed at joints and anchored carefully along edges. Full cure is reached after 28 days.

CLEAN UP

Use soapy water to clean hands and tools immediately after use. Dried material must be mechanically removed. Use a waste water hardener (e.g. Congelz™ or similar product) for cementitious waste disposal.

LIMITATIONS

- Use potable water for mixing, no bonding additives are needed.
- Do not use for repairs less than 2 in. (50 mm).
- Do not add aggregate.
- Install in accordance with local building code provisions and all applicable ASTM standards. Good workmanship and proper detailing and design assures durable, functional, construction.
- Mixing time and water amounts should be consistent from batch to batch.
- Do not apply over concrete cured less than 28 days or surfaces that are frozen or contain frost.
- Protect from freezing for 48 hours.
- The use of salts or de-icing chemicals are not recommended during the first winter season following installation.
- Follow all industry standard safety procedures when working with concrete products including wearing impervious gloves, such as nitrile when handling.

COVERAGE

- 60 lb. (27.2 kg.) bag yields approximately 0.45 cu. ft. (12.7 L)
- 80 lb. (36.3 kg.) bag yields approximately 0.60 cu. ft. (17 L)

High-Strength 5000 Concrete Mix Slab Calculator*						
Concrete Slabs Square Feet (M ²)	3 (0.3)	6 (0.6)	9 (0.9)	15 (1.4)	24 (2.2)	45 (4.2)
4" (100 mm) Thick # of 50 lb. bags	3	5	8	13	20	38
6" (150 mm) Thick # of 50 lb. bags	4	8	15	24	39	56



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* All yields are approximate and do not allow for waste or uneven sub-grades, etc.

6. AVAILABILITY

To locate Tech-Mix products in your area, please contact:

Phone: 1.651.688.9116

Website: techmixpro.com

7. WARRANTY

Seller warrants that its product will conform to and perform in accordance with the product specifications. The foregoing warranty is in lieu of all other warranties, expressed or implied, including, but not limited to those concerning merchantability and fitness for a particular purpose. Because of the difficulty in ascertaining and measuring damages hereunder, it is agreed that Seller's liability to the Buyer shall not exceed the total amount billed and billable to the Buyer for the product hereunder.

Technical and Safety Literature:

To acquire technical and safety literature, please visit our website at: techmixpro.com.

Shelf Life	Best when used within one year in original, unopened bags
Storage Conditions	Store dry. Best to condition material to 50-80°F (10°-27°C) before using.
Color	Gray

WARNING: INJURIOUS TO EYES

KEEP OUT OF REACH OF CHILDREN



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